

# Irish Chemical News

A Journal of the Institute of Chemistry of Ireland



[UN Climate Change Conference \(UNFCCC COP 26\) | La Communauté du Pacifique \(spc.int\)](https://unfccc.int/conference/glasgow-climate-change-conference-october-november-2021)

<https://ukcop26.org>

**GLASGOW CLIMATE CHANGE CONFERENCE – OCTOBER-  
NOVEMBER 2021**

<https://unfccc.int/conference/glasgow-climate-change-conference-october-november-2021>



# **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](http://www.instituteofchemistry.org)**

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

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## A Message from the President

Dear Fellows, Members, Graduates and Associates,

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

It is hard to believe that despite the COVID vaccination uptake here in Ireland with the HSE Health Protection Surveillance Centre (HPSC) Report (week ending Sunday, 5<sup>th</sup> December, 2021) noting that 93.7% of our adult population (aged 18+) and 91.6% of those aged 12+ are fully vaccinated,<sup>1</sup> we continue to see a significant number of COVID cases and COVID-related deaths being reported daily as well as the re-introduction of restrictions. Our editor, Patrick Hobbs, has been working tirelessly on keeping us abreast of the latest scientific developments related to the coronavirus since the outbreak and this issue is no exception. You will find his most recent updates on the SARS-CoV-2 virus towards the latter part of this issue.

In recent times, our editor has also been proactively reaching out to the Heads of Schools and Departments of Chemistry and Chemical Sciences across our Higher Education landscape for updates. I am really pleased to see the inclusion of reports in this issue from IT Sligo, IT Carlow, NUI Galway and TU Dublin. We are hoping that these HEI updates will be included as a standing section in future ICN issues, allowing the Institute to showcase all the excellent work being done in our third level sector.

The Athena Swan Charter, which was established in 2005, recognizes and promotes positive practices within higher education and research towards the advancement of gender equality. According to a recent Athena Swan report,<sup>2</sup> which includes data up to and including April 2021, there are currently 87 award holders in Ireland (86 Bronze; 1 Silver) comprising 19 institutions (Universities, Institutes of Technology and Colleges) and 68 departments. A special word of congratulations to the Schools and Departments of Chemistry and Chemical Sciences and Schools of Pharmacy across the HEI sector who have received this recognition. Athena Swan Bronze awardees include the Schools of Chemistry in Trinity College Dublin, University College Cork, University College Dublin, Department of Chemistry, Maynooth University, Department of Chemical Science, University of Limerick, School of Pharmacy and Biomolecular Science, RCSI University of Medicine and Health Sciences and School of Pharmacy, University College Cork. It would be wonderful if our colleagues in these Schools and Departments would share their perspectives on their journeys in achieving this well-deserved recognition in a future ICN issue.

A special word of congratulations to the School of Chemical and Pharmaceutical Sciences, TU Dublin, on their successful relocation from Kevin Street to the very impressive Central Quad Building in the Grangegorman Campus. I have no doubt it was a mammoth but ultimately rewarding undertaking. Wishing our colleagues in the School and their students continued success in their new location.

Our thanks to the ICI Young Chemists' Network (YCN) who continue to work hard to provide support to the younger members of our community. They recently held a Career Network Session in November, 2021.

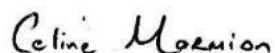
A comprehensive report by Dr Joseph Byrne (NUI Galway), ICI YCN Advisor, is included in this issue. I am sure you will agree that the establishment of the YCN has been an important development of our Institute in relatively recent times.

A special words of congratulations to Professor Henry Curran from NUI Galway (also the recipient of the Boyle Higgins Gold Medal and Lecture award in 2017), on being named by Clarivate (<https://hcr.clarivate.com>) as being among the top 1% highly cited researchers world-wide. With thanks to Dr Thomas for highlighting this incredible achievement in his NUI Galway update. We are always delighted to hear the achievements of our colleagues, so please do keep us informed.

As you know, the ICI is an affiliated 'Member Society' of the European Chemical Society (EuChemS). EuChemS currently has open calls for two EuChemS awards; the EuChemS Lecture Award 2021 and the European Chemistry Gold Medal, both with deadline dates of 31<sup>st</sup> December 2021. May I strongly urge you to submit nominations for these prestigious awards. Please also note the next EuChemS Congress is being hosted by another EuChemS Member Society, the Portuguese Chemical Society, from the 28<sup>th</sup> August – 1<sup>st</sup> September, 2022 in Lisbon, Portugal.<sup>3</sup>

I do hope you enjoy reading this latest ICN issue. I know I did. May I take this opportunity to thank Patrick Hobbs, for yet another excellent Issue. My thanks also to all Council members who freely give of their time and expertise to support the Institute and its community. A special thanks to you, our ICI Fellows, members, graduates and associates. Please do keep in touch and send us your updates. We would be delighted to showcase these on our ICI website and in future ICN issues. I also plan to shortly send you the VOICE, the annual ICI Christmas Newsletter with an overview of the activities of the Institute over the past year, so please do keep an eye out for this also!

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



Professor Celine J. Marmion PhD FRSC FICI  
President, Institute of Chemistry of Ireland  
9<sup>th</sup> December, 2021

1. [https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/surveillance/epidemiologyofcovid-19inirelandweeklyreports/COVID-19%20Weekly%20Report\\_Slidset\\_HPSC\\_06122021\\_Website.pdf](https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/surveillance/epidemiologyofcovid-19inirelandweeklyreports/COVID-19%20Weekly%20Report_Slidset_HPSC_06122021_Website.pdf)
2. [https://www.advance-he.ac.uk/sites/default/files/2021-09/Athena%20SWAN%20Ireland-list%20of%20awardees\\_August%202021.pdf](https://www.advance-he.ac.uk/sites/default/files/2021-09/Athena%20SWAN%20Ireland-list%20of%20awardees_August%202021.pdf)
3. <https://euchems2022.eu/>



## Editorial

This is the last Issue for 2021. First you will notice it is shorter. I said I would shorten or discontinue the section on the Corona virus but this pandemic is far from ending and now a new variant has emerged causing concern. Previously I had reported that the pharmaceutical companies were working on vaccines specifically aimed at new variants and in particular the delta variant. With all the concerns about rising case numbers I noticed I was not getting feeds on progress of updated new vaccines. I searched for this information and found that while clinical trials are giving good results the consensus in the industry and regulators is that the improvement is not enough to justify the disruption of production and supply chains to switch over. My view is that while the current mRNA and DNA based vaccines are very effective at preventing deaths and serious illness and saved millions of lives, a second generation of vaccines will be needed long term based on the whole inactivated virus or fragments other than the spike protein. However a very recent report from a British study casts doubt on Valnera's inactivated whole virus. I am extending coverage of the Covid pandemic into early December given the pace of change and new information emerging daily. Recent reports indicate current vaccines are less effective against getting the Omicron variant but severe disease and death have not increased. It is important to be vaccinated and to get a booster vaccine to keep safe.

I have added a sub section in the Covid section on this topic and also a reminder subsection about the different types of vaccines. I have also included a report showing graphically the mutations of the Omicron variant. We may find that the reaction to the South African announcement was overreaction from a few reports just in, as it now seems this variant was in many countries before South Africa found it.

The chemistry section was also getting very long so I have divided this up into about 6 topics but still retaining a dedicated chemistry related section. I get thousands of links a week and maybe 10% make it to ICN. The new topics sections reflect the frequency of reports I get. These are rechargeable batteries and electricity storage, green hydrogen, solar cells, nuclear fusion, other nuclear options especially small modular reactors and climate change. I have included a section on COP 26 2021 and Related Climate Change Topics. I will change the name of this section in the next Issue leaving out the COP 26 bit. While COP 26 was I say partially successful in that it has brought sharp focus on the huge challenges we all face, that challenge is almost overwhelming and chemistry will be at every facet of finding solutions.

The challenge of nuclear fusion is immense. The industry thinks it's a big deal to get a South Korea fusion experimental reactor to run for 30 seconds versus milliseconds when we need 24/7. The internationally sponsored experimental ITER fusion reactor in France is costing about €89 billion, 10 years to build and needs deuterium and tritium for fusion but where will all the tritium come from. I have provided links to a somewhat controversial series of reports published about this challenge in the first part on this topic in the nuclear section. Modular Small Reactors are getting a lot of press and have advantages but spent fuel disposal and security at many small site locations pose treats if terrorists were to acquire fuel for dirty bombs. This nuclear option is bound to fuel discussion and controversy in Ireland in coming years. Conventional nuclear is also improving in regard to engineering and safety.

Even solar cells have significant difficulties, with only mid-twenties efficiency and a typical panel will only give about 300 watts not enough to boil a 2kW kettle. A lot is happening with perovskite solar cells which are apparently cheaper to manufacture and again lots of chemistry involved.



Hydrogen comes as two types, green and blue where blue comes from hydrocarbon sources which still generates carbon dioxide to a lower level but still too high. Green can come from solar power, wind and nuclear sources. Will we use hydrogen directly in our cars and homes to heat ourselves? Some companies, particularly Japan are focusing on internal combustion engines using hydrogen but others on rechargeable batteries. Both have problems, hydrogen given its ignition sensitivity and explosion intensity. For batteries it's charging time, fire hazards of lithium ion batteries and sufficient supplies of lithium. EuChemS hosted a webinar on Lithium 1<sup>st</sup> December and I will have a report in the next Issue. Solid state batteries are making a lot of news as a solution to fire hazards and charging times. Flow batteries are also emerging for large scale electricity storage.

The ICI Young Chemists' Network (YCN) is very active and in addition to a whole afternoon session at Congress they also organised a Careers Network Session on the 24<sup>th</sup> of November. A brief report is included.

I have made some attempt to get the section on Universities and HEA going and have written to Heads of Chemistry Departments a couple of weeks ago. It was not much notice for busy people but only a four responded and just two of the major colleges. I am disappointed by this as I think chemistry is losing the publicity game. Physicists beat us hands down. Many of the chemistry related reports I get come from phys.org, Physics World, several Nature publications, Science Tech Daily but not so many from professions chemistry organisations where few articles are open access.

Walk in to a book shop and you can find many physics type books aimed at an educated public and you will find fifty physics type books for one chemistry related book outside of academic college text books. I don't think chemists as a group are good communicators to the general public whereas physicists seem much better and more willing to engage. Given the amount of cross over between the disciplines I think chemists need to do a lot more communication outside publication in specialist journals. There are lots of good things happening in chemistry departments or closely related departments and we and the public need to hear more of what these are. So let's hope I can get more material from the third level sector and the research community on a regular basis for publication in ICN. After all it's the Irish and European tax payer who pay for a lot of this research and feedback is needed for the interested public.

#### **Note:**

I hope you enjoy reading the articles in ICN but many sources are from commercial trade magazines who depend on advertising for income or vested interests and you may have to accept cookies or subscribe (free) to read them. You can always unsubscribe afterwards as your in-box may quickly fill with unwanted material. Other organisations cover a wide range of topics and look for contributions such as The Conversation. Others allow a fixed numbers of views and after that you have to pay a subscription. I have to read more articles than I place in ICN so use up my free views quickly but if you stick to articles I post a single link for most of you should be fine to read.

**Last but not least remember 8<sup>th</sup> 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 to the **Editor Email address:** -

**Happy Christmas and Safe Festive Season to all Fellows, Members & Readers**

[editor@instituteofchemistry.org](mailto:editor@instituteofchemistry.org)

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

## ICI Congress 2021 will be themed “Impacting Healthcare with Chemistry” and will be held virtually on Thursday 30<sup>th</sup> of September, 2021.

		
<p><b>Institute of Chemistry of Ireland Congress 2021</b>  <b>‘Impacting Healthcare with Chemistry’</b>          in honour of Sir Charles A. Cameron          on the centenary of his death  <a href="https://www.rcsi.com/cameron/index.html">https://www.rcsi.com/cameron/index.html</a></p> <p>Co-hosted by the ICI Young Chemists’ Network (ICI YCN) and          RCSI, University of Medicine and Health Sciences</p> <p><b>Thursday, 30<sup>th</sup> September, 2021</b>  <b>09.30 – 17.00</b>          Virtually (Zoom)</p>		 <p>Sir Charles A. Cameron          1830-1921</p>

This year the Institute of Chemistry of Ireland hosted their 45th Congress titled ‘Impacting Healthcare with Chemistry’ in memory of Sir Charles A. Cameron, a chemist and a pioneer in improving public health in Ireland, on the centenary of his death.

The free event was co-hosted by the Young Chemists’ Network and RCSI, University of Medicine and Health Sciences, and took place virtually on Thursday, September 30th. Over 120 people registered to attend the event, which welcomed the attendance of members and non-members.

Proceedings began with a welcoming address from the President of the Institute of Chemistry of Ireland, Professor Celine Marmion. In her address, she announced Ioannis Mylonas-Margaritis from NUI Galway as the winner of the ICI Postgraduate Award for 2021. Ioannis was undertaking his Viva Voce in the afternoon, but took the time to thank his supervisor Dr Constantina Papatriantafyllopoulou and his advisor and mentor Professor Patrick McArdle for their support and nomination.

Lectures on the day followed the theme of the event, beginning with Professor Stefan Oscarson from University College Dublin and his lecture on the ‘Challenges in and solutions towards identifying protective epitopes for the development of fungal glycolconjugate vaccines’. Professor Silvia Giordani from Dublin City University spoke about how ‘Chemistry can transform a nano-onion into a sniper, but how?’ Lectures from Professor Donal O’Shea from RCSI, University of Medicine and Health Sciences on ‘Using Chemistry to Highlight the Health Risks of Vaping’, Professor Paul Murphy from NUI Galway on the ‘Synthesis of Carbohydrate Based Ligands for Proteins and Vaccine Design’, Professor Joanna McGouran from Trinity College Dublin on ‘A Radical Approach to Probing Enzyme Inhibition’ and

Professor Stephen Bell from Queens University Belfast on ‘Tackling the Challenges of using Surface-Enhanced Raman Spectroscopy for Biological’ followed.

The second part of the day targeted younger chemists early in their career and was hosted by the ICI Young Chemists’ Network. Dr Mark Kelada, Chair of the network, began proceedings by introducing Zoe Hamilton from Thornshaw recruitment to speak to attendees on ‘Building Your Career’. Dr Kieran Nolan from Dublin City University and Dr Joseph Byrne from NUI Galway discussed ‘Tips for Early Career Researchers’ with some insight into their own experiences. A networking session followed with a final panel discussion from former ICI Postgraduate Awardees Dr Saoirse Dervin and Dr Priyanka Ganguly.

**Provided by Siobhan O’Flaherty**

**PhD Candidate RCSI**

### Morning Session

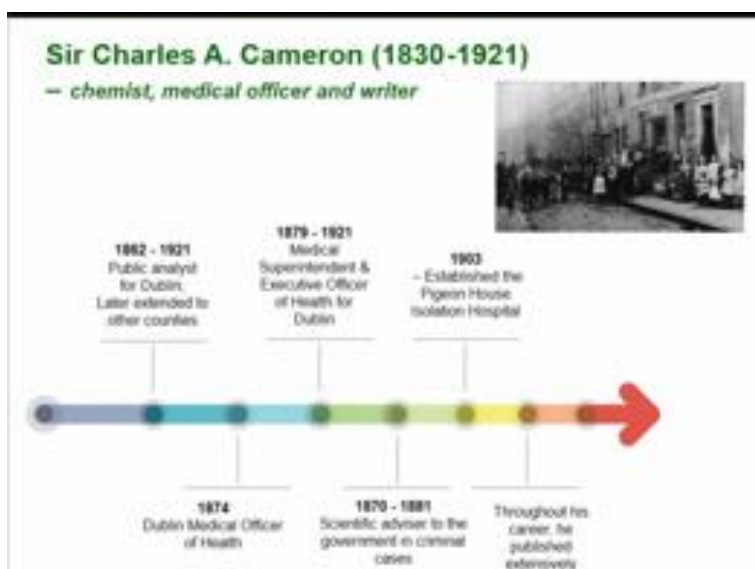
<p><b>Please complete the registration form no later than Tuesday, 28<sup>th</sup> September, 2021 if you wish to attend:</b>  <a href="https://forms.gle/NpYGCi5LxmbNyMS5A">https://forms.gle/NpYGCi5LxmbNyMS5A</a></p> <p><b>For any queries, please contact:</b> <a href="mailto:youngchemists@instituteofchemistry.org">youngchemists@instituteofchemistry.org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

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### Afternoon Session

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

The Congress was opened by Prof Celine Marmion RCSI who welcomes attendees and speakers



Slide 11 Celine Post Grad Award 2021:



## ICI Postgraduate Award 2021



Mr Ioannis Mylonas  
Margaritis  
School of Chemistry  
NUI Galway



Dr Constantina  
Papatriantafyllopoulou  
School of Chemistry  
NUI Galway

Development of innovative  
metal organic frameworks with  
interesting magnetic properties  
for environmental applications

## Challenges in and solutions towards identifying protective epitopes for the development of fungal glycoconjugate vaccines



Stefan Oscarson



### Linalool: CC(=CCCC(C)=C)O: In 15% of all Vape Solutions

"Sweet floral-woody with slight citrus notes"



rank 1: [C@H](C)[C@H](O)CCCC(C)C

rank 2: [C@H](C)[C@H](O)CCCC(C)C

rank 3: [C@H](C)[C@H](O)CCCC(C)C

rank 4: [C@H](C)[C@H](O)CCCC(C)C



mol: C=C(C)C hazard: "Health Hazard" EI mass abun: 42.6%

rank 5: [C@H](C)[C@H](O)CCCC(C)C

rank 6: [C@H](C)[C@H](O)CCCC(C)C

rank 7: [C@H](C)[C@H](O)CCCC(C)C

rank 8: [C@H](C)[C@H](O)CCCC(C)C

rank 9: [C@H](C)[C@H](O)CCCC(C)C



mol: C=C(C)C hazard: "none" EI mass abun: 63.7%

rank 10: [C@H](C)[C@H](O)CCCC(C)C

rank 11: [C@H](C)[C@H](O)CCCC(C)C

rank 12: [C@H](C)[C@H](O)CCCC(C)C

rank 13: [C@H](C)[C@H](O)CCCC(C)C



mol: C=C(C)C hazard: "Acute Toxic" EI mass abun: 99.9%

mol: CCC(C)C hazard: "Health Hazard" EI mass abun: 17.7%

rank 14: [C@H](C)[C@H](O)CCCC(C)C

rank 15: [C@H](C)[C@H](O)CCCC(C)C

rank 16: [C@H](C)[C@H](O)CCCC(C)C

rank 17: [C@H](C)[C@H](O)CCCC(C)C

rank 18: [C@H](C)[C@H](O)CCCC(C)C

rank 19: [C@H](C)[C@H](O)CCCC(C)C

rank 20: [C@H](C)[C@H](O)CCCC(C)C

rank 21: [C@H](C)[C@H](O)CCCC(C)C

rank 22: [C@H](C)[C@H](O)CCCC(C)C

rank 23: [C@H](C)[C@H](O)CCCC(C)C

rank 24: [C@H](C)[C@H](O)CCCC(C)C

rank 25: [C@H](C)[C@H](O)CCCC(C)C

rank 26: [C@H](C)[C@H](O)CCCC(C)C

rank 27: [C@H](C)[C@H](O)CCCC(C)C

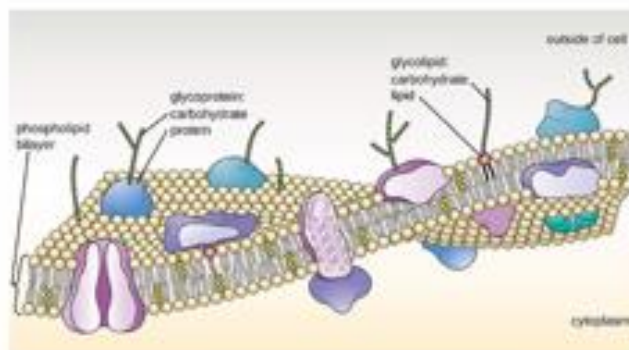
rank 28: [C@H](C)[C@H](O)CCCC(C)C

rank 29: [C@H](C)[C@H](O)CCCC(C)C

rank 30: [C@H](C)[C@H](O)CCCC(C)C



**Carbohydrates found on surfaces of cells and involved in key biological events and not just energy sources**



**A radical approach to activity-based protein profiling**



**Joanna McGouran Trinity College Dublin**



**Tackling the Challenges of using Surface-Enhanced Raman Spectroscopy for Biological Samples**

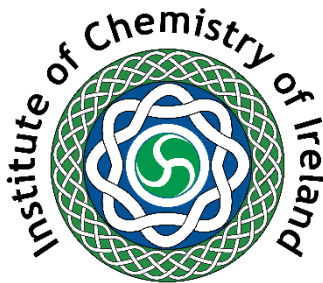
**Steven E. J. Bell**

*School of Chemistry & Chemical Engineering,  
Queen's University of Belfast,  
U.K.*



IMM

Unfortunately the afternoon sessions were not recorded or screen shots captured but the talks were excellent and focused on early career young chemists



## 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

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#### 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.*

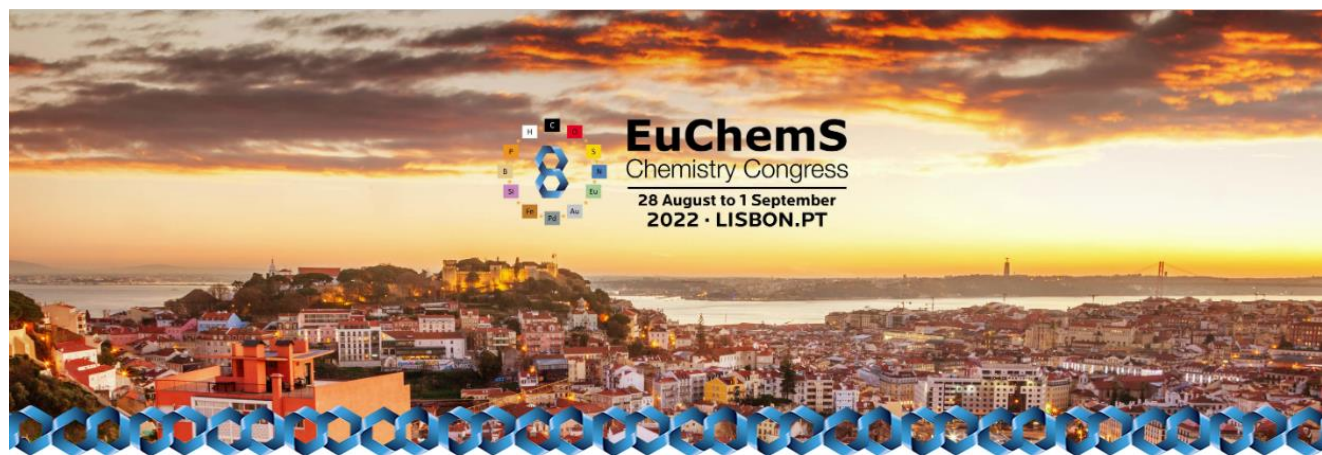
#### The ICI Postgraduate Award

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>  
Nominations to be sent to the ICI President at: [president@instituteofchemistry.org](mailto:president@instituteofchemistry.org)





## 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 8<sup>th</sup> EuChemS Chemistry Congress. On the 3<sup>rd</sup> 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 8<sup>th</sup> 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 8<sup>th</sup> EuChemS Chemistry Congress (ECC8), to be held in **Lisbon, Portugal, from August 28 to September 1, 2022**”.



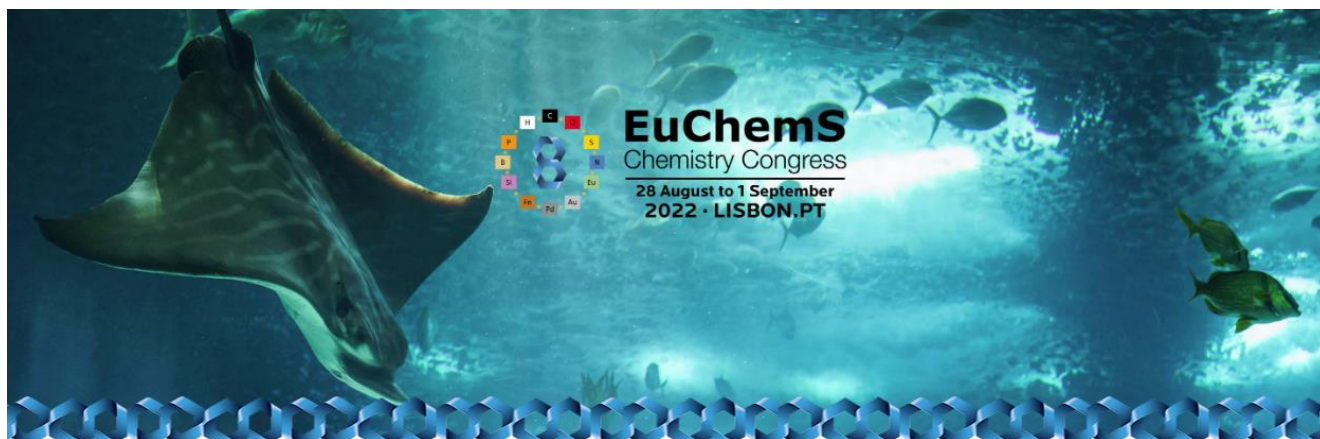
## Congress Program

Loyal to the initial theme, the 8<sup>th</sup> 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](mailto: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.



<https://euchems2022.eu>



## 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 9<sup>th</sup> EuChemS European Chemistry Congress to Dublin. This prestigious congress is held every two years and brings together the leading researchers and industry partners in all chemistry disciplines from across Europe and the wider international arena.



Ireland Section

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

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

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

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



# CHEMISTRY in Europe

Newsletter for European Chemistry, published by EuChemS

## Chemistry in Europe

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

Chemistry in Europe 2021 – 3

<https://www.euchems.eu/newsletters/chemistry-in-europe-2021-3>

Read the pdf:

*The PDF version will soon be made available.*

**Add pdf link when available**

Check website: <https://www.euchems.eu/newsletters/chemistry-in-europe-2021-3>

Chemistry in Europe 2021 – 4 is out.

Read it at

[Chemistry in Europe • 2021-4 - EuChemS Newsletters](#)



## **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 1<sup>st</sup> October 2020.

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

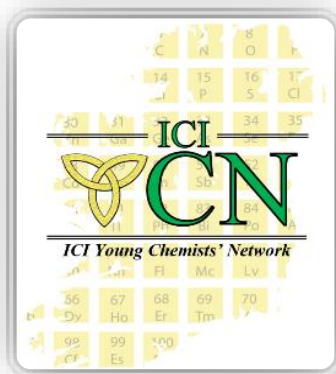
- 1) Community, network and connection of young chemists
- 2) More opportunities for collaboration between early stage researchers
- 3) Organisation of conferences and events for young chemists
- 4) Opportunity for postgraduate students to present and discuss their work
- 5) A platform to promote upcoming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

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

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

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





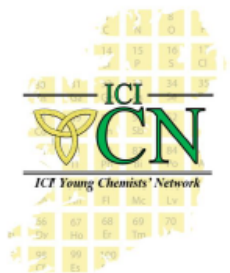
## The Institute of Chemistry of Ireland's YOUNG CHEMISTS' NETWORK

Are you a chemist in Ireland aged between 18-35 years old? Want to be part of a exciting new network of young chemists and be part of a growing community? Join us today by emailing [youngchemists@instituteofchemistry.org](mailto: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
Laurn 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



## Young Chemists Network Career Session November 24th



Register here:



# ICI Young Chemists' Network Career Session

Join us for a panel discussion  
providing insights into career  
paths available to young chemists

CV workshop and Recruiter  
advice for tips to make you stand  
out!

### Panellists include:

- ❖ Ben Miles, PhD  
CEO of Spin up Science
- ❖ Celaine Johannie, MSc  
QC Analyst, BioMarin
- ❖ Rachael Heath, PhD  
Process Chemist, Pfizer

For more information contact:  
[youngchemists@instituteofchemistry.org](mailto:youngchemists@instituteofchemistry.org)

Wednesday, November 24<sup>th</sup>  
4 – 6 pm on **zoom**

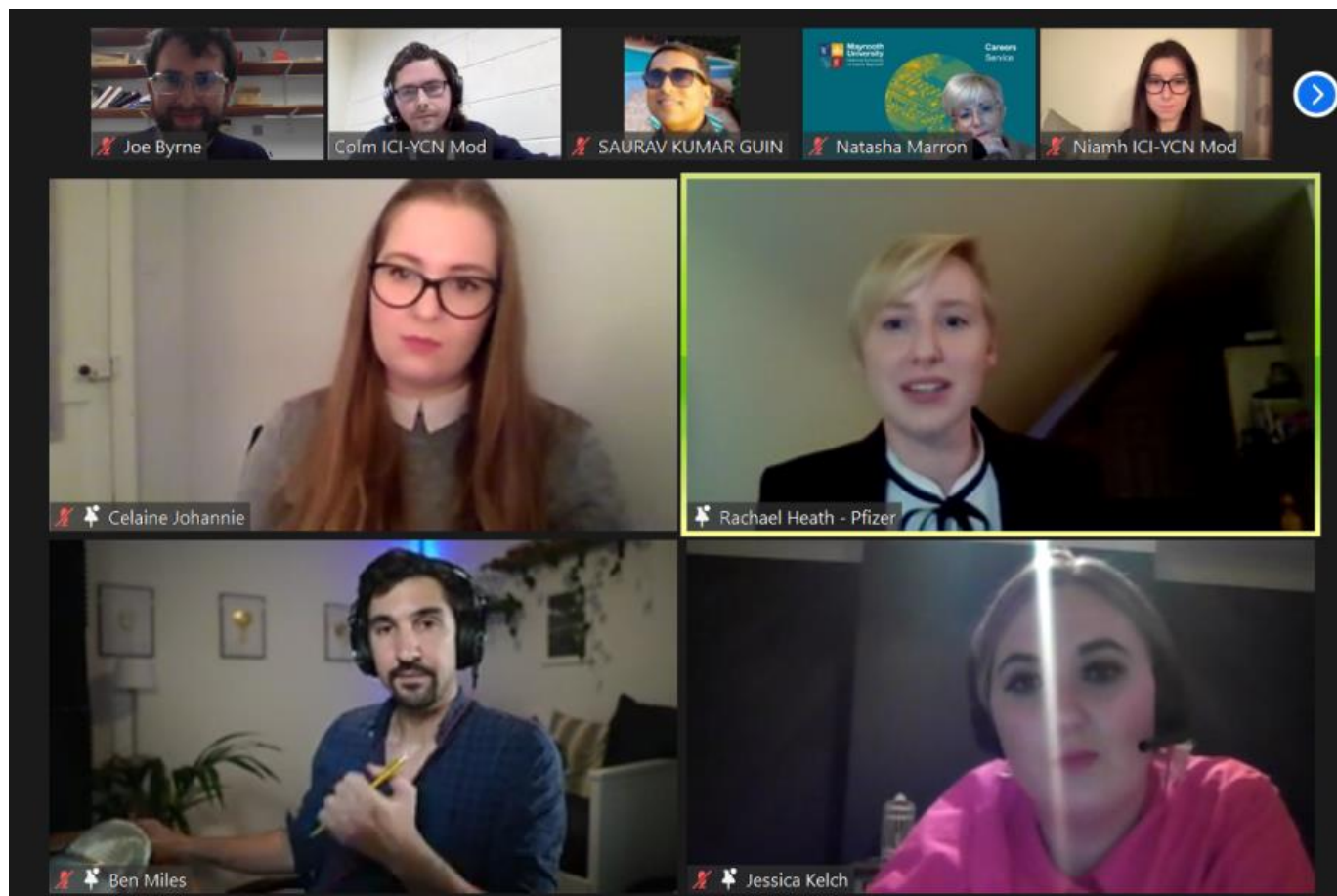
### The following press release about the YCN careers event provided by Dr Joseph Byrne NUI Galway

The Young Chemists Network hosted a career event on 25 November 2021, with four early career science professionals sharing insights from their own careers, along with a useful presentation from Maynooth University careers service.

Celaine Johannie, a QC analyst in Biomarin, Dr Rachael Heath, a process chemist in Pfizer, Jennifer Kelch, of Innopharma Technical Solutions and Dr Ben Miles, CEO of Spin Up Science, all gave very different views of the pathways available to young Irish chemists. Each panellists gave an overview of their career to date before a panel discussion.

Ms Johannie spoke of the similarities across various chemical sectors, having worked in both environmental and pharmaceutical analytical positions. She pointed out that the same analytical techniques were used for different applications and that a strong knowledge base is more important than experience in a single sector.

Dr Heath highlighted how moving lab to a different country during her PhD was a very useful experience in developing additional organizational and technical skills, as well as adaptability and pointed out that PhDs aren't essential for many roles in pharma, but the problem solving skills learned through research definitely give advantages to job candidates. Ms Kelch told attendees how she was inspired to do a forensics degree by the popularity of CSI, only to realise that she was much more interested in analytical chemistry and has pursued this in lab and office-based roles. She encouraged people to take opportunities as they arise and not be reluctant about entry level positions. Dr Miles told his journey of filling a gap he saw in Bristol and creating a space for science start ups. He pointed out that in smaller businesses, you get a front row seat to decision making which can be very educational at an early career stage, where in a big corporation you will never meet the CEO.



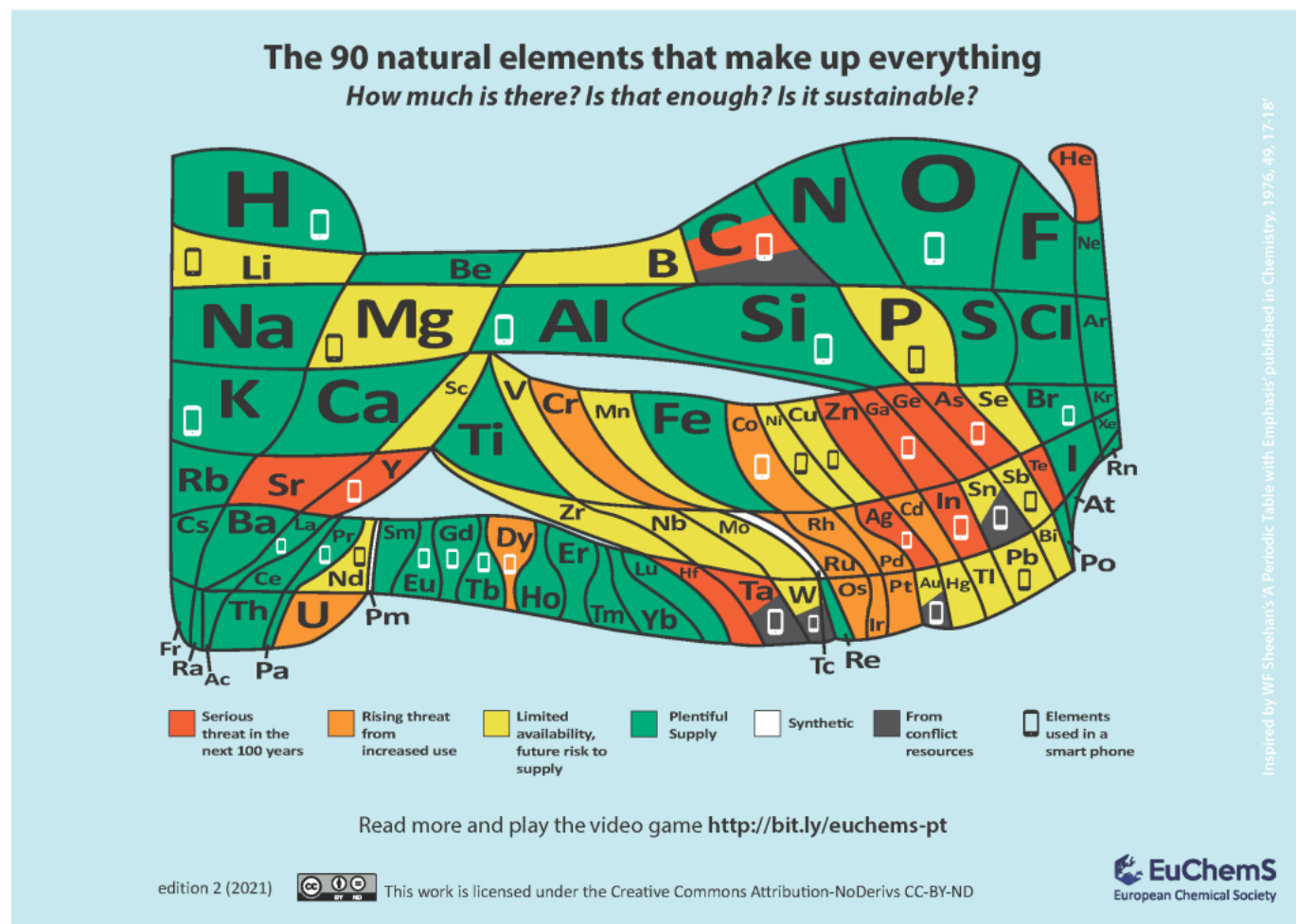
In the panel discussion the four participants spoke at length about questions submitted by members of the audience from around the country. The importance of good communication skills, and stakeholder management, was agreed across the panel taking key insights from their respective backgrounds. Importantly the question of qualification needs for their respective jobs was asked, it was agreed that the higher qualifications did indeed give them an advantage in a much more well developed skill set before joining the workforce, however, it may not be as necessary for some positions and thus a postgraduate journey should be undertaken with prior thought of where and how an individual would like their career to progress.

Useful professional talks were also given by Natasha Marron of Maynooth University Careers Services, giving pointers on crafting an effective CV, and recruiter Davin Ferguson from Collins McNicholas about the kinds of opportunities that exist for chemists and young scientists entering the workforce after undergraduate or postgraduate studies.

Dr Joseph Byrne  
Honorary Research Lecturer in the School of Chemistry  
SFI Starting Investigator Research Grant Fellow

School of Chemistry Scoil na Ceimice  
NUI Galway OÉ Gaillimh  
Ireland Éire

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



## Carbon becomes tricolour

See Press Release:

[https://www.euchems.eu/wp-content/uploads/2021/11/211103Press-Release\\_Periodic-Table.pdf](https://www.euchems.eu/wp-content/uploads/2021/11/211103Press-Release_Periodic-Table.pdf)





# Good Chemistry – Do Chemists Need Ethics?

**WEBINAR**

7 OCTOBER 2021, 10:00 – 11:30 CEST

**Dr. Jan Mehlich**

*recipient of the  
2020 EuChemS Award for Service*



The European Chemical Society, EuChemS, organised the webinar “Good Chemistry – Do Chemists Need Ethics?”, that was held on Thursday 7 October 2021 (10:00 a.m. CEST).

More details at: <https://www.euchems.eu/good-chemistry-webinar>

Watch it on YouTube:

<https://youtu.be/0aGhrRFdOpQ>



### **EuChemS discussion on sustainability**

**More details:**

<https://www.euchems.eu/sustainable-chemistry>



**TOWARDS A MORE INCLUSIVE CHEMISTRY COMMUNITY**

**WEBINAR** 18 November 2021  
10:00 - 11:15 CET

**DR Alejandra Palermo FRSC**  
Senior Manager, External Relations  
Royal Society of Chemistry (RSC)

 **EuChemS**  
European Chemical Society

**“Towards a more inclusive chemistry community” was held on Thursday 18 November 2021 from 10:00 to 11:15 CET.**

**Watch on YouTube:**

<https://youtu.be/jbUsZMgqOUI>



## Calls open for 4 EuChemS Awards

Sep 1, 2021

The following calls for nominations for EuChemS Awards are now open:

- 2021 EuChemS Lecture Award
- 2021 EuChemS Award for Service
- 2021 EuChemS Historical Landmarks Award
- Members of the International Award Committee for the European Chemistry Gold Medal (IACM)

You are kindly invited to make nominations through the online form by Friday 31 December 2021, 18:00 CET.

**More details:**

<https://www.euchems.eu/calls-open-awards>





## EuChemS Historical Landmarks presented in 5 minutes

NEW VIDEO NOW AVAILABLE



[HTTPS://WWW.YOUTUBE.COM/C/EUCHEMS](https://www.youtube.com/c/EUCHEMS)

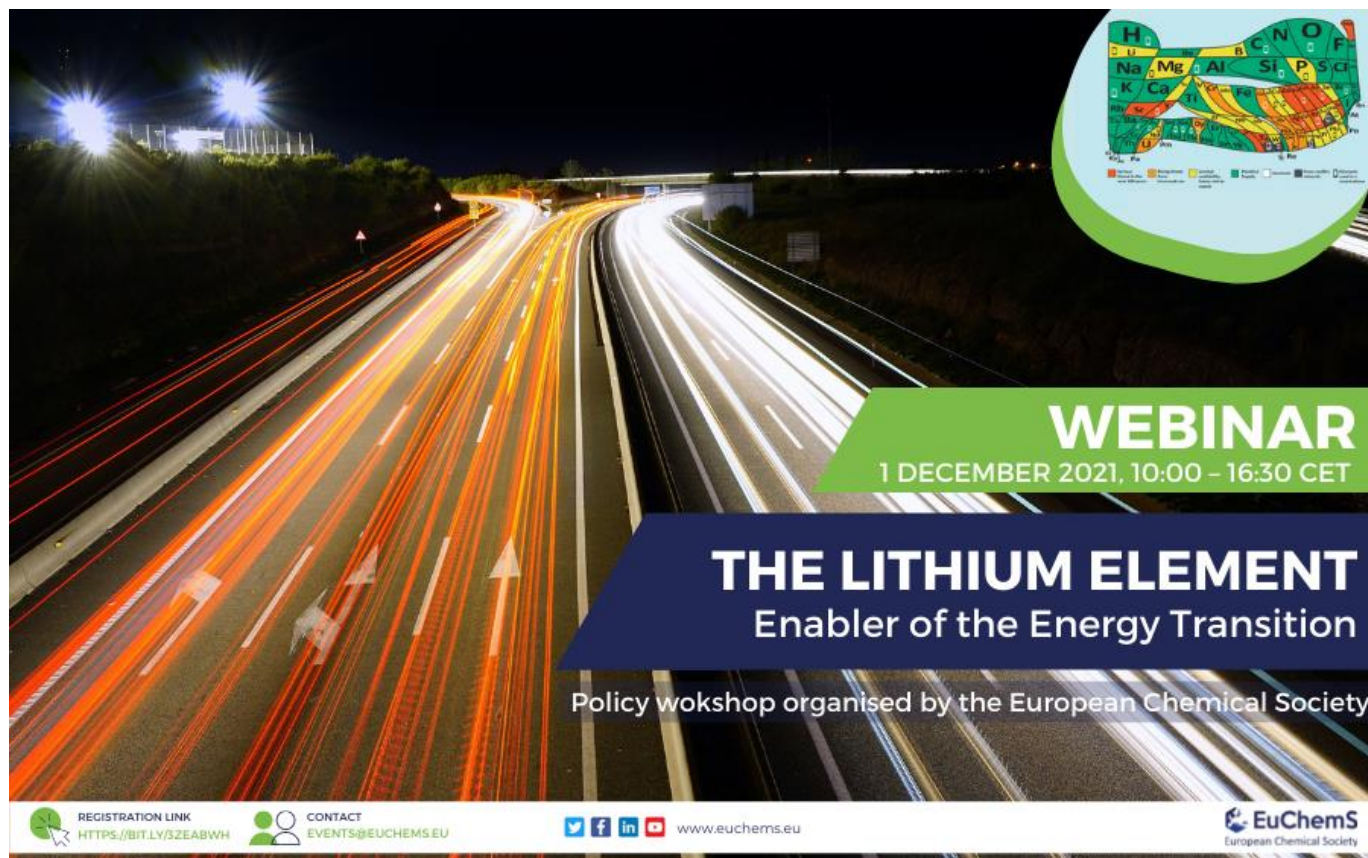


Sep 7, 2021

The European Chemical Society, EuChemS, is pleased to release a new video on EuChemS Historical Landmarks Award on its [YouTube channel](#).

Watch it here on YouTube:

<https://youtu.be/JvOUFOuoYfE>



**WEBINAR**  
1 DECEMBER 2021, 10:00 – 16:30 CET

**THE LITHIUM ELEMENT**  
Enabler of the Energy Transition

Policy workshop organised by the European Chemical Society

REGISTRATION LINK  
[HTTPS://BIT.LY/3ZEABWH](https://bit.ly/3ZEABWH)

CONTACT  
EVENTS@EUCHEMS.EU

[www.euchems.eu](https://www.euchems.eu)

EuChemS  
European Chemical Society

## 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**.

*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](https://www.euchems.eu/lithium-element-webinar)). 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*

– **Developments of the EuChemS periodic table**

*David Cole-Hamilton, University of St. Andrews*

#### AFTERNOON SESSION

13:30 to 16:30 CET

– **Alternatives to Lithium-ion batteries**

*Philipp Adelhelm, Humboldt-University of Berlin*

– **Recycling Lithium-ion batteries**

*Paul Anderson, University of Manchester*

– **Lithium in ceramics**

*John C. Cochran, Corning Inc., Lexington, KY, USA*

10 MIN BREAK

– **Lithium: reserves, resources and geopolitical issues** – **The role of Europe in the expanding battery industry**

*Fernando Rocha, University of Aveiro*

*Speaker from EC*

10 MIN BREAK

– **Lithium-ion batteries in the automotive sector**

– **Panel discussion**

*led by Nicola Armaroli, CNR/EuChemS*

*Kristina Edstrom, University of Uppsala*

– **Closing**

*Floris Rutjes, EuChemS President*

– **Lithium batteries and the stationary applications**

*Luigi Lanuzza, Enel X*

– **Panel discussion**

*led by Katharine Sanderson, Science Journalist and Editor*

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## COP 26 2021 and Related Climate Change Topics



[COP26 President Alok Sharma's opening speech at COP26 - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

### COP26 climate summit: A scientists' guide to a momentous meeting

25 October

[COP26 climate summit: A scientists' guide to a momentous meeting \(nature.com\)](https://www.nature.com)



<https://ukcop26.org> (LiveStream)

COP Explained: <https://ukcop26.org/wp-content/uploads/2021/07/COP26-Explained.pdf>

### Guardian COP 26 Coverage:

<https://www.theguardian.com/environment/cop26-glasgow-climate-change-conference-2021>



## **Top climate scientists are sceptical that nations will rein in global warming**

1 November

[Top climate scientists are sceptical that nations will rein in global warming \(nature.com\)](https://doi.org/10.1038/d41586-021-02990-w)

<https://doi.org/10.1038/d41586-021-02990-w>

## **Deforestation: why COP26 agreement will struggle to reverse global forest loss by 2030**

23 November

[Deforestation: why COP26 agreement will struggle to reverse global forest loss by 2030 \(theconversation.com\)](https://theconversation.com/deforestation-why-cop26-agreement-will-struggle-to-reverse-global-forest-loss-by-2030)

## **COP26: a global methane pledge is great – but only if it doesn't distract us from CO<sub>2</sub> cuts**

2 November

[COP26: a global methane pledge is great – but only if it doesn't distract us from CO<sub>2</sub> cuts \(theconversation.com\)](https://theconversation.com/cop26-a-global-methane-pledge-is-great-but-only-if-it-doesnt-distract-us-from-co2-cuts)

## **All aboard the climate train! Scientists join activists for COP26 trip**

2 November

[All aboard the climate train! Scientists join activists for COP26 trip \(nature.com\)](https://nature.com/all-aboard-the-climate-train-scientists-join-activists-for-cop26-trip)

<https://doi.org/10.1038/d41586-021-03008-1>

## **Global CO<sub>2</sub> emissions have been flat for a decade, new data reveals - Carbon Brief**

4 November (This is news to the Editor?)

<https://www.carbonbrief.org/global-co2-emissions-have-been-flat-for-a-decade-new-data-reveals>

## **Wind Energy Ireland welcomes Climate Action Plan**

4 November

<https://www.rte.ie/news/business/2021/1104/1257943-wind-energy-ireland-welcomes-climate-action-plan>

## **COP26: Leaders agree global plan to boost green technology - BBC News**

2 November

<https://www.bbc.com/news/science-environment-59138622>

## **BP, Breakthrough Energy Ventures in Long Duration Energy Storage Council, launching at COP26 - Energy Storage News**

4 November

<https://www.energy-storage.news/bp-breakthrough-energy-ventures-in-long-duration-energy-storage-council-launching-at-cop26>

## **COP26: here's what it would take to end coal power worldwide**

4 November

[COP26: here's what it would take to end coal power worldwide \(theconversation.com\)](https://theconversation.com/cop26-heres-what-it-would-take-to-end-coal-power-worldwide)

## **A 150-year-old note from Charles Darwin is inspiring a change in the way forests are planted**

4 November

[A 150-year-old note from Charles Darwin is inspiring a change in the way forests are planted \(theconversation.com\)](https://theconversation.com/a-150-year-old-note-from-charles-darwin-is-inspiring-a-change-in-the-way-forests-are-planted)

## **COP26: a letter to school strikers from 'the physicist behind net zero'**

4 November

[COP26: a letter to school strikers from 'the physicist behind net zero' \(theconversation.com\)](https://theconversation.com/cop26-a-letter-to-school-strikers-from-the-physicist-behind-net-zero)

## **Carbon emissions rapidly rebounded following COVID pandemic dip**

4 November

[Carbon emissions rapidly rebounded following COVID pandemic dip \(nature.com\)](https://doi.org/10.1038/d41586-021-03036-x)  
<https://doi.org/10.1038/d41586-021-03036-x>

## **COP26: Countries promise coal phase-out and end to fossil fuel finance**

4 November

[COP26: Countries pledge to phase out coal and stop financing fossil fuel projects | New Scientist](#)

## **Global 'Climate Clock' Suggests We're Now Only a Decade Away From Hitting 1.5 C**

5 November

[Global 'Climate Clock' Suggests We're Now Only a Decade Away From Hitting 1.5 C \(sciencealert.com\)](#)

## **It's Time to Delete Carbon From the Atmosphere. But How?**

5 November

[It's Time to Delete Carbon From the Atmosphere. But How? | WIRED](#)

## **Prince of Wales views carbon-capture tech; notes 'frustration' of COP26 protestors | E&T Magazine**

5 November

<https://eandt.theiet.org/content/articles/2021/11/prince-of-wales-views-next-gen-carbon-capture-technology-acknowledges-frustration-of-cop26-protestors/>

## **COP26 climate change summit: So far, so good-ish - BBC News**

3 November

<https://www.bbc.com/news/science-environment-59150807>

## **Scientists cheer India's ambitious carbon-zero climate pledge**

5 November

[Scientists cheer India's ambitious carbon-zero climate pledge \(nature.com\)](https://doi.org/10.1038/d41586-021-03044-x)  
<https://doi.org/10.1038/d41586-021-03044-x>

## **COP26 climate pledges: What scientists think so far**

5 November

[COP26 climate pledges: What scientists think so far \(nature.com\)](https://doi.org/10.1038/d41586-021-03034-z)  
<https://doi.org/10.1038/d41586-021-03034-z>

## **COP26: it's half-time at the crucial Glasgow climate change summit – and here's the score**

5 November

[COP26: it's half-time at the crucial Glasgow climate change summit – and here's the score \(theconversation.com\)](#)

## **Deforestation: why COP26 agreement will struggle to reverse global forest loss by 2030**

2 November

[Deforestation: why COP26 agreement will struggle to reverse global forest loss by 2030 \(theconversation.com\)](#)

## **COP26: here's what it would take to end coal power worldwide**

4 November

[COP26: here's what it would take to end coal power worldwide \(theconversation.com\)](#)

## **COP26: Over 40 Countries Agree To Phase-Out Coal, But Not The US, Australia, Or China**

4 November

[COP26: Over 40 Countries Agree To Phase-Out Coal, But Not The US, Australia, Or China | IFLScience](#)

## **Newly Discovered Symbiosis Could Power Carbon Removal in The Sea**

6 November

<https://www.sciencealert.com/newly-discovered-symbiosis-could-power-carbon-removal-in-the-sea> and

## **Terrestrial-type nitrogen-fixing symbiosis between seagrass and a marine bacterium | Nature**

3 November

<https://www.nature.com/articles/s41586-021-04063-4>

<https://doi.org/10.1038/s41586-021-04063-4>

## **Green lending: world's biggest banks' latest initiative at COP26 is a step backwards**

5 November

[Green lending: world's biggest banks' latest initiative at COP26 is a step backwards \(theconversation.com\)](#)

## **Reducing air travel by small amounts each year could level off the climate impact**

5 November

[Reducing air travel by small amounts each year could level off the climate impact \(theconversation.com\)](#)

## **New Pledges Significantly More Likely to Prevent Worst of Global Warming**

5 November

[New Pledges, Significantly More Likely to Prevent Worst of Global Warming | Lab Manager](#) and

[New Climate Pledges, if Fulfilled, Now Significantly More Likely to Prevent Worst of Global Warming | PNNL](#)

## **COP26 climate pledges: What scientists think so far**

5 November

[COP26 climate pledges: What scientists think so far \(nature.com\)](#)

<https://doi.org/10.1038/d41586-021-03034-z>

## **COP26: Hydrogen is Europe's real chance to fight climate change**

1 November

[COP26: Hydrogen is Europe's real chance to fight climate change \(h2-view.com\)](#)

## **COP26: countries are not spending nearly enough on adapting to climate change**

8 November

[COP26: countries are not spending nearly enough on adapting to climate change \(theconversation.com\)](#)

## **COP26 Live: Nuclear power has a role to play in all net zero scenarios, IEA finds - Energy Live News**

8 November

[COP26 Live: Nuclear power has a role to play in all net zero scenarios, IEA finds - Energy Live News](#)

## **Most Electricity in Industrialized Nations Could Be From Wind And Solar, Study Shows**

9 November

[Most Electricity in Industrialized Nations Could Be From Wind And Solar, Study Shows \(sciencealert.com\)](#) and

## **Geophysical constraints on the reliability of solar and wind power worldwide**

22 October

[Geophysical constraints on the reliability of solar and wind power worldwide | Nature Communications](https://doi.org/10.1038/s41467-021-26355-z)  
<https://doi.org/10.1038/s41467-021-26355-z>

### **Mini-refinery makes jet fuel from just sunlight and air**

9 November (Dublin based science journalist)

[Jet fuel from sunlight and air could decarbonise the aviation industry | Research | Chemistry World](http://dx.doi.org/10.1038/s41586-021-04174-y)  
<http://dx.doi.org/10.1038/s41586-021-04174-y>

### **COP26 scientist: Humanitarian aid must prepare for climate emergency**

9 November

[COP26 scientist: Humanitarian aid must prepare for climate emergency \(nature.com\)](https://doi.org/10.1038/d41586-021-03029-w)  
<https://doi.org/10.1038/d41586-021-03029-w>

### **Countries' climate pledges built on flawed data, Post investigation finds**

7 November

[Climate pledges built on flawed emissions data, Post investigation finds - Washington Post](#)

### **COP26 climate summit switches focus to science and innovation**

9 November (Multiple Articles)

<https://www.cnbc.com/2021/11/09/cop26-updates-as-climate-summit-continues-in-glasgow.html>

### **UK COP PRESIDENCY – COP PRESIDENT DAILY MEDIA STATEMENT AND LATEST ANNOUNCEMENTS 8TH NOVEMBER**

8 November

<https://ukcop26.org/uk-cop-presidency-cop-president-daily-media-statement-and-latest-announcements-8th-november>

### **COP PRESIDENT DAILY MEDIA STATEMENT AND LATEST ANNOUNCEMENTS – 9 NOVEMBER**

9 November

<https://ukcop26.org/cop-president-daily-media-statement-and-latest-announcements-9-november>

### **Author Talks: There is no vaccine for climate change**

8 November

[Author Talks: There is no vaccine for climate change | McKinsey](#)

### **Meat eating is a big climate issue – but isn't getting the attention it deserves**

9 November

[Meat eating is a big climate issue – but isn't getting the attention it deserves \(theconversation.com\)](https://theconversation.com/meat-eating-is-a-big-climate-issue-but-isnt-getting-the-attention-it-deserves-178484)

### **Women's participation is essential to achieve global climate targets**

9 November

[Women's participation is essential to achieve global climate targets \(theconversation.com\)](https://theconversation.com/women-s-participation-is-essential-to-achieve-global-climate-targets-178484)

### **Tidal turbines could generate 11% of the UK's power – new research**

9 November

[Tidal turbines could generate 11% of the UK's power – new research \(theconversation.com\)](https://theconversation.com/tidal-turbines-could-generate-11-of-the-uk-s-power-new-research-178484)

### **COP26: how unlocking nature's power can help the UK step up its fight against climate change**

9 November



[COP26: how unlocking nature's power can help the UK step up its fight against climate change \(theconversation.com\)](https://theconversation.com/cop26-how-unlocking-nature-s-power-can-help-the-uk-step-up-its-fight-against-climate-change-181111)

## **Carbon Capture Benefits the Climate Despite Drawbacks**

10 November

[Carbon Capture Benefits the Climate Despite Drawbacks | Technology Networks](https://journals.sagepub.com/doi/10.1177/0734242X211048125)

<https://journals.sagepub.com/doi/10.1177/0734242X211048125>

## **IPCC, You've Made Your Point: Humans Are a Primary Cause of Climate Change**

November 2021

[IPCC, You've Made Your Point: Humans Are a Primary Cause of Climate Change - Scientific American](https://www.scientificamerican.com/article/ipcc-youve-made-your-point-humans-are-a-primary-cause-of-climate-change/)

## **COLLECTION**

### **COP26: Inside the science**

November 2021

[COP26: Inside the science \(nature.com\)](https://www.nature.com/news/cop26-inside-the-science)

## **Seven reasons global transport is so hard to decarbonise**

10 November

[Seven reasons global transport is so hard to decarbonise \(theconversation.com\)](https://theconversation.com/seven-reasons-global-transport-is-so-hard-to-decarbonise-181111)

## **We can't afford to just build greener. We must build less**

10 November

[We can't afford to just build greener. We must build less \(theconversation.com\)](https://theconversation.com/we-cant-afford-to-just-build-greener-we-must-build-less-181111)

## **Earth's Atmosphere Reacted in Surprising Ways to Emission Reductions From COVID Pandemic**

10 November

[Earth's Atmosphere Reacted in Surprising Ways to Emission Reductions From COVID Pandemic \(scitechdaily.com\)](https://www.scitechdaily.com/earth-s-atmosphere-reacted-in-surprising-ways-to-emission-reductions-from-covid-pandemic/)

## **U.S. and China issue joint pledge to slow climate change**

10 November

[U.S., China issue joint climate change pledge at COP26 in Glasgow - The Washington Post](https://www.washingtonpost.com/climate-environment/us-china-issue-joint-climate-change-pledge-at-cop26-in-glasgow-2021-11-10/)

## **For Any COP26 Climate Goals To Succeed, New Technology Breakthroughs Are Essential | BloombergNEF**

9 November

[For Any COP26 Climate Goals To Succeed, New Technology Breakthroughs Are Essential | BloombergNEF \(bnef.com\)](https://www.bnef.com/articles/for-any-cop26-climate-goals-to-succeed-new-technology-breakthroughs-are-essential/)

## **Ireland joins group of countries working to phase out oil and gas exploration**

12 November

<https://www.thejournal.ie/ireland-oil-and-gas-initiative-cop26-5598266-Nov2021>

## **24,000 Years of Temperature Data Show Just How Unprecedented Current Global Heating Is**

12 November

[24,000 Years of Temperature Data Show Just How Unprecedented Current Global Heating Is \(sciencealert.com\)](https://www.sciencealert.com/24000-years-of-temperature-data-show-just-how-unprecedented-current-global-heating-is)

## **The cow in the room: why is no one talking about farming at Cop26? | Cop26 | The Guardian**

9 November

<https://www.theguardian.com/environment/2021/nov/09/the-cow-in-the-room-why-is-no-one-talking-about-farming-at-cop26-aoe>

## **COP26: World agrees to phase out fossil fuel subsidies and reduce coal**

13 November

[COP26 final agreement: 196 countries agree to phase out fossil fuel subsidies and "phase down" coal | New Scientist](#)

## **The final hours: Nature reporters reflect on COP26**

12 November

[The final hours: Nature reporters reflect on COP26](#)

## **Reflections from COP26**

13 November

[Reflections from COP26 | McKinsey & Company](#)

## **COP26 made net zero a core principle for business. Here's how leaders can act**

12 November

[What COP26 means for business | McKinsey](#)

## **Solving the net-zero equation: Nine requirements for a more orderly transition**

27 October

[A framework for leaders to solve the net-zero equation | McKinsey](#)

## **COP26 strikes hard-fought deal but UN says 'not enough'**

14 November

[COP26 strikes hard-fought deal but UN says 'not enough' \(rte.ie\)](#)

## **Five things you need to know about the Glasgow Climate Pact**

13 November

[Five things you need to know about the Glasgow Climate Pact \(theconversation.com\)](#)

## **COP26: experts react to the UN climate summit and Glasgow Pact**

13 November

[COP26: experts react to the UN climate summit and Glasgow Pact \(theconversation.com\)](#)

## **The ultimate guide to why the COP26 summit ended in failure and disappointment (despite a few bright spots)**

14 November

[The ultimate guide to why the COP26 summit ended in failure and disappointment \(despite a few bright spots\) \(theconversation.com\)](#)

## **COP26 deal: how rich countries failed to meet their obligations to the rest of the world**

14 November

[COP26 deal: how rich countries failed to meet their obligations to the rest of the world \(theconversation.com\)](#)

## **COP26: why politicians have little incentive to prepare for future climate change disasters**

12 November

[COP26: why politicians have little incentive to prepare for future climate change disasters \(theconversation.com\)](https://theconversation.com/cop26-why-politicians-have-little-incentive-to-prepare-for-future-climate-change-disasters-175448)

## **Factfind: Which countries produce the most CO2 emissions?**

13 November

[Factfind: Which countries produce the most CO2 emissions? \(thejournal.ie\)](https://thejournal.ie/factfind-which-countries-produce-the-most-co2-emissions/)

## **COP26 sees Government's pledge to make HGVs zero emission by 2040**

12 November

[COP26 sees Government's pledge to make HGVs zero emission by 2040 \(innovationnewsnetwork.com\)](https://innovationnewsnetwork.com/cop26-sees-government-s-pledge-to-make-hgv-zero-emission-by-2040/)

## **'COP26 hasn't solved the problem': scientists react to UN climate deal**

15 November

['COP26 hasn't solved the problem': scientists react to UN climate deal \(nature.com\)](https://www.nature.com/articles/d41586-021-03431-4)

<https://doi.org/10.1038/d41586-021-03431-4>

## **Five books that will change how you think about the environment and climate change**

15 November

[Five books that will change how you think about the environment and climate change \(theconversation.com\)](https://theconversation.com/five-books-that-will-change-how-you-think-about-the-environment-and-climate-change-175448)

## **Can Ireland warm homes and cook dinners with hydrogen?**

18 November

[Can Ireland warm homes and cook dinners with hydrogen? - TechCentral.ie](https://www.techcentral.ie/can-ireland-warm-homes-and-cook-dinners-with-hydrogen/)

## **COVID-19: Implications for business (Multiple Articles)**

17 November

[Coronavirus' business impact: Evolving perspective | McKinsey](https://www.mckinsey.com/coronavirus-business-impact-evolving-perspective)

## **Reflections on sustainability**

16 November

[Reflections on sustainability | Nature Sustainability](https://www.nature.com/articles/d41893-021-00821-4)

<https://doi.org/10.1038/s41893-021-00821-4>

## **We can't let markets decide the future of removing carbon from the atmosphere**

16 November

[We can't let markets decide the future of removing carbon from the atmosphere \(theconversation.com\)](https://theconversation.com/we-cant-let-markets-decide-the-future-of-removing-carbon-from-the-atmosphere-175448)

## **How the spin-off benefits of climate action will improve life for everyone**

16 November

[How the spin-off benefits of climate action will improve life for everyone \(theconversation.com\)](https://theconversation.com/how-the-spin-off-benefits-of-climate-action-will-improve-life-for-everyone-175448)

## **Market Forces Cut Methane Emissions From Uinta Basin Oil and Gas Wells in Half – But That's Not the Whole Story**

18 November

[Market Forces Cut Methane Emissions From Uinta Basin Oil and Gas Wells in Half – But That's Not the Whole Story \(scitechdaily.com\)](https://www.scitechdaily.com/market-forces-cut-methane-emissions-from-uinta-basin-oil-and-gas-wells-in-half-but-thats-not-the-whole-story/)

DOI: 10.1038/s41598-021-01721-5

## **Research gaps identified for next-generation conservation technologies to reduce biodiversity loss**

16 November

<https://phys.org/news/2021-11-gaps-next-generation-technologies-biodiversity-loss.html>

<https://dx.doi.org/10.1007/s10592-021-01415-5>

## **COP26: The Planet Is Saved! Actually, Not Quite**

15 November

[COP26: The Planet Is Saved! Actually, Not Quite | IFLScience](#)

## **Coal: why China and India aren't the climate villains of COP26**

17 November

[Coal: why China and India aren't the climate villains of COP26 \(theconversation.com\)](#)

## **COP26 didn't solve everything — but researchers must stay engaged**

16 November

[COP26 didn't solve everything — but researchers must stay engaged \(nature.com\)](#)

<https://doi.org/10.1038/d41586-021-03433-2>

## **'COP26 hasn't solved the problem': scientists react to UN climate deal**

14 November

['COP26 hasn't solved the problem': scientists react to UN climate deal \(nature.com\)](#)

<https://doi.org/10.1038/d41586-021-03431-4>

## **Glasgow Climate Pact: what happened at COP26 and what it means for the world – podcast**

18 November

[Glasgow Climate Pact: what happened at COP26 and what it means for the world – podcast \(theconversation.com\)](#)

## **China creates vast research infrastructure to support ambitious climate goals**

22 November

[China creates vast research infrastructure to support ambitious climate goals \(nature.com\)](#)

<https://doi.org/10.1038/d41586-021-03491-6>

## **Biden's infrastructure act bets big on 3 types of 'green' energy tech**

22 November

[Energy wins and losses in the infrastructure act | Popular Science \(popsci.com\)](#)

## **The carbon most crucial to avoiding climate disaster has been mapped | Science News**

18 November

[The carbon most crucial to avoiding climate disaster has been mapped | Science News](#)

## **Wind power risks becoming too cheap, says top turbine maker**

24 November

[Wind power risks becoming too cheap, says top turbine maker \(yahoo.com\)](#)

## **Digital technologies could deliver 40% of Ireland's 2030 carbon reduction targets**

25 November

[Digital technologies could deliver 40% of Ireland's 2030 carbon reduction targets - TechCentral.ie](#)

## **Germany hits renewable accelerator, targets coal exit by 2030 | Reuters**

24 November

<https://www.reuters.com/markets/commodities/german-coalition-commits-faster-decarbonisation-2021-11-24>

## **Pinched by energy crisis, Spanish coal plant slated for closure fires up | Reuters**

24 November

<https://www.reuters.com/markets/commodities/pinched-by-energy-crisis-spanish-coal-plant-slated-closure-fires-up-2021-11-24>



**Wind accounted for 35% of October electricity demand**

25 November

<https://www.rte.ie/news/business/2021/1125/1263021-wind-accounted-for-35-of-october-electricity-demand>**UK government announces biggest investment into Britain's tidal power - GOV.UK**

24 November

[UK government announces biggest investment into Britain's tidal power - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/uk-government-announces-biggest-investment-into-britain-s-tidal-power)**'Urban myth': Can Congress replace coal with renewables? - E&E News**

29 November

['Urban myth': Can Congress replace coal with renewables? - E&E News \(eenews.net\)](https://www.eenews.net/stories/1064944-urban-myth-can-congress-replace-coal-with-renewables)**Fungi may be crucial to storing carbon in soil as the Earth warms**

30 November

[Fungi may be crucial to storing carbon in soil as the Earth warms | Science News](https://www.sciencenews.org/article/fungi-may-be-crucial-to-storing-carbon-in-soil-as-the-earth-warms)**For the greatest benefit to humankind**

11 November

[For the greatest benefit to humankind | Nature Computational Science](https://www.nature.com/articles/s43588-021-00169-x)<https://doi.org/10.1038/s43588-021-00169-x>



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# Irish University & 3<sup>rd</sup> Level Chemistry News

Note:

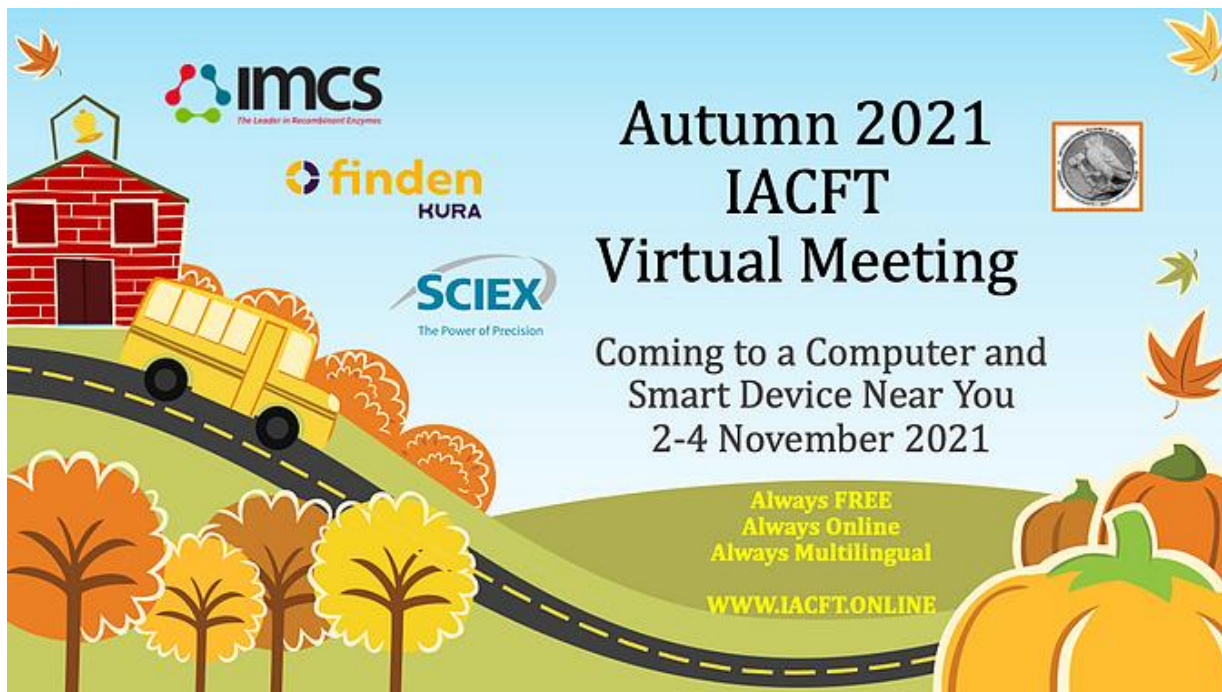
The source material for the following section is provided by the relevant educational institutions. I will be endeavouring to improve this section of ICN by seeking timely updated feeds from the institutions.

I have reached out to heads of chemical sciences departments albeit a little late before publication but the response has been poor. This is likely due to the pressure on everyone in chemistry departments and also due to the Covid-19 pandemic. Lot of goals and good achievements are being attained but we need but to hear about them.

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



IT Sligo were involved in running the International Alliance of Clinical and Forensic Toxicologists (IACFT) Autumn 21 Meeting. IT Sligo are the only Irish third level college involved in IACFT and staff at IT Sligo (Dr Dowling whom was a co-founder) were involved with an international team in organising the conference for IACFT in early November 2021 in clinical and forensic toxicology focusing on urine toxicology. This meeting was delivered to participants in 7 languages. The conference was available free to students and practitioners worldwide and ran over three days. The conference was attended by 62 countries. The next IACFT conference will be held in Spring 2022.



Overview provided by Dr Geraldine Dowling BSc (Hons), MSc, PGDip Ed, PhD.  
Lecturer in Forensic Science/Forensic Toxicologist/Adjunct Assistant Professor (Trinity College Dublin) at the Institute of Technology, Sligo. Dr Dowling is a member of the United Kingdom and Ireland Association of Forensic Toxicologists (UKIAFT) and sits on the Council of UKIAFT. She is also a



member of The International Association of Forensic Toxicologists (TIAFT), Society of Forensic Toxicologists (SOFT), the London Toxicology Group (LTG) and a founding member of IACFT (provider of free education services).



**Autumn 2021 IACFT Virtual Meeting**

**Tuesday, 2<sup>nd</sup> November 2021: You're In Luck!**  
**Chair: Chinyere M. Williams, MSc, UK**

- 09:00-09:05 Welcome Remarks - Chinyere M. Williams (UK)
- 09:05-09:55 Is Urine Still Relevant in Toxicology? - José Restolho (Portugal)
- 09:55-10:00 Brief Q&A from Chat
- 10:00-10:50 Sponsored Presentation and Field Application - IMCS
- 10:50-10:55 Brief Q&A from Chat
- 10:55-11:45 A Review of Urine as a Viable Testing Matrix in Federally-Regulated Labs - Lawrance D. Mullen, Jr. (USA)
- 11:45-12:00 Panel Discussion and Q&A from Chat

**Wednesday, 3<sup>rd</sup> November 2021 - You're In Good Hands!**  
**Chair: Geraldine Dowling, PhD, Ireland**

- 09:00-09:05 Welcome Remarks - Geraldine Dowling (Ireland)
- 09:05-09:55 Urinary Metabolomics: A Powerful Tool to Explore Endogenous and Exogenous Compounds for the Discovery of New Biomarkers - Michel Aliani (Canada)
- 09:55-10:00 Brief Q&A from Chat
- 10:00-10:40 Field Application: Urine Analysis in Forensic and Clinical Toxicology - Marta Concheiro-Guisan (USA)
- 10:40-10:45 Brief Q&A from Chat
- 10:45-11:00 Sponsored Presentation FINDEN by KuraBiotech
- 11:00-11:05 Brief Q&A from Chat
- 11:05-11:30 Panel Discussion and Q&A from Chat

**Thursday, 4<sup>th</sup> November 2021 - You're In Trouble!**  
**Chair: Sarah Riley, PhD, USA**

- 09:00-09:05 Welcome Remarks - Sarah Riley (USA)
- 09:05-09:40 Urine Drug-Testing Tampering Approaches - Melike Aydoğdu (Turkey)
- 09:40-09:45 Brief Q&A from Chat
- 09:45-10:20 Methods Used to Beat a Urine Drug Test Steve Korkoneas (Australia)
- 10:20-10:25 Brief Q&A from Chat
- 10:25-10:40 Sponsored Presentation SCIEX
- 10:40-10:45 Brief Q&A from Chat
- 10:45-11:35 Analysis and Interpretation of Drugs in Urine - Robert Kronstrand (Sweden)
- 11:35-11:40 Brief Q&A from Chat
- 11:40-12:00 Panel Discussion and Q&A from Chat

[www.iacft.online/event-details/autumn-2021-virtual-meeting](http://www.iacft.online/event-details/autumn-2021-virtual-meeting)

With the support of:



Further detail regarding toxicology organisations Dr Dowling is involved in are outlined below.



## United Kingdom and Ireland Association of Forensic Toxicologists

*Forensic toxicology is the area of forensic science that specialises in the analysis of drugs and poisons and the interpretation of analytical findings to support investigations involving sudden or unexplained death, driving under the influence of drugs (DUID), drug facilitated sexual assault (DFSA), criminal assault, food adulteration or attempted poisoning. The forensic toxicologist may therefore become involved in the analysis of a wide variety specimen types such as tablets, unknown powders, body tissues*

*such as blood, urine, liver, oral fluid and hair to determine whether they contain materials that could be harmful to individuals or impair performance.*

The UKIAFT is the professional body of forensic toxicologists in the United Kingdom and Ireland and was formed to provide a forum for practising forensic toxicologists.

The UKIAFT developed from a group of toxicologists representing all of the major providers of forensic toxicology services within the UK and Ireland that have been meeting regularly for a number of years to share knowledge, discuss the development of new analytical techniques and advocate a high level of professionalism amongst its members. Following the appointment of a Regulator of Forensic Sciences by the Government in 2008 practitioners decided that it was time to form a professional body of practising forensic toxicologists with the aim of developing and supporting agreed national professional standards of practice and education in forensic toxicology.

The first Annual General Meeting (AGM) of the UKIAFT was held at Glasgow University in September 2010 in association with a one and a half day scientific meeting. Membership of the UKIAFT is open to all practising or trainee forensic toxicologists working in England, Scotland, Wales, Ireland and the Channel Islands.

The organisation holds 2-3 regional meetings each year in addition to the Annual Conference which includes the AGM and an open meeting of guest lectures, member's papers and posters in addition to a student posters competition.

UKIAFT, a professional body of forensic toxicologists in the UK and Ireland which was formed to provide a forum for practising forensic toxicologists.

Membership of the UKIAFT is open to all practising or trainee forensic toxicologists working in England, Scotland, Wales, Ireland, Northern Ireland and the Channel Islands. (<http://www.ukiaft.co.uk>) Accessed 28/11/21



## The International Association of Forensic Toxicologists

The International Association of Forensic Toxicologists (TIAFT) promotes cooperation, coordination of efforts and research in forensic toxicology. Members actively engaged in analytical toxicology (or allied areas) are welcome, and come from all corners of the globe. Professional and ethical conduct is expected of all members.

TIAFT was founded in London on April 21, 1963. The founding meeting elected Dr E.C.G. Clarke (UK) as President, Dr Alan S. Curry (UK) as Secretary, Dr Ian Holden (UK) as Treasurer and Dr Fred Rieders (USA) as Newsletter Editor. The first newsletter was edited in November 1963 by Dr Rieders, and from the very beginning it bore the name "Bulletin of the International Association of Forensic Toxicologists". It was a 3-page A4 size blue spirit duplicated leaflet which contained four case notes. The analytical methods relied heavily on TLC, spectrophotometry and spot tests. The first note was by L.W. Bradford (USA) giving advice on how to calibrate UV spectrophotometers with mercury vapour.

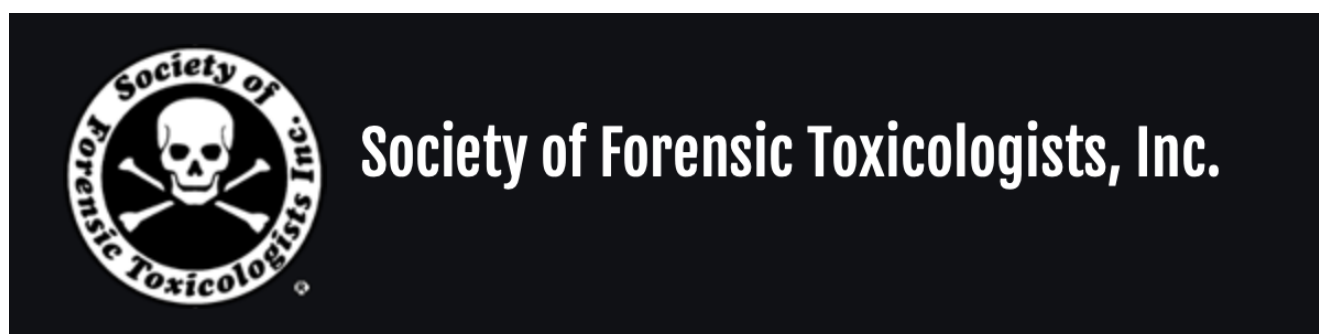
Nowadays, TIAFT comprises about 1500 members from all regions of the world who are actively engaged in analytical toxicology or allied areas. All members agree to conduct themselves in a professional manner, in accordance with the ethical principles. The organisation has approximately 50 Regional Representatives who represent TIAFT in their respective areas of the world. They process requests for TIAFT membership, are responsible for liaison with related scientific societies in their areas and serve their local TIAFT members as their needs arise.

The aims of this association are to promote cooperation and coordination of efforts among members and to encourage research in forensic toxicology.

TIAFT members come from departments of legal medicine, pharmacology, pharmacy and toxicology, hospitals, medical examiners and coroners' laboratories, the police force, horseracing and sports doping laboratories. The association organises annual meetings and regional meetings. The Bulletin is published 3 times a year and is now a colour booklet of 50+ pages. The Young Scientists Committee encourages international collaboration among TIAFT young scientists, organises a half day meeting during each annual congress and awards three annual prizes at each meeting for best presentation, best poster and best publication by a young scientist.

In addition, TIAFT annually awards the Alan Curry Award to members who have a long history of distinguished contributions to the field of forensic toxicology and to the TIAFT organisation and the TIAFT Achievement Award to recognise TIAFT members who are younger than 46 years for outstanding achievements in forensic toxicology through their scientific activities and outputs.

TIAFT has several programs to assist members for developing countries through grants to attend the annual meeting, grants for method development and book donations. (<http://www.tiaft.org/tiaft-association.html>) Accessed 281121



### Our Mission

The Society of Forensic Toxicologists, Inc. is an organization composed of practicing forensic toxicologists and those interested in the discipline for the purpose of promoting and developing forensic toxicology.

### History of SOFT

In 1970, a group of forensic toxicologists in the Nassau County Medical Examiner's Office, headed by the late Abe Freireich, felt there was a need for an informal gathering of toxicologists between the annual meetings of the American Academy of Forensic Sciences. The first meeting was held in October 1970, at Long Island, NY and was referred to as the "Interim Toxicology Meeting". It was an auspicious occasion. Several prominent forensic toxicologists attended that first meeting, and one entire afternoon was spent discussing "Head Space Analysis of Volatiles". So much benefit and useful information was derived from this meeting that it was agreed by the attendees that this type of meeting should occur on an annual basis each fall to discuss whatever topics were pertinent at that particular time. Informal meetings continued for two more years, and then a turning point occurred at the Philadelphia meeting in 1973. At this meeting, much discussion was generated about the formal organization of this unstructured group of toxicologists. The attendees believed that an organized group could do more to promote the cause of forensic toxicology, advance education, and ensure knowledgeable input into standards governing the profession. In 1974, the newly elected president, Dr. Jane Speaker, conducted the first formal meeting of SOFT in Chapel Hill, N.C. Since that time, SOFT has established a charter, published a newsletter, funded and awarded Education Research Awards to deserving students, given many workshops for the continuing education of its members, and established a website. The organization became officially incorporated in 1983 with full tax-exempt status. Although the Society is now officially organized, SOFT hopes to retain the flavor and atmosphere of that first informal gathering of toxicologists in Long Island for the express purpose of promoting understanding and goodwill among those in our chosen profession. (<https://www.soft-tox.org/society>) Accessed 281121



## LTG

### London Toxicology Group

*Advancing Laboratory Investigations*  
*Identification & Understanding of Drugs, Poisons & Alcohols in Man*

Formerly known as the London Toxicology Group, The LTG was first established in 1979.

The Group membership has a professional interest in the **detection and measurement of alcohol, drugs, poisons and their breakdown products in biological samples, together with the interpretation of these measurements.** This discipline is known as 'analytical toxicology'.

The aim of the group is **to promote the advancement of the science of analytical toxicology for public benefit and education.**

There are currently **over 200 members from throughout the UK, Ireland and elsewhere.** Membership of the Group is by election and is open to all individuals who possess sufficient appropriate experience or qualifications relevant to, or who can show a constructive interest in, the science of analytical toxicology.

Our members are representing a wide range of disciplines, including therapeutic drug monitoring, clinical toxicology, forensic toxicology (drug driving, criminal and coroners), drugs in sport and work place drug testing. The group also draws interest from academic and research fields and has international links with other specialist toxicology groups.

The Group meets at regular intervals (5 times) each year. Meetings are a mixture of scientific content and informal social gathering, in order to facilitate an exchange of ideas between analytical toxicologists or those interested in our area of science. (<http://www.the-ltg.org>) Accessed 281121



## INTERNATIONAL ALLIANCE OF CLINICAL AND FORENSIC TOXICOLOGISTS

Bringing Excellence to You Since 2020

The online professional community that makes up the International Alliance of Clinical and Forensic Toxicologists is driven by a single goal; to make clinical and forensic toxicology accessible to all.

IACFT is a collective of scientists from around the world who serve their local communities as best as they can but who don't always have the time or budget to attend professional meetings in remote parts of the world to present their research or to learn the latest developments in the field. We strive to build productive relationships and make a positive impact with all of our pursuits informed by comprehensive empirical studies and high quality data. (<https://www.iacft.online>)

Accessed 281121



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## News from IT Carlow

### Minister's Visit

This November, Minister for Further and Higher Education, Research, Innovation and Science Simon Harris paid a visit to campus, where he met with some of the postgraduate students from our CORE research group, enviroCORE. They were delighted to share an overview of their research work with the Minister.

### Outreach

As part of our outreach efforts, our Cell explorers programme is back! Since we cannot host the students on campus this year, our team of volunteers put together DNA extraction kits that were sent out to primary schools in Carlow County. These kits will allow students to have fun with science while extracting DNA from bananas.



*Figure 1 Led by Guiomar Garcia-Cabellos, a team of volunteer prepares DNA extraction kits*

IT Carlow were happy to welcome students to our on-campus open day on November 18<sup>th</sup>, where we saw great interest in our science programmes.



*Figure 2 Dr. David Phelan talks to a student about our Pharmaceuticals and Drug Formulation program*

## Reunion

The Department of Science and Health recently hosted a reunion for our very first alumni class:

### Changing times: Designation as a Technological University after 50 years of fascinating history as told by IT Carlow Chemistry Graduates

Friday 12th November 2021 saw six of IT Carlow's first ever science students and their lecturer walk through the doors of the Institute for a long-awaited reunion. The event was organized to celebrate 50 years of third level education in Carlow. Memories of practical sessions in the chemistry lab to winning an All-Ireland football title came flooding back for the guests as they travelled from across the country to the college they once called home.



*Figure 3 Then and Now (David Harrington, Wicklow; Mel O'Rourke, Meath; Dermot Coyne, Cavan; Greg Murphy, Carlow; Phil Henderson, Laois; Martin Stapleton, Laois, and retired lecturer Paul Kinsella, Wexford)*

As graduates David Harrington, Wicklow; Mel O'Rourke, Meath; Dermot Coyne, Cavan; Greg Murphy, Carlow; Phil Henderson, Laois; Martin Stapleton, Laois and retired lecturer Paul Kinsella, Wexford walked through the doors of the Institute, most of them for the first time since 1972, the sense of pride and excitement was apparent as they greeted each other with stories of their first days in college. Immediately the discussion started as to how they all ended up in Carlow. Seemingly the Department of Education had a leaflet drop across the country advertising exciting new courses in Science, Business & Engineering which were commencing in Carlow's Regional Technical College (RTC). One of the first RTC's in the country, CEO Austin Waldron and Principal, John Gallagher ensured Carlow was on the map and third



level programmes, which were career focused and practical, was a real opportunity for students across the country.

Upon arriving at their old chemistry lab, they took their seats as their retired lecturer Paul Kinsella took a marker to the board and the craic was mighty. There was no stone left unturned as the memories of their days in Carlow kept flooding back. The group were joined by the Institute's current Head of Science Faculty, Dr David Dowling.

It is a very exciting time for Carlow and the region as it is set to get its first university in the current academic year.

To quote Minister Simon Harris, "This is going to be a watershed moment for higher education in the south-east region, and we can look forward to the TU increasing higher education access, driving enhanced regional development, and delivering more opportunities to students, staff, businesses and communities across the region."

Report provided by:

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## Other News

### **Institute of Technology Carlow Ranked in the Five Top Performing Universities in Ireland by U-Multirank World University Rankings 2021**

21/09/2021

IT Carlow Ranked in Five Top Performing Universities in Ireland. Institute of Technology Carlow has been ranked in the five top performing universities in Ireland, according to an international ranking of higher education institutions released today.

U-Multirank (<https://www.umultirank.org>) is the largest and most inclusive global university ranking, highlighting the diversity in higher education around the world. Now in its eighth edition, it compares university performance across teaching and learning, research, knowledge transfer, international orientation and regional engagement.

Institute of Technology Carlow is ranked in the top five alongside Dublin City University and Trinity College Dublin.

In its 2021 edition, Institute of Technology Carlow received nine top A grades from U-Multirank – up four from last year. The A grades were awarded for: Bachelor graduation rate; graduating on time (bachelors); interdisciplinary publications; co-publications with industrial partners; publications cited in patents; international academic staff; bachelor graduates working in the region; master graduates working in the region. Institute of Technology Carlow also received an A grade for the gender balance indicator.



The highest performing higher education institutions in Ireland 2021 (U-Multirank 2021 Irish Universities in Global Comparison).

President of Institute of Technology Carlow, Dr Patricia Mulcahy welcomed the report's findings.

"This is a significant international vote of confidence for Institute of Technology Carlow and a great endorsement of the incredible work undertaken across our campuses – from the introduction of new programmes of study to our international research and publications, from facilities to gender equality and graduation rates. It is heartening, for this institute and for the region, as we enter a new era and take our next steps towards university designation in 2022", said Dr Mulcahy.

Commenting on the rankings released today, Vice President for Academic Affairs David Denieffe commented, "Today's rankings are a great affirmation of our hard work over the last few years. We are grateful to our dedicated students, faculty, staff and collaborative partners who have helped to bring us to this point".



## Chemistry at NUI Galway

6 December 2021

In 2022 the School of Chemistry at NUI Galway will be incorporated into the larger School of Biological and Chemical Sciences that will help foster collaborations with our colleagues in biochemistry, microbiology and the bio-economy.

### The School of Chemistry Received Bronze Athena SWAN Award



The school of Chemistry has been awarded a Bronze Athena SWAN Award in recognition of the School's commitment to promote equality, diversity and inclusion. This marks a significant milestone in the journey towards continuous advancing gender equality and culture change across the School. The School Athena Swan action plan was developed by the Self-Assessment Team, chaired by Prof Paul Murphy. The award ceremony was held on the 20th October 2021 in the Aula Maxima at NUI Galway.

### New post approved under the Senior Academic Leadership Initiative

The school of Chemistry has been awarded one of ten senior academic posts under the Senior Academic Leadership Initiative (SALI) announced by Minister Harris in November 2021. The aim of the SALI is to progress gender balance at the senior academic level in Higher Education Institutions. This post will empower gender equality in Chemistry at NUI Galway and will support the actions associated to the Athena SWAN Award, accelerating the development of a culture of equality and diversity within the discipline.

### Prof Curran listed among the top 1% highly cited researchers worldwide



Prof Henry Curran has been named by Clarivate (<https://hcr.clarivate.com>) as being among the top 1% highly cited researchers world-wide. Prof Curran is the director of the Combustion Chemistry Centre at NUI Galway and his principle expertise lies in the generation of detailed chemical kinetic models to describe fuel pyrolysis and oxidation. The Combustion Centre is engaged in fundamental research on the combustion of fossil and biofuels; its mission is to promote the sustainable and efficient use of energy in transport, maximise energy efficiency and energy savings,

deliver an integrated approach to the sustainable development and use of bio-energy resources, and address global warming by reducing energy-related greenhouse gas emissions.

Prof Curran has been in the top 1% cited researchers worldwide annually since 2014, reflecting the outstanding quality of the Combustion Centre.

### **Dr Myers funded by SFI**



Eddie Myers, Lecturer in Organic Chemistry, was awarded funding to support an SFI – Frontiers for the Future project entitled ‘Photoinitiated Transformations of Peptides and Protein for Biopharmaceutical and Biomaterial Application’. The 4-year project began on November 1<sup>st</sup> 2021 and will seek to develop small molecule reagents that in conjunction with light activation will selectively transform cysteine residues within proteins and peptides into functional groups that can be engaged in highly efficient bond-forming transformations that will lead to antibody-drug conjugates, protein biomaterials and form the basis of peptidomimetic protease inhibitors. The project will also provide a platform for the training of two Ph.D. students, Matthew Murray and Ardra Karthika, and one M.Sc. student.

Report provided by:

Dr Oliver P Thomas

Head of Chemistry

Marine Biodiscovery Laboratory, School of Chemistry and Ryan Institute, Room C212

National University of Ireland, Galway (NUI Galway)

University Road, Galway H91TK33, Ireland

[Irish Marine Biomaterial Repository](#)



Central Quad where Chemical and Pharmaceutical Sciences are located

## News from Universities and HEI Chemistry Departments

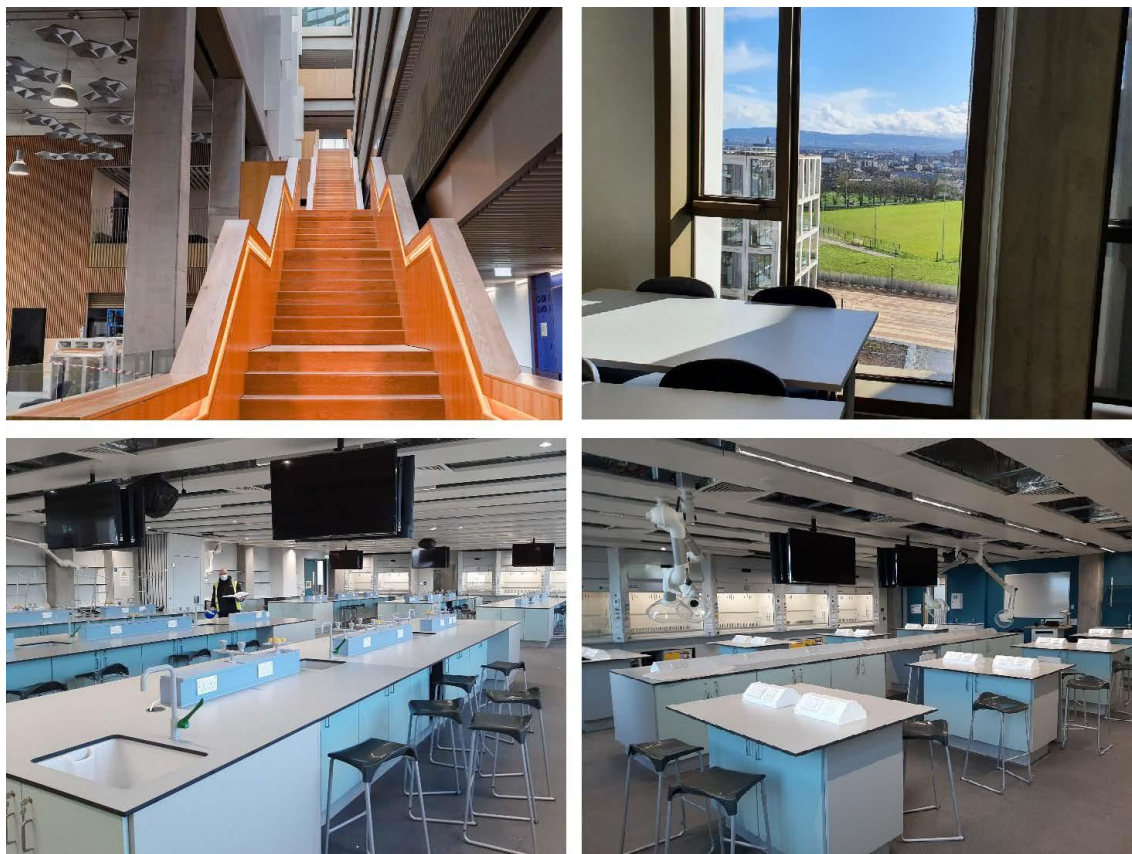
### Technological University Dublin

The School of Chemical and Pharmaceutical Sciences in Technological University Dublin is delighted to announce that, in September 2021, we completed our relocation across the Liffey from Kevin St to the new Central Quad building in our Grangegorman campus. We're very grateful to both staff and students for their patience during the 'big move' which involved over 600 packing crates, 4,500 chemicals and 150 scientific instruments. It's been well worth it as we now have custom designed lecture rooms, classrooms and teaching laboratories and access to extensive sports facilities on the 73 acre Grangegorman site. The Central Quad building accommodates 6,500 students from 9 Schools and our new labs and facilities are located on the 4<sup>th</sup> floor. Unfortunately we cannot facilitate visitors at the moment due to public health guidelines but a short video tour of our new facilities is available at [bit.ly/ChemGrangegorman](https://bit.ly/ChemGrangegorman)

We were lucky enough to be able to bid farewell to the Kevin St site at a celebration event at the end of February 2020. Former staff and graduates made a final visit to the building to reminisce and meet colleagues, classmates and lecturers while enjoying the specially prepared Periodic Table of donuts. To mark the occasion, an article on the history of chemistry education at the Kevin St site was published in Chemistry in Action (Issue 116, pages 8-13). It can be accessed at this abbreviated link [bit.ly/chemKevinSt](https://bit.ly/chemKevinSt)

We look forward to continuing to implement our vision to be leaders in Chemical and Pharmaceutical Sciences Education; Committed to Excellence in the provision of Accredited, Practice-Based, Teaching, Learning and Research, relevant to employers and wider society in our new location. To keep up to date with developments in our School, you're invited to view our recently updated webpage link at <https://www.tudublin.ie/explore/schools-and-disciplines/science/chemistry>





Facilities in the Central Quad – main lobby and stairway, classroom and teaching laboratory spaces.



Teaching and learning has resumed on site in the 2021-22 academic year and public health guidelines have been applied.





This 2021 Christmas card shows the new Central Quad building alongside our former Kevin St home.

More photos, site map and information about the Quads and other areas can be viewed at:

<https://www.tudublin.ie/explore/our-campuses/grangegorman>

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



University College Dublin  
Ireland's Global University

Irish University & 3<sup>rd</sup> Level  
Chemistry News

Irish University & 3<sup>rd</sup> Level Chemistry News



RCSI

Irish University & 3<sup>rd</sup> Level Chemistry News



UCC  
University College Cork, Ireland  
Coláiste na hOllscoile Corcaigh

School of Chemistry  
Scoil na Ceimic

Irish University & 3<sup>rd</sup> Level  
Chemistry News



Maynooth  
University  
National University  
of Ireland Maynooth

Irish University & 3<sup>rd</sup> Level  
Chemistry News



QUEEN'S  
UNIVERSITY  
BELFAST

Irish University & 3<sup>rd</sup> Level  
Chemistry News



Ollscoil Chathair  
Bhaile Átha Cliath  
Dublin City University

Irish University & 3<sup>rd</sup> Level Chemistry News



Irish University & 3<sup>rd</sup> Level Chemistry  
News



Institiúid Teicneolaíochta Leitir Ceanainn  
Letterkenny Institute of Technology

Irish University & 3<sup>rd</sup>  
Level Chemistry News



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

Irish University & 3<sup>rd</sup> Level  
Chemistry News



Waterford Institute of Technology  
INSTITIÚID TEICNEOLAÍOCHTA PHORT LÁIRGE

Irish University & 3<sup>rd</sup> Level  
Chemistry News



Pharmaceutical & Molecular  
Biotechnology Research Centre



**MTU**

Ollscoil Teicneolaíochta na Mumhan  
Munster Technological University

Irish University & 3<sup>rd</sup> Level  
Chemistry News



Institiúid Teicneolaíochta  
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of Technology

Irish University & 3<sup>rd</sup> Level  
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Irish University & 3<sup>rd</sup> Level  
Chemistry News



**GMIT**

INSTITIÚID TEICNEOLAÍOCHTA NA GAILLIMHE-MAIGH EÓ  
GALWAY-MAYO INSTITUTE OF TECHNOLOGY

Irish University & 3<sup>rd</sup> Level  
Chemistry News



**DUNDALK**  
INSTITUTE OF TECHNOLOGY

Irish University & 3<sup>rd</sup> 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 this prestigious peer reviewed journal.

Physical Chemistry Chemical Physics  
14 November 2021, Issue 42,  
Page 24065 to 24520

<https://pubs.rsc.org/en/journals/journalissues/cp#!issueid=cp023042&type=current&issnprint=1463-9076>

### Scope

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

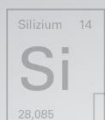
The journal has a broad scope which includes spectroscopy, dynamics, kinetics, statistical mechanics, thermodynamics, electrochemistry, catalysis, surface science, quantum mechanics and theoretical developments play an important part in the journal. Interdisciplinary research areas such as polymers and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

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

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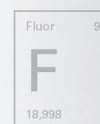
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## Chemistry and related Science around the World

### **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 \(sciencealert.com\)](https://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://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 \(innovationnewsnetwork.com\)](https://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://scitechdaily.com)

<https://doi.org/10.1021/acsnano.1c04142>

## **Carbon Capture Gets Cheaper: Making Methane From CO<sub>2</sub>**

5 September

[Carbon Capture Gets Cheaper: Making Methane From CO<sub>2</sub> \(scitechdaily.com\)](https://doi.org/10.1002/cssc.202101590)

<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)

<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 \(scitechdaily.com\)](https://doi.org/10.1038/s41467-021-25547-x)

DOI: 10.1038/s41467-021-25547-x

## **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)

<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 \(theconversation.com\)](https://theconversation.com/messenger-rna-how-it-works-in-nature-and-in-making-vaccines)

## **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](https://cleantechnica.com/2021/09/05/a-decade-of-wind-solar-nuclear-in-china-shows-clear-scalability-winners/)

## **Scientists Find Key to Perfectly Smooth Chocolate**

1 September

[Scientists Find Key to Perfectly Smooth Chocolate | Technology Networks](https://technologynetworks.com/scientists-find-key-to-perfectly-smooth-chocolate/)

## **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 \(scitechdaily.com\)](https://scitechdaily.com/viruses-from-plants-bacteria-key-ingredient-for-new-covid-19-vaccine-candidates/)

## **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 \(sciencealert.com\)](https://sciencealert.com/scientists-created-a-new-kind-of-metal-where-electrons-flow-like-a-fluid/)

## **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)

<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)

<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 \(sciencealert.com\)](https://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](https://www.bbc.com/news/health-58111111)

## **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://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://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://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://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](https://www.chemicalprocessing.com)

## **Small molecule plays outsize role in controlling nanoparticle**

13 July 2021

[Small molecule plays outsize role in controlling nanoparticle | Cornell Chronicle](https://www.cornell.edu)

## **GaN-on-Diamond Semiconductor Material That Can Take the Heat- 1,000°C 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)  
<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 \(biopharminternational.com\)](https://biopharminternational.com)

## **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)  
<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 \(sciencealert.com\)](https://sciencealert.com)

## **Three-Part Catalyst Helps Transform Excess CO<sub>2</sub> Into Usable Ethanol**

12 September

[Three-Part Catalyst Helps Transform Excess CO<sub>2</sub> Into Usable Ethanol \(scitechdaily.com\)](https://doi.org/10.1021/jacs.1c03940)  
<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)  
<https://doi.org/10.1016/j.apmt.2021.101167>

## **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)  
<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 H<sub>2</sub>O**

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)  
<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 \(scitechdaily.com\)](https://scitechdaily.com)

## **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](https://techcentral.ie)

## **When Organoids Meet Coronaviruses: Assessing Potential COVID Drug Targets**

17 September

[When Organoids Meet Coronaviruses: Assessing Potential COVID Drug Targets \(scitechdaily.com\)](https://scitechdaily.com)

## **Antidote Developed for Nerve Agent Poisoning**

21 September

[Antidote Developed for Nerve Agent Poisoning \(scitechdaily.com\)](https://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 \(sciencealert.com\)](https://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 \(sciencealert.com\)](https://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 \(scitechdaily.com\)](https://scitechdaily.com)

## **Chemical discovery gets reluctant seeds to sprout**

17 September

[Chemical discovery gets reluctant seeds to sprout | News \(ucr.edu\)](https://news.ucr.edu)

## **A New Role for "Feel-Good" Hormone Dopamine**

20 September

[A New Role for "Feel-Good" Hormone Dopamine | Technology Networks](https://technologynetworks.com)  
<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://technologynetworks.com)  
<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](#)

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## **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

## **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 \(scitechdaily.com\)](#)

## **Carbon Dioxide Reactor Synthesizes Martian Fuel**

25 September

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<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

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## **Structure of $3\text{He}$**

23 September

[Structure of  \$3\text{He}\$  | Scientific Reports \(nature.com\)](https://doi.org/10.1038/s41586-021-02657-6)

## **Unified Physics Theory Explains How Materials Transform From Solids to Liquids**

29 September

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## **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](https://doi.org/10.1038/s41586-021-02657-6)

## **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 \(uwaterloo.ca\)](https://doi.org/10.1038/s41586-021-02657-6)

## **A Tool To Interrogate a New Class of Reactive Electrophile Drugs**

30 September

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29 September

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30 September

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DOI: 10.1038/s41592-021-01277-2.

## **Microsoft's million-tonne CO<sub>2</sub>-removal purchase — lessons for net zero**

29 September

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## **Researchers identify and clear efficiency hurdle for organic solar cells | University of Cambridge**

29 September

[Researchers identify and clear efficiency hurdle for organic solar cells | University of Cambridge](https://doi.org/10.1038/s41586-021-02657-6)

<https://www.cam.ac.uk/research/news/researchers-identify-and-clear-efficiency-hurdle-for-organic-solar-cells#:~:text=DOI%3A%2010.1038/s41586-021-03840-5>

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2 October

[Wildly Counterintuitive: Dissolved Salt Can Reassemble at Nanoscale \(scitechdaily.com\)](https://www.scitechdaily.com/Wildly-Counterintuitive-Dissolved-Salt-Can-Reassemble-at-Nanoscale/)

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30 September

<https://pubs.rsc.org/en/content/articlelanding/2021/cs/d0cs01336f>

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1 October

<https://www.euractiv.com/section/energy/news/the-lesser-known-hydrogen-roadblock-safety-concerns>

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1 October

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2 October

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3 October

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## **Missing Link Identified in the Conversion of Biomass to Methane**

4 October

[Missing Link Identified in the Conversion of Biomass to Methane | Technology Networks](https://www.technologynetworks.com/missing-link-identified-in-the-conversion-of-biomass-to-methane/)

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## **Medicine Nobel goes to scientists who discovered biology of senses**

4 October

[Medicine Nobel goes to scientists who discovered biology of senses \(nature.com\)](https://www.nature.com/news/medicine-nobel-goes-to-scientists-who-discovered-biology-of-senses)

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## **Breakthrough Research Makes Recycling Lithium-Ion Batteries More Economical**

3 October

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## **Metals Supercharge Method To Bury Billions of Tons of Harmful Carbon Dioxide Under the Sea for Centuries**

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## **Scientists Discover New Method From Nature for Installing Sulfur Into Complex Molecules**

6 October

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## **Researchers Record the Breaking of a Single Chemical Bond – “Amazing”**

5 October

[Researchers Record the Breaking of a Single Chemical Bond – “Amazing” \(scitechdaily.com\)](https://doi.org/10.1038/s41467-021-25932-6)  
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4 October

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## **Executive summary – Global Hydrogen Review 2021 – Analysis – IEA**

4 October (Full report downloadable on webpage)

<https://www.iea.org/reports/global-hydrogen-review-2021/executive-summary>

## **Electric vehicles: the revolution is finally here | Financial Times**

4 October

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## **Tylenol could be risky for pregnant women – a new review of 25 years of research finds acetaminophen may contribute to ADHD and other developmental disorders in children**

4 October

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## **Designing small organic non-fullerene acceptor molecules with difluorobenzene or quinoline core and dithiophene donor moiety through density functional theory**

4 October

[Designing small organic non-fullerene acceptor molecules with difluorobenzene or quinoline core and dithiophene donor moiety through density functional theory | Scientific Reports \(nature.com\)](https://doi.org/10.1038/s41598-021-97662-0)  
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## **Climate modellers and theorist of complex systems share physics Nobel**

5 October

[Climate modellers and theorist of complex systems share physics Nobel \(nature.com\)](https://doi.org/10.1038/d41586-021-02703-3)  
<https://doi.org/10.1038/d41586-021-02703-3>

## **Alcohol Is the Breast Cancer Risk No One Wants to Talk About**

5 October

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## **Press release: The Nobel Prize in Chemistry 2021**

6 October

[Press release: The Nobel Prize in Chemistry 2021](https://www.nobelprize.org/prizes/chemistry/2021/press-release) and

## **Chemistry Nobel Prize Honors Technique for Building Molecules**



6 October

[Chemistry Nobel Prize Honors Technique for Building Molecules | Quanta Magazine](#) and

## **‘Elegant’ catalysts that tell left from right scoop chemistry Nobel**

6 October

[‘Elegant’ catalysts that tell left from right scoop chemistry Nobel \(nature.com\)](#) and

## **An easier, greener way to build molecules wins the chemistry Nobel Prize**

6 October

[A tool for building molecules wins the chemistry Nobel Prize | Science News](#)

## **Nobel honors molecule builders who made chemistry easier and greener**

6 October

[Nobel honors molecule builders who made chemistry easier and greener | Science | AAAS](#)

## **Tuning chemical reactions with light**

4 October

[Tuning chemical reactions with light \(phys.org\)](#)

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29 September

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## **Innovative sensor specifically and precisely detects molecules**

5 October

[Innovative sensor specifically and precisely detects molecules \(phys.org\)](#)

## **Falling short: IEA claims \$1.2 trillion hydrogen investment needed by 2030 to hit net zero goals | Upstream Online**

5 October

<https://www.upstreamonline.com/hydrogen/falling-short-iea-claims-1-2-trillion-hydrogen-investment-needed-by-2030-to-hit-net-zero-goals/2-1-1077373>

## **Construction begins on world’s largest green hydrogen power plant, part of unique baseload solar project | Recharge**

5 October

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5 October

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## **Birds Have a Mysterious 'Quantum Sense'. Scientists Have Now Seen It in Action**

6 October

[Birds Have a Mysterious 'Quantum Sense'. Scientists Have Now Seen It in Action \(sciencealert.com\)](#)

## **A Way To Convert Carbon Dioxide Into Valuable Compounds**

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## **General Graphene: unparalleled industrial scale process for CVD graphene**

October

[General Graphene: unparalleled industrial scale process for CVD graphene \(innovationnewsnetwork.com\)](https://www.innovationnewsnetwork.com)

## **Unprecedented View of a Single Catalyst Nanoparticle at Work Under Reaction Conditions**

6 October

[Unprecedented View of a Single Catalyst Nanoparticle at Work Under Reaction Conditions \(scitechdaily.com\)](https://www.scitechdaily.com)

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5 October

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## **The International Energy Agency publishes the detailed, global energy data we all need, but its funders force it behind paywalls. Let's ask them to change it. - Our World in Data**

7 October

[The International Energy Agency publishes the detailed, global energy data we all need, but its funders force it behind paywalls. Let's ask them to change it. - Our World in Data](https://ourworldindata.org)

## **Ireland announces plan to install 600,000 heat pumps by 2030 – pv magazine International**

5 October

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## **Ireland's newest university formally established**

1 October

[Ireland's newest university formally established \(irishtimes.com\)](https://www.irishtimes.com)

## **World-first artificial synthesis of starch from CO<sub>2</sub> outperforms nature**

27 September

[World-first artificial synthesis of starch from CO<sub>2</sub> outperforms nature \(newatlas.com\)](https://www.newatlas.com)

## **The race to replace persistent chemicals in our homes**

28 September

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7 October

[World's Largest 14 MW Offshore Wind Turbine Starts Operating \(interestingengineering.com\)](https://www.interestingengineering.com)

## **New finding could inform how zeolites are used in carbon capture and storage**

7 October

[New finding could inform how zeolites are used in carbon capture and storage \(phys.org\)](https://phys.org/new-finding-could-inform-how-zeolites-are-used-in-carbon-capture-and-storage)

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6 October

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6 October

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7 October

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## **Enzymatic Synthesis: Our DNA Is Becoming the World's Tiniest Hard Drive**

6 October

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## **Concrete World: Engineers To Improve Reinforced Steel To Contain High-Level Nuclear Waste**

9 October

[Concrete World: Engineers To Improve Reinforced Steel To Contain High-Level Nuclear Waste \(scitechdaily.com\)](https://www.scitechdaily.com/concrete-world-engineers-to-improve-reinforced-steel-to-contain-high-level-nuclear-waste/)

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7 October

<https://phys.org/news/2021-10-recycled-concrete-air-material.html>

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## **We May Have Found Roman Concrete's Secret Strengthening Ingredient**

8 October

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## **Enjoy It While You Can: Dropping Oxygen Will Eventually Suffocate Most Life on Earth**

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10 October

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9 October

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11 October

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11 October

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7 October

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5 October

[An X-ray view of carbon New measurement method promises spectacular insights into the interior of planets - Helmholtz-Zentrum Dresden-Rossendorf, HZDR](#)

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7 October

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12 October

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13 October

[Widely Used Chemical Linked to 100,000 American Deaths Every Year, Study Finds \(sciencealert.com\)](#)

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11 October

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## **A global carbon removal industry is coming – experts explain the problems it must overcome**



13 October

[A global carbon removal industry is coming – experts explain the problems it must overcome \(theconversation.com\)](https://theconversation.com/a-global-carbon-removal-industry-is-coming-experts-explain-the-problems-it-must-overcome-17486)

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8 October

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## **A more efficient chemical synthesis reactor design | Engineering360**

12 October

<https://insights.globalspec.com/article/17486/a-more-efficient-chemical-synthesis-reactor-design> and

## **Hydrodynamics and heat transfer in a rotating liquid redistributor**

7 October

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## **A Way To Convert Carbon Dioxide Into Valuable Compounds**

6 October

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## **Scientists Warn: Sunscreen That Includes Zinc Oxide Loses Effectiveness and Becomes Toxic After 2 Hours**

13 October

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## **Ausome: Non-Toxic Technology Extracts More Gold From Ore**

13 October

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## **Chemists discover faster-acting forms of insecticide imidacloprid**

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[Chemists discover faster-acting forms of insecticide imidacloprid \(phys.org\)](https://phys.org/chemists-discover-faster-acting-forms-of-insecticide-imidacloprid)

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13 October

[Magnetic topological quantum chemistry | Nature Communications](https://nature.com/articles/s41467-021-26241-8)

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## **Titanium dioxide: E171 no longer considered safe when used as a food additive**

6 May

<https://www.efsa.europa.eu/en/news/titanium-dioxide-e171-no-longer-considered-safe-when-used-food-additive> and

## **EC Standing Committee Approves EC Proposal to Ban Use of Titanium Dioxide (E171) as a Food Additive**

14 October

<https://www.jdsupra.com/legalnews/ec-standing-committee-approves-ec-7555499>

## **The plastic recycling system is broken – here's how we can fix it**

14 October

[The plastic recycling system is broken – here's how we can fix it \(theconversation.com\)](https://theconversation.com/the-plastic-recycling-system-is-broken-here-s-how-we-can-fix-it)

## **Why Does Warm Milk Make Us Sleepy?**

13 October

[Why Does Warm Milk Make Us Sleepy? | Technology Networks  
https://pubs.acs.org/doi/abs/10.1021/acs.jafc.1c03937](https://pubs.acs.org/doi/abs/10.1021/acs.jafc.1c03937)

## **How organocatalysis won the Nobel Prize**

15 October

[How organocatalysis won the Nobel prize | Feature | Chemistry World](#)

## **“Robotic” OmniFibers: New Fibers Can Make Breath-Regulating Garments**

15 October

[“Robotic” OmniFibers: New Fibers Can Make Breath-Regulating Garments \(scitechdaily.com\)](https://doi.org/10.1145/3472749.3474802)

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## **Not Science Fiction: German Scientists Harness the Power of Photosynthesis for New Way To “Breathe”**

14 October

[Not Science Fiction: German Scientists Harness the Power of Photosynthesis for New Way To “Breathe” \(scitechdaily.com\)](https://doi.org/10.1016/j.isci.2021.103158)

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13 October

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# Rechargeable Battery Chemistry & Technology

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22 March 2021

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## **What are small modular nuclear reactors? A Power Technology explainer**

20 November 2020

[What are small modular nuclear reactors? A Power Technology explainer \(power-technology.com\)](https://power-technology.com/what-are-small-modular-nuclear-reactors/)

## **The nuclear fuel cycle - U.S. Energy Information Administration (EIA)**

November 2020

[The nuclear fuel cycle - U.S. Energy Information Administration \(EIA\)](https://www.eia.gov/energyexplained/nuclear/nuclear-fuel-cycle.php)

## **Generation IV Nuclear: Can We Solve the Remaining Issues Nuclear Faces? | ClimateScience**

November 2020

[The nuclear fuel cycle - U.S. Energy Information Administration \(EIA\)](https://www.climate-science.com/generation-iv-nuclear/)

## **Oklo has a plan to make tiny nuclear reactors that run off nuclear waste**

28 June 2021

[Oklo planning nuclear micro-reactors that run off nuclear waste \(cnbc.com\)](https://www.cnn.com/2021/06/28/tech/oklo-nuclear-reactors/index.html)

## **X-energy | Advanced Nuclear Reactors (SMR) & TRISO Fuel - Nuclear ‘Power Balls’ May Make Meltdowns a Thing of the Past**

[Newsroom — X-energy: Advanced Nuclear Reactors \(SMR\) & TRISO Fuel](https://www.x-energy.com/newsroom/x-energy-advanced-nuclear-reactors-smr-triso-fuel) and [X-energy | Advanced Nuclear Reactors \(SMR\) & TRISO Fuel](https://www.x-energy.com/x-energy-advanced-nuclear-reactors-smr-triso-fuel)

## **Nuclear reactor - Growth of nuclear programs | Britannica**

November 2021

[nuclear reactor - Types of reactors | Britannica](https://www.britannica.com/technology/nuclear-reactor)

## **How the next generation of nuclear reactors could be smaller, greener and safer | PBS NewsHour**

12 February 2020

<https://www.pbs.org/newshour/science/how-the-next-generation-of-nuclear-reactors-could-be-smaller-greener-and-safer>

## **Small Modular Reactors**

November 2021

[Small Modular Reactors \(getintonuclear.com\)](https://www.getintonuclear.com/small-modular-reactors/)

## **Nuclear Energy 101: What Exactly Are Small Modular Reactors? – EcoWatch**

18 August 2021

<https://www.ecowatch.com/nuclear-energy-101-2654710991.html>

## **Why SMRs will shape the future of nuclear debate - Nuclear Engineering International**

2 November 2021

[Why SMRs will shape the future of nuclear debate - Nuclear Engineering International \(neimagazine.com\)](https://www.neimagazine.com/articles/analysis/why-smrs-will-shape-the-future-of-nuclear-debate/)

## **The State of Nuclear Energy Today — and What Lies Ahead - Biden-Harris Administration**

23 November 2020

[The State of Nuclear Energy Today — and What Lies Ahead - Biden-Harris Administration \(columbia.edu\)](https://www.eia.gov/energyexplained/nuclear/nuclear-fuel-cycle.php)

## **'The next wave of innovation': Nuclear reactors of the future are small and modular**

25 June 2019

[The next wave of innovation': Nuclear reactors of the future are small and modular | CBC News](#)

## **CHARACTERISTIC WASTE STREAMS FROM SMALL MODULAR REACTORS CONSIDERED FOR DEPLOYMENT IN CANADA**

16 June 2020

[CHARACTERISTIC WASTE STREAMS FROM SMALL MODULAR REACTORS CONSIDERED FOR DEPLOYMENT IN CANADA \(cnl.ca\)](#)

## **Nuclear fuel recycling could offer plentiful energy | Argonne National Laboratory**

22 June 2012

<https://www.anl.gov/article/nuclear-fuel-recycling-could-offer-plentiful-energy>

## **De-mystifying small modular reactors**

29 November 2019

[De-mystifying small modular reactors \(sustainability-times.com\)](#)

## **Small Modular Reactors: Putting the "New" in Nuclear | INN**

15 September 2021

[Small Modular Reactors: Putting the "New" in Nuclear | INN \(investingnews.com\)](#)

## **Small modular reactors: The dawn of a new nuclear era - The Financial Express**

4 August 2021

[Small modular reactors: The dawn of a new nuclear era - The Financial Express](#)

## **Can Small Modular Reactors Solve Nuclear's Image Problem? - KeySource Global**

6 January 2021

<https://www.keysourceglobal.com/can-small-modular-reactors-solve-nuclears-image-problem>

## **The countries building miniature nuclear reactors - BBC Future**

9 March 2020

<https://www.bbc.com/future/article/20200309-are-small-nuclear-power-plants-safe-and-efficient>

## **Is Nuclear Power Ready At Last For Its 'Model T' Moment?**

20 September

[Is Nuclear Power Ready At Last For Its 'Model T' Moment? \(forbes.com\)](#)

## **It's Time to Demonstrate Truly Advanced Reactors**

25 August 2020

[It's Time to Demonstrate Truly Advanced Reactors – Third Way](#)

## **Nuclear Energy Pros and Cons**

24 September

<https://www.solarreviews.com/blog/nuclear-energy-pros-and-cons>

## **NAE Website - Chasing Cheap Nuclear: Economic Trade-Offs for Small Modular Reactors**

16 September 2020

[NAE Website - Chasing Cheap Nuclear: Economic Trade-Offs for Small Modular Reactors](#)

## **Small modular reactors aren't the energy answer for remote communities and mines**



26 August 2020

<https://policyoptions.irpp.org/magazines/august-2020/small-modular-reactors-arent-the-energy-answer-for-remote-communities-and-mines>

### **Fast-spectrum salt reactor to be built at INL : New Nuclear - World Nuclear News**

19 November

<https://www.world-nuclear-news.org/Articles/Fast-spectrum-salt-reactor-to-be-built-at-INL>

### **Is Nuclear Energy Renewable or Non-Re..? | Environment Buddy**

27 April 2020

<https://www.environmentbuddy.com/energy/nuclear-energy/nuclear-energy-is-it-really-renewable>

### **Viewpoint: COP26 pivotal point in perception of nuclear energy : Perspectives - World Nuclear News**

19 November

<https://world-nuclear-news.org/Articles/Viewpoint-COP26-pivotal-point-in-perception-of-nuc>

### **Nuclear Reactors Could Hold the Key to a Green Future | Time**

16 November

<https://time.com/6117041/nuclear-energy-reactors-green>

### **Hinkley Point C cleaner than renewables, study shows : Energy & Environment - World Nuclear News**

22 November

<https://www.world-nuclear-news.org/Articles/Hinkley-Point-C-cleaner-than-renewables,-study-sho>

### **UN crowns nuclear as lowest carbon electricity source**

22 November

<https://www.cityam.com/un-crowns-nuclear-as-lowest-carbon-electricity-source>

### **Contract for Romanian lead-cooled reactor research facility : New Nuclear - World Nuclear News**

23 November

<https://www.world-nuclear-news.org/Articles/Contract-for-Romanian-lead-cooled-reactor-research>

### **Package ready for Czech used fuel disposal : Waste & Recycling - World Nuclear News**

25 November

<https://www.world-nuclear-news.org/Articles/Package-ready-for-Czech-used-fuel-disposal>

### **Nuclear Fusion Is Closing in on Viability | Time**

19 November

<https://time.com/6123622/nuclear-fusion-viability>

### **Message: The Nuclear Saves Partnerships - an IAEA initiative for the private sector : Perspectives - World Nuclear News**

24 November

<https://world-nuclear-news.org/Articles/Message-The-Nuclear-Saves-Partnership-an-IAEA-init>

### **What are small modular reactors and what makes them different?**

17 July 2020

<https://www.ansto.gov.au/news/what-are-small-modular-reactors-and-what-makes-them-different>

## **What is a Nuclear Microreactor?**

26 February 2021

<https://www.energy.gov/ne/articles/what-nuclear-microreactor>

## **Micro-nuclear reactors: up to 20MW, portable, safer**

22 April 2021

<https://energypost.eu/micro-nuclear-reactors-up-to-20mw-portable-safer>

## **Microreactors**

No Date

<https://inl.gov/trending-topic/microreactors>

## **Nuclear fuel**

[https://en.wikipedia.org/wiki/Nuclear\\_fuel](https://en.wikipedia.org/wiki/Nuclear_fuel)

## **Nuclear Fuel Types**

<https://www.britannica.com/technology/nuclear-reactor/Types-of-reactors>

## **Advanced Nuclear Power Reactors**

April 2021

<https://world-nuclear.org/information-library/nuclear-fuel-cycle/nuclear-power-reactors/advanced-nuclear-power-reactors.aspx>

## **What are the new reactors of the future?**

<https://www.fornuclear.org/en/updates/in-depth/what-are-the-new-reactors-of-the-future>

## **Nuclear Power Reactors**

October 2021

<https://world-nuclear.org/information-library/nuclear-fuel-cycle/nuclear-power-reactors/nuclear-power-reactors.aspx>

## **The Transformative Power of Small Modular Reactors | 3D PERSPECTIVES**

12 June 2020

[The Transformative Power of Small Modular Reactors | 3D PERSPECTIVES \(3ds.com\)](#)

## **Uranium: New material enables efficient extraction from seawater | New Scientist**

29 November

[Uranium: New material enables efficient extraction from seawater | New Scientist](#)

## **Nuclear fuel - Energy Education**

27 September

[https://energyeducation.ca/encyclopedia/Nuclear\\_fuel](https://energyeducation.ca/encyclopedia/Nuclear_fuel)



## Science Foundation Ireland announces new Director General: Professor Philip Nolan

**Dublin, Ireland – 19 October 2021:** The Board of Science Foundation Ireland (SFI), the state agency responsible for investment in research in the areas of science, technology, engineering, and mathematics, has announced the appointment of its new Director General-designate (Chief Executive Officer) Professor Philip Nolan. Professor Nolan will take up the appointment in mid-January 2022.



*Professor Philip Nolan*

**Philip Nolan** has a strong track record of delivering in a number of senior leadership roles in higher education and research and is a trusted advisor to government. Professor Nolan recently completed his term as President of Maynooth University, now the fastest growing and most diverse university in Ireland. During his 10-year term as President, he instigated major campus developments, including a university-wide investment in research capacity, Maynooth University's largest capital project, a €57 million 'Technology Society and Innovation Project', the development of a 20-year campus master plan, and the opening of the International College of Engineering at Fuzhou University in China. At the onset of the Covid-19 pandemic, Professor Nolan was asked by government to chair the National Public Health Emergency Team's (NPHE) Irish Epidemiological Modelling Advisory Group which has played a critical role in controlling the spread of Covid-19 in Ireland.

**Professor Peter Clinch, Chairman of SFI**, said: "On behalf of the Board, I am delighted to welcome Philip, as Director-General designate, to SFI. A distinguished researcher in his own right, Philip has a proven record of achievement as a leader in research and innovation as Director of the UCD Conway Institute for Biomolecular and Biomedical Research, Deputy President of, University College Dublin, Ireland's largest university, and as President of Maynooth University, Ireland's fastest growing and most diverse university. Over the past two decades SFI has played a central role in building a strong, sustainable, economy and society, through supporting the development of a world class research and innovation system. Philip's role will be to build on this success to position Ireland as a Global Innovation

Leader for the advancement of Ireland's economy and society. I wish him every success as Director General of SFI and look forward to working with him."

**Professor Philip Nolan**, said: "It is a privilege to be appointed Director-General of SFI. SFI has led the transformation of Ireland's research landscape, sponsoring outstanding research with global impact. The opportunity now is to build on this success, focusing on excellence in research and its translation into tangible benefits for our economy and society, to secure our position as a global innovation leader in science and engineering, and to ensure Ireland plays its part in addressing the complex challenges that face our society. The insights of research, and the energy of innovation, can help us shape a future that is healthier, more equal and inclusive, and sustainable. I look forward to working with the Board, colleagues in SFI and other research and enterprise agencies, and our research, higher education, enterprise, public sector and civil society partners towards this ambitious goal."

**The Chairman of SFI, Peter Clinch**, also paid tribute to the contribution of outgoing Director General, **Professor Mark Ferguson**. "Over his 10-year term, Mark has led SFI out of the economic crisis and to great heights. He has been a strong advocate for the importance of investment in science as a key building block of Ireland's economy and its importance for addressing major societal challenges such as Covid-19 and climate change. His commitment to excellence, combined with his innovative approach to funding programmes, has greatly advanced SFI's and Ireland's international reputation in research and the funding of science. Mark will complete his second term as Director General in mid-January 2022 and the Board and I wish him every success in his future endeavours."

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## SFI Frontiers for the Future 2021

Science Foundation Ireland is pleased to announce that the [SFI Frontiers for the Future 2021](#) Call is now open.

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

The programme is divided into Project and Award streams:

**Projects** will run as a fixed deadline call, with a submission **deadline on 28th January 2022.**

**Awards** will run as a rolling call and applicants can submit applications **from 28th January 2022.**

*Please note: the SFI Frontiers for the Future 2020 Call is currently open on a rolling basis for Awards. This rolling call will close for applications on 22nd November 2021. Awards applications cannot be submitted after this date. New submissions will be accepted for the 2021 Call Awards stream from the 28th January 2022.*

For more information on the programme and how to apply please visit:

[SFI Frontiers for the Future](#)

### Contact Us

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## SFI 2020 Annual Report

The [SFI 2020 Annual Report](#) has been launched today by Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris, TD.

The report highlights that, despite the extraordinary challenges faced throughout 2020, the dedication and commitment of SFI-funded researchers is evidenced in the delivery of outstanding, cutting-edge science with real-world impact across many areas of strategic importance to society and the economy.

The SFI 2020 Annual Report details the achievements of this research community. Read more at the link below:

[SFI 2020 Annual Report Highlights](#)

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## Ireland-funded researchers demonstrate world-class excellence despite pandemic

**Dublin, Ireland – 15th November 2021:** Minister for Further and Higher Education, Research, Innovation and Science, Simon Harris, TD, today launched the Science Foundation Ireland (SFI) [2020 annual report](#).

SFI-supported researchers made significant contributions to the global response to COVID-19, and across other areas of strategic importance to society and the economy. In 2020, €22.8 million was invested in 84 COVID-19 research and innovation projects delivered under SFI's Five-Point Plan which supported the Irish Government's National Action Plan.

The SFI report highlights that, despite the extraordinary challenges presented by the COVID-19 pandemic, the dedication and commitment of SFI-funded researchers is evidenced by 5,888 scientific publications reported in 2020.

**Minister Harris** welcomed the report saying, "I would like to congratulate SFI and its Higher Education and industry collaborators for their hard work, determination and dedication in delivering an important and impressive programme of work over a challenging period.

In 2020, SFI supported 1,966 postgraduate students, and its researchers delivered over 2,000 virtual education and public engagement activities, ensuring that access to STEM remained equitable and inclusive. I was also delighted to announce an investment of €52 million to support excellent independent researchers as part of the new SFI Frontiers for the Future programme, encouraging more successful applications from women researchers and emerging investigators applying to SFI for the first time, as well as from established investigators.

In 2021, SFI has made significant progress in delivering on key strategic objectives as outlined in the agencies new strategy – [Shaping Our Future](#). These include furthering Challenge-based funding opportunities for researchers, and enhancing collaboration across our research ecosystem with the SFI-IRC Pathways Programme, which supports emerging research talent. The recently launched Creating Our Future campaign, coordinated by SFI, has kick started an important national conversation on research that aims to shape a better future for all."

SFI invested €312 million across 20 Programmes in 2020, to support a diverse and balanced portfolio of early to mid-career researchers through to world-leading research professors.

This investment generated a further €255 million from the EU, Charity and other sources.

**Chairman of the Board of SFI, Prof Peter Clinch**, said: “The deeply collaborative partnerships developed by SFI with researchers, Higher-Education Institutions, industry and government has underpinned our collective success in 2020. SFI’s funding supported almost 3,000 industry collaborations, helping to realise Ireland’s ambition to be a global innovation leader and a location for research investment. SFI’s ambitious new Strategy, [Shaping Our Future 2020-2025](#), launched earlier this year, shows how SFI will deliver impact from research today, while preparing to address the challenges of tomorrow. Strong and continued investment in research will play a key role in determining the future success and prosperity of Ireland and its people.”

**Prof Mark Ferguson, Director General of Science Foundation Ireland and Chief Scientific Adviser to the Government of Ireland**, said: “Despite the many challenges we faced throughout 2020, SFI’s funded research community came together to deliver outstanding, cutting-edge science with real-world impact, often within rapid timeframes. We competed successfully at the highest level in Europe, with €106 million won from the EU and 10 prestigious European Research Council awards won by SFI researchers, with Ireland for the first time winning more competitive funding than its contribution to the Horizon 2020 budget. SFI continued to lead in the area of Grand Challenges, with the SFI Future Innovator Prize challenge funding programme awarding its first €1 million prize in 2020, and the launch of two new challenges in areas of national strategic importance – Zero Emissions and AI for Societal Good.

Looking forward, [SFI’s new five-year strategy](#) ‘Shaping Our Future’ is mapping a route towards Ireland becoming a green, sustainable, deep tech, innovation leader, ensuring that we have the skills and talent to deliver the solutions to meet tomorrow’s needs.”

#### [Additional highlights from the 2020 SFI Annual Report include:](#)

- €52 million was invested in 72 Frontier awards, supporting research in areas such as spinal cord injury, novel materials, species biodiversity in food production, computer graphics and information security. 45% of the research grants supported are to be led by women researchers.
- Five SFI Research Centres progressed to a second six-year research programme, with an investment of €193 million, supporting over 1,000 research positions in 17 Higher Education Institutions. This commitment is backed by 200 Industry partners who will contribute an additional €91 million.
- €8.5 million was invested in three awards under the SFI Strategic Partnership Programme, supporting academic researchers in building strategic collaborations where significant co-funding is matched by a company, funding agency, charity, philanthropic organization or Higher Education Institute, or a combination of these.
- Over 5,000 international collaborations took place across 86 countries, highlighting Ireland’s role in helping to address some of the most pressing global challenges.
- 12 awards were made under the SFI Public Service Fellowship Programme, representing an investment of €699,000, to contribute to the Government’s objective of promoting a culture of innovation through collaboration, knowledge exchange and the development of data-driven and evidence-based solutions.
- 33 scientists working in Ireland were named among the top 1% in the world when it comes to highly cited papers in 2020. Of these, 28 researchers have been funded by SFI. The prestigious list published

by Clarivate Analytics recognises world-class researchers for their exceptional research performance and their production of multiple highly cited papers.

- €5.4 million was invested in 50 science, technology, engineering, and maths (STEM) projects through the SFI Discover Programme Call.
- 179 students began their PhDs under the SFI Centres for Research Training Programme in the areas of ‘Data and ICT Skills for the Future’ – 41% of these students were women.
- Four awards were made through the prestigious Royal Society-SFI University Research Fellowship Programme, with €1.8 million invested.
- Six awards were made under the Engineering and Physical Sciences Research Council (EPSRC) - SFI Joint Funding Research Programme with an investment of €2.1 million to support research in the areas of environmental sensors, quantum technologies, augmented and virtual reality, energy system and cryptocurrencies, chemical engineering working towards energy system decarbonisation and materials science and electronics developing new energy sources for wearable devices.

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## Science Foundation Ireland 2021 Science Awards recognise key leaders in the Irish Research Community

Thursday 4th November 2021 – Science Foundation Ireland today announced the winners of the prestigious 2021 Science Foundation Ireland Awards which recognise key leaders in Irish research at its annual Science Summit.

In advance of Science Week, the Summit with the theme Creating Our Future takes place virtually for the second year running allowing members of Ireland's research community to come together online to discuss challenges and celebrate the significant contributions made over the past year.

Acknowledging the award winners Professor Mark Ferguson, Director General Science Foundation Ireland and Chief Scientific Adviser to the Government, said:

The annual SFI Science Awards is an opportunity to recognise some of the very best achievements of our research community. I want to congratulate the award winners on their significant achievements, as well as their dedication and determination, in what has been another eventful and challenging year for our research community. I am confident that their success will be a source of inspiration to their peers and, more importantly, to the next generation of researchers in Ireland. I would particularly like to congratulate Prof William Gallagher as our 2021 SFI Researcher of the Year. At Science Foundation Ireland we very pleased to see the superb quality of research that our funding enables. By working closely together, the Irish research community continues to be impactful, inspirational and world-leading.”



*SFI Researcher of the Year 2021: Professor William Gallagher, University College Dublin & Conway Fellow, UCD Conway Institute speaking on his award:*

<https://youtu.be/5DnV-2zpduc>

This year there are eight categories in total. View them here:

[https://www.sfi.ie/research-news/news/science-awards-2021/#comp\\_0000612f21f0\\_0000004be8\\_22f9](https://www.sfi.ie/research-news/news/science-awards-2021/#comp_0000612f21f0_0000004be8_22f9)

[UCD professor named researcher of the year for life-extending cancer treatment \(irishtimes.com\)](https://www.irishtimes.com/news/science/ucd-professor-named-researcher-of-the-year-for-life-extending-cancer-treatment-1.4611111)

# **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.

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## Three SFI Research Centres ‘Unlocking Science’ as part of global online series

iCRAG, I-Form and Lero look at renewable energy, sustainability and bias in AI

16 November 2021: Three Science Foundation Ireland (SFI) Research Centres will be featured in a global online series, ‘Unlocking Science’, looking at the creative approaches to the world’s most immediate and complex concerns. The series, which is produced by BBC StoryWorks Commercial Productions and presented by the International Science Council (ISC), includes films, articles and podcasts which will be hosted on a dedicated BBC.com StoryWorks webpage.

The series explores how scientific culture is changing for the better, towards a future of more effective and inclusive citizen engagement, interdisciplinary and international cooperation, and open knowledge-sharing.

Following an international call for applications, the three SFI Research Centres were successful in participating in this global series:

iCRAG, the SFI Research Centre in Applied Geosciences – What do Ireland’s shipwrecks have to do with renewable energy

I-Form, the SFI Research Centre for Advanced Manufacturing – Printing solutions to pollution at sea

Lero, the SFI Research Centre for Software – Battling bias in AI.

iCRAG researcher Dr Mark Coughlan explores how learning from local history can help plan for a more sustainable future. This five-minute film highlights the innovative use of shipwrecks to map the seabed to inform the siting of offshore windfarms as the seas around Ireland provide an abundance of wind resources. Shipwrecks disturb near-seabed currents, causing certain types of sediments to be washed away or eroded. By studying these changes, we can better predict how man-made structures including wind turbines, will behave on the seabed over time.

I-Form will feature in a six-minute film which highlights how its 3D printing solution is helping make sea travel more sustainable. The film looks at I-Form’s collaboration with County Mayo-based manufacturing company w1Da, and the development of a zero emissions electric motor for boats which harnesses the energy generated as the vessel moves through the water. The energy is captured, stored and is used to power the boat when there is no wind, thereby offsetting the need to use fuels that produce carbon emissions. The electric motor is almost completely silent and retractable, and its blades are also designed so it has minimal impact on marine life. The film features Joan Mulloy, a professional solo sailor, who talks about the impact solutions such as this has on her, allowing her to run a genuinely sustainable sailing campaign.

Lero’s ‘Battling bias in AI’ looks at how AI is being used to champion equality and inclusivity at the cutting edge of software innovation. Researching a large image database containing millions of images use to train AI systems, Abeba Birhane, PhD student at UCD’s Complex Software Lab and Lero, discovered that it included racist, misogynistic and other offensive content. The team at Lero are looking



at the human aspects of technology and how AI is written and how it impacts people. They're looking at ensuring that technology doesn't discriminate and is inclusive and to unlock its possibility to benefit marginalised people.

Dr Siobhan Roche, Director of Economy at Science Foundation Ireland said: "I sincerely congratulate the teams at iCRAG, I-Form and Lero in their involvement with this International Science Council online series, produced by BBC StoryWorks, and the development of such interesting and engaging short films. Each of these centres undertakes ground-breaking research and it is wonderful to see their work recognised by being included in this global online initiative. These films show the real-life benefits as well as the human impact of the research work. The timing of these videos coincides with the Government of Ireland's Creating Our Future campaign, which provides the public with the opportunity to submit their ideas for research that could be explored to make our country better for all. I would encourage everyone to watch these inspirational films, think about the areas of your life that you this research could contribute to a better future and submit your ideas."

Visit Unlocking Science:

<https://council.science/UnlockingScience>

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December 2021

## SFI Frontiers for the Future 2021 Information Webinar

SFI will host an information webinar on the [SFI Frontiers for the Future](#) Programme 2021 Call on **Monday 13th December at 10:00 Dublin Local Time.**

Please register to attend [here](#).

For more information on the webinar and the programme please visit:

**SFI Frontiers for the Future**

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# SARS CoV-2 Virus Updates and Developments

## Covid 19 Updates from October to November 2021

### Researchers Discover Evidence of a Major Coronavirus Epidemic 20,000 Years Ago

4 October

[Researchers Discover Evidence of a Major Coronavirus Epidemic 20,000 Years Ago \(scitechdaily.com\)](https://doi.org/10.1016/j.cub.2021.05.067)

<https://doi.org/10.1016/j.cub.2021.05.067>

### COVID vaccines cut the risk of transmitting Delta — but not for long

5 October

[COVID vaccines cut the risk of transmitting Delta — but not for long \(nature.com\)](https://doi.org/10.1038/d41586-021-02689-y)

<https://doi.org/10.1038/d41586-021-02689-y>

### Overload of Inflammatory Molecules “Trapped” in Micro Blood Clots May Cause Long COVID Symptoms

5 October

[Overload of Inflammatory Molecules “Trapped” in Micro Blood Clots May Cause Long COVID Symptoms \(scitechdaily.com\)](https://cardiab.biomedcentral.com/articles/10.1186/s12933-021-01359-7)

<https://cardiab.biomedcentral.com/articles/10.1186/s12933-021-01359-7>

### COVID vaccines cut the risk of transmitting Delta — but not for long

5 October

[COVID vaccines cut the risk of transmitting Delta — but not for long \(nature.com\)](https://doi.org/10.1038/d41586-021-02689-y)

<https://doi.org/10.1038/d41586-021-02689-y>

### Why COVID vaccines didn’t win a science Nobel this year

7 October

[Why COVID vaccines didn’t win a science Nobel this year \(nature.com\)](https://doi.org/10.1038/d41586-021-02754-6)

<https://doi.org/10.1038/d41586-021-02754-6>

### New Vaccination Strategy Developed That Could Prevent Future Coronavirus Outbreaks

8 October

[New Vaccination Strategy Developed That Could Prevent Future Coronavirus Outbreaks \(scitechdaily.com\)](https://doi.org/10.1084/jem.20211003)

DOI: 10.1084/jem.20211003

### Leveraging the Power of Genomics To Detect and Track SARS-CoV-2 Variants

7 October

[Leveraging the Power of Genomics To Detect and Track SARS-CoV-2 Variants | Technology Networks](https://doi.org/10.1016/S1473-3099(21)00620-4)

### CureVac shelves 1st gen COVID-19 vaccine

12 October

[CureVac shelves 1st gen COVID-19 vaccine \(pharmamanufacturing.com\)](https://doi.org/10.1016/S1473-3099(21)00620-4)

### Implications of suboptimal COVID-19 vaccination coverage in Florida and Texas

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11 November

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## **Positive trial results for Valneva Covid vaccine - BBC News**

18 October

<https://www.bbc.com/news/health-58952473>

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## **BioNTech CEO says vaccine upgrade on the cards, ready to move quickly | Reuters**

3 December

<https://www.reuters.com/business/healthcare-pharmaceuticals/biontech-ceo-says-can-adapt-vaccine-quickly-omicron-2021-12-03>

## **Safety and immunogenicity of seven COVID-19 vaccines as a third dose (booster) following two doses of ChAdOx1 nCov-19 or BNT162b2 in the UK (COV-BOOST): a blinded, multicentre, randomised, controlled, phase 2 trial - The Lancet**

2 December

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)02717-3/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)02717-3/fulltext)

[https://doi.org/10.1016/S0140-6736\(21\)02717-3](https://doi.org/10.1016/S0140-6736(21)02717-3)

## **Threat Assessment Brief: Implications of the further emergence and spread of the SARS CoV 2 B.1.1.529 variant of concern (Omicron) for the EU/EEA first update**

2 December

[Threat Assessment Brief: Implications of the further emergence and spread of the SARS CoV 2 B.1.1.529 variant of concern \(Omicron\) for the EU/EEA first update \(europa.eu\)](#)

## **Omicron appears to be "a very transmissible variant," WHO chief scientist says**

3 December

[Live updates: Omicron Covid-19 variant puts world on edge \(cnn.com\)](#)

## **Top doctor Luke O'Neill hails new Omicron variant discovery as hopes raised - Irish Mirror Online**

4 December

<https://www.irishmirror.ie/news/irish-news/top-doctor-luke-oneill-hails-25616659>

## **Study: Omicron may share genetic code with common cold coronavirus - UPI.com**

4 December

[https://www.upi.com/Top\\_News/World-News/2021/12/04/Omicron-may-share-genetic-code-common-cold-coronavirus/4001638645403](https://www.upi.com/Top_News/World-News/2021/12/04/Omicron-may-share-genetic-code-common-cold-coronavirus/4001638645403)

## **Timeline of the SARS-CoV-2 Omicron variant – Wikipedia**

December

[https://en.wikipedia.org/wiki/Timeline\\_of\\_the\\_SARS-CoV-2\\_Omicron\\_variant](https://en.wikipedia.org/wiki/Timeline_of_the_SARS-CoV-2_Omicron_variant)

## **SARS-CoV-2 Omicron variant (Mutations)– Wikipedia**

December

[https://en.wikipedia.org/wiki/SARS-CoV-2\\_Omicron\\_variant](https://en.wikipedia.org/wiki/SARS-CoV-2_Omicron_variant)

## **Spain's Hipra eyes EU use of COVID-19 vaccine, rivalling Novavax | Reuters**

3 December

<https://www.reuters.com/business/healthcare-pharmaceuticals/spains-hipra-eyes-eu-use-covid-19-vaccine-rivalling-novavax-2021-12-03>

## **COVID Omicron Variant: How Did It Emerge and Is It More Contagious Than Delta? A Virus Evolution Expert Explains**

5 December

[COVID Omicron Variant: How Did It Emerge and Is It More Contagious Than Delta? A Virus Evolution Expert Explains \(scitechdaily.com\)](https://www.scitechdaily.com/covid-omicron-variant-how-did-it-emerge-and-is-it-more-contagious-than-delta-a-virus-evolution-expert-explains/)

## **How Can mRNA Vaccines Be Updated to Target Omicron? A Microbiologist Explains**

6 December

[How Can mRNA Vaccines Be Updated to Target Omicron? A Microbiologist Explains \(sciencealert.com\)](https://www.sciencealert.com/how-can-mrna-vaccines-be-updated-to-target-omicron-a-microbiologist-explains)

## **COVID Breakthrough: New Potent Antiviral Against SARS-CoV-2, RSV and Other Respiratory RNA Viruses**

5 December

[COVID Breakthrough: New Potent Antiviral Against SARS-CoV-2, RSV and Other Respiratory RNA Viruses \(scitechdaily.com\)](https://www.scitechdaily.com/covid-breakthrough-new-potent-antiviral-against-sars-cov-2-rsv-and-other-respiratory-rna-viruses/)

<https://doi.org/10.1126/science.abj5508>

## **Evidence mounts that Omicron is more infectious, less severe than Delta—but Fauci, other experts warn against premature optimism**

6 November

[Evidence mounts that Omicron COVID variant is more infectious, less severe than Delta | Fortune](https://www.fortune.com/story/evidence-mounts-that-omicron-covid-variant-is-more-infectious-less-severe-than-delta-but-fauci-and-other-experts-warn-against-premature-optimism/2021/11/06/)

## **Q&A: All you need to know on getting the Moderna vaccine as a booster**

7 December

[Q&A: All you need to know on getting the Moderna vaccine as a booster \(irishtimes.com\)](https://www.irishtimes.com/health/q-a-all-you-need-to-know-on-getting-the-moderna-vaccine-as-a-booster/2021/12/07/)

## **Scientists find ‘stealth’ version of Omicron that may be harder to track | Coronavirus | The Guardian**

7 December

<https://www.theguardian.com/world/2021/dec/07/scientists-find-stealth-version-of-omicron-not-identifiable-with-pcr-test-covid-variant>

## **The First Study Assessing Pfizer's Effectiveness Against Omicron Just Came Out**

8 December

[The First Study Assessing Pfizer's Effectiveness Against Omicron Just Came Out \(sciencealert.com\)](https://www.sciencealert.com/the-first-study-assessing-pfizer-s-effectiveness-against-omicron-just-came-out)

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*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.

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## IDA IRELAND'S COVID-19 RESPONSE PLAN



### COVID-19 (CORONAVIRUS) RESPONSE PLAN

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- 2.** **Working** with colleagues across the Government system to plan for the next few weeks to ensure that companies can continue to operate in line with public health guidelines and in many cases provide critical products and services.
- 3.** **Supporting** the Irish Health Service Executive in all of their efforts, but particularly in securing the necessary supplies of medical equipment that our health system and citizens need.





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## **IDA Ireland Welcome Statement – AstraZeneca to invest \$360M in new manufacturing facility in Dublin, creating 100 jobs**

21 September

Tánaiste & Minister for Enterprise, Trade and Employment Leo Varadkar TD and IDA Ireland today welcomed the announcement by global pharmaceutical and biotechnology company AstraZeneca that it is to invest \$360M in a new manufacturing facility in Ireland, creating 100 jobs.

The new facility will be located at the 41 acre Alexion Campus in College Park, Dublin. It will serve as the next-generation active pharmaceutical ingredient (API) commercialisation and manufacturing facility for small molecules, positioning AstraZeneca's global supply network for future growth.

**Tánaiste and Minister for Enterprise, Trade & Employment, Leo Varadkar TD** said: "This is fantastic news. Ireland is a world hub for life sciences. We've worked hard to create a welcoming environment for companies seeking to invest here and we are so happy that AstraZeneca has chosen Dublin to locate its new manufacturing facility with 100 new jobs in the IDA College Park campus in Blanchardstown as a result."

**IDA Ireland CEO Martin Shanahan** said: "It's great to see AstraZeneca establish its first manufacturing facility in Ireland. It will be a considerable addition to the well-established life sciences ecosystem here. Competition for Foreign Direct Investment (FDI) is more intense than ever and all investment is hard won. This investment, creating 100 highly skilled jobs, including scientists and engineers, is most welcome and will be of substantial benefit to the local economy. I wish the company every success with its plans here."

**Pascal Soriot, Chief Executive Officer, AstraZeneca**, said: "This is a tremendously proud moment for us all at AstraZeneca and I am delighted that we are bringing this very significant investment to Dublin which, with the support of the IDA, will create highly skilled jobs, nurture the country's dynamic life sciences sector and allow for the development of high value-added medicines."

**Pam Cheng, Executive Vice President, Global Operations and IT**, said: "The future manufacturing of APIs for our medicines includes compounds with highly complex synthesis, requiring next generation technologies and capabilities that can respond quickly and nimbly to rapidly-changing clinical and commercial needs. This significant investment will ensure the AstraZeneca supply network is fit for the future."

The investment programme is expected to significantly reduce commercialisation lead times, costs, and introduce more sustainable manufacturing processes, contributing to the AstraZeneca's Ambition Zero Carbon programme. The industry-leading, future proof design of the plant will permit the addition of capability to manufacture a wide range of medicines.

### **About the company**

AstraZeneca (LSE/STO/Nasdaq: AZN) is a global, science-led biopharmaceutical company that focuses

on the discovery, development, and commercialisation of prescription medicines in Oncology, Rare Diseases, and BioPharmaceuticals, including Cardiovascular, Renal & Metabolism, and Respiratory & Immunology. Based in Cambridge, UK, AstraZeneca operates in over 100 countries and its innovative medicines are used by millions of patients worldwide. Visit [astrazeneca.com](http://astrazeneca.com) and follow the Company on Twitter @AstraZeneca

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### **Driving Recovery & Sustainable Growth 2021-2024**

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

**READ MOR**

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## **Integer to Construct New Innovation and Manufacturing Facility in Galway, Ireland**

22 September

Integer Holdings Corporation (NYSE: ITGR), a leading medical device outsource (MDO) manufacturer, today announced it will further expand its presence in Galway, Ireland, with the construction of a new Medical Device Innovation and Manufacturing facility in the Parkmore East area of Galway. This new facility is required to meet increased demand for regional research, development and manufacturing capabilities as well as capacity for catheters and delivery systems. It adds to Integer's 15 global manufacturing sites and current presence in Ireland, which includes an R&D center in Galway and manufacturing facilities in Galway and New Ross, County Wexford.

"I'm really pleased to see Integer announce further investment in Galway, with the addition of a new Medical Device Innovation and Manufacturing facility," said **Tánaiste and Minister for Enterprise Trade & Employment Leo Varadkar TD**. "I understand that this expansion will result in 100-200 new roles in the coming years, creating excellent employment opportunities for people in the area. This collaboration between IDA Ireland and Integer is another example of the valuable work that IDA Ireland do to bring investment into the country. I wish the team every success with this expansion."

"This expansion further demonstrates Integer's commitment to supporting our customers' growth strategies," said **Payman Khales, president of Integer's Cardio and Vascular business**. "The new Galway facility will allow us to continue our investments in research and development in this important medical device hub. The significant manufacturing space in the same facility will allow a seamless transition of new products from development to manufacturing, which will further enable us to help our customers bring products to market faster – a strategic priority as we advance our vision to enhance the lives of patients around the world."

The initial phase of the project will include construction of a 60,000 square foot facility on land purchased from IDA Ireland and involves a projected \$30 million investment over the next several years. Construction is anticipated to kick off in 2022, with an estimated completion in late 2023. Once complete, all new regional research, development and manufacturing will be housed in this facility, with equipment investments continuing over the following 2-3 years. This initial phase will satisfy Integer's immediate space requirements in the region; however, the company has obtained planning permission for a total of 147,000 square feet for future expansion when needed.

Integer's presence in Ireland spans more than 25 years. Throughout that period, Integer has consistently invested in its infrastructure, technology and associates.

The significant investment being announced today continues that trend, while at the same time reinforcing Integer's commitment to its Ireland operations and customers. The company currently employs approximately 1,300 people in Ireland, with 350 located in Galway. The addition of the new Galway facility is projected to add an estimated 100-200 engineering, administration and manufacturing jobs to Integer over the next several years, while the design and construction activities are expected to employ several hundred third-party contractors in the Galway region.

"We are excited about our continued growth in Ireland and look forward to meeting our customers' expanded needs well into the future," continued Khales.

*“Integer’s planned expansion in Galway is very welcome news,” said **IDA Ireland CEO Martin Shanahan**. “This is an important strategic move for the company, positioning it to meet growing demand globally for its products. This is a significant investment by a leading medical devices company and demonstrates Integer’s continued commitment to Galway and the West Region. Integer is a valued employer in Ireland where it has access to a highly skilled and talented workforce. I’d like to wish the company continued success.”*

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## **IDA Ireland Statement on Cabinet Tax Decision**

7 October

IDA IRELAND notes today's decision by Government to sign up to the political agreement at the OECD on a new tax framework.

IDA Ireland CEO Martin Shanahan said: "I believe that the changes resulting from Ireland's participation in the global tax deal are not likely to adversely impact Ireland's existing base of Foreign Direct Investment (FDI). Ireland will remain competitive from a tax perspective and the recent changes to the draft OECD agreement secured by Ireland provide clarity on the global minimum rate that will apply for large companies, making it possible for Ireland to continue to provide stability for investors.

Investors' confidence in Ireland remains strong as evidenced by the investment flow over recent months and years. In 2020, Ireland increased its market share of FDI into Europe in the face of global declines in FDI flows. Ireland's focus on the sectors that underpin a modern economy has been key to this. The pipeline of investment in the year-to-date has been extraordinarily strong with investment decisions being taken in the context of the discussions on the global agreement.

Tax is important but it is but one part of Ireland's proposition and it is imperative that we continue to remain competitive on all aspects of our investment offering, given the level of global competition for the investments we are trying to attract.

FDI is central to Ireland's economic success. It has transformed Ireland utterly and brought a level of prosperity that could not have been imagined decades ago.

There is still a lot of detail to be worked out around the implementation of this global agreement, but there is no reason that Ireland cannot continue to build on the very strong existing base of FDI that we have built up, provided we continue to do the right things.

In the days, weeks and months ahead, IDA Ireland will engage with existing investors and prospective investors as we always do."

Contact

Ellen Lynch

Press & PR Manager

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## VistaMed Ltd. to Create 100 New Jobs in Carrick-on-Shannon facility



Leitrim 11th October 2021 VistaMed, a Freudenberg Medical company and leading CDMO for complex extrusions, finished catheters, and medical devices for minimally invasive applications, has announced that it will create 100 new jobs at its facility in Carrick-on-Shannon in Co. Leitrim.

Founded in 1999 in Carrick-On-Shannon, VistaMed Ltd. currently employs 525 people between its R&D Innovation Centre Carrick-on-Shannon and at its manufacturing facilities in Roosky and Carrick-On-Shannon.

Tánaiste and Minister for Enterprise Trade & Employment Leo Varadkar TD said “I’m really pleased to see that VistaMed is expanding in Leitrim and will be recruiting 100 people over the next two years. This significant expansion demonstrates VistaMed’s continued commitment to Carrick-on-Shannon, where it was founded and underscores Ireland’s position as a global hub for the world’s leading med tech companies. I wish the team every success with this new expansion.”

Minister of State at the Department of Enterprise Trade & Employment, Robert Troy TD said: “This announcement from VistaMed is a welcome boost for Carrick-on-Shannon and the surrounding area. The expansion will see the company providing an array of skilled employment opportunities to the people of Leitrim. VistaMed are industry leaders, and their decision to expand in Leitrim is a strong endorsement of the talent and resources in the region. I wish the company all the best in this exciting new chapter.”

Clients include major blue-chip companies in the MedTech industry. The company’s products have evolved in terms of form and complexity since its foundation, to a high-value product solutions provider offering product design, development, component manufacturing including labelling, packaging and sterilisation support for customers. The company produces a diverse range of catheter-based products used in diagnostic or therapeutic procedures such as cardiology, electrophysiology, peripheral stent delivery systems, urology, endoscopy, neurology and pain management.

“This latest jobs announcement is in direct response to the strong demand for development and manufacturing capabilities in VistaMed from existing and new customers” said Patrick Mulholland, Managing Director of VistaMed “This is an exciting time in the continued development of our company, many of the devices we develop offer exceptional opportunities for engineers to gain experience working with the most innovative products to come on the market.”

As we continue to build on our engineering team, we are looking for talented individuals with the right motivation and skillsets to facilitate our continued growth in developing and manufacturing world class medical devices.

For product builders there is the opportunity to progress one's career with the many support mechanisms offered within VistaMed. With a growing company there are many opportunities for career progression together with the satisfaction of working on life changing medical devices."

This significant expansion will see positions created in management, engineering, technicians, operators, automation, quality control & validation and administration. To explore opportunities to join VistaMed visit <https://www.vistamed.net/en/company/careers/>

IDA CEO Martin Shanahan said: "Today's announcement by VistaMed - a significant employer in Co. Leitrim - and its strategy for its Irish operations is most welcome. VistaMed is a member of a strong MedTech cluster of companies in the North West that benefit from the region's highly skilled and talented workforce. Winning jobs and investment for the regions is central to IDA Ireland's strategy. I wish VistaMed every success with this expansion and assure them of IDA Ireland's continued support."

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## Edwards Lifesciences celebrates the opening of its Limerick Manufacturing Plant with an increase of 250 jobs

**LIMERICK (IRELAND), October 22, 2021** – Edwards Lifesciences Corporation today celebrated the opening of its new manufacturing center in Castletroy, Limerick City, and announced its intention to increase its workforce to 850 employees in the coming years. This represents the creation of 250 additional jobs compared to what was initially announced at the groundbreaking in 2019.

Edwards established operations in Ireland in 2018 at a facility in the Shannon Freezone and already employs 250 people in the region. The new purpose-built facility will focus on the manufacture of breakthrough innovative therapies and life-saving medical technologies for patients suffering from heart valve disease.

*“Our announcement illustrates the continued growth of our company globally and demonstrates our confidence to the Mid-West of Ireland. By expanding our presence in the area, we aim to create a hub for Europe and bring us closer to the patients in the region who will receive these life-saving therapies.”* says **Michael A. Mussallem, Chairman and Chief Executive Officer of Edwards Lifesciences.**

Employees at the plant will manufacture transcatheter therapies to repair or replace damaged heart valves, enabling patients to live longer, healthier lives.

*“Our teams are dedicated to patients and work with passion. We look forward to welcoming new members to join us in our mission to save and improve the lives of thousands of people around the world”*, continues **Michael A. Mussallem.**

**Tánaiste and Minister for Enterprise, Trade and Employment, Leo Varadkar** said *“It’s great to be back in Limerick to officially open this fantastic new facility for Edwards Lifesciences. It will employ 250 more people than initially estimated, bringing the total new jobs being created to 850. It’s an enormous vote of confidence in the Mid-West region and the talent, skills and experience on offer here. Congratulations to the team involved and the very best of luck with this remarkable expansion.”*

**CEO of IDA Ireland, Martin Shanahan** said: *“An investment of this scale by Edwards Lifesciences, a global leader in its field, is terrific news for the Mid-West Region and indeed for Ireland. It demonstrates the company’s commitment to the region and its ambitions for its operations here. IDA Ireland remains committed to winning jobs and investment in regional locations. I wish to congratulate Edwards Lifesciences on this significant expansion and assure the company of IDA Ireland’s continued support.”*

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## CLS

### **Evelyn O'Toole from CLS explains the importance of gender balance on leadership teams**

Watch on YouTube:

<https://www.youtube.com/watch?v=IkpDNsQVITs>



[EnterpriseIrelandTV](#)

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"If you've got the right gender balance within a company, your financial and business performance will be much stronger", says Evelyn O'Toole from CLS. Register for 'The Level Project' launch webinar for advice on addressing the gender mix in your business: <https://globalambition.ie/webinar-the...>

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## Brandon Bioscience is the overall winner at Enterprise Ireland's 2021 Innovation Arena Awards

This year's overall Enterprise Ireland Innovation Arena Awards winner is marine biotech company Brandon Bioscience in Tralee, Co Kerry.

Watch on YouTube:

<https://youtu.be/aiYuPU48iVk>

## Enterprise Ireland announces the winners of the 2021 Innovation Arena Awards

Watch on YouTube:

<https://youtu.be/biwdr7xk3ks>



[EnterpriseIrelandTV](#)

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Enterprise Ireland's Innovation Arena showcases ground-breaking agri-related products and innovations from Irish companies. This year, shortlisted innovators pitched their pioneering designs to a virtual judging panel over the course of two days. On 15 September, we announced the winners of the 2021 Innovation Arena Awards, in association with the National Ploughing Association. [#InnovationArena2021](#)

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## **New UL research centre to drive next generation of cancer treatment**

24 September

**The Limerick Digital Cancer Research Centre will explore how new technologies can help tackle cancer in Ireland's rapidly ageing population.**

University of Limerick (UL) is collaborating with University Hospital Limerick (UHL) to establish a new cancer research centre that aims to use digital technologies to improve the treatment of cancer in Ireland.

To continue go to [New UL research centre to drive next generation of cancer treatment \(siliconrepublic.com\)](https://siliconrepublic.com/news/new-ul-research-centre-to-drive-next-generation-of-cancer-treatment)

Article by

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## DCU researchers' discovery could make cancer drugs more effective

13 October

Dr Andrew Kellett, who led the DCU team, said the discovery yielded 'promising' results for the future of difficult-to-treat cancers.

Researchers at Dublin City University (DCU) have discovered a new way to prepare DNA-damaging drug molecules. The long-term goal of this work is providing new effective, personalised cancer treatments with lower side effects.

To continue go to: [DCU researchers' discovery could make cancer drugs more effective \(siliconrepublic.com\)](https://siliconrepublic.com/dcuresearchers-discovery-could-make-cancer-drugs-more-effective)

Article by

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# siliconrepublic

## **SSPC to work with five biopharma companies on antibody medicine research**

4 October

**The new project aims to address a global shortage of important medicine production components and develop more sustainable industry practices.**

SSPC, the Science Foundation Ireland (SFI) research centre for pharmaceuticals, has announced a major partnership agreement with five biopharma companies.

To read more go to: [SSPC to work on antibody medicine with five biopharma companies \(siliconrepublic.com\)](https://siliconrepublic.com/SSPC-to-work-on-antibody-medicine-with-five-biopharma-companies/)

Article by

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# siliconrepublic

## **Conversations with Leaders: Prof Mark Ferguson, Ireland's science lead**

7 October

**As Prof Mark Ferguson nears the end of his 10-year tenure as director general of Science Foundation Ireland, he sat down to speak with Ann O'Dea for the latest in our new Future Human series.**

Prof Mark Ferguson is nearing the end of his second five-year appointment as head of Ireland's main scientific research agency, and as chief scientific adviser to the Government of Ireland. And so I was very keen to get his thoughts on both the recent past and the future of scientific endeavour in Ireland.

In another one-take fireside chat, in the fabulous library in Iconic Offices' Masonry building, we had a frank discussion on the need for more funding for the best research, on where the challenges lie and, above all, where the opportunities are for research excellence.

To continue reading this article and watch a video go to:

[Conversations with Leaders: Prof Mark Ferguson, Ireland's science lead \(siliconrepublic.com\)](https://siliconrepublic.com/conversations-with-leaders-prof-mark-ferguson-ireland-s-science-lead)

Video: <https://youtu.be/jxCOLyUwgeU>

Article and interview by

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# siliconrepublic

## Enterprise Ireland CEO believes Ireland can build its own icons

12 October

Speaking at the launch of International Markets Week, Leo Clancy offers a glimpse of Enterprise Ireland's ambitious vision for the next decade.

Monday (11 October) marked the beginning of International Markets Week, a major event in the Enterprise Ireland calendar where hundreds of companies will connect with market advisers from 40 overseas offices to help accelerate their international growth.

More than 1,600 individual meetings are scheduled to take place virtually this week while a panel discussion involving Enterprise Ireland CEO Leo Clancy was livestreamed Monday morning.

To follow this post go to: <https://www.siliconrepublic.com/start-ups/enterprise-ireland-ceo-leo-clancy-international-market-weeks>

Article by

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To continue reading go to: <https://www.siliconrepublic.com/future-human/mark-ferguson-science-foundation-ireland-interview-ann-odea>

Article by

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# **siliconrepublic**

## **Major expansion at UCD gets €350m loan from European Investment Bank**

29 October

### **The developments planned include a new extension to the O'Brien Centre for Science and a centre for future learning.**

University College Dublin (UCD) has secured a large loan with European Investment Bank (EIB) to support its plans for a major expansion on its Belfield campus. The project will cost an estimated €1bn. The EIB has agreed to provide €350m.

The university hopes to increase the campus' faculty numbers by 50pc and its student numbers by 25pc in the next few years.

To continue reading go to:

<https://www.siliconrepublic.com/innovation/ucd-expansion-e350-loan-european-investment-bank>

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# siliconrepublic

## **UL researchers join EU project to make composite materials recyclable**

2 November

### **Dr Maurice Collins is leading a team of researchers aiming to develop new, sustainable composite materials as part of a €5.3m EU project.**

University of Limerick (UL) is the sole university partner involved in a project that has the potential to improve the recyclability of composite materials used in the construction, aerospace and automotive industries.

The **Vibes** project is a pan-European collaboration between several research groups and industry stakeholders from countries including Spain, Italy, Greece, France, Belgium and Germany.

It is funded by the Bio-based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation programme. The project has a budget of almost €5.3m and it is expected to last for four years.

To continue reading go to:

<https://www.siliconrepublic.com/innovation/ul-composite-materials-vibes-project-horizon-2020-eu>

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# siliconrepublic

## Researchers in Ireland to pool expertise with climate and biodiversity network

9 November

**‘Failure is not an option,’ say Irish climate and biodiversity experts who are collaborating to brainstorm solutions to complex climate issues.**

A new all-island climate and biodiversity research network (AICBRN) is being launched today (9 November) by Taoiseach Micheál Martin and Northern Ireland deputy first minister Michelle O’Neill.

To continue reading go to:

<https://www.siliconrepublic.com/innovation/climate-biodiversity-all-island-research-network>

Article by

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# siliconrepublic

## **GMIT to host start-up incubator for creative tech entrepreneurs**

12 November

**A new incubator aims to further develop the west of Ireland as a hub for creative technology and content creation.**

Galway-Mayo Institute of Technology (GMIT) has teamed up with a group called Creative Enterprise West (Crew) to launch a new incubator programme targeting Ireland's creative digital and tech entrepreneurs.

To continue reading go to:

<https://www.siliconrepublic.com/start-ups/gmit-west-of-ireland-digital-creative-entrepreneurs-crew>

Article by

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# siliconrepublic

## 31 academics in Ireland feature in global list of elite researchers

16 November

UCC is the Irish university with the greatest number of entries in Clarivate's 2021 global list of highly cited researchers.

Every year, analytics company Clarivate compiles a list of highly cited researchers across the world, highlighting the top 1pc of scientists by citations. This year's list features 31 researchers in Ireland who exert significant influence in their fields.

The 2021 Highly Cited Researchers list identified 6,602 researchers from more than 70 countries who have published multiple highly cited papers that rank in the top 1pc by citations for field and publication year in the Web of Science citation index.

To read the rest of this article go to:

<https://www.siliconrepublic.com/innovation/highly-cited-researchers-ireland>

Article by

**Vish Gain is a journalist with Silicon Republic**

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16 November

## Working in pharma is not just people in white lab coats

Ipsen's Liza O'Brien discusses career opportunities in the pharma industry and the increased interest in the sector due to the pandemic.

Covid-19 has fundamentally changed a lot about the way we live and work. In a general sense, there is plenty of discussions around the future of work and the implementation of hybrid and remote working.

But specifically in the health and pharma sectors, the pandemic has had an impact too. An employer index earlier this year highlighted how the pandemic has sparked greater interest in pharma and healthcare careers among Irish students.

To continue reading go to:

<https://www.siliconrepublic.com/careers/pharma-jobs-graduates>

Article by

**Jenny Darmody**

Jenny Darmody became the deputy editor of Silicon Republic in 2020,



# siliconrepublic

## **Pharma company prescribes 100 new jobs for its Cork manufacturing site**

17 November

### **Hovione's €148m global expansion means 100 new roles will be available for grabs at its Cork production and manufacturing site.**

Pharmaceutical company Hovione has said it plans to create 100 new jobs over the next three years at its production and manufacturing facility in Cork.

The jobs announcement comes as part of the company's planned €148m global expansion. The expansion will focus on the Cork facility as well as the company's sites across Ireland, Portugal and the US.

To continue reading go to:

<https://www.siliconrepublic.com/jobs-news/pharma-company-hovione-100-jobs-cork-manufacturing>

Article by

**Blathnaid O'Dea**

Blathnaid O'Dea joined Silicon Republic in 2021

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## **Women in STEM need support from the bottom up and top down**

15 November

### **Jill Christian from Amgen spoke to Siliconrepublic.com about her career and how the world of STEM has changed for women.**

The need to support women in STEM is spoken about a lot, and plenty of progress has been made in this area from mentorship programmes to educational support. However, statistics over the last number of years show that plenty of work still needs to be done.

For example, a **recent survey of more than 10,000 third-level students** in Ireland across seven sectors showed that the women who were surveyed expected to earn salaries up to 14pc lower than men.

To continue enjoying this article go to:

<https://www.siliconrepublic.com/people/women-in-stem-support-amgen>

Article by

**Jenny Darmody**

Jenny Darmody became the deputy editor of Silicon Republic in 2020

# **siliconrepublic**

## **RCSI, UCC and DCU win big at KTI Impact Awards 2021**

**The awards celebrate innovation and collaboration in bringing public research to the commercial space.**

The winners of this year's Knowledge Transfer Ireland (KTI) Impact Awards have been announced, including innovative projects and businesses associated with Royal College of Surgeons in Ireland (RCSI), University College Cork (UCC) and Dublin City University (DCU).

Article by

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This article at: <https://www.siliconrepublic.com/innovation/rcsi-ucc-and-dcu-win-big-at-kti-impact-awards-2021>

# siliconrepublic

## **Cancer treatment tech start-up crowned overall Invent 2021 winner**

StimOxyGen impressed at this year's Invent awards, which recognise new innovations in Northern Ireland.

A cancer treatment technology start-up has been crowned the overall winner at the 2021 Invent awards. The awards are run annually by not-for-profit organisation Catalyst as a way of celebrating early-stage businesses and new innovations in Northern Ireland.

Article by

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The article is at: <https://www.siliconrepublic.com/start-ups/cancer-treatment-tech-start-up-ni-invent>

**Industry and  
Business**  
Promoting Manufacturing Excellence

**MANUFACTURING  
& SUPPLY CHAIN**



## 2021 Events



**THE NATIONAL  
PHARMACEUTICAL  
& LIFE SCIENCES EXPO**

RDS Simmonscourt Dublin 23<sup>rd</sup> – 24<sup>th</sup> November 2021

These three events were held in the RDS, Simmonscourt and were successful with good attendance and will revert to Citywest in 2022



## 2022 Events



**Resister here:** [National Sustainability Summit](#)

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

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

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

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

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

In addition to covering the challenges and opportunities presented by the Climate Action Plan, the National Sustainability Summit, which is part of the 2022 **National Manufacturing Conference &**

**Exhibition**, will enable visitors to keep up-to-date with the latest trends, innovations, best practice and new technological solutions available.

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

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## THE NATIONAL PHARMACEUTICAL & LIFE SCIENCES EXPO

### The National Pharmaceutical and Life Sciences Expo

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

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

**Register here:** <https://www.pharmaandlifesciences.com>

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

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

#### Sectors Attending

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

#### Why Attend

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

#### Who Visits

- Manufacturing director
- Plant manager
- R&D Director

- NPD director
- Warehouse Manager
- Facility manager
- Production head
- Procurement Directors
- Engineering Director
- Technical Director
- Energy Manager
- Sustainability director
- Scientists
- Data Analysts

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## Join the National Manufacturing & Supply Chain Conference & Exhibition

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

**Register here:** [National Manufacturing Event Conference & Exhibition](#)

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

The event will cover various topical themes including:

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

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

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

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

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

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## **Join the Northern Ireland Manufacturing & Supply Chain Conference & Exhibition**

**7th April 2022 | Titanic Exhibition Centre, Belfast**

**Register here:** [Register | The Northern Ireland Manufacturing & Supply Chain Conference & Exhibition](#)

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

### **Creating an Innovative Manufacturing & Supply chain Ecosystem**

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

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

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

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

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

**Key Topics included:**

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



## Awards 2021

**Cancelled due to the Pandemic but resume in 2022**



**Visit:** <https://www.awards.manufacturingevent.com>

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## Awards 2022



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

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

### [REGISTER YOUR INTEREST](#)

**Are you interested in  
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Attending the  
IMR Manufacturing & Supply Chain Awards  
Register your interest Today!**