



School of Chemistry News May 2023

Welcome to....

The Baumann group welcomes two new co-workers this month: Rosa De Gregorio, who will be with us for 6 months as a visiting PhD, and Dr Ilenia Alfano as our new SFI-funded postdoc. Both are joining us from the University of Naples and we are wishing both a great time here in Dublin.

We are looking forward to welcoming the Zhejiang Normal University Summer School students who will join us on Friday 2nd June until Fri 25th August and the Organic Chemistry Summer School students from University of Hawaii, University of California and Pennsylvania State University who will join us on Monday 19th June until Fri 11th August.

The O'Reilly group welcomes Eniola Sangoyomi to the group for an undergraduate research placement. Thanks in advance to all the group members who have offered to mentor her during her placement.

Dublin Chemistry Third Year talks

The School hosted the Dublin Chemistry third year talks on the 31st. Congratulations to all the students that presented their research and special congratulations to the UCD-based prize-winners Eva Naughton, Shekemi Denuga and Aoibhinn O'Connor



Thanks to Declan Gilheany for putting together the event, to Dr Michael Carroll Senior Principal Scientist TS/MS Small Molecule, Eli Lilly Kinsale Limited for presenting the Eli-Lilly sponsored prizes, to all the staff that chaired sessions and acted as judges, and to Susan Wilson and Elaine Mackey for help with the logistics.

Wheeler Lecture

The third year PhD talks were followed by the 27th Wheeler Lecture delivered by [Prof Paul Anastas](#) of Yale University. Prof. Anastas is recognized as a codifier of the field of Green Chemistry and his presentation was a remarkable overview of the needs that the Chemistry discipline will need to sustainably meet over the coming 50 years. Paul also signed the wall on the third floor, putting his name alongside those of the many distinguished chemists that have delivered the lecture in the past. Doubtless, more photographs of the event and the reception that followed (with thanks to Susan Wilson, Elaine Mackey and Deirdre Murphy from the School office) will be on the School's twitter page over the next few days.



The School also signed the "[Beyond Benign](#)" Green Chemistry commitment" in May. This commits us to embedding the principles that Anastas and Warner set down in their ground breaking book 25 years ago (and thanks to Leila Negahdar for organizing this commitment on the School's behalf).



Awards, Funding and Recognition

A very warm congratulations to Tony Keene, who has recently been promoted to Associate Professor. Tony has taken on several leading roles in the School since joining, including the important and very busy role as Head of Outreach. His excellence in teaching, including Introducing Crystallography into the undergraduate curriculum, was recognised with a College of Science Teaching award in 2020, and he acts as a supportive mentor and role model for so many students. Tony has also contributed to the research awards and outputs in the School, including an SFI Future Innovators Prize for his LiCoRICE battery recycling project. Tony's promotion is richly deserved and we wish him continued success in his career.

Many congratulations to the recipients of the BOC Gases Award 2022/2023 for the best PhD project at the School of Chemistry. Well done to Peter McDermott, Clara Zehe, Benjamin Owen. The three students gave fantastic research talks at the awards ceremony and showcased some really excellent PhD research. A special thanks to BOC for their continued support and to Dermot Browne from BOC for attending the event and presenting the awards.



Congratulations to School members whose recent SFI Frontiers for the Future Programme awards were announced this week.

Susan Quinn was successful with a project on 'PhotoGene: Photoactive Nucleic Acid Probes Towards New Diagnostics and Therapeutics', and Declan Gilheany for a project entitled 'Small Nitrogen Bicycles: Constrained Molecular Geometry for Aza Bioisosteres, Encouraged Lewis Pairs and Pentavalent, Pentaco-ordinate Nitrogen.'

Well done to James Sullivan & Cormac Murphy (SBBS) on their recent successful collaborative grant, "A Sustainable Solution for the Disposal of PFAS-containing

Aqueous Film Forming Foams (AFFF)", which has been funded through the Healthy Environment for All Challenge of the National Challenge Fund. The project will use catalysis and fungi to degrade PFAS in fire-fighting foams.

Congratulations to Niamh Gurrin from the School on receiving the Undergraduate Environmental Researcher of the Year Award. Fantastic achievement!



Congratulations to Christine Coffey from the Hooper group, who won a poster prize at the Inorganic Ireland meeting on Friday.

Congratulations to Katie Donaghy from the McGarrigle group on winning a poster prize at the RSC Heterocyclic and Synthesis Group's flagship biennial 25th Lakeland Symposium in Grasmere. Katie's research is funded by an IRC-GOI Postgraduate scholarship. #loveirishresearch

And another poster prize to celebrate! - Dr Jorge Lacuna-Garcia won one of the three RSC poster awards at the recent Flow Chemistry Europe meeting in Cambridge discussing his work on photochemical benzyne generation in flow (pictured below). Well done Jorge!



New Doctor in the House!!!

A huge congratulations to Mark Dizon from the Buckin Research group, who passed his viva in May. Thanks to the External examiner, Tigran Chalikian from the University of Toronto, the Internal examiner Gil Lee and the Chair Dermot Brougham.



Recent Publications from the School

A new paper of the Baumann group and a team at Almac Sciences reports the photochemical synthesis of strained cyclobutene building blocks: "Continuous Flow Synthesis of Cyclobutenes Using LED Technology." Megan Smyth, Thomas S Moody, Scott Wharry and Marcus Baumann Synlett, 2023, asap. DOI: 10.1055/a-2086-0630 ([Thieme E-Journals - Synlett / Abstract \(thieme-connect.com\)](https://www.thieme-connect.com/abstract/10.1055/a-2086-0630)).

Congratulations to all involved on a great piece of work!

A second publication from the Baumann group provides a perspective on the values of flow photochemistry in the context of green chemistry which was published in Chemistry Today: "Continuous Flow Photochemistry and Green Chemistry" Marcus Baumann Chim. Oggi – Chem. Today, 2023, 41(2), 12-15 ([CO2_2023 \(teknoscienze.com\)](https://www.teknoscienze.com/)).

The Brougham group have had two papers accepted recently;. Congratulations to Katie and co-workers on establishing the principles behind magnetic capture and quantitation of sugars from skin, in their paper "Surface potential modulation in boronate-functionalized magnetic nanoparticles reveals binding interactions: Towards magnetophoretic capture/quantitation of sugars from extracellular matrix". Stephen Lyons, Paola Baile Pomares, Lorena Vidal, Katie McGarry, Aoife Morrin, Dermot F. Brougham. Langmuir, 2023. <https://pubs.acs.org/doi/10.1021/acs.langmuir.3c00462>

A second from the Brougham group and congratulations to Ester, Sameer and co-workers on understanding how magnetic nanocubes heat in AC-fields by evaluating their NMR. "Modulation of hyperthermic and relaxometric responses of magnetic iron oxide nanoparticles through ligand exchange provides design criteria for dual-functionality." Esther Rani Aluri, Sameer D. Shingte, Eoin P. McKiernan, Steven Ferguson, Dermot F. Brougham. Journal of Materials Chemistry C, 2023, 11, 6417 - 6428. <https://doi.org/10.1039/D3TC00489A>

Congratulations to Dr Bhargava Reddy of the McGarrigle group on his first paper from his time in UCD. Bhargava's research is funded by an IRC-GOI Postdoctoral fellowship. #loveirishresearch Chem. Commun., just accepted, Iodine-mediated photoinduced tuneable disulfonylation and sulfinylsulfonylation of alkynes with sodium arylsulfonates - M Bhargava Reddy and Eoghan M. McGarrigle.

Congratulations to Conor Kelly from the Morgan group, who had his work on hysteretic spin state switching in a chiral manganese complex published in Chem. Eur. J.: <https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/chem.202300275> where he demonstrated spontaneous resolution of the system in a homochiral crystalline conglomerate which he could separate mechanically.

School News, Events & Activities

POSTDOC SEMINAR SERIES

In early May, we had the third round of the postdoc seminar series, and our brilliant postdocs Dr Jorge García Lacuna from the Baumann group and Dr Wei Zhang from the Dawson group (CBNI) gave excellent talks. We heard about flow chemistry from Jorge's presentation, entitled "metal catalyzed gas-liquid reactions in continuous flow" and about nanoparticle shapes vs biological effects from Wei's talk "A nanoscale shape-discovery framework supporting systematic investigation of shape-dependent biological effects". These seminars have become a really integral part of our School's research programme and the School is grateful to the postdocs in Chemistry who organise these wonderful events. A special thanks to Dr Marianne Haarr, Dr Gita Singh, Dr Karina Nigoghossian for co-organising this.

School Research Day

On May 16th, we held a Research Day where recently appointed members of academic staff gave short research talks. Thanks to Nadia, Tom, Joe, Leila, Aniello and Robert for excellent talks. We followed these great talks with some delicious pizza. A special thanks to Elaine and Susan for arranging this.



Research Talks & Presentations

Congratulations to Rosa Fernandez Pison, who presented her work on novel α,α -diamine silver(I) and copper complexes in the Inorganic Symposium hosted in TCD on May 19th.

Congratulations to Aniello Palma, who gave a talk on 'Peptide-based supramolecular constructs' at The University of Newcastle.

Marina Rubini was among the fantastic speakers at the SSPC Molecules II Theme meeting hosted in UCD. Congratulations to Marina on an excellent talk.



Many congratulations to Ioanna Bampouri on giving her first talk at Sensor and Measurement Science International (SMSI 2023) in Nuremberg, Germany. The details of her short paper published are here: <https://www.ama-science.org/proceedings/details/4398>, and her talk was on "Application of Ultrasonic Shear Wave Measurements for the Assessment of Hydrophobicity and Drying Dynamics of Aqueous Droplets" .

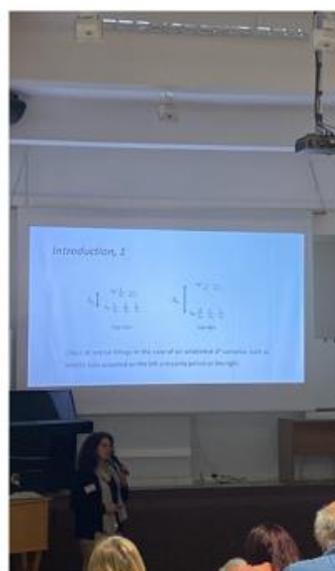
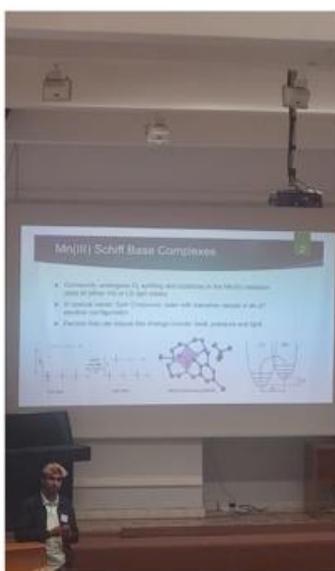


Joe Byrne travelled to Heraklion in Crete at the beginning of May to give an oral presentation at the Closing Meeting of the [InnoGly](#) COST Action (Innovation with Glycans). The meeting hosted a multidisciplinary group of researchers, all interested in gaining new insight into the biological function of glycans in different

biological contexts. The Byrne Group all attended *Inorganic Ireland* in Trinity College Dublin on May 19th, where Joe also gave a talk about recent developments in the research group on carbohydrate-functionalised metal complexes.



Congratulations to four members of the Morgan group, who presented their work at the joint NAGC/CTNMN meeting held at the AKSS conference site in Spetses. Pictured speaking are Francesca Adami, Aizuddin Sultan and Zoi Lada at the event (pictures below).



Outreach

Well done to Celin Erkey and Rosa Fernandez Pison who have been training for SoapBox Science. The event takes place this year on June 17th and we would encourage everyone to come to the event in the city and listen to a morning of fantastic scientific talks. Follow @SoapboxSci1 on twitter for more information.



Well done to Gareth Redmond, Robert Johnson, Tony Keene, and Nadia Elghobashi-Meinhardt, who participated in the recent ChemSoc pub quiz on May 22nd. Their team, the "Try Hards" had stiff competition from the other teams of graduate students. They came in third (or maybe second?) and had a lot of fun. They hope to attend the next quiz and maybe increase our team to six members. If you're interested in joining the 'Try Hards' for the next quiz, let them know!