The Alice Perry Engineering *Digest*

DEC 2025 ISSUE NUMBER 02

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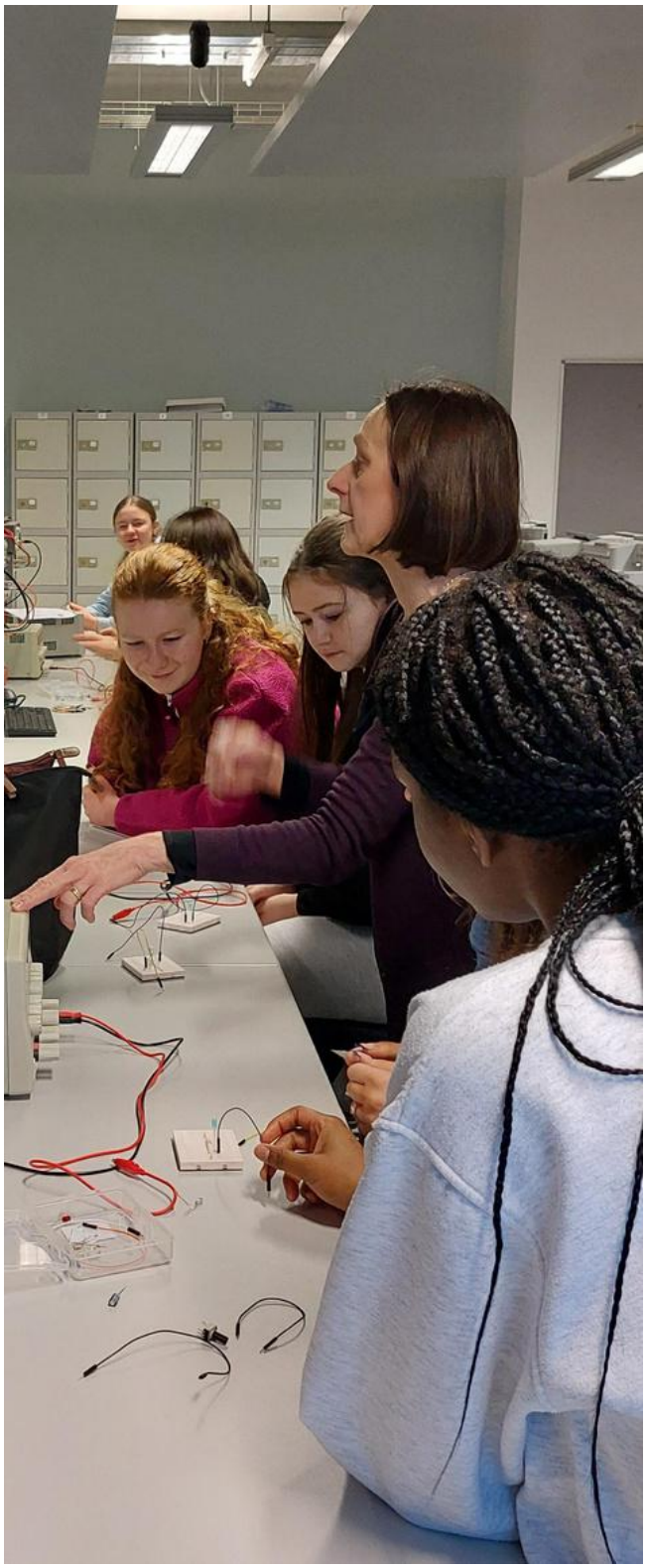

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SYEDA MASOOMA NAQVI

LAOISE MCNAMARA

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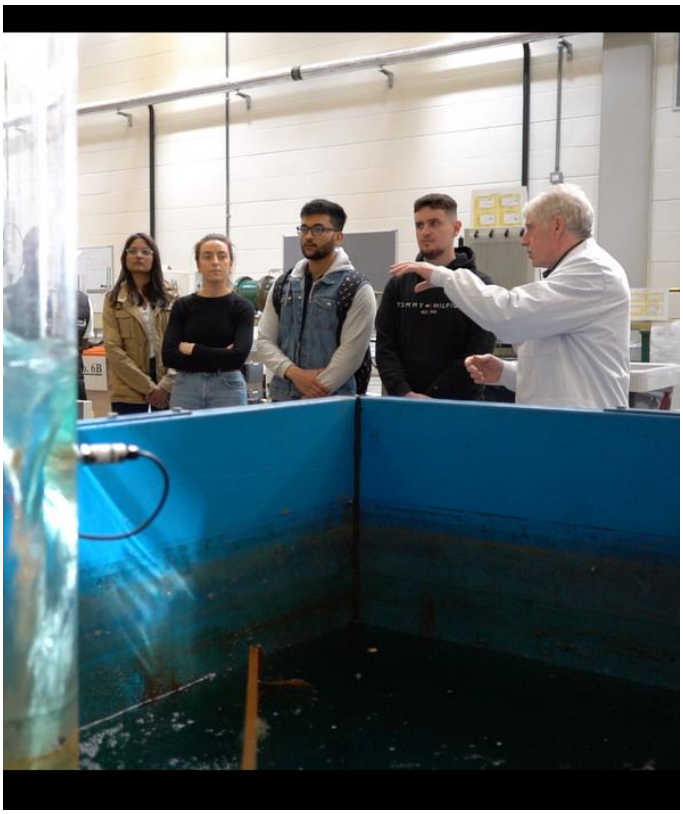
SCHOOL OF ENGINEERING



EDITOR IN CHIEF

SERENA LAWLESS

FOREWORD

A Message from the Head of School

LAOISE MCNAMARA

As 2025 draws to a close, we are pleased to share this edition of the School of Engineering newsletter. Our newsletter reflects the breadth of activity across the School throughout the year, highlighting our commitment to excellence in education, the impact of our research, and the many achievements across our academic and technical operations.

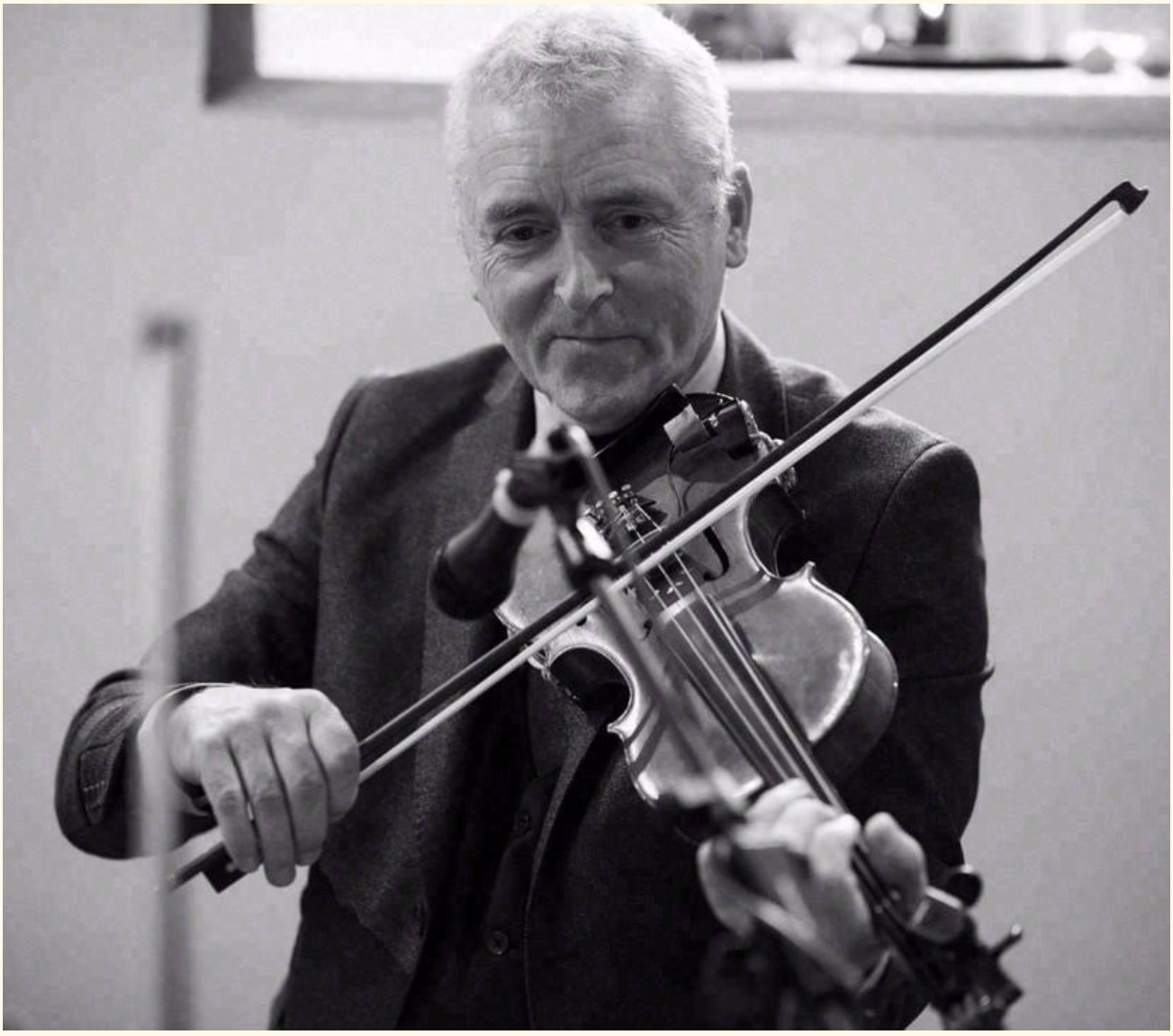
There were many highlights this year. We welcomed students onto our new programmes, celebrated student and staff educational and research successes, contributed to national media and policy discussions, and advanced our mentoring and support programmes. We also saw new staff recruitment and promotions, strengthened alumni engagement through events and activities, and enjoyed a highly successful School away day in December.

This edition is published in honour of our colleague, Dr. Fearghal Morgan, who sadly passed away this year. He was a distinctive and influential presence within the School, whose energy, character, and commitment left a lasting impression on colleagues and students alike. We remember his important contributions to the School and dedicate this newsletter to his legacy.

We would like to extend our sincere thanks to all those who contributed content and to the editor, Serena Lawless, for bringing this edition together. Your efforts ensure that the work, dedication, and achievements of our School are recognised. We wish everyone a well-deserved break over Christmas and look forward to another great year ahead.

REMEMBERING FEARGHAL MORGAN

Dr Fearghal Morgan served in Electrical and Electronic Engineering from 1996 until his retirement in 2025. He passed away on 9th November 2025. Here, his colleagues Martin Glavin and Edward Jones share some personal reflections on his contribution and legacy.



His influence and legacy endure — in the students he inspired, the colleagues he supported, and the culture of generosity, curiosity and fun that he embodied.

REMEMBERING FEARGHAL MORGAN

Dr Fearghal Morgan's contribution to the University of Galway and to the wider academic and professional community was exceptional, spanning teaching, research, leadership, and collegial life. From the moment he joined the Department of Electronic Engineering in 1996, his confidence, enthusiasm, and energy were immediately evident. Martin had the privilege of being taught by him and still recalls his first lectures vividly: his passion for digital design was infectious, and his teaching style – innovative, structured, and well ahead of its time – introduced formal design methods in a way that inspired confidence and curiosity. He encouraged students to break complex problems into manageable parts, to experiment, to make and fix mistakes, to test rigorously, and ultimately to take pride in their work. This approach shaped not only technical competence but also a professional mindset.

His commitment to teaching remained a defining feature of his career. He was consistently at the forefront of exploring new approaches and technologies in education and was quick to trial fresh ideas. His expertise in digital design had wide-ranging benefits, not only academically but also strategically for the department. The structured design methodologies embedded in his courses became exemplars during accreditation reviews, helping to clearly demonstrate achievement of programme Design outcomes. His openness and accessibility were equally notable: he was renowned for working with his office door open almost all the time, welcoming students and colleagues alike. This dedication was formally recognised with the University's President's Award for Teaching in 2009, an honour that reflected what many already knew – that he always put students first, no matter what.

In research, Fearghal was consistently ahead of the curve. He collaborated closely with colleagues on a range of projects and had a remarkable ability to recognise the significance of emerging technologies long before they became mainstream. He was introducing concepts such as spiking neural networks years before they gained more widespread traction, and his research journey spanned from early work with small FPGA boards through to more recent engagement with generative AI. Yet, impressive as his technical achievements were, they were overshadowed by the impact he had on his students, and many that he supervised went on to excel across academia and industry. Some, such as Brian McGinley and Finn Krewer, pursued distinguished academic careers, while others built successful companies. These include Paul Killoran, founder of Ex-Ordo, which powers the top scientific conferences worldwide, and Kevin Keane, co-founder of Chipright, shaping electronics design worldwide – an impact that can be traced directly back to Fearghal's teaching and mentorship.

REMEMBERING FEARGHAL MORGAN

Fearghal also made a lasting mark through leadership and service. During his time as Head of the Department of Electronic Engineering, his management style was characterised by wide consultation, fairness, and an unwavering focus on supporting staff and students equally. He encouraged positive initiatives and always prioritised what was best for students. His approach was widely admired and is remembered as a model of how academic leadership should be exercised. Among his more light-hearted but enduring contributions was the notion of "Fearghal Time," where meetings he organised and chaired routinely began ten minutes late - a mildly subversive reminder that we need not always be ruled by the clock.

Beyond his formal roles, Fearghal brought a deep sense of humanity and enjoyment of life into the workplace. He was a colleague and a friend, known for lively conversations over tea and scones, and the occasional pint in Massimo's. He infused academic life with colour and creativity, memorably demonstrated when he organised the Irish Signals and Systems Conference in Galway. The conference featured an unusually impressive opening reception, complete with a juggling performance, and concluded with a thoughtfully arranged trip to Inis Mór as a gesture of thanks to his organising team. His familiarity with the island led to a memorable journey across its landmarks, including Poll na bPéist (the Wormhole) in which he himself had swam (though not that day!), and Dún Aengus, leaving lasting impressions on all involved.

Eddie recalled informally meeting Fearghal before his appointment in 1996, on a rainy Wednesday afternoon in the Hygeia Building in Nun's Island, when he drove up to Galway after playing a gig in Clare – arriving late, entirely in character. He wanted to get a feel for the place before committing, and that early visit obviously left a good enough impression on him that he decided to stay, and that set the tone for decades of shared experiences: successes celebrated, challenges faced, and a professional relationship that was always lively, instructive, and deeply enjoyable.

After almost three decades of dedicated service, Fearghal retired from the University of Galway at the end of June 2025 due to ill health, earlier than any of us anticipated or wanted. He passed away peacefully, surrounded by his family, on 9th November 2025. His loss is deeply felt, but his influence and legacy endure - in the students he inspired, the colleagues he supported, the innovations he championed, and the culture of generosity, curiosity and fun that he embodied. He will be greatly missed, and he will not be forgotten.

Martin Glavin
& Edward Jones

Impressive as his technical achievements were, they were overshadowed by the impact he had on his students.

L-R: Paul Killoran, Martin Glavin, Alison Freer, Ethan Delaney, Timothy Hanley, Kevin Keane, Fearghal Morgan

School of Engineering Supports & Strategic Initiatives

LAOISE MCNAMARA, MAIRÉAD FAHERTY, MARTIN BURKE

In 2025, the School of Engineering demonstrated a strong commitment to fostering an inclusive, vibrant, and research-focused environment through a range of centralized supports, strategic initiatives, and targeted funding mechanisms.

A series of engagement initiatives were delivered throughout the year, including research staff seminars, seminar series celebrating promotions, and the introduction of the School newsletter highlighting staff achievements. These initiatives reinforced a sense of community and recognition across the School. New staff were welcomed through an enhanced induction programme, supporting their smooth integration into the School's research and teaching culture.

Strategic space management continued to be implemented to optimise research activity, while the ongoing rollout of the School-wide Workload Allocation Model supported a more equitable distribution of responsibilities and contributed to staff development. The School applied for equipment and infrastructure funding, and overhead allocations were invested through the School of Engineering Seed and Support fund to stimulate innovative research activity. Health and safety guidance was made accessible to all staff via the dedicated School SharePoint site. The School of Engineering Travel Fund enabled staff to participate in international conferences and develop global research collaborations, enhancing the School's research profile and impact.

The School actively pursued external funding to support new staff recruitment and scholarship opportunities for our students. We received strategic support from Techrete to foster the application of disruptive technologies to enhance sustainability of infrastructure and buildings. We secured a significant strategic partnership with Ward and Burke to advance our education of students and advance research and innovation in the field of smart infrastructure and data-driven engineering, which will be formally launched in 2026.

Commitment to equality, diversity, and inclusion remained central to the School's strategic priorities. In particular, progress continued on the Athena Swan Action Plan, with preparatory work for resubmission scheduled for June 2026 and focused efforts on completing outstanding actions. The School mentoring programme supported nine mentor–mentee pairs during 2025 and was complemented by targeted recruitment initiatives in disciplines with lower female participation. These included "Engineering for All" sessions delivered during Open Days. Insights from focus groups with CÉIM leaders and findings from the University All Staff Culture Survey informed ongoing culture, wellbeing, and development initiatives within the School.

The School extends its sincere thanks to all staff, committees, and leadership teams whose commitment, energy, and collaborative efforts drove these initiatives forward in 2025. Their continued engagement and dedication were instrumental in delivering meaningful progress across research, teaching, culture, and community within the School.

Engineering for All Panels

L-R: Martha Kavanagh, Roisin Granahan, Robert Urquhart, Maidhc McDubhgaill, Sadhbh Kearney, Lexine Estremera, Edelle Doherty (chair)

L-R: Martha Kavanagh, Miah O'Leary, Solat Rahim, Maidhc McDubhgaill, Eoin King (chair), Kian Cloonan

Welcome, new staff!

Your new colleagues in the School of Engineering are looking forward to meeting you! We are lucky to have such a welcoming team. We hope you will quickly feel part of our vibrant and supportive community. Starting in a new role can be challenging, and we encourage all new staff to take advantage of the **School Orientation** sessions, which provide a helpful overview of the School's structures, key activities, committees, and supports, as well as an opportunity to meet colleagues from across disciplines.

New staff are also strongly encouraged to register for and regularly use the School SharePoint, which acts as a central hub for essential information, including procedures, contacts, events, and resources to support teaching, research, and administrative work.

If you have any questions, need guidance, or are unsure where to go for support, you can find contact information for the School here. We look forward to working with you and to the contributions you will make to the School in the years ahead.

Some of our existing (and very friendly!) staff

Questions? Get in touch!

Dr Xuliang Qian

Lecturer, Biomedical Engineering

Xuliang Qian is a Lecturer in Biomedical Engineering whose research bridges computational mechanics, bio-nano systems, and real-world applications in health technologies.

Dr Yuwen Xu

Marie Curie Fellow, Mechanical Engineering

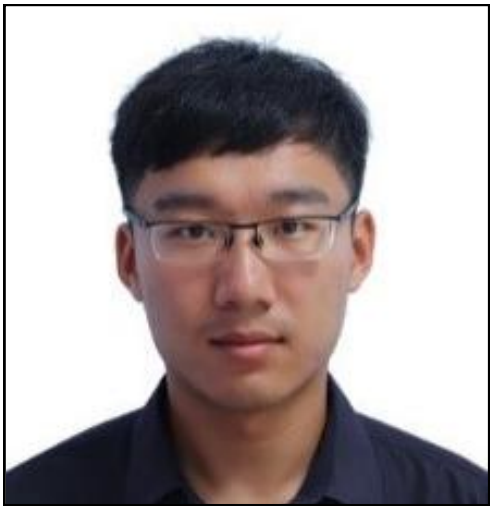
Dr Yuwen Xu from China is a SyMeCo fellow at Lero@UoG, supervised by Prof Kathryn Cormican. Her research interests include innovation management, technological innovation, and data science.

Dr Kodeeswaran Sankararaj

Postdoctoral Researcher, Electronic Engineering

Kodeeswaran (M'IEEE) from Tamil Nadu, India, works at PERC (ENG 3005), University of Galway. His research focuses on high-power WPT for EVs, WBG devices, 13.56 MHz RFID, and coil design using FEA.

WELCOME NEW STAFF!



Dr Runhua Song

Post doctoral researcher, Mechanical Engineering

PhD in Solid Mechanics from Harbin Institute of Technology. Research focuses on phase-field modeling of alloy phase transformations and residual stress in metallic components.

Dr Waseem Shariff

Post doctoral researcher, Electronic Engineering

Driven by a strong interest in Driver Monitoring Systems (DMS) technology. Worked on projects Thermal-Heliaus -2021, Neuromorphic-DMS in 2022-25, DTIF-EPICs in 2025-Present.

Dr Palamandadige Charith Dharsana Dharmabandu

Research Associate, Electronic Engineering

Coming from the “Pearl of the Indian Ocean”, Palamandadige has an enthusiasm for progressing work in the area of microgrids.

WELCOME NEW STAFF!

We would also like to welcome recent hires, and staff soon to join us!

Dr Eoghan Dunne

Lecturer, Biomedical Engineering

Dr Panpan Zhou

Lecturer, Mechanical Engineering

Dr Farzaneh Bagheri

Lecturer, Electronic Engineering

Dr Rajkumar Sarma

Lecturer, Electronic Engineering

Another Outstanding Year in Research Funding and Impact

LAOISE MCNAMARA

School of Engineering researchers and academic staff have had numerous significant funding successes across national and international programs this. These achievements demonstrate the quality and impact of our researchers and reflect the growing recognition of our institution on the global stage.

Among the many successes this year:

- Horizon Europe Consortia awards and Marie Curie MSCA funding, including Dr. Will Ronan's Advanced Nickel-Titanium Alloys for Medical Device Applications Doctoral Network.
- Research Ireland National Challenge Fund awards, including Dr. Indie Olbert for StopFloods4.ie and Dr. Myra Lydon for the Embrace – Mobility project.
- SEAI funding awarded to Dr. Yadong Jiang, Dr.William Finnegan, Dr. Pouyan Ghabezi, Dr. Maeve Duffy, and Prof. Jamie Goggins.
- Global Challenges awards, successfully granted to Prof. Abhay Pandit and Dr. Marcus Keane.
- ERC Proof of Concept (PoC) funding awarded to Dr. Andrew Daly.
- Various supports from DTIF, EI, IRC, and IRC PhD/Postdoc programs, enabling further development and innovation across multiple research areas.

Many staff have leveraged media and public events for to influence policy and public awareness of research impact. Dr. Patrick McGetrick featured in RTÉ Futureville, Professor Mark Healy Galway Science and Technology Festival, Dr. Indie Olbert and Prof. Jamie Goggins Storm Éowyn analysis guided climate resilience and disaster preparedness, and Dr. Eoin King contributed to an RTÉ podcast on noise pollution.

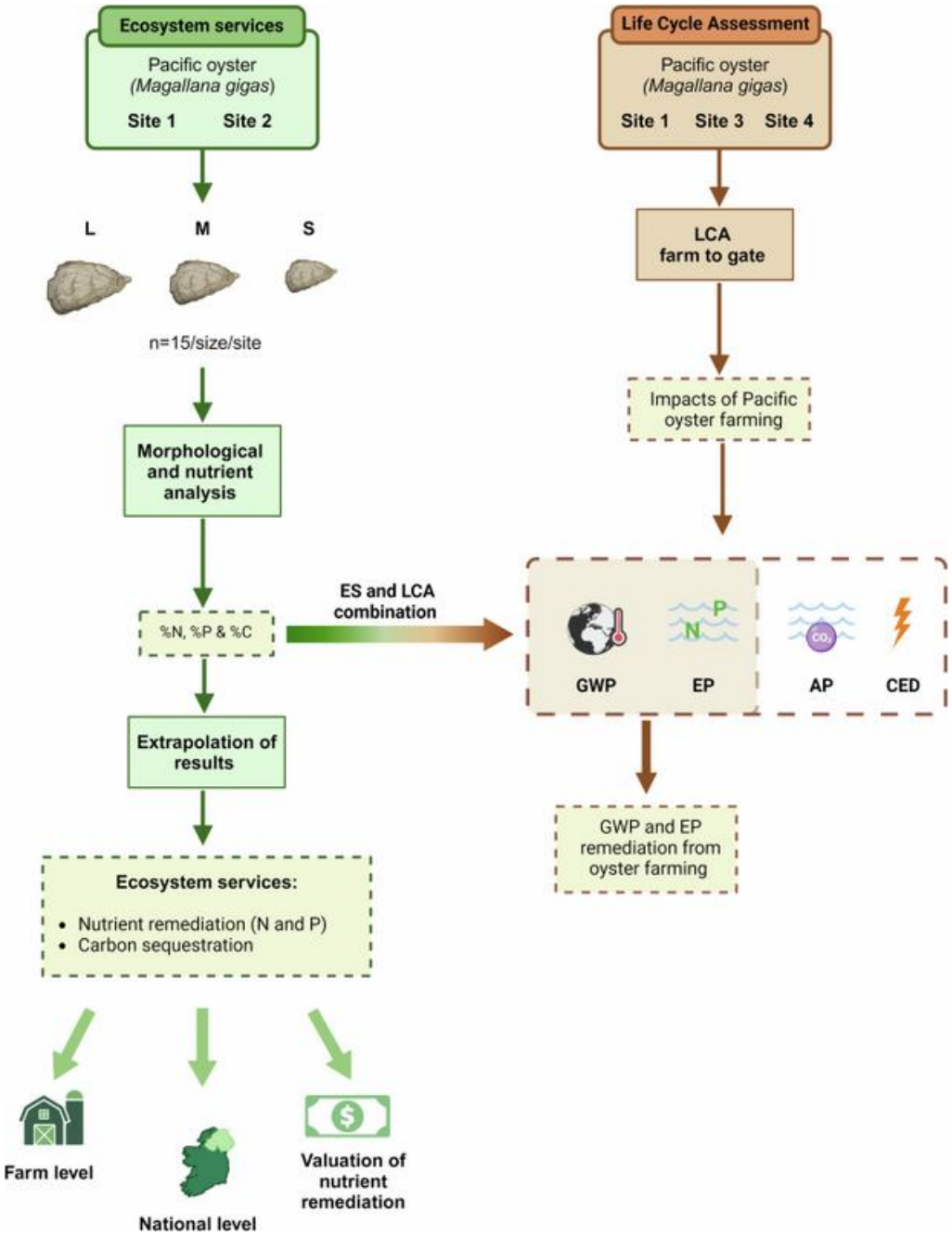
In addition to these achievements, we are thrilled to celebrate the recent news that Construct Innovate has been extended for a further seven years, establishing it as a long-term hub of research and innovation. We also anticipate public news of success for those involved in Research Ireland Centre submissions in the near future.

Congratulations to all involved— These achievements showcase not only the excellence of individual researchers but also the collaborative strength and ambition of our research teams.

Oysters, a sustainable bluefood? New research published in Nature Sustainable Agriculture

EOGHAN CLIFFORD

Sustainable food production that meets consumer demands while reducing environmental impact is a critical societal challenge. The seafood industry is a key segment for the future protein supply. The present study demonstrated that Irish Pacific oyster farming has relatively low environmental impacts. These findings show that oysters can be a sustainable food source with local environmental benefits. We also point to future work to improve the modelling of ecosystem services for bivalve production.



Biomedical Engineering Researchers Present at TERMIS-EU 2025 Conference

Researchers from the Discipline of Biomedical Engineering attended TERMIS-EU 2025 in Freiburg, Germany from May 20th to 23rd, presenting their latest research in tissue engineering and regenerative medicine. The conference provided a valuable opportunity to showcase their innovative work, engage with leading experts, and foster new collaborations.

SYEDA MASOOMA NAQVI

ARC Hub for HealthTech

EIMEAR DOLAN

University of Galway is to be the headquarters for a new €34 million investment in healthcare technology solutions under Research Ireland's ARC Hub programme - Accelerating Research to Commercialisation.

The ARC Hub for HealthTech is being led by University of Galway, in partnership with ATU and RCSI and starts with 23 research-led innovation projects selected for their strong potential to improve patient outcomes. The primary objective of the ARC Hub programme is to drive regional development by accelerating novel, cutting-edge research and make it ready for commercial impact while also supporting the development of entrepreneurial scientists and engineers with the skills to realise commercial opportunities from research.

The ARC Hub for HealthTech brings together clinical and commercial expertise, cutting-edge research and regional networks to develop impactful solutions to tackle chronic disease. Its focus will be on smart implants, advanced wearable medical devices, novel sensors and AI- and machine learning-driven modelling.

Prof Martin O'Halloran and Dr Eimear Dolan from the School of Engineering are co-Investigators in the program, both having leadership roles.

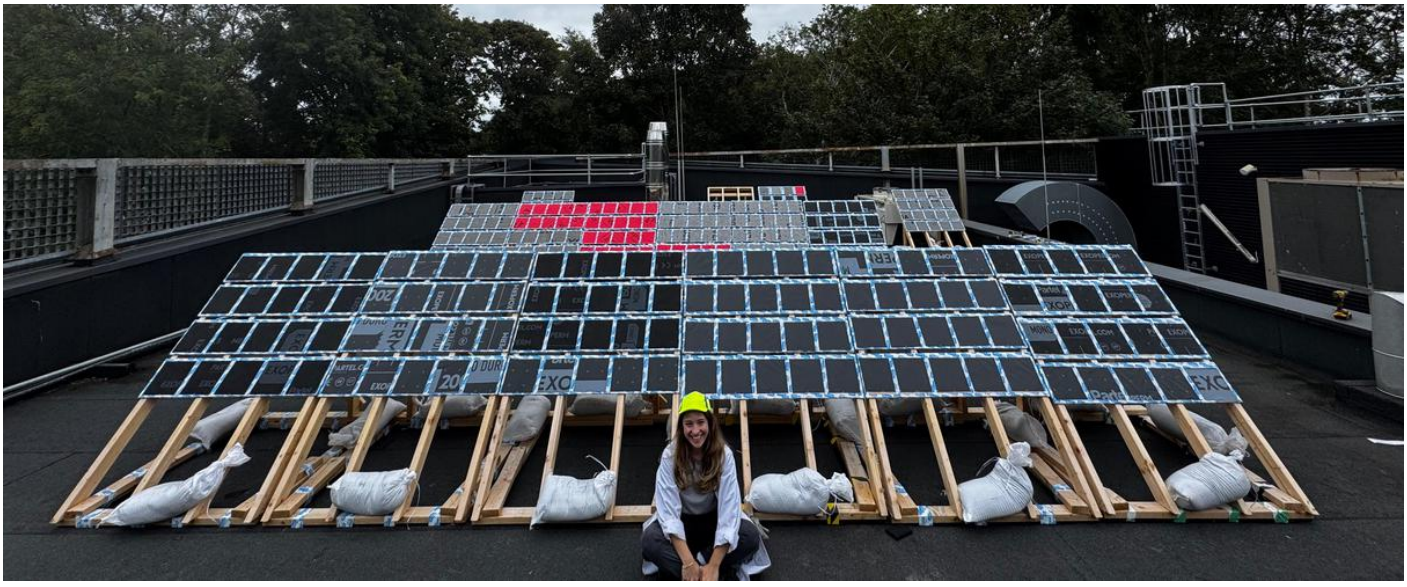
Advancing Building Envelope Durability

CEYLIN SIRIN

As part of the MaREI/ERBE programme, Ceylin Sirin is working on a collaborative project with Partel and Construct Innovate to investigate the long-term durability and performance of building membranes in Galway's climate.

Following a year of planning, a 300-sample outdoor exposure rig was installed on the Energy Centre roof of the Alice Perry Engineering Building in August 2025.

The project involves managing all aspects of the experimental setup, from detailed component assembly to large-scale test rig deployment, and is providing valuable hands-on experience in the development of more durable, energy-efficient façade systems.



Advancing the Energy Transition Through Global Partnership

HANDY BORGES SCHIAVON

IRUSE and LACTEC are deepening their collaboration through the RESTOR Project, which advances innovative approaches to demand-side flexibility and community-centred energy solutions.

LACTEC has more than 65 years of expertise as one of Brazil's leading science and technology institutes. Supported by recent discussions with the University's Internationalisation Office, both institutions are also developing new pathways for undergraduate and postgraduate partnerships, enabling overseas research opportunities for students from LACTEC and the University of Galway.

These efforts reflect a shared commitment to broadening research horizons and accelerating progress in sustainable energy and the global energy transition.

From the University of Galway to Harvard Medical School

SAM BOXWELL

Sam Boxwell is a PhD researcher in the Mechanobiology and Medical Devices Research Group at the University of Galway. He recently spent six months at Harvard Medical School in Boston, working in the lab of Prof. Farhad Nezami.

Sam explored how calcification of the native aortic valve relates to complications after transcatheter aortic valve replacement (TAVR) using deep learning, linking directly to his PhD on multi-physics modelling of TAVR. The visit was a great chance to meet new collaborators across medicine and engineering and was supported by the European Society of Biomechanics (ESB) Mobility Award.

HERCoN Project Meeting in Clermont Auvergne University, France.

MARY DEMPSEY

University of Galway is a partner in HERCoN, an Erasmus-funded EU project which aims to develop a community of practice, and create a comprehensive library of support and training resources to help institutions better understand and implement education pathways for refugees.

Education Tour to Canada

MARY DEMPSEY

Meeting with McGill University sharing good practices on education pathway development.

Net Zero Construction in Practice: Mass Engineered Timber in Wicklow

MAGDALENA HAJDUKIEWICZ

In September, Construct Innovate attended the launch of a new community centre and a crèche being developed in Newtownmountkennedy County Wicklow.

Colleagues in D|Res described how the combination of Glulam and CLT structural elements were assembled on site in a matter of days, sitting on a 50% GGBS concrete foundation.

The visit brought the benefits of modern methods of construction (MMC) and Mass Engineered Timber to life, and illustrated one of the ways we can reach net zero construction, while providing wonderful indoor environments.

€6.4M DTIF Win for University of Galway Engineering Lecturer Eoghan Dunne

EOGHAN DUNNE

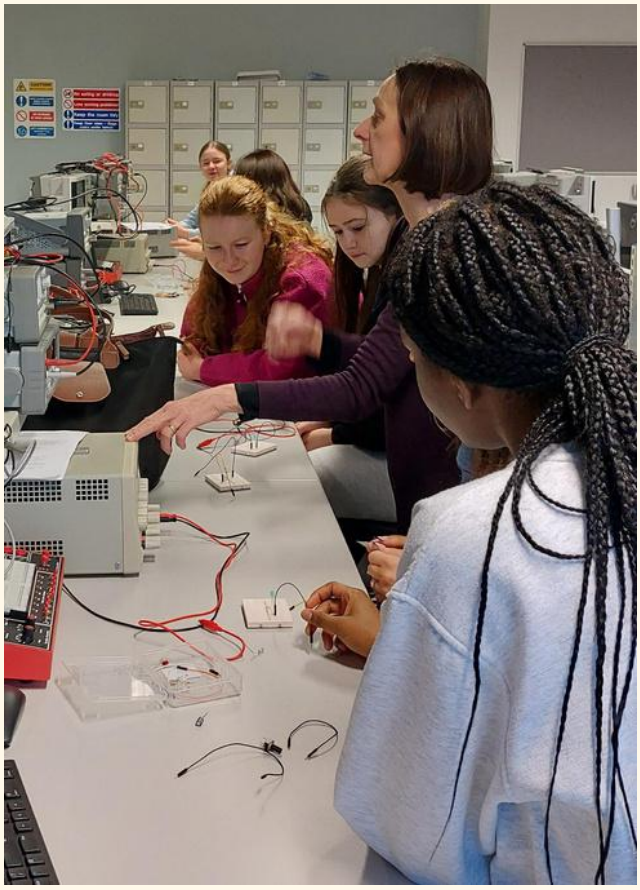
Dr. Eoghan Dunne has secured €6.4 million in Disruptive Technologies Innovation Fund (DTIF) support as Principal Investigator for the University of Galway on a groundbreaking cancer care project.

Partnering with Luminate Medical (lead commercial partner, Asst. Prof. Friedrich Wetterling (TCD), and Gentian Health, the team will enable safe, intelligent self-administration of chemotherapy, which will transform how patients receive treatment at home.

Announced by Minister Peter Burke on April 9th, 2025, the project is supported by Enterprise Ireland and the Department of Enterprise, Trade and Employment.

Civil and Electrical & Electronic Engineering welcomes female TY students to pilot STEM event

MAEVE DUFFY



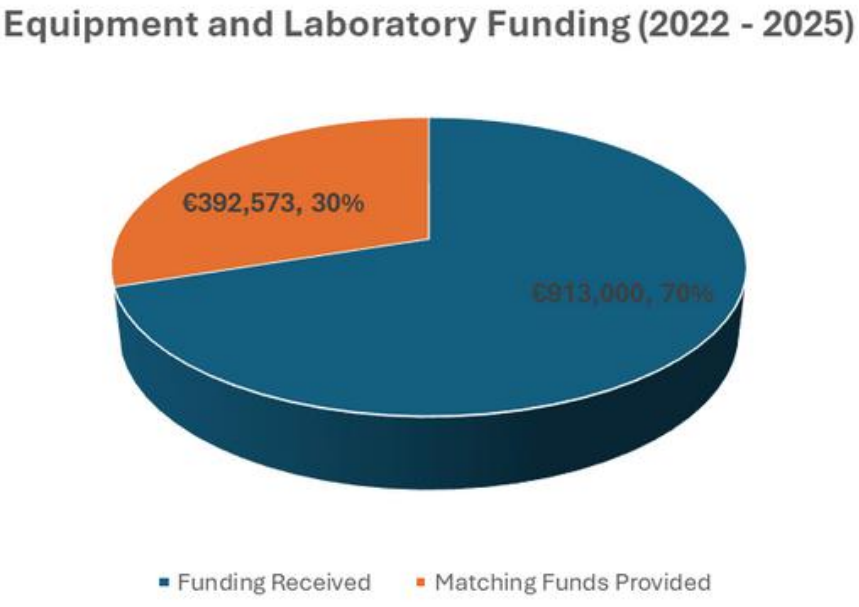
Collaborating with the Student Recruitment and Outreach Office, Dr Indie Olbert and Prof Maeve Duffy hosted 24 female students from the Dominican College in January for taster laboratory sessions in Civil Engineering and Electrical & Electronic Engineering. The students enjoyed lots of hands-on experience in building model bridges and LED lighting circuits!

Technical Update

MARTIN BURKE

Over the past three years, the School has successfully secured funding to support the purchase of new equipment, the upgrading of existing equipment, and broader laboratory investment. Through successful Repair / Replacement Funding and Strategic Funding applications, the School has invested over €1.3 million in laboratory equipment and facilities.

The positive impact of our cost-sharing approach to equipment repair and purchase is evident by the balance between external funding received (70%) and the School's / Research Groups matched funding contribution (30%).



Technical Officers within the School maintain an ongoing equipment wish list, which includes requests for the repair or replacement of existing equipment as well as proposals for new equipment. To ensure your requirements are captured, please contact the relevant laboratory manager with your request. If matching funds are available, please provide this information when submitting your request. The wish list is referenced when submitting future funding applications.

	Date	Funding Received	Matching Funds Provided	Total Available
AY21/22 CSE Research / Teaching Equipment Repair and Replacement	Jul 2022	€360,000	€128,000	€488,000
AY22/23 CSE Research / Teaching Equipment Repair and Replacement	Apr 2023	€19,000	€24,400	€43,400
AY23/24 CSE Research / Teaching Equipment Repair and Replacement	Feb 2024	€28,000	€34,617	€62,617
AY23/24 HEA Research Infrastructure and Equipment Funding	Mar 2024	€412,000	€90,000	€502,000
AY24/25 CSE Strategic Fund	May 2025	€35,000	€99,556	€134,556
AY24/25 CSE Research / Teaching Equipment Repair and Replacement	Jul 2025	€51,000	€16,000	€67,000
AY24/25 OVPRI Strategic Research Fund	Aug 2025	€8,000	€0	€8,000
Total		**€913,000**	**€392,573**	**€1,305,573**

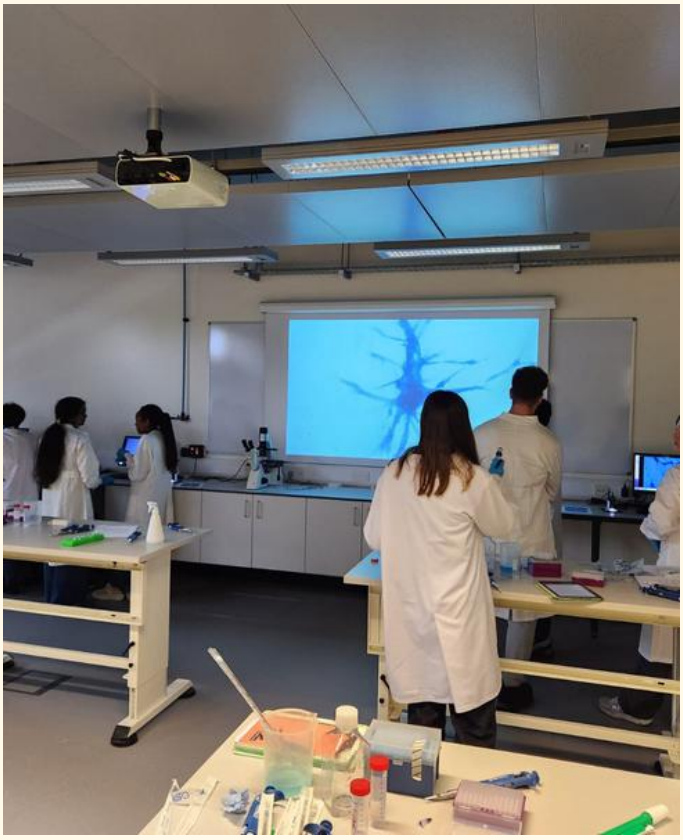
Development and Upgrade of Biomedical Laboratories

The School of Engineering has recently upgraded two laboratories (ENG-1003 & ENG-1004). Along with €35,000 funding from the AY24_25 College of Science and Engineering Strategic Fund, the School of Engineering invested €70,000 into the renovation along with purchasing €29,000 of auctioned equipment.

The Cell Culture Teaching Lab (ENG-1003) provides for a dedicated sterile facility designed to give students practical experience in mammalian cell culture, aseptic technique, and biologically focused experimentation, enabling students to culture, handle, and analyse cells under controlled conditions, and to explore how cells respond to environmental cues such as fluid shear stress and 3D culture in bioreactors. Equipment includes class II biosafety cabinets, high speed centrifuge and CO2 incubators, along with synergy plate reader, hot plate stirrer, analytical balance and dissection Instruments

The Biomedical Engineering Mechanical Lab (ENG-1004) has been created to provide students with practical experience in the mechanical testing and characterisation of tissue samples, biomaterials, and medical devices. This lab will enable students to explore how biological and synthetic materials respond to various mechanical stresses, supporting activities such as uniaxial testing, bending, compression, and radial force assessment. Equipment includes Zwick uniaxial mechanical testers, radial compression rig, and viscometer, along with Isomet low-speed bone saw, Buehler grinder/polisher and a band saw.

The laboratories will enable larger group teaching to which will enhance efficiencies in terms of staff time and resource allocation and will help promote increased collaboration.



From Big Ideas to Big Applause: Engineering Away Day

SERENA LAWLESS

The annual All Staff Away Day took place on Thursday, 11th December at the Galmont Hotel, bringing our team together for a full day of reflection, discussion, and planning for the future.

We started with an ice breaker of "Get to Know You" Bingo, led by Serena Lawless, where staff had to identify people who fit categories such as "a member of a school committee" and "is wearing the same colour socks as you". Rory Monaghan came out on top, although the jury is still out on whether you can use your own name for "has been on TV/Radio"!

Over the morning, we looked back at the year, with presentations by Laoise McNamara, Mairéad Faherty, and Martin Burke. We reflected on the dual challenge and benefit of growing student numbers, the need to evolve assessment practices, preparations for our upcoming accreditation, and the increasing demands on academic, technical, and administrative staff.

Significant achievements were highlighted, including strong research output and funding successes, major philanthropic investment, and new appointments and promotions.

Contributions from the School Office and the Technical Operations teams underlined the scale and complexity that underpin the day-to-day work of the School, including student support and progression, programme administration, recruitment and outreach, financial and procurement management, health and safety initiatives, laboratory upgrades, and digital infrastructure.

In the afternoon, we turned to more interactive sessions, starting with a stimulating workshop that encouraged staff to think creatively about the future. Will Ronan led us in "Engineering Education: a roadmap to 2050," where we considered what challenges future students could be faced with and how they might come up with creative solutions. The discussion centred on transparency, communication, and effective use of shared processes and cross-discipline engineering. It set a collegial tone for what could be achieved when all streams of engineering combine!

Magdalena Hajdukiewicz gave everyone a fright when she announced we would be coming up with proposals for research papers, only to surprise us all with a fun and challenging table quiz. The competitiveness reached a fever pitch, with staff challenging the answers to some more contentious questions. (Which President of Ireland is a graduate of the University of Galway? Turns out we have two now!) In the end, the winning team - Martin Burke, Mairéad Faherty, Padraig Conneely, Juan Alberto Panadero Pérez, Patrick McGetrick, and Maeve Duffy - won by just 0.5 of a point.

The winning didn't stop there, as we rounded out the day with our inaugural Staff Awards, where we celebrated the outstanding efforts of some of our colleagues. We are lucky to work with such exceptional people, and there were many nominations across the categories of Research Excellence, Technical and Professional Services Excellence, and Education Excellence.

Research Excellence Awards

William Finnegan was awarded the Research Excellence Award for Impact & Innovation. He is a world-leading expert in tidal and wind energy technology, with particular expertise in composite blade development. He leads a large and impactful research team and has made significant contributions to teaching, programme development, student mentoring, and equality, diversity and inclusion initiatives within the School of Engineering, including co-chairing the Athena SWAN Self-Assessment Team and directing the ME and MSc Civil Engineering programmes. His internationally recognised research record includes 44 publications, a field-weighted citation impact of 2.3, and over €4.3 million in competitive funding awarded to the University of Galway.

Alongside his academic work, he serves as President of the Civil Engineering Research Association of Ireland and has delivered substantial real-world impact through industry partnerships, full-scale deployment of renewable energy technologies, and service on national and international advisory bodies.

Paul Moran was awarded the Research Excellence Award for Early Career Researchers. Paul is a lecturer in façade engineering whose research focuses on evaluating the sustainability of building systems and construction practices.

As an early-career researcher, he has secured €1.9 million in national funding as Principal Investigator and Co-Principal Investigator on multiple SEAI- and Construct Innovate–supported projects. His work has delivered impactful methodologies, including the UPFRONT-CO2e life-cycle carbon evaluation tool, which is currently being tested by industry and is expected to inform future national policy.

Paul also contributes to national sustainability initiatives through the Irish Building Stock Observatory and is managing the development of a state-of-the-art building envelope testbed at the University of Galway.

Research Excellence Awards

Adnan Elahi was awarded the Research Excellence Award for Research Output. Adnan is an exceptional researcher in medical electronics, biomedical electromagnetics, and translational medical devices. As co-director of the Translational Medical Device Lab, he leads a team of 17 researchers across major funded projects and has built significant research capacity through extensive PhD supervision and international mentorship.

Since 2018, he has contributed to more than €10 million in research funding, including over €6 million as Principal Investigator, and his team recently reached the final stage of a national €1 million Research Ireland Innovating in Health and Wellbeing Challenge. His research outputs include 104 peer-reviewed publications, widely used open-source tools and datasets, and influential standards, alongside patented innovations progressing toward clinical use, establishing him as a leading figure in biomedical electromagnetics.

Andrew Daly was awarded the Research Excellence Award for Ressearch Activity. Andy is a biomedical engineering researcher leading a group pioneering 3D bioprinting of functional human heart tissue. His work has delivered disruptive technologies, including shape-morphing tissues in granular hydrogels and AI systems for real-time print quality control.

Andy holds major competitive funding, including an ERC Starting Grant, an ERC Proof of Concept Grant, and leadership of an SFI National Challenge Fund project. In just four years, he has published extensively in top-tier journals, achieving an h-index of 21 with approximately 1,000 citations per year, and his impact has been recognised through major accolades such as the 2025 Jean Leray Award and a €500k SFI award supporting transformative AI-assisted bioprinting.

Professional Services Excellence Awards

Victoria Mossman was awarded the Professional Services Excellence Award for her outstanding initiative, professionalism, and significant contributions to Civil Engineering and the wider School. She independently developed a comprehensive student SharePoint hub, greatly improving access to key information, supports, and events, and enhanced the staff SharePoint to streamline communication, improve transparency, and centralise essential processes.

Victoria also played a central role in delivering Open Day materials, developed efficient and reliable pre-processing systems for ME and MSc applications, and created exemplary protocols for external examiner visits, ensuring a consistently high standard of organisation and experience.

Through her proactive problem-solving, attention to detail, and commitment to continuous improvement, she has made day-to-day operations more efficient and user-friendly for both staff and students, making her a highly deserving recipient of this award.

Deirdre Duane was awarded the Professional Services Excellence Award for her exceptional professionalism and outstanding support of the Mechanical Engineering discipline, consistently going above and beyond to ensure its smooth and effective operation.

Deirdre introduced a range of highly effective administrative processes, including streamlining and coordinating exam workflows, revising and standardising discipline documentation, and formalising prize administration, all of which have brought greater efficiency, clarity, and consistency to core activities.

Deirdre's reliability, depth of expertise, and consistently high standard of work have had a significant positive impact on colleagues, students, and day-to-day operations within the discipline. Her proactive approach, strong organisational skills, and commitment to continuous improvement exemplify exceptional initiative and dedication, making her a very deserving nominee for this award.

Technical Excellence Award

D**arragh Mullins** was awarded the Technical Excellence Award for his leadership, initiative, and commitment to sustainability and safety within the School of Engineering. As co-chair of the Sustainability Committee, he has delivered initiatives promoting cleaner, more responsible approaches to engineering teaching and research, including proposing a list of sustainability-linked projects for Final Year and Master's students.

Darragh oversaw the Green Labs Certification process, resulting in the first University of Galway building to achieve My Green Lab certification across all 32 laboratories. Darragh has also made significant contributions to health and safety, helping to develop clear risk assessment templates and contributing to the EMF Guidance Document, while playing a key role in equipment procurement under the HEA Research Infrastructure and Equipment Funding. Known for his willingness to take on challenging roles and new ideas, he brings enthusiasm and a strong problem-solving mindset that make him a deserving nominee for this award.

Technical Excellence Team Award

Peter Fahy and Colm Walsh were awarded the Technical Excellence Team Award for their outstanding teamwork and professionalism in supporting the Timber Engineering Lab (ENG-G032) and Heavy Structures Lab (ENG-G030) during an exceptionally demanding year. Both laboratories experienced a very high workload, supporting master's and PhD students, postdoctoral researchers, and a wide range of industry testing activities.

Peter Fahy maintained the Timber Engineering Lab to an exemplary standard, developing bespoke assembly components that saved valuable time and directly supported timely thesis completions. The consistently high presentation of the timber and concrete laboratories was particularly evident during formal audits, demonstrating strong organisation and attention to detail.

Colm Walsh managed an intensive and complex testing schedule in the Heavy Structures Lab, adapting bespoke test configurations to meet varying research and industry needs while ensuring full compliance with health and safety requirements. Their collaborative approach was clearly demonstrated during the visit of Ministers of State Michael Healy-Rae TD and Noel Grealish TD in July 2025, where the excellent lab layout, presentation, and professionalism reflected positively on the School and supported future research funding opportunities.

Education Excellence Award

Noel Harrison was awarded the Education Excellence Award. Noel has been instrumental in shaping and strengthening core mechanical engineering education since his appointment.

Noel led significant improvements to the EI150 project, enhancing clarity, structure, assessment transparency, and safety, and has further developed the Manufacturing Technology module through a more comprehensive and hands-on workshop programme.

Noel also established a rigorous and well-scaffolded framework for BE and ME capstone projects, ensuring students are supported in developing both strong technical capability and essential professional skills.

His introduction of advanced manufacturing technologies, including robotics and additive manufacturing, has modernised the curriculum and aligned it with evolving industry practice. Noel's structured and effective leadership as programme director, particularly through accreditation cycles and the challenges of the COVID-19 pandemic, along with consistent recognition from external examiners, highlights his outstanding contribution to engineering education.

Vortech nominated for Breakthrough Technology Company of the Year

EOGHAN CLIFFORD

Vortech Water Solutions (a spin-out company from the University of Galway, School of Engineering) was nominated at the Global Water Summit for Breakthrough Technology Company of the Year.

This recognises early-stage technology companies which made the most impressive commercial breakthrough into the global water technology market in 2024.

The company was set up to commercialise VPA technology for wsatewater treatment.

The technology was developed during research led by Dr. Sean Mulligan (now with Vortech) and Eoghan Clifford.

Dr. Eoghan Dunne Elected Co-Chair of Research Staff Network

EOGHAN DUNNE

Join the Research Staff Network!

Dr Eoghan Dunne has been unanimously elected Co-Chair of the University of Galway Research Staff Network at the AGM held on 13 May 2025. He will work alongside Chair Dr Merve Zeden (COSE) and the wider committee to continue strengthening cross-disciplinary collaboration, advocacy, and inclusion across the university.

The Research Staff Network has had a highly successful year, championing researcher voices at school, college, and Academic Council levels. It has also delivered well-attended networking events and practical sessions on key topics including permanency (CID), visas, and pensions, while building a growing library of shared resources such as recorded webinars.

The Network plays a vital role in shaping a more diverse, equitable, and connected research culture at the University of Galway. All research staff are welcome to join, free of charge. Further information and the sign-up link are available on the Research Staff Network webpage.

ASHRAE Ireland Best Presentation Award

CEYLIN SIRIN

Ceylin Sirin was awarded Best Presentation at the 12th Annual ERBE-led Student Conference, hosted by the MaREI Centre at University College Cork.

The presentation focused on recent research evaluating the role of airtight membranes in sustainable building design.

The research was supported by Partel, whose technical expertise and ongoing engagement contributed significantly to the project.

The conference also saw strong engagement from ASHRAE Ireland, with prizes for the Best Presentation category sponsored and judged by Edith Blennerhassett and her team.

The work forms part of a broader research project examining how improved airtight membrane performance can support more resilient and sustainable buildings.

Conal Sheridan wins 1st place at 2025 Sir Bernard Crossland Symposium

CONAL SHERIDAN

Conal Sheridan, a PhD researcher in Dr. Jamie Concannon's group, was recently awarded the 1st place Best Paper prize by the Council of Professors of Mechanical Engineers of Irish Universities at the 2025 Sir Bernard Crossland Symposium.

Researching mechanisms of brain damage in traumatic brain injury, his work has to date has focused on mechanical characterisation of brain tissues, assessing their mechanical heterogeneity, as well as their fracture and compressibility characteristics.

Ongoing work is focused on the development of a novel in vitro impact experiment and numerical modelling of the impact-induced damage and healing.

CÚRAM Receives Award for Pioneering Green Labs in Ireland

UNA FITZGERALD

Congratulations to Dr Una FitzGerald, who in October this year, received the 2025 Lab Programs and Initiatives Award for Pioneering Green Labs in Ireland on behalf of CÚRAM, from the International Institute for Sustainable Laboratories (I2SL).

CÚRAM researchers have implemented and advocated for green lab practices extending beyond the University to a national level since 2019, by implementing sustainable practices such as raising the temperature of ultra-low freezers from -80 to -70.

The award acknowledges all the hard work that has been put into the Green Labs initiative in CURAM, University of Galway and across the country.

New ClimateConnected.ie Web Tool Launches in Galway to Support Community-Led Sustainability in Ireland

JAMIE GOGGINS

A major new national resource for community climate action, ClimateConnected.ie, was officially launched on 8th December in Galway, marking a significant step forward in empowering local groups, households and organisations to take practical, measurable climate action.

Developed to support communities across Ireland in understanding and reducing their carbon footprint, ClimateConnected.ie provides an accessible, user-friendly web tool that guides people through their home energy use, transport habits, shopping patterns, diet and waste management—helping users identify their biggest emission sources and explore realistic pathways to reduce them, both as individuals and as part of community action.

Speaking before the launch, Professor Jamie Goggins (University of Galway and lead project partner) highlights the importance for Communities to come together and be able to form local Climate Action groups in partnership with their Councils and Climate Action offices. He also speaks of the need to equip communities with practical, evidence-based tools:

“Ireland’s climate targets will only be achieved if communities feel supported, informed and connected. ClimateConnected.ie is designed to make climate action real and tangible—showing people exactly where they can make the biggest difference, and linking them to programmes and supports across the country.”

Sofia Tisocco wins the best oral presentation in the FULLRECO4US Basel 2025 conference

XINMIN ZHAN

L-R: Teagasc Chairperson, Liam Herlihy, Sofia Tisocco, Prof Frank O'Mara, Director of Teagasc

PhD student Sofia Tisocco won the Best Oral Presentation Award at the 2025 FULLRECO4US Conference on International Sustainable Resource Recovery Strategies Towards Zero Waste in Basel, for her presentation titled "Process-Based and Machine Learning Models for Simulating Biogas Production from a Full-Scale Agricultural Biogas Plant."

It has been a busy year for Sofia, who was awarded second place in the Walsh Scholar of the Year competition by Teagasc on 15 May 2025 for her outstanding PhD research on assessing and optimising the co-digestion of grass silage and animal slurry. Congratulations, Sofia!

Pouyan Ghabezi Wins Prestigious 2024 Best Paper Award

POUYAN GHABEZI

A research paper by Pouyan Ghabezi has been awarded the 2024 Best Paper Award by the Elsevier publisher and Editorial Board of Resources, Conservation and Recycling (RCR).

The paper, titled “Circular economy innovation: A deep investigation on 3D printing of industrial waste polypropylene and carbon fibre composites,” was selected from 485 papers published in 2024 for its outstanding scholarly merit and impact.

The annual RCR Best Paper Awards recognise high-quality, high-impact research across the field of sustainability and circular economy, evaluated on criteria including rigour, significance, clarity, and innovation.

Read more on the RCR website.

University of Galway leads new €34million ARC Hub for HealthTech

EIMEAR DOLAN

A major investment of over €34 million has been announced to establish a new Accelerating Research to Commercialisation (ARC) Hub in Galway. Led by the University of Galway, in partnership with Atlantic Technological University (ATU) and the Royal College of Surgeons in Ireland (RCSI), the initiative will accelerate the translation of healthcare research into real-world medical technologies.

The ARC Hub will further strengthen Galway’s position as a global centre of excellence in med-tech innovation, fostering collaboration between academia and industry to develop advanced healthcare solutions.

For the School of Engineering, this development offers exciting opportunities to contribute engineering expertise to the design, testing, and deployment of next-generation health technologies. It highlights the critical role of engineering research and education in shaping the future of healthcare innovation.

This investment reinforces Galway’s leadership in health technology and the transformative potential of research-led collaboration.

Read more at RTÉ News.

Is there a doctor in the building?

SERENA LAWLESS

We are delighted to highlight this year's PhD graduates, whose work reflects the breadth and ambition of research across our School. The projects featured in this edition showcase pioneering developments in biomedical, civil, mechanical, and electronic engineering, illustrating the impact and innovation that define our research community.

Each graduate has contributed important new knowledge to their field, the result of years of dedication, curiosity, and collaboration. Their achievements not only advance academic understanding but also demonstrate the real-world relevance of engineering research.

We are incredibly proud of all our newly minted doctors and the supervisors who supported them on this journey.

Congratulations to each graduate! Your commitment and accomplishments inspire our entire School, and we look forward to seeing where your research leads next.

Yuyin Wang, supervised by Guangxue Wu

Yuyin Wang, Mabruk Adams, and Huanhuan Chang with their familes & friends, supervised by Guangxue Wu

Mabruk Adams was awarded a PhD in Civil Engineering for research supervised by Prof Guangxue Wu and Dr Agnieszka Olbert on Enhancing Anaerobic Digestion of Complex Substrates by Powdered Activated Carbon.

Huanhuan Chang was awarded a PhD in Civil Engineering for research supervised by Prof Guangxue Wu on the enrichment of acetoclastic methanogens in anaerobic digestion systems.

Yuyin Wang was awarded a PhD in Civil Engineering for research supervised by Prof Guangxue Wu on anaerobic treatment of antibiotic-containing wastewater for enhanced biogas production.

Alessia Di Nubila was awarded a PhD in Biomedical Engineering for research supervised by Dr Una Fitzgerald and Prof Dimitrios Zevgolis. This work demonstrated the safety of macromolecular crowding in the accelerated development of tissue-engineered medicines.

Joseph Clancy was awarded a PhD in Electrical & Electronic Engineering for research supervised by Prof Martin Glavin and Prof Edward Jones on Investigating the Feasibility of Vehicular Communications with Modern Wireless Access Technologies.

Andi Egon was awarded a PhD in Civil Engineering for research supervised by Dr Stephen Nash and Dr Eugene Farrell on Numerical modelling of the morphodynamics processes behind shoreline change in Brandon Bay.

Waseem Shariff was awarded a PhD in Electrical & Electronic Engineering for research supervised by Prof Peter Corcoran on Sparse and Spiking Neural Algorithms for Neuromorphic Vision with Event Cameras.

Malgorzata Dabrowska was awarded a PhD in Biomedical Engineering for research supervised by Dr Una Fitzgerald and Dr Jill McMahon on the development of novel drug screening platforms for multiple sclerosis.

Mehdi Sefidgar Dilmaghani was awarded a PhD in Electrical & Electronic Engineering for research supervised by Prof Peter Corcoran on Bias tuning of Event Cameras for In-Cabin Automotive Environments.

James Francis Caulfield was awarded a PhD in Mechanical Engineering for research supervised by Prof Kathryn Cormican on the design, development and validation of a business creation model for novice entrepreneurs.

2025 GRADUATIONS

Noel Harrison & Brian McDonnell

Stainless steel graduation ring designed & created by Brian McDonnell in the Advanced Manufacturing Lab

Haresankar Jayasankar & Rory Monaghan

Brian McDonnell was awarded a PhD in Mechanical Engineering for research supervised by Dr Noel Harrison and Dr Eimear O'Hara on advanced engineering design capability based on automated multi-physics computational simulation algorithms and additive manufacturing freedoms.

Haresankar Jayasankar was awarded a PhD in Mechanical Engineering for research supervised by Prof Rory Monaghan on Techno-economic analysis and supply chain optimisation of Carbon Capture and Storage and bioenergy.

Büsra Bedriye Günay was awarded a PhD in Biomedical Engineering for research supervised by Prof Abhay Shashikant Pandit on a regenerative therapeutic approach for intervertebral disc degeneration.

Chang Su was awarded a PhD in Civil Engineering for research supervised by Prof Xinmin Zhan on the development of phosphorus recovery technologies for sustainable utilisation of livestock manure.

David Symes was awarded a PhD in Biomedical Engineering for research supervised by Prof Laoise McNamara on Computational Investigation of Injury Risk due to Catheter Delivery in Transcatheter Aortic Valve Replacement Surgery

Nadia Muhammad Hussain was awarded a PhD in Electrical & Electronic Engineering for research supervised by Dr Adnan Elahi and Prof Martin O'Halloran on the Development of non-invasive and minimally invasive Sensing Technologies for Hypoxia Monitoring in Neonates.

Salome Guillaumin was awarded a PhD in Biomedical Engineering for research supervised by Prof Timothy O'Brien and Prof Dimitrios Zevgolis on macromolecular crowding optimisation and application in co-culture setting for tendon regeneration application.

Xiaoxiao Shi was awarded a PhD in Civil Engineering for research supervised by Prof Xinmin Zhan on the factors influencing butyric acid degradation and production and associated metabolic pathways.

Brian McDonnell and Haresankar Jaysankar with their supervisors Noel Harrison and Rory Monaghan, along with Seán Leen and University of Galway President David Burns

Ankita Pramanick was awarded a PhD in Biomedical Engineering for research supervised by Andrew Daly and Prof Abhay Shashikant Pandit on Bioprinting stem cell-derived human heart tissues with advanced structural and functional maturation.

Peter Leonard was awarded a PhD in Civil Engineering for research supervised by Prof Xinmin Zhan, Prof Eoghan Clifford and Dr William Finnegan on real-time optimisation of intermittently aerated sequencing batch reactor technology for efficient wastewater treatment.

Tenis Ranjan Munaweera Thanthirige was awarded a PhD in Civil Engineering for research supervised by Dr William Finnegan and Prof Jamie Goggins on the Structural Integrity of Composite Tidal Turbine Blades

Hatim Alwahsh was awarded a PhD in Civil Engineering for research supervised by Prof Jamie Goggins, Dr Yadong Jiang and Dr Suhaib Salawdeh on Advancement of a novel Self-Centring Concentrically Braced Frame Structural Steel System for Seismically Active Zones.

Yaheli Hernandez-Valenzuela was awarded a PhD in Mechanical Engineering for research supervised by Prof Kathryn Cormican on the relationship between intercultural communication competence and team effectiveness in multicultural teams

Wang Yao was awarded a PhD in Electrical & Electronic Engineering for research supervised by Prof Peter Corcoran on Improved Facial Recognition and Training Data Synthesis for User Authentication in Consumer Devices.

Mangesh Morey was awarded a PhD in Biomedical Engineering for research supervised by Prof Abhay Shashikant Pandit on Therapeutic Glucose Responsive Dual Gene Delivery System for Diabetic Wound Healing.

Ignacio Sallent was awarded a PhD in Biomedical Engineering for research supervised by Prof Manus Biggs and Prof Dimitrios Zevgolis on Tendon tissue engineering.

Neda Makrooni was awarded a PhD in Mechanical Engineering for research supervised by Prof Kathryn Cormican on the relationship between design thinking and team creativity and project performance.

Sofia Tisocco was awarded a PhD in Civil Engineering for research supervised by Prof Xinmin Zhan on the assessment and optimisation of co-digesting grass silage and animal slurry to promote sustainable agricultural practices.

Lesley Trask was awarded a PhD in Biomedical Engineering for research supervised by Dr Eimear Dolan and Prof Garry Duffy on the development of an actuatable cell encapsulation implant.

Hannah Aris was awarded a PhD in Biomedical Engineering for research supervised by Dr Meadhbh Brennan and Prof Garry Duffy on the development of hydrogels exhibiting novel mechanisms for tethering and retaining therapeutic extracellular vesicles.

Hamid Alijani was awarded a PhD in Biomedical Engineering for research supervised by Prof Ted Vaughan on a multiscale framework to predict fracture behaviour of lamellar bone using a phase-field modelling.

Tim Brophy was awarded a PhD in Electrical & Electronic Engineering for research supervised by Prof Edward Jones, Prof Martin Glavin and Dr Brian Deegan on The Impact of Rain on Computer Vision in Automotive Applications.

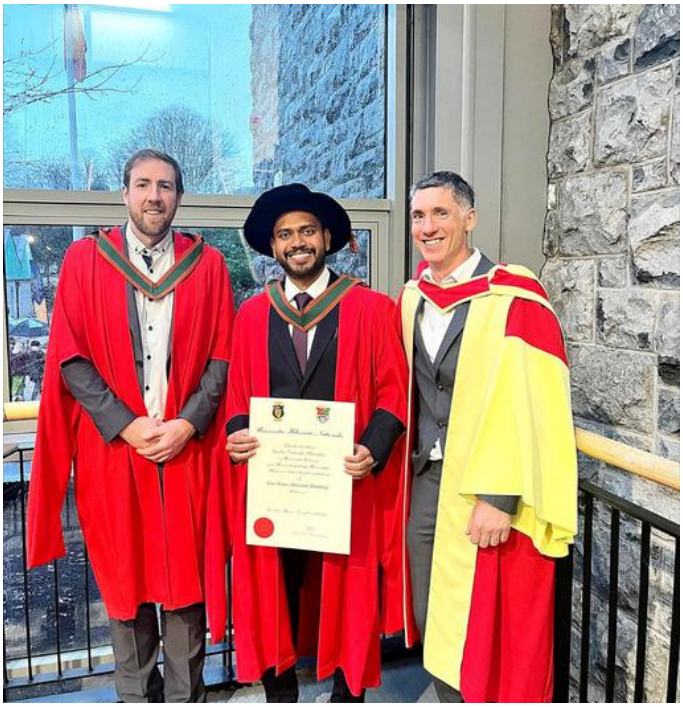
Edward Jones, Tim Brophy, and Martin Glavin

Laoise McNamara, Eimear Dolan, and Lesley Trask

Yadong Jiang, Hatim Alwahsh, Peter McHugh, and Jamie Goggins

Lesley Trask, Hamid Alijani, and Hannah Aris

Huanhuan Chang



William Finnegan, Tenis Ranjan, and Jamie Goggins

Stephen Nash, Mark Healy, Zhongbing Chen, Peter Leonard, Xinmin Zhan, Eoghan Clifford, and William Finnegan

Noel Harrison, Fiona Lettice, Neda Makrooni, Kathryn Cormican, and John Breslin

Success on the Road

NATHAN QUINLAN

This summer, Fiona Mangan (B.E. Biomedical, 2018) became one of the first three Irish cyclists to finish the Tour de France Femmes. Along the way, she won an intermediate sprint on Côte de Saint-Franc in the Alps. Fiona was already the first Irish woman to complete a grand tour, having finished La Vuelta in 2023. Meanwhile, she sustains a medtech career in Galway.

Prestigious industry award nomination

NATHAN QUINLAN

Edel Donnelly (B.E. Mechanical 2003), Technical Sustainability Director at KSN Horizon, is nominated for Best Sustainability Leadership Award at the Women in Construction Awards 2025.

Advancing air transport technology

NATHAN QUINLAN

Dr. Cian Conlan-Smith (B.E. Mechanical, 2015), following his Ph.D. at the Technical University of Denmark, is now a Developer for Flight Physics Capabilities with Airbus in Bremen.

Current Student and Alum Accepted onto Prestigious Y Combinator Programme in Silicon Valley

JOHN BRESLIN

Congratulations to our 4th Mechanical Engineering student Eoin Cobbe (CEO) and Electronic and Computer Engineering alum Robert Cormican (CTO) Forge Robotics who have recently been accepted onto the prestigious Y Combinator Accelerator (YC) in Silicon Valley, after participating on the PorterShed AI Venture Forge Accelerator in Galway.

Past participants on YC include the Collison Brothers (Auctomatic, later Stripe) and Aaron Hannon and Barbara Oliveira (Luminate Medical, a University of Galway spinout).

Engineering Students Feature in 30 Under 30 Young Entrepreneurs of the Year

JOHN BRESLIN

Congratulations to current Electronic & Computer Engineering students Sarah Jane Hughes (OBH Software) and Ethan O'Brien (Quantum Harbour), who were both named in the *Sunday Independent* 30 Under 30 List of Ireland's Young Entrepreneurs of the Year.

Ethan is the founder of Quantum Harbour, an IT Consultancy that supports organisations in sectors such as healthcare and haulage by practively managing and securing critical IT systems. He has already establised multiple ventures and plans to expand Quantum Harbour's speciliaist tools across Ireland, the UK and the US.

Sarah Jane is a co-founder of OBH Software with Ethan, a company that helps business streamline operations through custom software and process automation. What began as a side project quickly developed into a commercial venture, securing major contracts within the first year.

Their inclusion in the 30 Under 30 list highlights the innovation, ambition, and real world impact of our student community. The full article is available online on the Irish Independent website, but can also be accessed via the University Library .

Irish Independent

University Library

Special Guest Talks to AgInnovate Students

JOHN BRESLIN

The MSc in AgInnovation at the University of Galway's School of Engineering recently welcomed a series of high-profile industry guest speakers, offering students valuable insights into innovation, growth, and leadership in the agri-food sector.

Tom Keogh, Managing Director of Keogh's Farm, delivered a masterclass covering topics ranging from global supply chains, from Irish farms to World Market in the USA, to viral marketing campaigns such as I Love Spuds and National Potato Day, as well as digital innovation through gamification initiatives like Spud Nav.

Keogh's Farm has recently climbed ten places to enter the Top 50 of the Checkout Top 100 Brands, and now employs around 200 people, with products available in over 20 international markets.

The programme also hosted Joe Keeling and William Keeling of Keelings, the Irish family-owned horticultural business now celebrating its 100th year. Employing 2,700 people across 11 business units in seven countries and serving 1,000 customers in 30 countries, the Keelings shared invaluable insights with the MSc in AgInnovation cohort.

Their session explored rapid growth and international expansion, alongside the complexities of decision-making within a family-owned business, and took place in the Alice Perry Engineering Building.

The MSc in AgInnovation (TechInnovate / AgInnovate) at the University of Galway is supported by Springboard+, co-funded by the Government of Ireland through the National Training Fund and the European Union.

Joe & William Keeling

Tom Keogh

Biomedical Engineering student Robert Urquhart - summer research experience at University of Notre Dame

LAOISE MCNAMARA

Robert Urquhart was selected for a summer research internship at the University of Notre Dame. His project, supervised by Professor Ozkan-Aydin, focused on developing a biologically inspired burrowing robot to advance robotic locomotion in post-disaster environments.

He designed and built a folding-based burrowing mechanism that offers a promising alternative to traditional rigid or rotating systems, particularly in sensitive settings.

Powered by a high-torque motor, the robot uses a self-everting mechanism to minimise vibration and reduce structural disturbance to the surrounding material.

Robert presented his work at the University Research Symposium and was selected as a finalist in Notre Dame's Three Minute Thesis competition. Beyond the lab, he had the chance to experience Notre Dame's amazing campus, visit cities such as Chicago and San Diego, and build lasting friendships.

Student Teams Recognised in Hyundai Innovation Award Competition

KATHRYN CORMICAN, KEVIN FITZGERALD

Gale Force Gals
L-R: Yuanhua Yu, Helen Rose, Rosanna Ní Chúlain, Eliana Gonzalez

FutureGrid
L-R: Dharanika Govindarajan, Gokulakannan Dhamodharan, Dylan Brady, Conor Halbard

We are proud to celebrate the remarkable achievement of three student teams from Technology Innovation & Entrepreneurship (ME432), who were selected as runners-up for the prestigious Hyundai Innovation Award.

This global competition, aligned with Hyundai's vision of "Progress for Humanity", challenged students to design innovative proposals that leverage Hyundai's technologies to create meaningful solutions for society and the environment.

The Challenge was to develop and implement sustainable mobility and transportation solutions that significantly reduce environmental impact and enhance the efficiency of transit systems. The competition pushed students to imagine how Hyundai's advanced technologies could be used to build a greener, more sustainable future.

With over 55 universities participating, having three teams from the School of Engineering among the shortlisted runners-up is a testament to the creativity, technical skill, and entrepreneurial spirit of our students. Their proposals stood out for their originality, feasibility, and potential societal impact.

We extend our warmest congratulations to:

Glide AI: Cillian Lyons, Frank Ebenuwa, Seamus Langan and David Alfred, who developed a proposal for an AI-driven retrofit system that transforms existing and new cargo vessels into intelligent hybrid ships by harnessing real-time wind and wave data. (Not pictured)

Gale Force Gals: Yuanhua Yu, Helen Rose, Rosanna Ní Chúlain, and Eliana Gonzalez, who developed a proposal for a compact, renewable EV charger with a solid-state battery and modular wind turbine fence, reducing range anxiety and enhancing travel independence.

FutureGrid: Dharanika Govindarajan, Gokulakannan Dhamodharan, Dylan Brady, and Conor Halbard, who developed a proposal for Smart Dynamic Roadways with Integrated Wireless Charging and Vehicle-to-Grid Systems

Energy Society is live again planning new activities in 2025/2026!

MAGDALENA HAJDUKIEWICZ

The Energy Society brings together students with a keen interest in Ireland's energy sector and the future of energy worldwide, from the transition from fossil fuels to renewable energy solutions.

The goal of the Energy Society is to use fact-based discussion & open collaboration in the University to develop the understanding & awareness of energy production, consumption and its impacts.

The Energy Society committee members are:

- Auditor: Anna Connors
- Vice Auditor: Cara Grealish
- Secretary: Pawel Gorski
- Treasurer: Colm Sheeran
- Public Relations Officer: Emma O'Connor
- Events Manager: Eoin McGarry
- Health and Safety Officer: Jennifer Weston

New Resources Launched to Support SMEs with Energy Renovation - ENACT Project

DANUKA ANAGIPURA

Check out the Toolkit on the Construct Innovate website

University of Galway is proud to be a partner in the recently launched practical and accessible set of tools (Business Energy Upgrade Toolkit), which supports SMEs in undertaking energy-efficient renovations. On 18th June 2025, the final toolkit was officially launched at the Dublin Chamber, bringing together cross-disciplinary professionals from across the building renovation sector.

The toolkit is now available on the Construct Innovate website, offering tailored support for energy-efficient renovations in the commercial built environment.

The Business Energy Upgrade toolkit is part of the ENACT initiative, supported by the Sustainable Energy Authority of Ireland (SEAI).

This new resource provides SMEs with practical guidance, financial tools, and real-world inspiration to act.
This toolkit consist of:

- A decision-making toolkit to guide businesses through the upgrade process
- A technical and financial analysis tool with data to support planning and investment decisions
- A financial handbook outlining available grants, tax supports, and loan options
- A basic starter guide for SMEs, including practical tips for beginning their energy upgrade journey
- A selection of case studies showcasing successful commercial building upgrades

Project Partners: Irish Green Building Council (IGBC), University of Galway, Sustainability Works, Dublin Chamber, Society of Chartered Surveyors of Ireland (SCSI), Construct Innovate.

Prof. Zhan's publication, offering support to farmers, featured in the Irish Independent.

XINMIN ZHAN

A recent research paper from Prof. Zhan's group, titled "Financial assessment of integrating anaerobic digestion with cattle farming for biomethane production – Implications for farm economics and the supply chain" (Biomass and Bioenergy, assessed the economic viability of producing grass silage for anaerobic digestion on beef farms.

The study found that, to support 40 GWh of co-digestion using grass silage and cattle manure, farm subsidies of €893/ha are required at the current biomethane price of €0.098/kWh. This finding has been cited by the Irish Farmers' Association in its talk with the government on support schemes for biomethane production in agriculture.

Read the Research Paper on ScienceDirect.com

Read the article in the Irish Independent

International Conference on Building Energy and Environment

CEYLIN SIRIN

Ceylin Sirin attended the 6th International Conference on Building Energy and Environment (COBEE 2025), hosted by Eindhoven University of Technology in the Netherlands from 6–10 July.

Ceylin presented a study titled “Evaluating the Indoor Thermal Conditions in a Room with a Trombe Wall System: A CFD Study”, which examines how different Trombe wall configurations can improve indoor thermal comfort through enhanced temperature and airflow distribution. The work forms part of PhD research within the ERBE CDT in Energy Resilience and the Built Environment and MaREI, supported by Research Ireland.

The conference was chaired by Dr Alessio Ricci, and Ceylin acknowledged the continued support and guidance of supervisors Dr Magdalena Hajdukiewicz and Prof. Jamie Goggins.

New journal publication on occupant behaviour in studies of climate change in residential buildings

DANILLO VIANA ANDRADE REIS

Danillo Viana Andrade Reis recently published a journal paper in Building and Environment titled “A systematic literature review on occupant behaviour modelling for residential building performance simulation in future climate change scenarios.”

The paper examines occupant behaviour, widely recognised as one of the most challenging factors to represent accurately in building performance simulations. It reviews the state of the art and critically assesses how interactions between occupants and buildings are modelled in studies addressing energy efficiency, thermal comfort, and indoor air quality under future climate scenarios.

The review identifies key gaps in the existing literature and offers recommendations to support more robust and reliable residential building performance assessments.

This publication forms part of Danilo’s structured PhD, supervised by Dr Magdalena Hajdukiewicz (Principal Investigator) and Dr Marcel Loomans (co-supervisor).

School of Engineering Annual Prizes & Awards Ceremony

SERENA LAWLESS

We are delighted to share the highlights of this year's Prizes & Awards Ceremony, an annual event that recognises the hard work, talent, and dedication of our students. The ceremony brings together staff, students, alumni, and industry partners to celebrate academic excellence, innovative projects, and the contributions that enrich our School community.

Each award represents a significant achievement and reflects the curiosity, commitment, and resilience demonstrated throughout the year. From emerging first-year talent to final-year students and researchers making real impact, our awardees embody the best of what our School strives to support and inspire.

We also extend our sincere thanks to the industry sponsors whose generous support makes these prizes possible and strengthens the connection between education and professional practice.

Congratulations to all our award recipients. Your achievements are a credit to you and an inspiration to the entire School. We look forward to seeing where your success takes you next.

Student Award winners group photo

Oghenetega Awhinawhi, a 2nd year Mechanical Engineering student, won the Medtronic Technical Fellow Scholarship in 1st year. The award aims to support a student from an underrepresented target group with an annual stipend per year of their studies, along with mentorship from Medtronic. This award was presented by Frank Harewood.

Richard Manton was presented with the Engineers Ireland West Award for the top-ranking student in the Master's in Energy Systems Engineering. The cash prize was presented by Richard Manton, Chairperson of Engineers Ireland West and University of Galway's Director for Sustainability.

Evan Grealish won the Fredric Barnes Waldron Best Student Award from the Institute of Mechanical Engineers (IMechE). The medal is presented to the top student in the Bachelor in Mechanical Engineering. The award was presented by Dr Eoin King, Programme Director for Mechanical Engineering.

Shane Gavin received a cash prize from Medtronic for winning the Top Individual Project prize for the best project in the Bachelor in Mechanical Engineering. The award was presented by Eugene McGlynn from Medtronic.

In the first year of its award, the Most Sustainable Project was awarded to Civil Engineering students Cathal Duggan and Darragh Fallon for their project, "Recycling of Composite Materials Used in Wind Turbine Blades." Three composite boards were manufactured using recycled glass fibre composite materials using three methods of mechanical breakdown. The findings from this research project offer a sustainable end of life option, which can be used to promote the advantages of wind energy. The award was presented by Darragh Mullins.

The Chipright Prize in Electronic Chip Technology & Design was awarded to joint winners Laura Isdell and Seán Kelly. A prize and trophy were presented to the winners by Kevin Keane from Chipright.

Aaron Barrett was presented with the TE Connectivity Medical award in memory of Mr Adrian Moran, a Creganna Senior Engineering Colleague who made a significant contribution to medical device research and development during his career before he passed away in 2017. A cash award and a medal were presented to him by Gerry Hession of TE Connectivity and Adrian's wife, Aisling.

Niamh Corcoran was awarded the Medtronic Prize for First Place in 4th year Biomedical Engineering. The cash prize was presented to her by Emer Hever of Medtronic.

The Coyle Kennedy Prize is awarded to the Best Building Engineering Community Based Project in 2nd year Civil Engineering and Project & Construction Management. The winning team was Holly O'Loughlin, Lisa Hurd, Cian Mockler, and Sean Crowley for their project, "The Installation of Columbarium Walls in St. Coman's Cemetery, Co. Roscommon." The award was presented by Tadhg Kennedy.

In this project, the students proposed novel design solutions for columbarium walls in St. Comans Cemetery, Roscommon town. This aims to solve the issues caused by the limited space available in graveyards for traditional burials, as well as the increasing number of cremations occurring within the community around Roscommon in recent times. Within this project, the students proposed three design solutions for columbarium walls with considerations of different aspects of the structures, including materials for construction, feasibility, the overall design, maintenance, location, and potential for expansion.

Gavin Barrett and Ciaran Treacy won the Atkins Realis Prize for the Best Final Year Project in Project & Construction Management, "An Examination of Optimal Flood Defence Strategies and Stakeholders Preferences for Protection from Future Flood Events." Their project aimed to analyse the existing flood defence and impact mitigation system in Galway city, and to propose a range of more sustainable solutions to mitigate and prevent flood in the face of climate change. A cash prize was presented by Aidan Kenny of Atkins Realis.

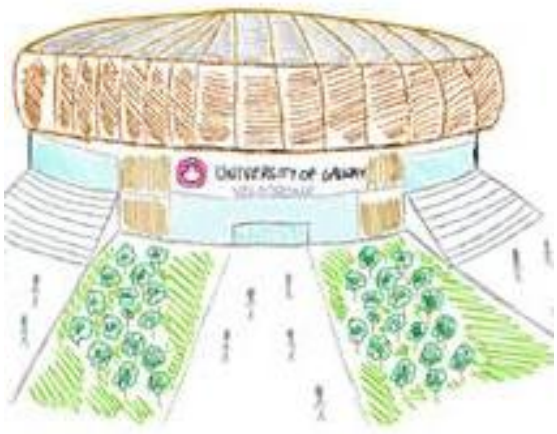
Oran Frawley was awarded a cash prize sponsored by Boston Scientific for the top Student in the Masters in Mechanical Engineering. The awarded was presented by Noel Riordan from Boston Scientific.

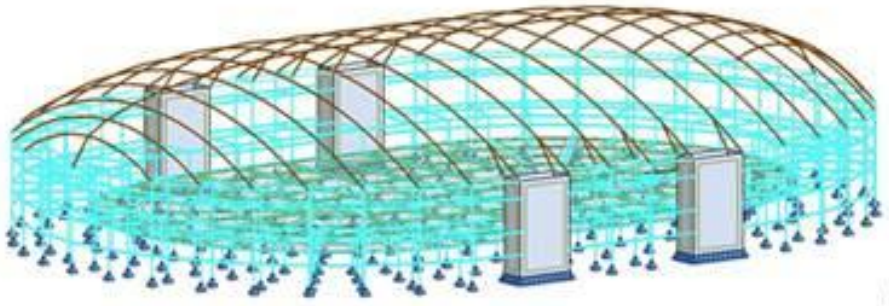
The prize for the Top Individual Project in the Masters in Mechanical Engineering was awarded to James Thomas. A cash prize and a medal were presented to him by Padraig Burke from Ward & Burke.

The TE Scholarship for Women in Mechanical Engineering was awarded to Kate Browne, a current 2nd year student in Mechanical Engineering. The prize is an annual scholarship sponsored by TE Connectivity Medical, and was presented by Gerry Hession.

Darragh Cloonan was awarded the PJ Tobin Gold Medal for 1st place in 4th year Civil Engineering, and also won the PJ Tobin Postgraduate Scholarship as the top performing student in his year. The awards were presented by Michael McDonnell from PJ Tobin & Co.

The Best Integrated Design Project sponsored by Ward & Burke Construction was awarded to Pierce Mannion, Alannah Murphy, Donal Enright, and Shreyas Chandra Mohan Singh. The project designed a state-of-the-art national velodrome and indoor sports campus in the Galway City Region. The multi-sport facility also included mountain-biking and cyclo-cross tracks, an indoor multi-sport facility within the velodrome and a variety of associated amenities such as gymnasiums, restaurants, spectator features. The project focused on ensuring sustainable design both for the facilities themselves and enabling high-quality transport links. The cash award was presented by Padraig Burke of Ward & Burke Construction.





Tomas O'Connor was awarded the Port of Galway Prize for top 2nd year student in Mechanical Engineering. The cash prize was presented to him by Deputy Harbour Master Captain Kevin Walsh.

The Ward & Burke Construction Gold Medal for Excellence in Soil Mechanics was awarded to Samuel David, as the Civil Engineering student who achieved the highest aggregate mark from 3rd and 4th year soil mechanics modules. The medal was presented by Padraig Burke from Ward & Burke Construction.

Seán Noonan won the Niall Smith Memorial Award for the Best Student in the Masters in Electrical & Electronic Engineering. The cash prize was sponsored by Aerogen presented by Michael Casey.

The RPS Consulting Engineers Prize was awarded by RPS Group to Hannah Creedon, who earned first place in the Third Civil Engineering Examinations. The award was presented by the Director of RPS, Mark Costello.

2025 SCHOOL AWARDS

The Energy Institute Prize for Exploring Ireland 2050 is awrded to the best team project from the Advanced Energy Systems Engineering Class. The cash prize and certificates were awarded to Gagan Mogili Lokanath Gupta, Matthew Cahill, and Cathal Quinn, presented by the Programme Director for Energy Systems Engineering, Dr Magdalena Hajdukiewicz.

Conor O'Mahoney, Darragh Byrne, Cathal Quinn, and Jonathan Murphy were awarded the ESB Networks SmartGrid Innovation Prize, which is presented to the students with the top project marks in SmartGrid. The cash prize was presented by Alan Keegan from ESB Networks.

Gavin Barrett and Ciaran Treacy won the OCC Construction Award for achieving the highest overall mark in 4th year Project & Construction Management. The cash prize was presented to them by John O'Connell from OCC Construction.

The Aerogen Zenith Award for the Best Biomedical Engineering Thesis Project in the Master's in Biomedical Engineering was awarded to Bhagya Bowatte Gedara, Eric Tuohy, and Aaron Barrett. They won a cash prize for their group project, "A Way to Prevent Heart Failure in Patients who Receive a Left Ventricle Assist Device." The award was presented by Patricia McLoughlin from Aerogen.

2025 SCHOOL AWARDS

Seán Noonan won the Valeo Prize for the Best Project in Electrical & Electronic Engineering. The award, a cash prize and trophy, were presented to Seán by Barry Dever from Valeo.

The Johnson & Johnson MedTech Neurovascular Award for the Highest Ranked Student in the Masters in Biomedical Engineering was presented to Aaron Barrett. The award, a cash prize and medal, was presented by Ray McCarthy.

Lauren McMahon was presented with the David Gilmore Memorial Award for the Best Student in the Masters in Electronic & Computer Engineering. The cash prize was presented to Lauren by Paul Killoran of Ex-Ordo.

Madden 'Art in Engineering' Prize

The Madden 'Art in Engineering' Prize is awarded to first-year engineering students who are judged to have completed the best piece of art for the Creative Response assessment in EI140 Fundamentals of Engineering. The award is sponsored by the Madden family and presented by Eamonn Madden, an alumnus of this University.

The award winners for 24/25 are Hannah Nic Fhlannchadha and Donal McDermott for their artwork pieces Destroy to Build' and 'The Unknown'.

Destroy to Build
by Hannah Nic Fhlannchadha
2nd year Energy Systems Engineering

The Unknown
by Donal McDermott
2nd year Electronic & Computer Engineering

Construct Innovate webinar series

MAGDALENA HAJDUKIEWICZ

Construct Innovate webinar series continues in the New Year with a topic of Modern Methods of Construction (MMC).

The webinars take place weekly on Tuesdays between 12 - 1 pm, starting from January, 13th.

As identified by the EY 'Detailed Description of Needs' report (2021), 'The construction industry is under pressure to increase productivity and efficiency while also meeting the growing needs of an expanding population. It has to move to a new, higher level of performance and quality, while also being attentive to environmental, sustainability and circular economy imperatives. The report showed that modern methods of construction (MMC) is one of the key areas for the needs in the construction and built environment sector.

This webinar series will explore methods and approaches to MMC and its adoption by the sector. The series will cover key design considerations, areas of standardisation and routes to certification, next generation rapid build systems and automation/autonomous construction.

The series aligns with SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure) and SDG 12 (Responsible Consumption and Production).

Register for free now!

Thank you for reading the winter issue of our newsletter!

We hope that you have enjoyed *The Alice Perry Engineering Digest*. In celebrating the achievements and hard work of our colleagues, we hope to support and inspire innovation within our community.

Our commitment to impactful research is a core tenet of our ethos. To learn more about our research, check out our publications here.

Keep up to date with us on our social media sites for news about our events and achievements as they happen.

We value your feedback. If you have any suggestions for future issues, or want to let us know what you enjoyed the most, please get in touch!