

The Alice Perry Engineering *Digest*

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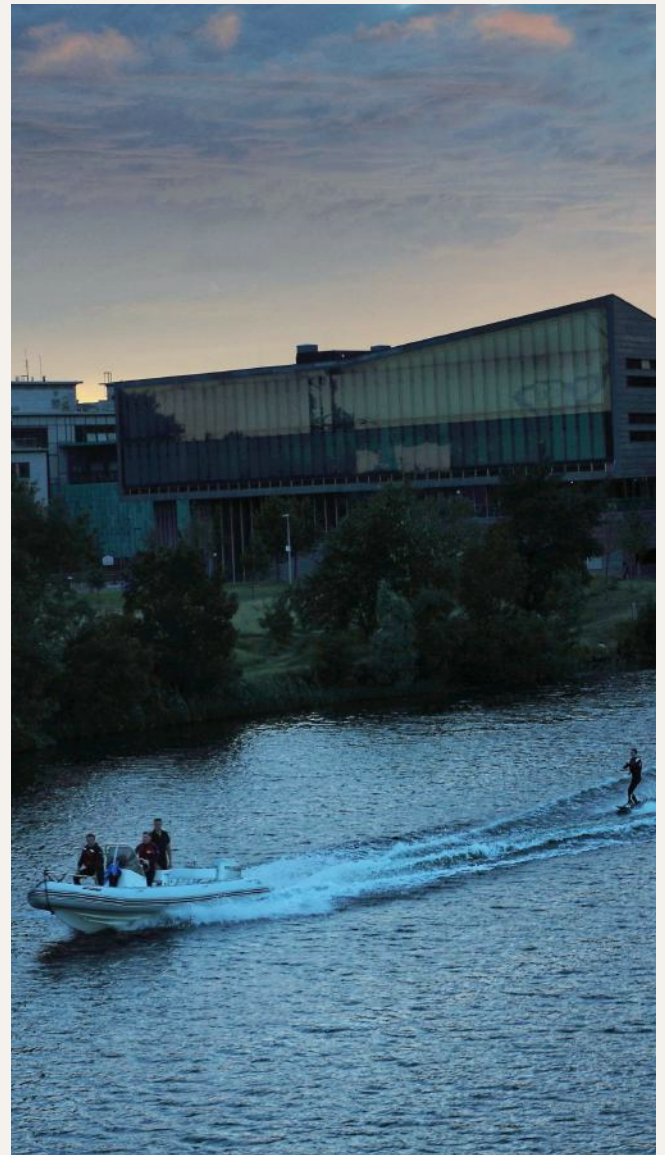


Photo by Chaosheng Zhang

Industry Partnerships

- 50** Ward & Burke Centre of Infrastructure, Research & Innovation Launch

Letter from the *Editor*

Welcome to the third issue of the *Alice Perry Engineering Digest*! You may have noticed that our format has changed. With the growth in content and submissions from our brilliant contributors, this newsletter has blossomed into more of a magazine. We hope that you will find the breadth of activity covered in this issue stimulating and inspirational!

This issue showcases the many achievements of the School of Engineering across research, teaching, student activity, facilities development, and industry engagement. Among our articles, we take the opportunity to acknowledge the leadership transition currently underway in our School, by bidding Prof Laoise McNamara a fond farewell and best of luck in her new role as Vice-President for Research & Innovation. We look forward to working with Prof Eoghan Clifford as he steps into the role of Head of School.

We also highlight the importance of industry partnership and collaboration, including the launch of the Ward & Burke Centre of Infrastructure Research and Innovation, a significant investment in the future of sustainable infrastructure and engineering research.

The *Alice Perry Engineering Digest* would not exist if it wasn't for the submissions from our contributors. Thank you for sharing your news with us and helping us celebrate the achievements of our School community.

I hope you enjoy the issue!

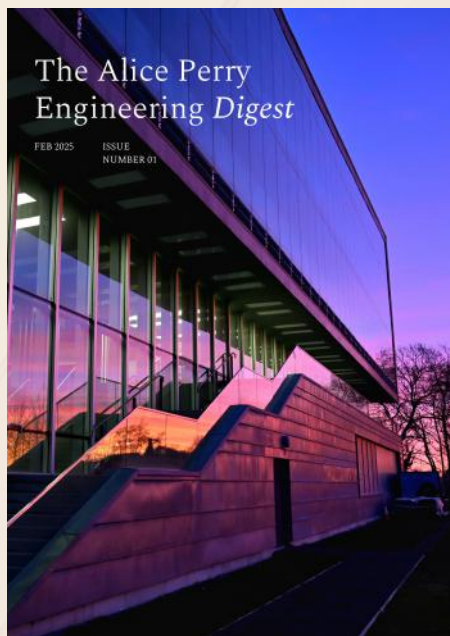


DEPUTY SCHOOL MANAGER
EDITOR IN CHIEF



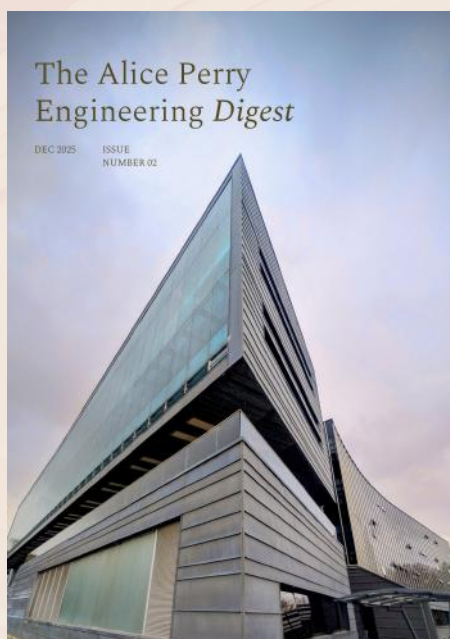
Missed an issue?

Catch up on past editions of *The Alice Perry Engineering Digest* and revisit the research, achievements, and stories that have helped to shape our School community.



Issue 01 | Feb 2025

Our inaugural edition celebrated research publications, funding successes, awards, international collaborations, outreach activities, and student and staff achievements from across the School.



Issue 02 | Dec 2025

A look back at a landmark year for the School, featuring research breakthroughs, major funding wins, staff and student achievements, alumni success stories, PhD graduations, and a tribute to our colleague, Dr Fearghal Morgan.

School Leadership & Culture

Onward, Laoise!

Reflections from the Outgoing Head of
School

Professional Services Team
Developments

Inaugural Lectures

IRRP 2024 Outcome

Athena Swan Award Submission

Research Staff Network



*Laoise has that rare
combination of
outstanding vision and
the ability to turn that
vision into reality.*

ONWARD

Reflecting on a career marked by excellence in research, teaching and leadership, Professor Peter McHugh pays tribute to Professor Laoise McNamara as she embarks on her new role as Vice-President for Research and Innovation at University of Galway.

PROF PETER MCHUGH

*T*his summer, Professor Laoise McNamara completes her tenure as Head of School of Engineering at University of Galway and moves to her new senior university leadership role of Vice-President for Research and Innovation. This is an outstanding achievement for her professionally and personally. She leaves a fantastic legacy of achievement in the School of Engineering and she will be missed, but of course she won't be going far, and the University as a whole, including Engineering, will be benefiting from her outstandingly positive influence.

In her new role she will be able to direct the strategic and operational development of research and innovation at the University, which is critically important for the future of the University, and as a member of the University Management Team she will be able to directly influence the University's overall strategic and operational trajectory. Given her outstanding vision, abilities, and achievements thus far, I can think of very few people more qualified or whom I would trust more with this responsibility.

Laoise of course is a University of Galway Engineering graduate, obtaining her BE with 1st Class Honours in Mechanical Engineering

in 2000, where she opted for the Biomedical Engineering track. I am proud to say that I lectured her in several courses myself.

Our facilities at that time in Nun's Island were 'challenged' by today's standards and a far cry from the wonderful Alice Perry Engineering Building, but I have always maintained that Nun's Island was a place where outstanding character and resilience were built and imparted to graduates – none more so than in Laoise, when one considers her stellar accomplishments in the years that followed.

After her BE she did a PhD in Biomedical Engineering in TCD and then went on to a post-doc in Mount Sinai School of Medicine in New York. Following a period as a fixed-term Lecturer here she was appointed as a permanent Lecturer at the University of Southampton.

In 2009, early in my own term as Head of Discipline of Mechanical and Biomedical Engineering, we were immensely fortunate to be able to recruit her back to the University to the SFI Stokes Lectureship in Biomedical Engineering (Biomechanics), where the lectureship was supported by SFI and industry

LAOISE!



Celebrating 20 years of the BE in Biomedical Engineering, University of Galway, June 2022, organised & chaired by Prof Laoise McNamara.

L-R: Dr Paul Dodd, Prof Laoise McNamara, Prof Peter McHugh, Prof Ellen Roche (MIT), Prof Walter Gear, Prof Ciarán O hÓgartaigh, Brendan Gallagher (Medtronic), Claire Lillis (Aerogen), Adrian McNamara (Boston Scientific).

partners Medtronic and Stryker. She established outstanding collaborations and engagements with both of these companies, that have blossomed and expanded over the years.

In particular, her engagements with Medtronic made a significant contribution to the establishment of the €5 million University of Galway Medtronic Signature Partnership that was launched in 2023, and of course she has engaged strongly and collaborated with the MedTech industry more broadly – locally, nationally and internationally.

In 2016 Laoise was appointed to a Personal Professorship in Biomedical Engineering, and in 2020 she was appointed to the Strategic Academic Leadership Initiative (SALI) Established Professorship in Engineering.

In addition to founding her successful Mechanobiology and Medical Device Research Group (MMDR), Laoise served in Vice-Dean roles in our former College of Engineering and Informatics and in the College of Science and Engineering, and as

an Executive Committee Member and a Lead PI in CÚRAM. She has served as Head of School of Engineering since 2023.

Laoise has established herself as a research leader of the highest international standing, through PhD and post-doctoral supervision, high-impact publications, conference organisation, and prestigious honours, as well as through extensive research funding awards (including multiple ERC awards). She holds prestigious appointments such as serving as an ERC Panel Chair, a reviewer for multiple international funding bodies, and an advisor for multiple international research organisations. She is also an incoming member of the World Council of Biomechanics.

Through all of this, she has demonstrated that she is a consummate academic and leader, as her contributions span all the pillars of the academic mission: research and innovation; teaching, learning, and student success; University life and development; and societal contributions.

In addition to being a dedicated lecturer in Biomedical Engineering, I recall in particular her outstanding work to develop the MSc in Biomedical Engineering in its formative years, and her outstanding work, while Vice-Dean in the College of Engineering and Informatics during my term as Dean, to develop and establish the framework for the Integrated Masters ME across all of our Engineering Degree programmes, and to develop and implement initiatives to attract more female students to engineering. Under her leadership over the last three years, the School of Engineering has thrived, as evidenced by strong student demand, the successful launch of new postgraduate programmes, and strategic faculty recruitment.

The University as a whole will be benefiting from her outstandingly positive influence.



A major factor in her success is her exceptional vision and imagination, coupled with her consistently positive disposition. Crucially, she possesses the ability to turn that vision into reality – she has the ability to get things done. She has a remarkable talent for motivating those around her and imparting a sense of ambition and a 'can-do' spirit to others; an example of this is the outstanding success her PhD graduates and post-docs have achieved in academia and industry, across Ireland and internationally.

In closing, I also wish to note that Laoise is part of a distinguished University of Galway academic lineage. Using the old adage, '*It wasn't from the wind she got it,*' I want to acknowledge her late uncle, Professor Sean McNamara (RIP), former Professor of Mechanical Engineering, who passed away in January 2024. Many of us in the School still remember the outstanding and transformative contribution he made to Engineering and the University during his tenure from the 1970s to the 2000s; like him, Laoise possesses that same rare combination of outstanding vision and the ability to implement it.

So, we wish Laoise the very best of good fortune in her new Vice-Presidency, and we look forward to the University as a whole thriving under her leadership in the research and innovation domain.

*Emeritus Professor of Biomedical Engineering
Former Interim President, and Former Deputy President
and Registrar, University of Galway*

Reflections from the Outgoing Head of School

As she concludes her term as Head of School, Prof Laoise McNamara reflects on the achievements, challenges, and successes of the community in the School of Engineering.

PROF LAOISE MCNAMARA

As I finish my role as Head of School, I have been reflecting on what has been a busy, challenging, and immensely rewarding experience. It has been a privilege to work alongside so many dedicated colleagues who care deeply about our students, education, research, and wider community.

Looking back, there is much that we can be proud of. The School of Engineering was already in great shape when I took on the role, reflecting many years of progress and strong leadership from my predecessors. Building on those foundations, we have strengthened student recruitment and worked hard to ensure that our students receive a warm welcome through enhanced induction activities.

We have also been fortunate to recruit outstanding new colleagues across the School and to introduce new academic programmes that will help shape its future.

Through the development of strategic partnerships, we have expanded opportunities for our students, strengthened our ability to recruit talented staff, and successfully launched a new Centre that will enhance our teaching, research, and external engagement.

Our School Away Days have provided valuable opportunities to connect, reflect, and think strategically about where we are heading.

Our commitment to excellence extends beyond education. The School is home to nationally and internationally recognised research centres and institutes that continue to demonstrate leadership in research and innovation, delivering impact across a broad range of disciplines.

We have also made important progress in strengthening our culture, fostering collegiality and inclusivity, and advancing gender equality initiatives that support a more equitable and welcoming environment for all.

We have made strategic investments in research equipment that will benefit colleagues across the School. We have also found new ways to celebrate and communicate our achievements through this newsletter, our video and social media initiatives, and by reconnecting with our alumni, welcoming many groups back to campus to build connections.

I am particularly grateful to all colleagues who have worked to maintain a strong focus on health and safety and to advance our Green Lab initiatives, reflecting our commitment to creating a safe, sustainable, and supportive environment for everyone.

I have been incredibly fortunate to work with an exceptional School Executive whose wisdom, commitment, ambition, and collaborative spirit have been

invaluable to me throughout my time as Head of School. Their willingness to work together with a positive, can-do approach not only strengthened our decision-making but also made the experience genuinely enjoyable. I am equally grateful to colleagues across the College Executive for their encouragement, support, and partnership.

Like many Universities, we continue to face challenges that require resilience and adaptability, and throughout my time as Head of School I have been continually impressed by the generosity, professionalism, and collaborative spirit of colleagues, who have consistently gone above and beyond in support of one another and of our students.

It has been an honour to represent the School, to celebrate your achievements, and to work with you through both opportunities and challenges. Thank you for your friendship, your support, and your commitment to Engineering.

I wish Professor Eoghan Clifford the best of luck as he starts in the role, I know he will be an excellent leader for the School and I look forward to watching the School continue to flourish in the years ahead and to support you in my new role. I have no doubt you will keep me busy as you continue to lead and drive excellence in research and innovation.

Professional Services Team Developments

MAIRÉAD FAHERTY

The School of Engineering Professional Services team continues to develop and grow in line with the expansion of the School and its programmes. As we begin the 2026/27 academic year, a number of developments and changes will help ensure that the team continues to provide the highest level of support to academic programmes, School initiatives, staff and, above all, our students.

The new welcome desk and office space in the Alice Perry Engineering Building Foyer stands as a visible symbol of this development. The enhanced presence will provide a more accessible and welcoming point of contact for students, visitors and staff, while also strengthening support services across the building and improving wayfinding.

These developments have also brought some changes to team roles and responsibilities. We are pleased to welcome two new colleagues to the School Office team this year, Sabrina Walsh and Bríd Eileanór Ní Chonaill. Their arrival reflects the continued growth of the School and will further strengthen the support available across our

programmes and activities.

Over the coming months, there will be some changes within the Professional Services team supporting Mechanical Engineering and Energy Systems Engineering.

After many years supporting Mechanical Engineering, Dave will move into a new School-wide role. Based in the new welcome area, he will help support a broader range of activities across the School while continuing to work closely with staff and students. As part of these changes, Deirdre will return to her former role supporting the Energy Systems Engineering programme, while Bríd Eileanór joins the team in a new role supporting Mechanical Engineering.

These changes reflect the continued evolution of the Professional Services team and ensure that the School remains well positioned to support its growing community. By strengthening our front-line services and enhancing programme support, the team will continue to play a key role in delivering an excellent experience for students, staff and visitors alike.

Inaugural Lectures

DR MAGDALENA HAJDUKIEWICZ

The School celebrated the annual inaugural lectures on 16th April 2026.

Prof. Guangxue Wu and Prof. Manus Biggs presented their research and academic work, and shared their journey with colleagues, collaborators, campus community and the general public.

Congratulations again Prof. Wu and Prof. Biggs!

IRRP 2024 Outcome

The School of Engineering received the outcome of the Institutional Review of Research Performance (IRRP2024) application, which was submitted last year.

Overall, the feedback was positive showing rich research culture with appropriate emphasis on retention, training and a supportive culture for collaborative and high impact research.

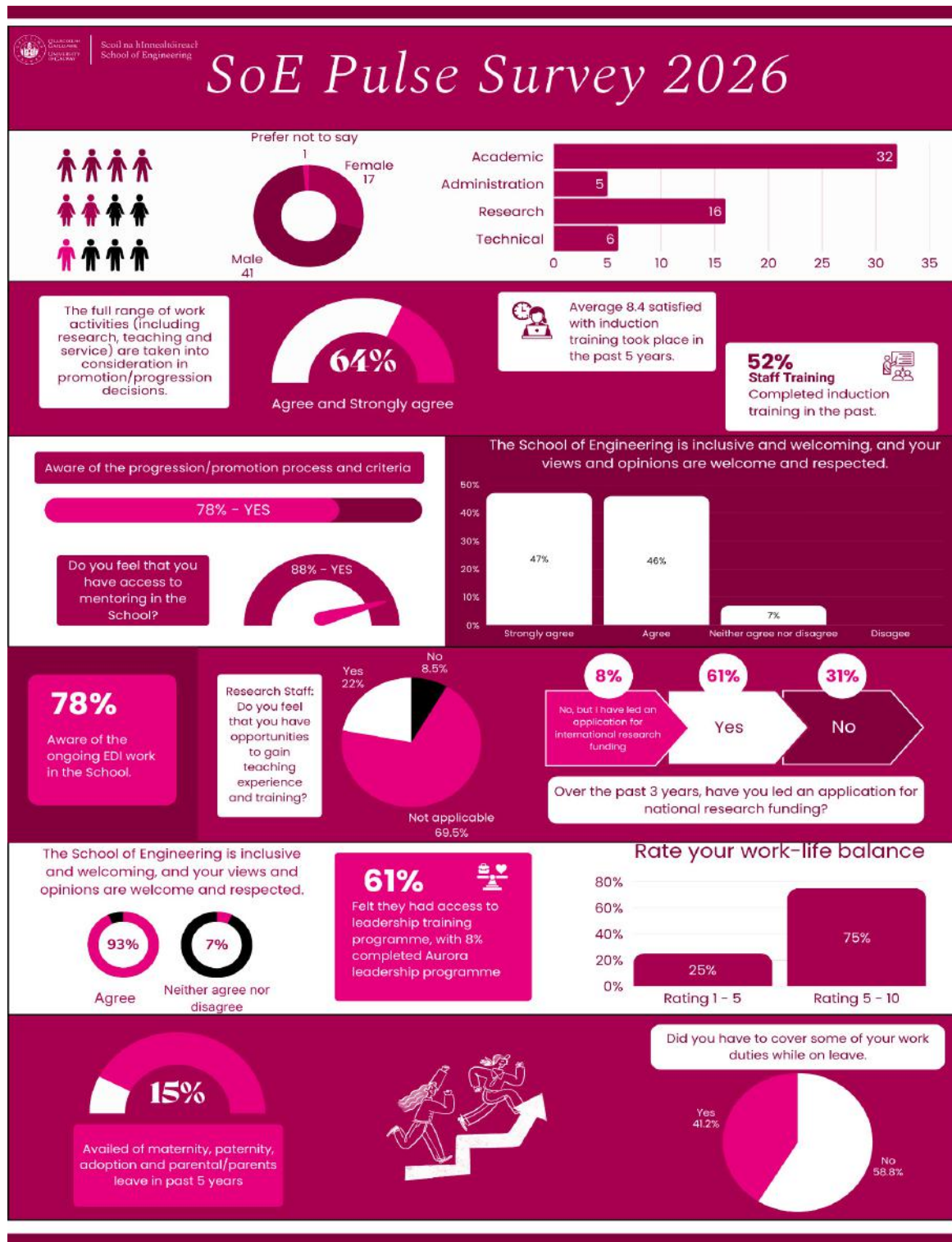
Thank you to all staff for your input to the application and congratulations to everyone in the School of Engineering on this very positive outcome!



L-R: Prof Guangxue Wu, Dr Magdalena Hajdukiewicz, Prof Manus Biggs, Prof Laoise McNamara

Athena SWAN Award Submission

DR WILLIAM FINNEGAN



The School of Engineering submitted their Athena Swan Ireland Silver Award Renewal application in June.

In preparation for the submission, a Pulse Survey was run within the School at the end of March, where a summary of the findings are presented in the graphic on page 17.

As we prepared the submission, we looked back at the achievements over the past 4 years, where female undergraduate enrolment increased to 26%, which exceeds the national average. The School has made significant strides in staff development, with 90% of academic staff reported having access to mentoring and 93% of survey respondents agree that the School is inclusive and welcoming.

Special thanks go to Professor Maeve Duffy for her leadership as the Director of Equality, Diversity and Inclusion (EDI) over the past 5 years. Maeve remained in a key role for the new submission, with Dr William Finnegan as the new Director of EDI.

While the general trends are positive, many challenges remain within the School. To address these challenges, the EDI committee have identified five priority areas to focus on including:

1. Increasing the overall proportion of female students in Engineering
2. Improving engagement of Research Staff in EDI
3. Improving Professional, Managerial Support and Technical Staff gender balance and career progression opportunities
4. Increasing representation of women in senior academic grades
5. Leading outreach activities that integrate EDI

Huge thanks to the EDI committee, the SAT, working groups, and everyone who helped to get the submission over the line in June!

The School has made significant strides in staff development, with 90% of academic staff report having access to mentoring and 93% of survey respondents agree that the school is inclusive and welcoming



Photo by Chaosheng Zhang

Research Staff Network

DR MICHAEL FLANAGAN

The University of Galway Research Staff Network (RSN) is a cross-disciplinary platform that supports social networking, career advocacy, and collaboration.

With researchers from the College of Science and Engineering forming a significant part of the research staff community, the RSN offers an important space for researchers to connect with colleagues across disciplines, contribute their perspectives, and help shape discussions around research careers, support, and working conditions.

Research staff need a strong, collective voice, and the RSN provides an effective way to ensure that this voice is heard across the University. A recent Research Staff Survey, conducted by the Researcher Development Centre (RDC) with input from the RSN, received 313 responses, representing around 37% of all research staff. The RSN would like to acknowledge and thank the RDC for leading this important initiative, supporting this work, and sharing the findings with the research community.

The survey captures the evolving priorities of a diverse and rapidly changing research

community. The College of Science and Engineering was strongly represented, accounting for 51% of survey responses. This highlights the important role of science and engineering researchers within the wider research community and the value of their continued involvement in the RSN.

The survey results highlight "significant demographic changes," including a substantial increase in international researchers. In 2026, approximately 40% of respondents were non-EEA citizens, compared with just 25% in 2019. Roughly 27% of respondents reported experiencing visa-related difficulties when travelling for research. This can have significant impacts on researchers' professional and personal lives by making recruitment, conference travel, fieldwork and industry collaboration difficult.

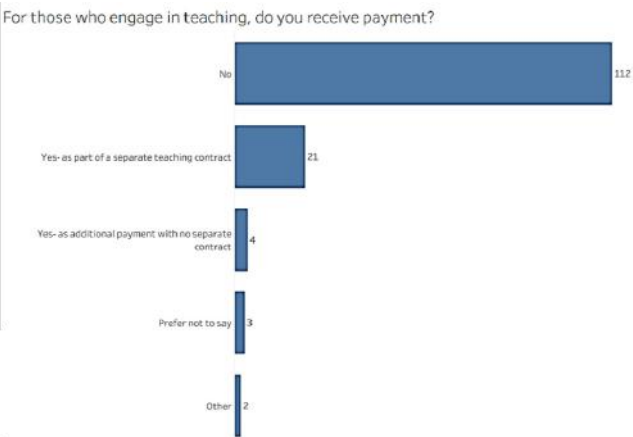
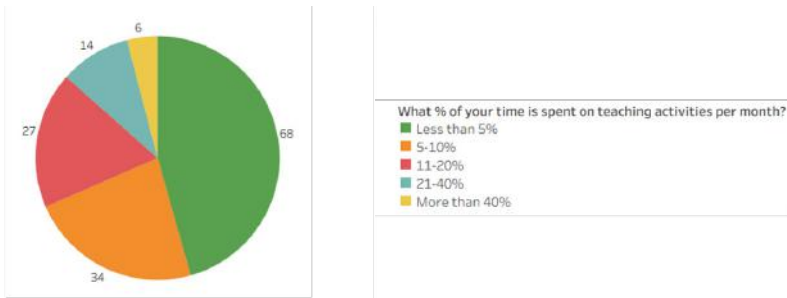
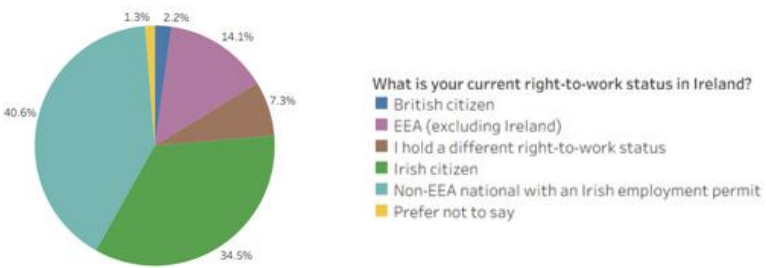
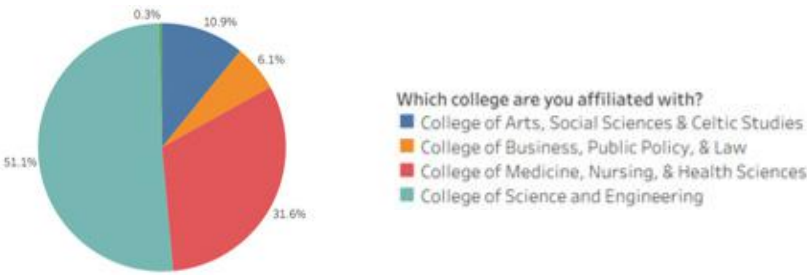
Several findings speak directly to the realities of engineering research roles. Almost half of all respondents reported being involved in teaching, yet only 12% had completed formal teacher training, despite 72% of those that had not completed training expressing an interest in doing so.

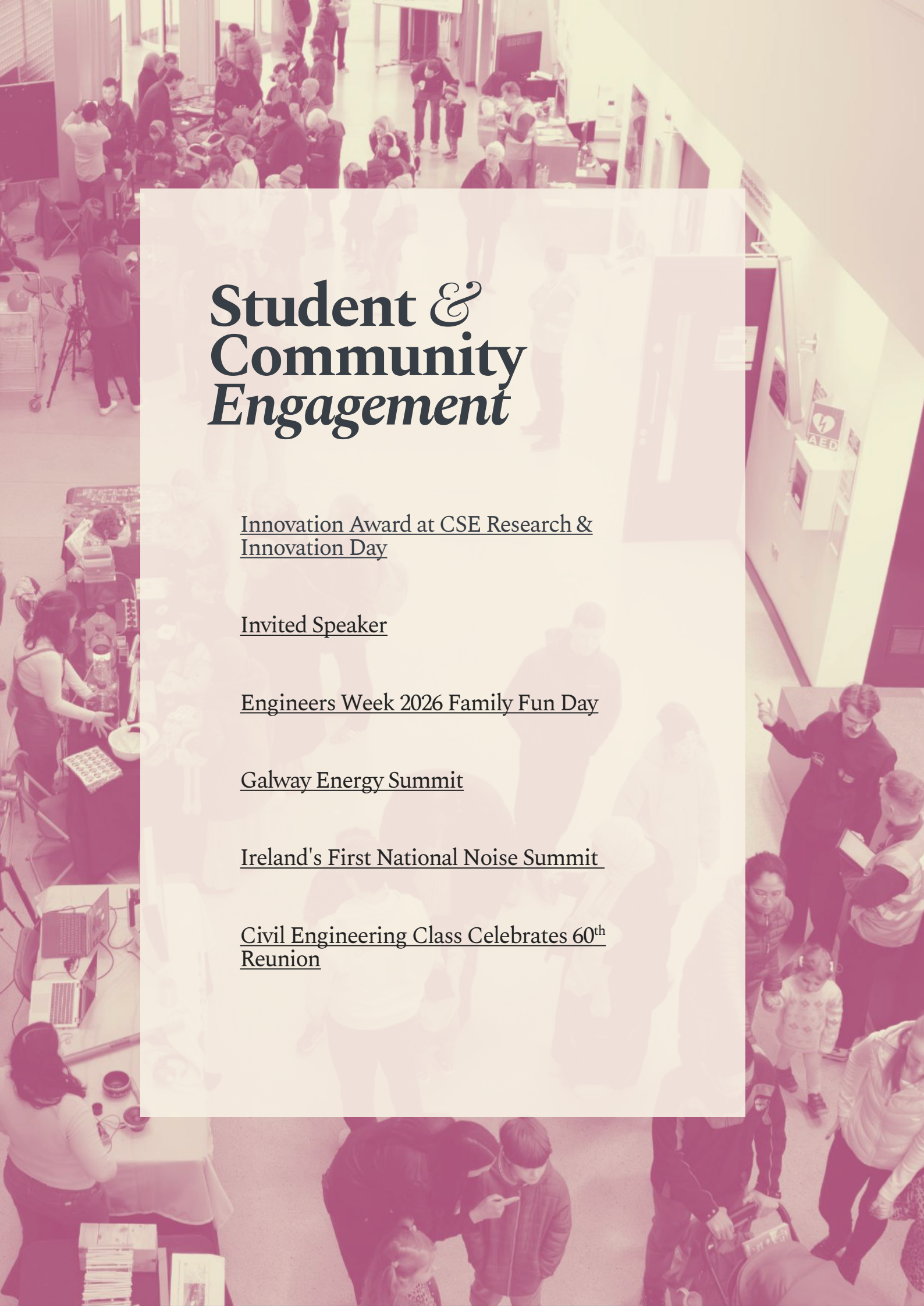
For engineering researchers, teaching-related responsibilities often extend beyond lectures to include laboratories, tutorials, project supervision, demonstrations, and technical support. This makes access to appropriate training, recognition, and career-development support especially important. These are exactly the kinds of issues the RSN is well placed to bring into wider campus discussions.

The survey also reveals a shift in overall satisfaction. While “approx. 69% rated their experience ‘good’ or ‘excellent,’” this marks a decline from 2019, when 82% indicated that they “liked” or “liked a lot” working at University of Galway. For engineering researchers navigating fixed term contracts, funding cycles, and high pressure project environments, this downward trend signals the need for stronger advocacy around job security, respect, and research culture.

Identifying these issues is the first step towards addressing them. The RSN committee will be analysing the survey results over the coming weeks and identifying practical actions to improve researcher life at the University of Galway. The committee also looks forward to continuing its collaboration with the RDC and other University stakeholders to ensure that the survey findings inform meaningful improvements for research staff. Engineering researchers are encouraged to [join the RSN](#), contribute their perspectives, and help strengthen our collective voice.

Information about the current RSN committee members is available on the RSN website [here](#).



The background of the entire page is a collage of various university events, including students at a research fair, a family fun day with children, and a group of students gathered around a table. The collage is overlaid with a semi-transparent white rectangle containing the text.

Student & Community *Engagement*

Innovation Award at CSE Research &
Innovation Day

Invited Speaker

Engineers Week 2026 Family Fun Day

Galway Energy Summit

Ireland's First National Noise Summit

Civil Engineering Class Celebrates 60th
Reunion



Innovation Award at CSE Research & Innovation Day

DR MAEVE DUFFY

Congratulations to Dr Jeya Shree Thulasidas & Prof Maeve Duffy who were runner-ups in the Innovation Award sponsored by the Innovation Office at the recent CSE Research & Innovation Day for their IDF "New Power Electronics Solutions for a High-Voltage, High-Frequency Pulse Generator." Thank you to Dr. Kodeeswaran Sankararaj for accepting the award.



Invited Speaker

MARY DEMPSEY

Mary Dempsey was invited to be a Speaker at an International Conference on Human Factors with AI Systems 2025 organised by Tsinghua University.

Engineers Week 2026 Family Fun Day

DR MAGDALENA HAJDUKIEWICZ

Our annual 'Engineering Our Future: Family Fun Day' took place on 28th February 2026. Over 1400 visitors came to Alice Perry Engineering Building to celebrate Engineering as part of the Engineers Week 2026!

There was plenty of inspiring activities, including science and engineering shows and workshops helping the youngest engineers learn about the world around us.



Galway Energy Summit

DR MAGDALENA HAJDUKIEWICZ

A student-led summit driving conversation on energy's future direction.

The newly re-established, student-led Energy Society at University of Galway ran a fantastic Galway Energy Summit, full of thought provoking speakers, including:

- Muireann Lynch discussing whether the right questions are being asked in addressing the energy trilemma;
- David McAuley explaining how the data centre sector works and where it is going.

There was a panel discussion on energy security, moderated by Rory Monaghan and featuring Eamonn O'Reilly, Avril Ní Shearcaigh, Meadhbh Connolly and Gary Brennan.

This was followed by an excellent afternoon session on the cost of energy featuring Declan Meally, Pauline O'Reilly, Eoin McGurk and Sophia Brady, moderated by James Glynn.

Huge congratulations to Anna Connors, Pawel Gorski, Cara Grealish and all the student organisers!



L-R: James Glynn, Declan Meally, Pauline O'Reilly, David Sutton, Sophia Brady



Muireann Lynch

Ireland's First National Noise Summit Marks a Milestone for Environmental Noise *Management*

DR EOIN KING, PRISCILA WUNDERLICH VILLAR



Discussions reinforced the growing recognition of environmental noise as a public health issue.



L-R: Prof John Kennedy, Damian Brosnan, Dr Emmet English, Prof Kerstin Persson Waye, Mark Evans, Dr Simon Jennings, Dr Eoin King, Priscila Villar.

The University of Galway's School of Engineering recently hosted Ireland's first National Noise Summit as part of the EPA-funded Noise 2050 Research Project. Organised in collaboration with Trinity College Dublin and University College Dublin, the event marked an important milestone for the Irish acoustics community as the first national conference dedicated entirely to environmental noise management, monitoring and mitigation.

The Summit brought together more than 70 participants from research, industry, consultancy, local authorities, government bodies and professional organisations to exchange knowledge and discuss the future of environmental noise in Ireland.

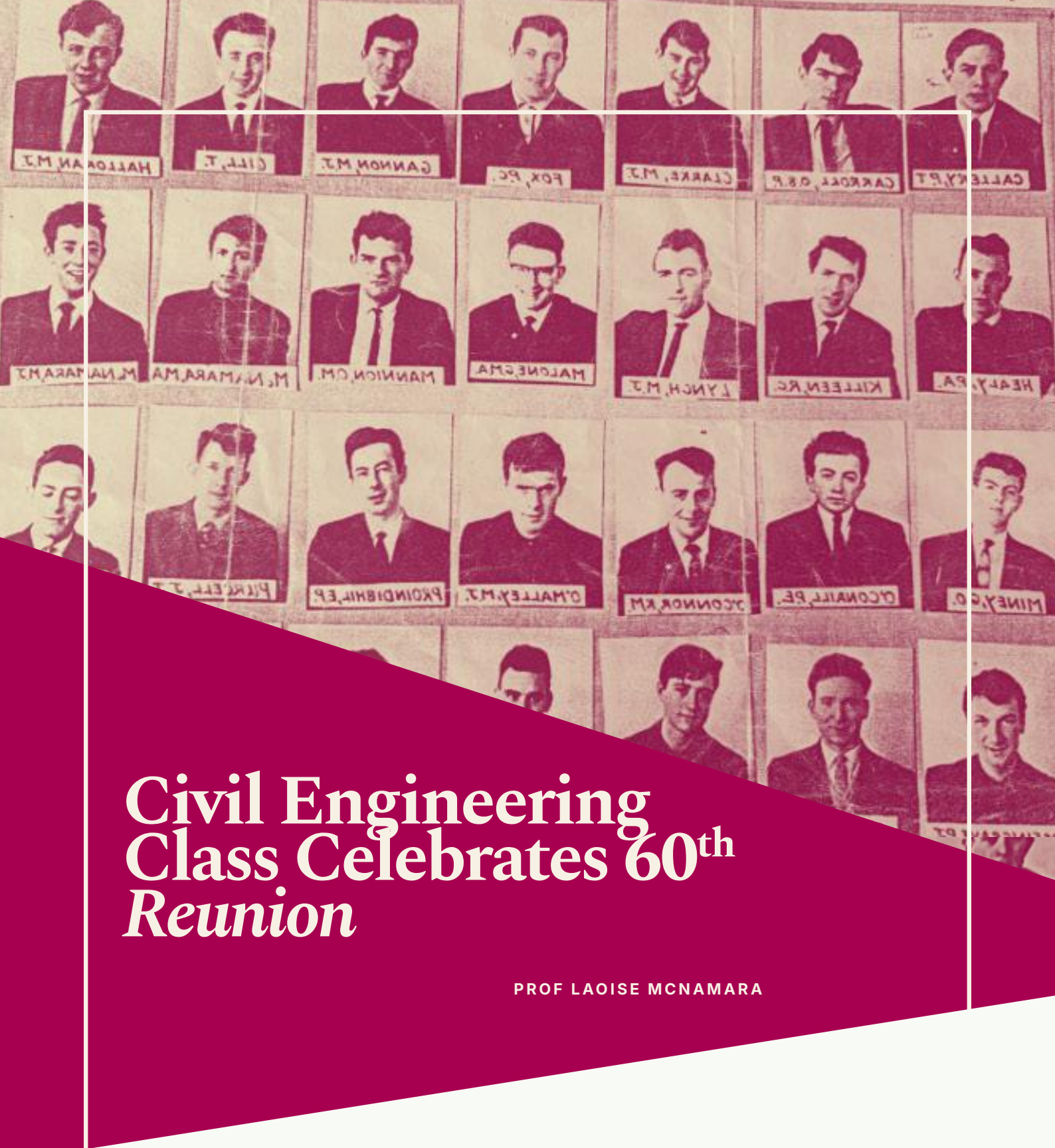
The programme opened with a keynote address by Professor Kerstin Persson Waye (University of Gothenburg, Sweden), who explored the links between noise exposure, health and wellbeing across the life course. This was followed by expert presentations, panel discussions and interactive breakout

sessions addressing current and emerging challenges, including transport noise, renewable energy, drones, heat pumps, monitoring technologies and evidence-based mitigation strategies.

Beyond the technical programme, the event provided a valuable platform for collaboration between researchers, policymakers and practitioners, highlighting the importance of coordinated action to address the health and environmental impacts of noise.

Discussions reinforced the growing recognition of environmental noise as a public health issue and identified priorities for future research, policy and practice.

The National Noise Summit represents an important first step towards strengthening collaboration across Ireland's environmental noise community and will help inform the ongoing work of the Noise 2050 project as it develops knowledge and evidence to support healthier and more sustainable acoustic environments.



Civil Engineering Class Celebrates 60th *Reunion*

PROF LAOISE MCNAMARA

A remarkable milestone was celebrated when members of the Civil Engineering Class of 1966 from University College Galway gathered for their 60th reunion in May 2026.

This class has travelled from across Ireland and abroad to reconnect through

regular reunions, and many had visited the Alice Perry Engineering Building and the old Civil Engineering building during a reunion in 2024. This year's gathering was particularly special, marking six decades of friendship, professional achievement, and personal journeys.

When these graduates completed their studies in 1966, dancehalls and showbands were at the heart of social life, and the music of The Beatles and The Philosophers provided the soundtrack to their University years.

The Cold War continued to shape international affairs, the Vietnam War dominated global headlines, and rapid advances in science, technology, and engineering were transforming societies across the globe.

Members of this class went on to make significant contributions to engineering, construction, infrastructure development, education, and public service, both in Ireland and internationally. The reunion celebrated these accomplishments and the enduring spirit of a generation whose work helped shape modern engineering practice and contributed to the development of communities at home and abroad.

The occasion was marked by a dinner at the Galmont Hotel, where Matthew McNamara presented photographs and stories from student days that had been compiled into a commemorative booklet for each attendee.

Together, classmates remembered those who could not be present and reflected on the challenges, achievements, and camaraderie of their student years, as well as the lasting bonds forged during their time studying civil engineering in Galway.

Memories of lectures, exams, dances, sporting events, and student life prompted much laughter. The 60th reunion served as a fitting tribute to a distinguished class and to the lasting legacy of their years at University in Galway.





The Civil Engineering Class of 1966, past and present!

The background of the entire page is a photograph of an industrial facility, possibly a laboratory or manufacturing plant. It features various pieces of equipment, including large metal tanks, pipes, and structural beams. In the lower right, a person wearing a white hard hat and a high-visibility safety vest is visible, looking down at something. The entire image is overlaid with a semi-transparent white rectangle that contains the text.

Facilities & *Investment*

[Technical Insights](#)

[Hurco Installation](#)

[Precision Upgraded](#)

[Funding Success for Engineering](#)

[MyGreenLab ReCertification](#)



Technical *Insights*

Investment in facilities, equipment, and technical infrastructure plays a vital role in supporting world-class engineering education and research.

From new manufacturing technologies and workshop enhancements to sustainability initiatives and research-focused funding, these stories showcase how the School is continuing to build capacity, expand capability, and create opportunities for students, researchers, and industry collaborators.

Together, these developments strengthen the learning environment, enhance research excellence, and ensure that our students and staff have access to modern facilities, advanced technologies, and the resources needed to address the engineering challenges of the future.

Expanding Possibilities

MARTIN BURKE, PATRICK KELLY, DR PATRICK MEIER

The School of Engineering is delighted to announce the arrival of our new Hurco VM10i Vertical Machining Centre, a significant addition that greatly enhances our machining capabilities.

While our existing Haas machines have served us exceptionally well over the years — and will continue to play an important role in student training — the new Hurco VM10i introduces a range of advanced features that expand both teaching and manufacturing potential. These include a larger machining envelope, increased tool capacity, Renishaw digital work and tool setting systems, a 4th-axis capability for complex multi-sided machining, through-spindle coolant delivery, and a high-performance 12,000 rpm spindle.

The machine is also equipped with the globally recognised Hurco WinMax control system, offering intuitive block-diagram programming, onboard 3D modelling, and compatibility with DXF and CAM file inputs.

To further support student learning, the School has also secured 50 WinMax educational licenses from Hurco, enabling students to access and explore machine control functionality within a classroom environment.

This investment represents another exciting step forward in strengthening our advanced manufacturing and engineering education capabilities — and we look forward to seeing the chips fly.

The new Hurco VM10i significantly expands both our teaching & manufacturing capabilities.



Dr Pat Meier

Precision Upgraded

MARTIN BURKE, PATRICK KELLY,
DR PATRICK MEIER

The recent upgrade of five workshop lathes delivers a safer, more modern and industry-focused learning environment for engineering students.



The recent purchase and upgrade of five new Optimum lathes in the Design & Build Engineering Workshop (ENG-G002) marks a significant enhancement to the School's practical teaching and manufacturing capabilities. Replacing older equipment with modern, safer, and more user-friendly machines provides students with access to industry-standard technology and an improved hands-on workshop experience.

These new lathes will play a key role in developing students' technical competence, precision manufacturing skills, and overall industry readiness. The upgrade further strengthens the quality of engineering education within the university while supporting student engagement with the rapidly evolving fields of advanced

manufacturing and modern engineering practice. This investment reflects the School's continued commitment to providing high-quality, industry-relevant learning environments that prepare students for successful engineering careers.

Upgrading equipment is not only an investment in education, but also in student industry readiness.

The School of Engineering is always mindful of the sustainability impact of its activities. As part of the recent lathe upgrade, we took the opportunity to part-exchange older

manufacturing equipment when purchasing the new machines. The older equipment was then refurbished and resold by the supplier, giving it a second life rather than sending it to waste.

By keeping functional equipment and components in use for longer, we help support a more sustainable approach to engineering and manufacturing. Extending the lifespan of complex machinery reduces waste, lowers the need for new raw materials, and helps promote more responsible use of resources.

This reflects the School's ongoing commitment to sustainability, practical innovation, and responsible engineering practices.

Funding Success for Engineering

MARTIN BURKE

The School of Engineering submitted the maximum two applications permitted under the AY 2025/2026 Repair and Replacement Funding scheme, and we are delighted to announce that both applications were successfully approved.

The first equipment bundle, focused on upgrading mechanical equipment, including a Laser Cutter, Surface Roughness Tester, and Metallurgy Microscope with Camera System, will significantly enhance teaching and learning in the areas of Materials, Manufacturing, and Composites. The new equipment will also help support ongoing research activities within the School, and strengthen collaboration opportunities with external companies and university partners. This investment is particularly notable as it was jointly supported by the Ryan Institute, and the School looks forward to exploring similar collaborative funding opportunities with other research institutes in the future.

The second approved equipment involves the upgrade of a High-Performance Computing platform. This system will support postgraduate programmes such as Intelligent Robotics, while also enhancing the capabilities of School research groups. The upgraded platform will help facilitate greater collaboration with external partners including the University of Limerick, Maynooth University, LERO, and Valeo.

These investments represent another important step in strengthening the School's teaching, research, and industry engagement capabilities.

C O N T R I B U T I O N S					
	School of Engineering	SOE Research Group	Ryan Institute	Repair & Replace Fund	Total
Mechanical Equipment Upgrade	€10,000		€10,000	€55,000	€75,000
High-Performance Computing Platform	€10,000	€5,000		€40,000	€55,000

Alice Perry Building Completes My Green Lab Recertification - All Labs Now Rated Green!

DR DARRAGH MULLINS

We're proud to share that the Alice Perry Building has successfully achieved My Green Lab® Certification for all labs at the Green level, the first building at University of Galway to do so.

My Green Lab Certification is the global standard for laboratory sustainability best practices. Achieving this milestone demonstrates our School's commitment to making meaningful, measurable improvements that reduce the environmental footprint of our research and strengthen our culture of sustainable science. By becoming certified, our lab joins a global network of thousands of laboratories working to advance responsible, efficient, and environmentally conscious research practices.

The awarding body noted: "The work undertaken and implemented as part of the re-certification with the programme was one of the highest standards in recent times for re-certification labs, and is a testament to the commitment the University of Galway is treating this work, and pursuing and improving upon your efforts."



Our lab is proud to join
the global green lab
community with



my green lab.
Certification

We've cut costs, improved efficiency,
and embedded green practices with this
globally recognized lab certification.



Research Leadership & *Funding*

IPCC Appointment

New IEA EBC Annex

SEAI Funding for EMPOWER

IACR Seed Funding Award

Tidal Turbine Blades

Building a flood resistant Ireland

IPCC *Appointment*

DR INDIANA OLBERT

Dr. Indiana Agnieszka Olbert has been appointed as a Lead Author for the Seventh Assessment Report (AR7) of the Intergovernmental Panel on Climate Change (IPCC), the United Nations' leading body for assessing climate science.

The IPCC produces comprehensive assessments of the scientific evidence on climate change, examining its causes, impacts, future risks, and the measures available to address them through adaptation and mitigation.

Its reports are widely regarded as the global benchmark for climate science and provide a critical evidence base for policymakers worldwide.

In this role, Dr. Olbert will contribute to the preparation of the IPCC's next major assessment, helping to advance understanding of climate change and inform international climate policy.



New IEA EBC Annex is being formed

DR MAGDALENA HAJDUKIEWICZ



A new IEA EBC Annex is being formed on the Impacts of Residential Building Decarbonization on Indoor Environmental Quality. A workshop to finalise the submission took place in Madrid on 23rd April 2024. Irish universities were strongly represented with Magda Hajdukiewicz and Marie Coggins from University of Galway, James McGrath (MU) and Grainne McGill (QUB).

SEAI has awarded funding to project EMPOWER

PROF XINMIN ZHAN

SEAI has awarded €951,773 to fund the project EMPOWER: Empower AD deployment through zero-waste valorisation of digestate and biogenic CO₂ for the production of commercial fertilisers and high-value bioproducts.

This project will support the training of four PhD candidates and one Research Master's student, fostering the next generation of sustainability and circular economy researchers.

The project is led by Principal Investigator (PI) Prof. Xinmin Zhan, with co-PIs Dr. Patricia McHugh (J.E. Cairnes School of Business and Economics, University of Galway), Dr. Paul Crosson (Animal and Grassland Research and Innovation Centre, Teagasc), and Dr. Yuansheng Hu (School of Civil Engineering, University College Dublin).

IACR Seed Funding Award for TNBC Mechanobiology Research

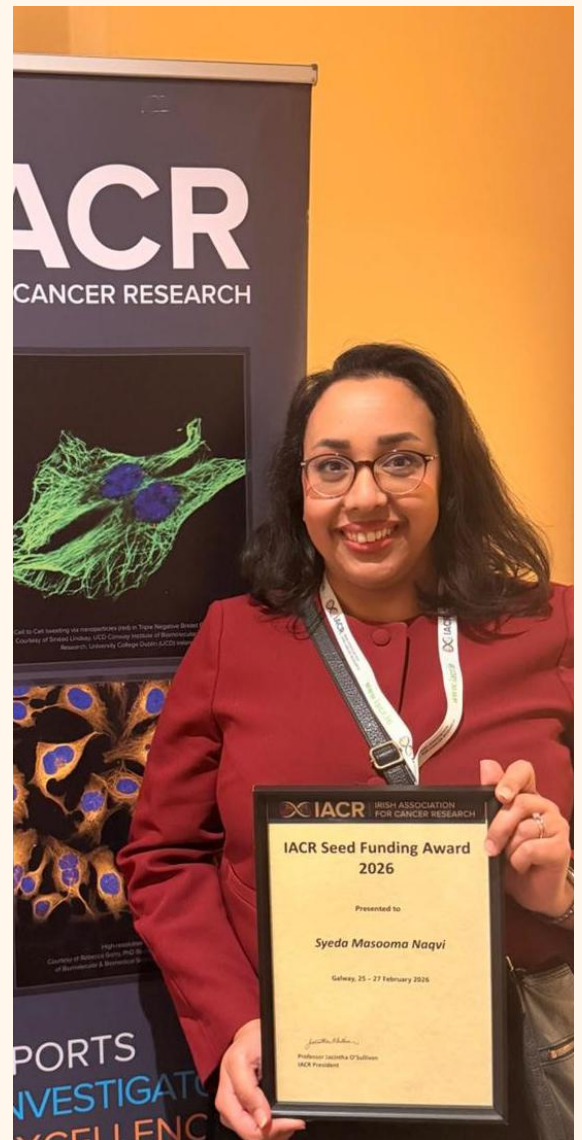
DR SYEDA MASOOMA NAQVI

Dr. Syeda Masooma Naqvi, Research Fellow in Biomedical Engineering at the University of Galway, has been awarded 2026 seed funding from the Irish Association for Cancer Research (IACR).

The project investigates how mechanical cues within the tumour microenvironment regulate stemness and epithelial–mesenchymal plasticity in triple-negative breast cancer (TNBC).

By validating a mechanobiological framework in patient-derived tissue, this work aims to uncover clinically relevant drivers of tumour aggressiveness and therapeutic resistance, supporting the development of more effective treatment strategies

This award recognises innovative, interdisciplinary research integrating engineering and cancer biology to address unmet clinical challenges in aggressive breast cancers.



Approach to develop vulnerability curves for tidal turbine blades

TENIS RANJAN MUNAWEERA THANTHIRIGE

"Approach to Develop Vulnerability Curves for Tidal Turbine Blades" presents a novel framework for predicting the lifespan and structural reliability of tidal turbine blades operating in harsh marine environments.

The study introduces two innovative methodologies that combine accelerated aging fatigue data, water diffusivity analysis, and finite element modelling to develop vulnerability curves capable of estimating blade degradation over time.

Applied to a 4 m glass fibre powder epoxy composite tidal turbine blade, the research demonstrates how fatigue, seawater exposure, and manufacturing-induced variability influence long-term performance and failure probability.

The resulting vulnerability curve provides a valuable tool for improving maintenance planning, reducing testing costs, enhancing blade durability, and supporting the advancement of reliable and cost-effective tidal energy systems aligned with global sustainable energy goals.

Building a flood-resilient Ireland

DR INDIANA OLBERT

Dr. Indiana Olbert was awarded "Prize Funding" of €1.3M in 2025 under the Digital Resilience Challenge of the National Challenge Fund as part of the Stop4Floods.ie team.



Research *Highlights*

Coatings that Cloak Devices for Deep Brain Stimulation

Innovate Together Collaboration (ITC) competition

Exploration of using remote sensing technique for monitoring Irish water

Mechanobiology and Medical Devices Research Group Publish Advances in Bone Biology and Cardiovascular Modelling

International Collaboration Advances Smart Energy Technologies for Island Communities

Research *Highlights*

EuCAP 2026 Conference Presentation

ICONIC presentation to Galway County Council

Construct Innovate IndEx 2026

IEEE Milestone Celebrates University of Galway Engineering Heritage

Featured in The Ergonomist: Advancing Child-Centred Design

A circular economy strategy for reuse of waste and end-of-life marine products for 3D printing of domestic thermoplastic wind turbine blades

Coatings that Cloak Devices for Deep Brain Stimulation

By Garrett Shelbin

DR CATALINA VALLEJO GIRALDO

Deep Brain Stimulation (DBS) involves the implantation of electrodes into specific areas of the brain to deliver electrical stimulation from an implanted battery source. One of the major challenges associated with electrode insertion in the brain is scarring and inflammation, known as gliosis.

Our colleagues, Dr. Catalina Vallejo-Giraldo, Dr. Xuliang Qian and Dr. Manus Biggs,

together with an international team of collaborators, have recently published research in the journal *Cell Biomaterials* (Cell Press). The study shows how a fabricated molecule known as F6 can be used to safely coat electrodes, reducing both scarring and inflammation in the brain, which in turn affects the long-term performance of implanted neural electrode.



Innovate Together Collaboration (ITC) competition

MARY DEMPSEY

Above is a photo of a meeting of the Advisory Group of the Innovate Together Collaboration competition, bringing together students from Tsinghua University, RWTH Aachen, Erasmus University Rotterdam, Shanghai Jiao Tong University and University of Galway.

Exploration of using remote sensing technique for monitoring Irish water

ABDUL MAJED SAJIB

In a pioneering study published in Water Research (2026), PhD researcher Majed Sajib conducted Ireland's first attempt to retrieve dissolved oxygen in transitional and coastal waters using remote sensing products.

Conducted under the EPA Ireland-funded project led by Dr Agnieszka Olbert and Dr Md Galal Uddin, the study developed and

rigorously tested 2,101 ML, AI, statistical, and ensemble models.

The findings demonstrate the strong potential of remote sensing for large-scale water quality monitoring across Irish waters and highlight the necessity of continued advancement of integrated RS-ML-AI frameworks.

Mechanobiology and Medical Devices Research Group Publish Advances in Bone Biology and Cardiovascular Modelling

DR SYEDA MASOOMA NAQVI

The Mechanobiology and Medical Devices Research Group, led by Prof. Laoise McNamara, celebrates recent publications from Syeda Masooma Naqvi, Muhammad M.M. Bukhari, and Sam Boxwell.

Naqvi reports a pilot study on early osteoporosis intervention using sclerostin antibodies, while Bukhari presents a protocol for a 3D humanized vascularized bone model. Boxwell's two-part study investigates transcatheter heart valve deployment, first validating a computational framework with in vitro data, then

demonstrating how oversizing and ellipticity affect valve mechanics, flow dynamics, and thrombogenic risk.

Together, these works demonstrate innovative experimental and computational approaches advancing bone biology, tissue engineering, and cardiovascular research.

These publications highlight the group's strong interdisciplinary collaboration and ongoing engagement with industry partners and research funders.

International Collaboration Advances Smart Energy Technologies for Island Communities

HANDY BORGES SCHIAVON

On April 16th, Paulo Lissa and Dayanne Peretti Corrêa visited LACTEC in Curitiba, Brazil, to advance collaboration within the Horizon Europe INTELLIGENT project and the CET Partnership RESTOR project, focused on the Inis Mór pilot in Ireland.

Shortly after, LACTEC researchers Luciana Michelotto Iantorno and Marcos Vinicio Rambo travelled from Brazil to the Aran Islands, where, alongside Felipe Steudel from the IRUSE Research Group at the University of Galway, they carried out field tests and validated the communication and data acquisition capabilities of the new device developed for these projects.

A great example of Brazil-Ireland collaboration driving innovation in smart energy systems.





EuCAP 2026 Conference Presentation

KODEESWARAN SANKARARAJ

Kodeeswaran Sankararaj, Postdoctoral researcher in the Power Electronics Research Centre, represented the University of Galway at the 20th European Conference on Antennas and Propagation (EuCAP 2026).

He presented his latest research findings and engaged with leading researchers and industry experts from around the world. The conference provided an excellent opportunity to showcase the University's research excellence and foster international collaborations in advanced wireless and electromagnetic technologies.

This work is supported by the Enterprise Ireland Innovation Partnership Programme and cofunded by TOPPAN Security, Ireland.



ICONIC presentation to Galway County Council

ENNIO SCHIAVON



The ICONIC Project was presented to the Galway County Council, showing the importance of collaborative governance and community engagement in advancing climate neutrality in rural and island communities, supporting authorities and local stakeholders in dealing with climate challenges in territories such as Inis Mór.

The presentation, held by Ennio Schiavon and Cathy Ní Ghóill, CFA General Manager, introduced an Inter-Departmental Climate Working Groups proposal, aiming to collaborate directly with the Inis Mór Climate Assembly to identify climate-related challenges, develop understanding through cross-sectoral collaboration, co-design and implement innovative solutions, and support long-term climate neutrality objectives.

Construct Innovate IndEx 2026

DR MAGDALENA HAJDUKIEWICZ

Construct Innovate hosted IndEx 2026, their annual industry exchange day in Spencer Hotel Dublin on 20th May 2026.

Welcoming over 110 participants from industry, academia and policy, it was a premier opportunity to network and unlock

new collaboration and funding pathways through industry-led research.

This day was designed to bridge the gap between academic expertise and real-world construction challenges.



The Construct Innovate webinar series explores the innovations, know-hows and insightful perspectives on sustainable designs, digital construction technologies, modern methods of construction, innovation and entrepreneurship.

Recordings of over 70 webinars are available to watch through Construct Innovate website.



IEEE Milestone Celebrates University of Galway Engineering Heritage

PROF GERARD HURLEY

An [article](#) by Emeritus Professor Ger Hurley in IEEE Power Electronics Magazine highlights the recent IEEE Milestone awarded to the Anderson Bridge, an invention developed at the University of Galway in 1891 by Professor Alexander Anderson, who later served as President of the University.

The article reflects on the commemorative event held in the Alice Perry Engineering Building, where a permanent IEEE Milestone

plaque was unveiled in recognition of Anderson's internationally significant contribution to electrical measurement and engineering education.

The event brought together leaders from the IEEE and University of Galway and celebrated a remarkable piece of the University's engineering heritage that continues to influence engineering practice worldwide.

Featured in The Ergonomist: Advancing Child-Centred Design

ENDA FALLON

University of Galway's Enda Fallon recently contributed an article to the March 2026 edition of The Ergonomist, the magazine of the Chartered Institute of Ergonomics and Human Factors.

The article outlines the development of a European framework for collecting anthropometric and strength data from children, helping to improve the design and safety of products, environments and

services for young people. The work addresses a significant gap in existing international standards, which have traditionally focused on adults. Read the PDF of the article on our School LinkedIn page [here](#).

This article first appeared in the March 2026 issue of The Ergonomist, the magazine of the Chartered Institute of Ergonomics and Human Factors

A Circular Economy Strategy for Reuse of Waste and End-of-Life Marine Products for 3D Printing of Domestic Thermoplastic Wind Turbine Blades

DR POUYAN GHABEZI

This Blade3DP project, funded by Research Ireland (MaREI Centre) and Suzlon Energy Company, aims to establish innovative industrial-scale methods for repurposing waste thermoset composites (carbon/epoxy), including retired wind turbine blades, as reinforcement in recycled thermoplastics for 3D printing applications, such as domestic turbine blades (households and farms).

By converting these discarded materials into valuable resources, the project aims to mitigate the environmental impact of composite waste while promoting sustainable manufacturing solutions.



A photograph of a crowd of people at a networking event, overlaid with a semi-transparent white rectangle containing text. The image has a monochromatic pinkish-red tint. The text is centered within the white rectangle. The background shows people in business casual attire, some holding coffee cups, engaged in conversation.

Industry *Partnerships*

Ward & Burke Centre of
Infrastructure, Research &
Innovation Launch

Industry Partnership *Spotlight:* Ward & Burke

PROF EOGHAN CLIFFORD, SERENA LAWLESS

From Galway roots to global impact, Ward & Burke is helping to shape the future of sustainable infrastructure through a landmark new partnership with the University of Galway.



"If you lose first principles, you lose judgment."

Pádraig Burke

On May 28th the Ward & Burke Centre of Infrastructure Research and Innovation was officially launched. This centre is a new partnership between Ward & Burke and the University of Galway applying first principles and data-driven engineering across various disciplines to primary infrastructure.

The centre brings together academic research, physical testing and AI technologies to transform how infrastructure is designed, built and operated to address real challenges in a rapidly changing world. The centre will also create scholarships and research and innovation opportunities for the next generation of engineers.

This landmark collaboration marks a significant new chapter in the long-standing relationship between Ward & Burke and the University of Galway. Founded by the University's graduates Pádraig Burke, Michael Ward, and Robert Ward, Ward & Burke has grown into a multinational engineering company, recognised for delivering complex water, wastewater, and underground infrastructure projects.

The vision of the new Centre is to combine fundamental engineering principles with advanced technologies, including data-driven engineering, AI, and autonomous systems, to address the most pressing infrastructure challenges facing society today.

Key to this initiative is the appointment of Prof Brian Sheil, a University of Galway alumnus and internationally recognised expert in smart infrastructure, who will lead the centre alongside Prof Eoghan Clifford, the new Head of School of Engineering.

What makes this partnership particularly special is its foundation in a shared belief that the best engineering solutions come from combining



Prof Brian Sheil

academic excellence with real-world industry challenges. Over the years, Ward & Burke and University of Galway researchers have collaborated on innovative projects, including award-winning work on sewer infrastructure that helped reduce pollution in the River Thames.

As Ward & Burke celebrates 25 years in business, this investment demonstrates the company's commitment to advancing engineering education, research and innovation while helping to prepare the next generation of engineers to build more sustainable, resilient, and intelligent infrastructure.



L-R Back row: Dr Andrew Keane, Michael Ward, Prof Mike Mooney, Jerry Grant, Prof Brian Sheil, Prof Laoise McNamara, Prof Byron Byrne

L-R Front row: Prof Rory Monaghan, Dr Magdalena Hajdukiewicz, Dr Ronan Royston, Rachael Fox, Pdraig Burke, Dr Laura Burke, Dr Ann Ryan, Prof Eoghan Clifford



L-R: Prof Eoghan Clifford, Prof Laoise McNamara, Pdraig Burke, Prof David Burn, Prof Brian Sheil.

Find Out More:

[Ward & Burke Centre for Infrastructure Research & Innovation](#)

[University announcement](#)

[Cois Coiribe feature story on the partnership](#)

[Article in the Galway Advertiser](#)

Thank you to our *Contributors:*

Eoghan Clifford

Darragh Mullins

Mary Dempsey

Syeda Masooma Naqvi

Kodeeswaran Sankararaj

Indiana Olbert

Mairéad Faherty

Abdul Majed Sajib

William Finnegan

Catalina Vallejo Giraldo

Pouyan Ghabezi

Ennio Schiavon

Magdalena Hajdukiewicz

Eoin King

Handy Borges Schiavon

Maeve Duffy

Laoise McNamara

Xinmin Zhan

Tenis Ranjan Munaweera Thanthirige

Thank you for reading the Alice Perry Engineering *Digest*

We hope that you have enjoyed reading our newsletter. 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 [social media](#) for news about our events and achievements as they happen.

If you would like to give us any feedback on this issue, or have any suggestions for future issues, please [get in touch](#)!

The next issue of our newsletter will be published in early 2027. We would love to fill this issue full of your exciting research developments, student achievements, notable events, or anything else you would like to tell us about.

There is only one way to make it into the newsletter, and that's to tell us about your news. We have updated our submission format for the next issue. Make sure you [fill out our new form](#) to get your news item featured in the Spring 2027 issue.

In the meantime, if you have any questions about this issue or past issues of our newsletter, please contact Serena directly: serena.lawless@universityofgalway.ie

Wishing everyone the best of luck with the upcoming 26/27 academic year!

