Ollscoil na Gaillimhe
University of Galway

The magazine for University of Galway alumni, staff and friends

Cois Coiribe

WINTER 24/25 I INNOVATE TOGETHER EDITION

In this edition...

Ollscoil na Gaillimhe
University of Galway

Cois Coiribe *Impact.*

Winter 2024/25
Innovate Together Edition

The online publication for views and opinions from University of Galway's top academics, researchers and alumni.

A window into the ground-breaking research and cutting-edge innovation driven by our University community. Explore our Innovate Together edition today.

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Focal ón Uachtarán Eatramhach

Professor Peter McHugh,
Interim President, University of Galway

Fáilte is fiche go dtí eagrán an gheimhridh d'Iris Alumni Ollscoil na Gaillimhe, *Cois Coiribe*.

Welcome to this edition of *Cois Coiribe*, centered on the theme 'Innovate Together', which celebrates our University's vibrant ecosystem of research, education, and innovation, particularly in the MedTech and healthcare sectors. University of Galway continues to pioneer advancements that not only enhance learning but also drive real-world impact in communities locally, nationally, and globally. As a university at the forefront of health sciences, engineering, and technology, we are proud to be a catalyst for change in these fields.

Galway's MedTech ecosystem thrives not only because of cutting-edge research but also due to partnerships that foster innovation and bring ideas from the lab to life, as evident in *Cois Coiribe*. Through these stories, you'll gain insight into how our researchers, educators, and alumni are making significant strides across a vast range of fields. From ground-breaking clinical trials to cutting-edge medical technologies, and from empowering youth voices to nurturing creativity through poetry, each feature reflects the power of collaboration and innovation.

Professor Fidelma Dunne highlights why Ireland is emerging as a global leader in clinical trials, discussing advancements in diabetes management and healthcare innovation. Professor Martin O'Halloran shares the inspiring journey of BioInnovate, which bridges the gap between laboratory research and patient care by nurturing future health innovators. Meanwhile, Professor Abhay Pandit of CÚRAM discusses how we can live better as we age through breakthrough medical devices developed here in Galway.

Our new Institute for Health Discovery and Innovation, led by Professor Ted Vaughan, consolidates and amplifies the University's strengths in biomedical science and engineering, driving forward the next wave of healthcare solutions.

Beyond the sciences, we feature voices that shape policy and practice, such as Professors Colette Kelly and Saoirse Nic Gabhainn, whose work in health promotion has informed youth health strategies across Europe for the last two decades. Dr Kathy Reilly highlights the importance of engaging young people in tackling the climate crisis, and Professor Donna Potts reflects on how Galway's unique cultural landscape continues to inspire her poetry, reminding us that innovation is not limited to science but spans all aspects of life and learning, while Director of Sport and Physical Wellbeing, Des Ryan's vision for inclusive sport underscores our commitment as a University to inclusivity and excellence across all areas.

And finally, we celebrate personal journeys that began here at the University of Galway and led to global success. Alumni like Dr Maciej Dabrowski and Dr Emir Muñoz share how their time in Galway's Data Science Institute opened doors to careers at Genesys, showcasing how innovation and opportunity intersect, and Dr Thamil Venthan Ananthavinayagan reminds us of the transformative impact of a University of Galway education.

Mar fhocal scoir, as Interim President – and someone who has dedicated many years to advancing biomedical engineering – it is a particular point of pride to see how our University has become a world leader in this field. Having been a pioneer in the development of biomedical engineering at the University, in Ireland and internationally, I know first-hand the impact that innovation, collaboration, and determination can have in pushing boundaries and driving progress. Our biomedical engineering and science research and education programmes at the University are a critically important part of a thriving academia-clinical, practice-medical device industry ecosystem that has had enormous international impact, with Galway becoming one of five global hubs of the medical device industry.

As you read through these stories, I hope you feel as inspired as I do by the dedication, creativity, and partnerships that define our University community.

Le gach dea-ghuí don bhliain atá romhainn.

Ollscoil na Gaillimhe
University of Galway

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For more information visit
Galway University Foundation

Ireland's MedTech Timeline

1922

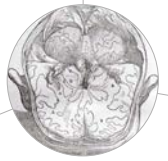
Ireland secures independence

1935–46

International medical companies (Johnson & Johnson and Abbott) set up in Ireland.

1936

First posterior fossa craniotomy in Ireland.



1949

IDA formed. Begins work to attract international companies.

IDA IRELAND

1953

Watson and Crick publish on DNA.

1993

Medtech companies in Galway begin R+D into ventilators and coronary balloons.

1994

Boston Scientific comes to Galway , occupying some of the former DEC Digital Hardware space in Ballybrit.

Boston Scientific

1997

Western Development Commission is established and becomes a significant investor in indigenous medtech companies.

Dolmen files its first medical device patent.

Establishment of Cerus Medical, now Aerogen in Galway; is one of the largest Irish-owned medical device companies supplying own devices in over 75 countries.

dolmen

1998

Caradyne was established (Irish-owned respiratory medical device company that was acquired by Respironics in 2004/05).

1998–99

University of Galway launches first Biomedical Engineering Degree. First graduates were in 2002, providing specific training for the growing medical device industry.

2003

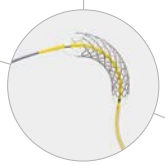
Science Foundation Ireland founded.

Irish Medical Device Association founded.

Science Foundation Ireland sfi For what's next

2005

Medtronic launches drug eluting stent.



2006

Alcon Ireland starts production of intraocular lens.

2009

Cook Medical Limerick manufacture ground-breaking new stent.

Boston Scientific Galway launches Promus stent into Europe.

2010

Irish medtech company Creganna expands into America and Singapore.

CREGANNA MEDICAL

2011

BioInnovate Ireland was launched.

BIOINNOVATE NEEDS DRIVEN OPPORTUNITY

1959

Taxbreaks for foreign companies setting up in Ireland.

1965

Irishman Frank Pantridge invents portable defibrillator.

1972

Baxter begins manufacturing medical devices in Mayo.

1973

Ireland joins EEC.

Beckman Coulter opens a diagnostics facility in Galway.

Abbott begins manufacturing medical devices in Sligo.

1974–75

First coronary bypass/ graft in Ireland (Maurice Neligan)

1977

L.I.P Diagnostic Services was opened as the first indigenous medtech company in the Galway area.

1985

First heart transplant in Ireland (Maurice Nelligan and Freddie Wood

1990

Irishman David Bouchier-Hayes pioneers era of keyhole surgery.

1991

CR Bard Galway files its first medtech patent in the US.

2015

CÚRAM SFI Research Centre for Medical Devices established.

350 medtech companies in Ireland.

27,000 people were employed in the medtech sector.

€8.5 billion worth of medtech exports.

2016

Medical and Engineering Technologies (MET) Gateway establishes at ATU.

2017

Johnson & Johnson buys Irish stroke care firm Neuravi in multimillion euro deal.

2018

Patent applications at the European Patent Office (EPO) from Irish companies and inventors grows by >21%.

2020

COVID-19 pandemic lockdown begins in Ireland on 12 March.

Ireland's medtech community comes together to fight the COVID-19 pandemic.

The INSPIRE Project Team made up of Clinicians, Engineers and Academics form in response to the COVID-19 pandemic.

OECD ranks Ireland fifth in the world for global exports of COVID-19 related goods.

Oct 2023

University of Galway and Medtronic announce €5 million signature innovation partnership to advance healthcare technology.

May 2023

University of Galway launches Ireland's first Institute for Clinical Trials.

Mar 2024

Scientific Director appointed TERMIS Global President-Elect.

Jun 2024

CÚRAM SFI research centre reports 12-fold return on Government investment in 10 years.

Oct 2024

University of Galway launches Institute for Health Discovery and Innovation.

Credit: CÚRAM, Mirador Media and Irish Medtech.

Why Ireland is a Standout Choice for Clinical Trials

Prof Fidelma Dunne,
Professor in Medicine at the College of Medicine, Nursing and Health Sciences, University of Galway and Interim Director of the Institute for Clinical Trials

Ireland offers a centre for MedTech and healthcare innovation; why can't it be a leader in clinical trials as well? Here, *Cois Coiribe* connects with Prof Fidelma Dunne, Professor in Medicine at the College of Medicine, Nursing and Health Sciences, University of Galway and Interim Director of the Institute for Clinical Trials. She offers insight into the state of healthcare and clinical trials, and she explores advancements in diabetes medicine and management. Read more below to get a glimpse into Prof Dunne's vision for Ireland.

Cois Coiribe (CC): Tell us a little about your background.

Fidelma Dunne (FD I am a Professor in Medicine at the College of Medicine, Nursing and Health Sciences, University of Galway, and am currently the Interim Director of the Institute for Clinical Trials. I'm a Galwegian; I went to medical school in Galway, and then on to the UK for postgraduate training. I returned to Galway in 2003 and have worked here in the HSE and the University ever since. It was great to come back to my alma mater because I really wanted to give something back. Recently, I've taken up this role as Interim Director of the Institute for Clinical Trials, and I feel truly challenged and delighted. My specialty is diabetes and endocrinology, and this has been a fantastic area to work in. There has been an explosion of treatments in the last number of years for diabetes. I have a particular interest in diabetes and pregnancy. I learned that treating the mother with diabetes and her infant in utero can have huge implications for the future health of both of them, and this translates into better health of families.

CC: Tell me about the Institute for Clinical Trials – what are the key research priorities for the Institute at the University?

FD: The Institute was set up in May 2023. In Ireland, we are good at completing clinical trials; the quality of the trial evidence we produce is excellent, but the number of trials is small. We are behind comparable European countries in the number of trials we complete. Despite a rich ecosystem in the West of the country, particularly in the MedTech space, we are not delivering the expected number of trials. This is due to a number of blocks nationally in the setup of clinical trials. The objective of the Institute is to try to solve these problems by working with key stakeholders.

Within the Institute, we have five pillars of critical activities. The first is building relationships, with industry, MedTech, and other academic institutions in Ireland and abroad with the US and Europe. We need to face outwards and develop bigger collaborations to ensure higher involvement in clinical trials and higher impact.

The second pillar is showing we can deliver trials in an efficient and predictable way. The current problem is the 12 to 18 months ▸

delay in setting up a trial before it starts enrolling participants. We are addressing this through a Hypercare process we have established in Pillar 2. In this process we work with sponsor companies in their preparation for submissions to the national regulatory body (HPRA) and national research ethics committee (NREC). We also guide through contract negotiations. We hope Hypercare will streamline these processes and reduce delays allowing trials to quickly move to patient enrolment. This approach aims to make the setup of trials more efficient and reproducible.

Pillar 3 focuses on methodology. Currently, everything is centralised – ordinarily you have to come to a hospital site or Clinical Research Facility (CRF) to participate in a trial. The institute will work with the HRB Methodology Research Network to help design, innovative trials incorporating AI. We also need to use routinely collected data better. Take, for example, diabetes clinics in all hospital, community, and primary care sites, there is a lot of data collected. We could use this data to answer important questions pragmatically without completing an expensive clinical trial.

Pillar 4 is about education – training and building capacity. Trials need doctors, nurses, research associates, biostatisticians, economists. Without such a skilled workforce, trials could not happen, and Pillar 4 is focused on the education and training of the workforce and building capacity.

Lastly, Pillar 5 focuses on policy and guidelines. A great trial will only have benefits for patients if it informs policy and guidelines, and we have expertise in navigating these areas in Pillar 5.

CC: That process seems a well-considered approach. What else do you need for success?

FD: The Institute cannot stand alone and be successful; we have to look at the ecosystem of the University. This is where the Institute for Health Discovery and Innovation (IHDI) is important. Through it, we will have a pipeline of emerging innovations that will need to be tested in humans. Working with the IHDI we will be aware of what is in development and know that a number of new discoveries will come to the Institute for Trials in a few years. We need to make sure these proposed innovations will be acceptable and deliverable to patients. For example, in diabetes, a new sugar-monitoring device must be practical for patients to use; otherwise, it will not be adopted. Engaging clinicians and patients early helps refine both innovation and product design, increasing their chances of reaching clinical trials.

They have realised the very strong link between clinical trials and the health of the nation and the economic advantages and this has driven the clinical trials space.

The other groups that are going to influence our Institute activities are CÚRAM and BioInnovate, and the expertise that exists within these groups. We must focus on MedTech over the coming decade. We have had interesting input nationally from Lord James O'Shaughnessy from the UK House of Lords. He did an exercise in the UK examining the roadblocks to clinical trials there and shared his knowledge with us nationally. He said that, as an outsider looking into Ireland, our unique selling point is the MedTech space. We need to use this incredible ecosystem around us, and we have the building blocks to make this very strong.

CC: Has the University always been involved in trials to some capacity? Has it become evident that clinical trials are the way forward for discovery in healthcare?

FD: Yes, we have been doing clinical trials, but not enough of them. In Denmark, which is comparable to Ireland in size, population, and economy, they are doing six to 10 times the number of trials we are doing. They have realised the very strong link between clinical trials and the health of the nation and the economic advantages and this has driven the clinical trials space. For every euro that goes into clinical trials, the economy gains €4. In July 2023, Minister Donnelly set up the National Clinical Trials Oversight Group (INCTOG) to examine both problems and solutions and create an implementation plan in the clinical trials space. I represent the Institute on this group, and I look forward to a successful outcome from it.

CC: Do you think COVID-19 taught us how to collaborate – the most efficient and effective way to approach discovery?

FD: COVID-19 taught us that when we need a solution, everybody can roll in together and conduct a trial. It showed us that the development of a new vaccine doesn't have to take 10 years. It taught us about the process and benefits of platform trials and collaborations.

We know that platform trials involve enrolling a large population into a single trial that then has multiple treatment arms. For example, during COVID-19, many treatments were investigated and dismissed quickly if benefit was not seen, allowing the platform trial to focus on more promising options. This approach streamlines testing multiple treatments within one trial.

I think COVID-19 did smarten us up, but I'd like for us to continue to learn from what it taught us. Unfortunately, research and clinical trials are not always prioritised, but really, they need to be top of the agenda.

CC: Is Galway the right location to set up the Clinical Trials Institute?

FD: Absolutely. We have all the resources, the skilled workforce to guide a trial from beginning to end using the expertise within our five pillars. We are unique in being surrounded by a rich ecosystem of MedTech. This ecosystem also includes BioInnovate and CÚRAM. We also have a significant number of pharmaceutical companies in the Western region, so we are in a wonderful position here in Galway. We have many global collaborative networks we can link in with when we're trying to attract clinical trials or become partners in trials. ▸


Áras na Bitheolaío
Human Biology

> I completed the EMERGE trial last year looking at the use of a tablet called metformin to treat gestational diabetes (GDM), and this will likely impact national and global policy and guidelines going forward.

CC: Are there any notable clinical trials that have had significant impact on patient outcome or research so far?

FD: Within the Institute we have clusters of activities. One research cluster, the CORRIB Core Lab, focuses on imaging for cardiovascular disease. There is also the global INTERSTROKE study, which Prof Martin O'Donnell and colleagues have worked on. There are useful, practical outcomes from INTERSTROKE in relation to lifestyle choices. Another cluster focuses on cancer therapies and innovative new cellular options. Finally, across diabetes, colleagues are examining the use of stem cells for diabetes complications and healthcare delivery options for young adults with type 1 diabetes. In my own research, I completed the EMERGE trial last year looking at the use of a tablet called metformin to treat gestational diabetes (GDM), and this will likely impact national and global policy and guidelines going forward.

I would like to see the Institute as a centre for ideas, design, delivery, and dissemination of trials with global impact. We have both the people and the skillset to focus on new ideas and new trial designs.

CC: What marks Ireland out as regards excellence in clinical trials?

FD: When you talk to sponsor companies, they say that Ireland excels in the quality of data collected in clinical trials and that the retention of patients in Irish trials is very high. These are two really important selling points we should promote for hosting a trial in Ireland. By streamlining the setup processes and ensuring reproducibility of timelines together with the high quality of trial data and strong retention rates, Ireland is in a very good position for conducting clinical trials.

CC: Is population size a challenge in comparison to other countries?

FD: We are in a unique position because we are an island nation, with a homogeneous population. This can be an advantage for clinical trials. Where we are disadvantaged is that we have a large rural population where current access to clinical trials is difficult. Currently, we conduct clinical trials in level 4 hospitals, like Galway University Hospital. People in a level 4 hospital are not truly representative of the entire disease population. To do a trial in diabetes, ideally you should have people from the level 4 hospital but also from primary care, and from the community care hubs. With the new Regional Health Authorities, we can in time explore conducting clinical trials in a broader spectrum of sites. This is especially important for AI-related trials and technology-based trials.

> By streamlining the setup processes and ensuring reproducibility of timelines together with the high quality of trial data and strong retention rates, Ireland is in a very good position for conducting clinical trials.

CC: Historically, there would have been this ethical question about clinical trials, but do you see that kind of barrier slowly disappearing?

FD: I don't see the ethical question as a challenge at all. It is important to ask patients if they would be willing to be involved in a trial. I don't think there is any ethical dilemma in conducting a well-designed clinical trial, but you do need to take the time with patients to explain all that is involved, the benefits and risks. In fact, I would say that in modern healthcare, clinical trials should be a usual standard of care. So, if you have breast cancer, I should be able to say: this is your care, the available tests, the standard treatments, and the clinical trials that are going on. I think Trial A would be suitable for you. It's an ethical concern to me that inefficiency is preventing trials coming to Ireland and patients with conditions that might be helped by a new trial medicine cannot access it in a timely manner. For example, for rare diseases or advanced cancers with no standard treatments left, clinical trials may be the only option. With limited time, I believe it's ethically wrong to create unnecessary barriers preventing access to these trials.

CC: Do you feel there's a duty of care to undertake clinical trials? And where does your own passion come from?

FD: Absolutely. I sometimes think if I never did any research, I'd be doing the same thing I did 20 years ago. What's the point in that? If you can do it, you have a duty to do it. If you don't, you're not fulfilling what your profession encourages you to do, which is advancing healthcare and patient care by exploring new options.

Find out more about
College of Medicine, Nursing and Health Sciences

Find out more about
Institute for Clinical Trials

CC: Are you excited about trials that could transform management of diabetes; how a person can comfortably live with diabetes?

FD: In type 2 diabetes – diabetes that is not dependent on insulin (90% of diabetes) – two new medications have transformed healthcare. GLP-1 analogues are the drugs you hear about for weight loss. They were originally designed for patients with diabetes. They have really improved the care of patients with Type 2 diabetes in respect of glucose control, weight loss, protection of kidneys, and lowering cardiovascular risk which is high in people with type 2 diabetes. It is a similar story for another class of drugs, the SGLT2 inhibitors. They also have improved outcomes for those with type 2 diabetes. In type 1 diabetes, the revolution is in continuous glucose monitoring (CGM) and insulin pump therapy. Nowadays, you can wear a device that tells you what your sugar level is continuously. We also have smarter insulins and insulin pen devices, and the icing on the cake is pump therapy, which delivers insulin according to your sugar level. In pregnancy, small changes in glucose can lead to significantly improved outcomes. For example, sugar control targets are stricter for pregnant women than for those who are not pregnant, improving outcomes for both mother and baby. However, tightening sugar control increases the risk of hypoglycaemia, which must also be managed. For pregnant women with type 1 diabetes, continuous glucose monitoring and hybrid closed-loop pump systems are now the standard of care. In Galway we participated in the international trials in this area.

> In five years' time, I would like to be able to say: the Institute of Clinical Trials has been instrumental in sorting out the barriers to trials in Ireland, and our trial set up times are efficient and reproducible.

Of course, communicating the value of hybrid closed-loop systems to the Department of Health is challenging, due to their cost and staff intensity, as they require extensive training, frequent data review, and communication.

In the EMERGE trial in pregnancy, we looked at a tablet called metformin in women with gestational diabetes. We found it to be effective. Women were 25% less likely to require insulin, they gained less weight and preferred it as a treatment option. Babies were lighter at birth and less likely to be obese at birth. There were no new unexpected issues seen for mothers or their babies exposed to metformin. If you look at the impact of that trial globally, a huge amount of gestational diabetes occurs in emerging countries where insulin is unavailable or unaffordable. Metformin which is cheap may be the only option for treatment. Gestational diabetes increases the chances of obesity and diabetes for both mother and infant, so treating it effectively is essential.

CC: What would you like to see in the next five years with the Institute?

FD: In five years' time, I would like to be able to say: the Institute of Clinical Trials has been instrumental in sorting out the barriers to trials in Ireland, and our trial set up times are efficient and reproducible; that we have attracted increased income to conduct trials from funders and industry because we can show effectiveness; that we are the go-to place in Ireland to conduct early feasibility and first-in-human studies in the MedTech space; that we are working effectively with the IHDI and have a pipeline of innovations coming to our Institute; that we use AI and big data during trial design to see if trials can be more efficient and cheaper; that we are delivering trials with impact and recruiting participants from a variety of health care settings.

CC: Any final thoughts you would like to share with *Cois Coiribe* readers?

FD: I think it is important to conduct trials in diseases impacting health in Ireland e.g. cancers, cardiovascular disease, obesity, chronic diseases like diabetes. Trials in these areas may focus on MedTech, new medicines and innovative processes for delivering healthcare. 'University of Galway's Institute for Clinical Trials is well placed to be a leader in clinical trials over the coming years'

Professor Fidelma Dunne MD, PhD, FRCP (UK), FRCPI, MRIA
Fidelma Dunne is a Professor of Medicine, Clinician Scientist, and Interim Director of the Institute for Clinical Trials, University of Galway. She completed undergraduate training at the University of Galway and postgraduate training at University of Birmingham. She holds an MD (University College Cork), PhD (University of Birmingham UK), Masters Medical Education (University of Dundee Scotland), and Master's Clinical Research (University of Galway). She was a Fulbright scholar at Columbia University New York in 2015. In addition, she is the Director of the All-Ireland Clinical Trial Network in Diabetes and an Adjunct Professor at Steno Diabetes Research Centre Odense Denmark (2020–2025).

Bridging the Gap: How BioInnovate is Bringing Health Technology from Laboratory to Industry

Prof Martin O'Halloran,
Professor of Medical Electronics at University of Galway and Executive Director of BioInnovate

How do you get fantastic ideas that will improve people's health from the university lab to the local clinic? This is the challenge BioInnovate has been tackling for 12 years as part of the MedTech sector in Galway. In this article Prof Martin O'Halloran, Established Professor in Medical Electronics at University of Galway and Executive Director of BioInnovate, explains the unique recruitment process BioInnovate uses to find the health champions of the future, and his passion for bridging the gap between research and patient care through innovation.

> ...we're in an academic institution, but we have to produce projects and people that are commercially oriented. [...] Our Advisory Board keeps our interests aligned to the market. It's this that lends to our confidence that those 2.6 to 2.7 companies coming out of the programme will succeed and scale.

Cois Coiribe (CC): Hi, Martin. To begin, could you briefly describe your background?

Martin O'Halloran (MO): I'm originally from Galway. My undergraduate degree is in Electronic Engineering, completed at University of Galway, and I followed on with a PhD in Electronics Engineering. Something I've always been really passionate about is patient impact. Because of this, in 2012 I re-trained in clinical research to understand how to do clinical trials. This is what led me down the path I'm on today.

CC: We're going to talk about BioInnovate Ireland – could you describe what it does and how it got started?

MO: BioInnovate Ireland is a global centre for innovation in medical technology. We were founded in 2011 by a network of thought leaders from across Ireland, Europe and the US, led by the late Ian Quinn. The programme leveraged a proven framework, Stanford Biodesign, to develop a talented, motivated and multidisciplinary pool of innovators to shape the future of healthcare on a global scale. Since its inception, the success and reputation of BioInnovate has grown immensely across the MedTech and healthcare sectors.

BIOINNOVATE

NEEDS DRIVEN OPPORTUNITY

CC: How does BioInnovate align to Stanford Biodesign?

MO: Our BioInnovate programme produces 2.6 to 2.7 start-ups annually, on par with Stanford's programme, and members of our Fellowship programme meet with Stanford's Fellows every year. In fact, Biodesign's two founders, Paul Yock and Josh Makower, often come to Ireland to meet our Fellows. The relationship is strong, and we're really keen to maintain it. We're proud to be Stanford's only official affiliate in Europe.

As a solutions-oriented programme, BioInnovate's research is focused on addressing real needs. Crucially, we advise that the question should be: Can you build an investable business, taking your concept from an idea all the way to a medical device? This line of thinking is a way to get technologies out of the University and into the clinic. ▸

CURAM, University of Galway

12 years contributing to the health technology sector

2.5 producing more than 2.5 companies per year

1/8 of the 450 Irish-owned MedTech companies in Ireland participated in BioInnovate

CC: What strengths does BioInnovate derive from its location here at University of Galway?

MO: University of Galway's location offers a few ingredients that make the BioInnovate programme work. One of the most important ones is human capital. In the region, there are people who have been working in the multinational sector for years. They might be a senior engineer or a person at manager level, and then they say: look, maybe I'd like to do this myself. We often recruit from big-name MedTech companies, drawing interest from people who say: okay, maybe I'll try to start my own company in this space. The other element is the closeness and engagement with University Hospital Galway. This proximity gives us a unique kind of clinical access for the programme.

CC: Can you talk us through BioInnovate's unique recruitment process?

MO: We usually start recruitment in November, and we get hundreds of applicants each year. These are screened by the operations team, with support from the Advisory Board. Following this, we run a day-long recruitment and interview process. Rather than interviewing the candidates in a traditional format, we give them a taste of the programme over a day. This manifests as technical challenges, speed interviews, and leadership exercises.

All we do on the recruitment day is assessed by 20 to 30 reviewers, these being people who have started and scaled MedTech companies themselves. There are also investors: Angel Investors and Venture Capital Investors. What we're trying to do is select the people who, in two to three years' time, are credible candidates to receive investment from those same interested parties. Ultimately, we are de-risking the process by getting the voice of the investor in the room from the very start.

Support from our advisory board here is crucial. Our Advisory Board keeps us honest, as well as ruthlessly market oriented. What we mean by that is we're in an academic institution, but we have to produce projects and people that are commercially credible. There cannot be any vanity projects in BioInnovate. Our Advisory Board keeps our interests aligned to the market. It's this that lends to our confidence that those 2.6 to 2.7 companies coming out of the programme will succeed and scale, anchoring the medical device sector in the West of Ireland.

CC: How do you see the programme's contribution toward the future of health technology innovation?

MO: The BioInnovate programme contributes in many ways. This might be through facilitating start-ups in Ireland or offering tailored training. We maintain relationships with Medtronic, Boston Scientific and Abbott, for example. There are three different industry training offerings: the 10-week immersive course, 3-day fundamentals course for professionals, and a 3-day C-Suite executive course.

As for the future of health technology innovation, to give an example, one year we looked at cancer care and talked to lung cancer surgeons. We asked them: What's the most important thing for your patients? They said: that I can look my patient in the eye and tell them they're cancer free.

To understand, the first-line treatment for lung cancer is open surgery. The healthiest patients get open surgery, and the patients who have less lung function often get radiotherapy. At the start of that journey, the open surgery patients feel they're lucky. But then if you talk to both sets of patients six months down the line, often the radiotherapy patients feel much better because they don't have the side effects of

> I've said this before, but the currency of the BioInnovate programme is goodwill. It's conducted through the support of those willing to give their time [...] Going out of their way just to just to pitch in, and it's all about helping patients. That's what they're motivated by, and it's amazing to be a part of that community.

surgery, which are chronic pain, breathlessness, the inability to work, and so on.

In that observation, we identified that being cancer free is just one part of the problem. From a patient's perspective, what happens for the 5 to 10 years afterwards is also an issue.

Endowave, a company from the BioInnovate programme, is trying to solve this. What they do is, rather than cutting the patient's chest open and carving out the cancer, they're using minimally invasive ablation. Using this non-surgical approach, scarring and chronic pain are minimised. It's also a very small ablation, which means that you're protecting the functional tissue of the lungs and allowing that patient to have a much better quality of life, considering 10 years down the line.

That's the kind of thing I'm really proud of. The BioInnovate programme is giving a voice to patients' needs, and we're listening.

CC: What challenges do you experience bringing health technologies from the idea stage to regulatory approval?

MO: Typically, projects are funded for the first two years through Enterprise Ireland, which usually gets them to where they have built a prototype device, and maybe some pre-clinical testing. The challenge then is to raise more funding for the 'First in Human' study, and the next step is what's called a 'Pivotal Trial' in the US. That's a regulatory approval trial. In this sense, the process involves a series of fundraising activities participants must progress through, and it can take 5 to 6 years to go from concept to product.

The programme's industry mentors offer invaluable assistance throughout the whole timeline. I say this a lot: the currency of the programme is goodwill, and we have a huge amount of goodwill in the West. I don't know where it came from. It may be just that the late Ian Quinn – former chair of BioInnovate's advisory committee and namesake of the Ian Quinn Centre for Health Technology – and his cohort set a tone that we all aim to live up to, but it's very supportive. That's what we strive for in the BioInnovate programme.

CC: What role do partnerships play in BioInnovate's success, and how do you cultivate these relationships?

MO: There's a group of people we call "clinical champions", who facilitate the programme across the country. We joke that we're asking clinicians who obviously have loads of time and who don't have long patient lists, to do something else. Despite this clearly not being the reality, it's amazing that when we start in August each year, I get messages from clinicians saying: what can I contribute to this year? How can I facilitate it?

Recently, we were approached by someone who has an impressive history among MedTech companies, and they said: I just want to give back. He comes in regularly, and when he can't make the time, he rings and apologises. We often joke in the programme: I think this relationship is the wrong way around!

The partnerships we maintain are really inspiring, but we don't do anything to onboard this dedication, that's a West of Ireland thing. And it's a culture within MedTech. I can't take any credit for that, it's coming externally. It's this culture, and the fact that that the programme has produced 33 companies; BioInnovate's continued success reinforces its value. People see this and want to be involved.

CC: How does BioInnovate approach the challenge of designing technologies that are both scalable and accessible, especially in a resource-limited sector?

MO: In a way, MedTech is probably one of the most difficult sectors in which to start a business. Comparatively, if you sell a software product, the customer is the user. In contrast, in MedTech, the user (doctor), payor (insurer or government), and beneficiary (patient), are all different, with differing needs and priorities. Moreover, MedTech is highly regulated. It's a complex environment. So, what we try to do is de-risk that by getting into the weeds of the business plan; you need to know all stakeholders in that in that area. You need to understand what the regulator is going to ask, who the purchaser is, and how the insurers will deal with your product. You need to understand what motivates the clinicians and the clinical staff around them. ▸

> The partnerships we maintain are really inspiring, but we don't do anything to onboard this dedication, that's a West of Ireland thing. And it's a culture within MedTech. I can't take any credit for that, it's coming externally. It's this culture, and the fact that that the programme has produced 33 companies; BioInnovate's continued success reinforces its value.

There's a famous story in the US, where they were trying to understand why a certain brand of bandages was used by nurses, its sales overwhelming its competitor. It turned out that the nurses chose that particular brand because it was the only brand that could be opened one-handed. This made the difference.

That's what we try to do. We try to understand all motivations, all the actors involved, better than anyone else. It's then that you have a competitive advantage. Someone could be building the best bandage with the best wound-healing construction, but they're losing out because of a usability issue. It's really about understanding your customer, and that's what we're trying to do.

CC: How do you measure the success of programme participants' involvement, and what kind of impact do you hope to see in the long term?

MO: As an example, let's look at Luminate Medical, a company investigating the side effects of chemotherapy. When we were talking to oncologists, we asked: what really frustrates you about managing your patients?

One of the things they talk about is called peripheral neuropathy. When patients are going through oncology, they will start to notice tingling in their hands and feet, and that will, over time, develop into pain, and a loss of feeling. This then often ultimately means they're at risk of falls. The way oncologists deal with this is by measuring peripheral neuropathy at every treatment. If symptoms start getting worse, oncologists will often reduce the frequency of chemotherapy. What they're trying to do is find balance between wanting to treat the cancer, but also not wanting to create symptoms so bad that this patient is at risk of significant injury from a fall.

The solution that Luminate Medical offers is a device that goes on the hands and feet, which stops chemotherapy from getting to these extremities. A study is currently ongoing at University Hospital Galway with this technology. The way it works is that the Luminate Medical device is placed on one hand and one foot, allowing for the opposite hand and foot to operate as the controlled variables in the study. We've actually since been told by an oncologist that several patients wouldn't have needed to reduce chemotherapy treatments if the device had been on both hands and feet as opposed to one each. This tells us that the device is offering real results and that, in the future, it could allow for uninterrupted chemotherapy treatments, then leading to improved survival rates of cancer patients.

I love that example because the need came from a clinic in Galway, and the solution is now being validated in the same clinic, with the support of oncologist Prof Michael McCarthy.

CC: Finally, what has been the most rewarding aspect of leading BioInnovate for you personally?

MO: For me, the most rewarding thing is that I'm working with 12 really smart and talented people every year. It's difficult for these participants – they may be putting a number of things on the line, but there's such a buzz in the programme because of their motivation and drive. As people, they're immensely inspiring.

In terms of where I'd like to see BioInnovate go – the most interesting thing for me is those patient-prioritised needs. What we're trying to do is support acute care, but we also want to see what's happened afterwards, and how we can support patients once the acute event is over. I think if we can show successful companies delivering on patient or public prioritised needs, it will attract more investor appetite.

I've said this before, but the currency of the BioInnovate programme is goodwill. It's conducted through the support of those willing to give their time, and I'm never cynical about the health service when I see people like that. Going out of their way just to just to pitch in, and it's all about helping patients. That's what they're motivated by, and it's amazing to be a part of that community.

University of Galway

Prof Martin O'Halloran, Executive Director of BioInnovate

Provided by BioInnovate. Photo Credit: Martina Regan.

L–R: Kieran Hannon, Yanka Reis, Bender Ziegerink, Lara Coyne; Oncology Fellowship Team.

The **BioInnovate Ireland Fellowship**, fully funded by Enterprise Ireland, is a 10-month, full-time specialist medical device and digital health innovation programme. Based on the needs-led innovation approach first proposed by Stanford University, the programme guides multidisciplinary teams through a full cycle of innovation, from needs identification to designing and prototyping viable solutions as well as securing funding.

Professor of Medical Electronics at the University of Galway, **Prof Martin O'Halloran** is the Executive Director of BioInnovate Ireland, Europe's only official affiliate of Stanford's Biodesign Programme. Prof O'Halloran is also co-PI of CÚRAM, a Research Ireland (formerly Science Foundation Ireland) €100M National Centre for Medical Device Research, and is the Galway Lead for Health Innovation Hub Ireland, a MedTech innovation programme. He has been PI or Co-PI on grants with a combined value of over €40M since 2015, and he has also produced over 220 peer reviewed papers.

cúram
Centre for Research in Medical Devices

Finding Ways to Live Well as We Age

Prof Abhay Pandit,
Established Professor in Biomaterials and Founding Director of CÚRAM

In this feature, *Cois Coiribe* is delighted to share the insights of Professor Abhay Pandit, Established Professor of Biomaterials at University of Galway and the Founding Director of CÚRAM, the Research Ireland Centre for Medical Devices. Prof Pandit discusses the programme and its significant impact, including its fostering of direct applications and development of breakthrough medical devices. He demystifies CÚRAM and its crucial contribution to MedTech in the West of Ireland and beyond.

Addressing chronic disease to support healthy ageing is one of the most pressing public health and economic challenges of our time. The CÚRAM Research Ireland Centre for Medical Devices, a collaboration between ten research institutions across the island of Ireland, maintains a core objective to "support the human experience of illness, chronic pain and ageing from birth to end of life by developing innovative medical devices". Established in 2015, the Centre has since emerged as a global leader in medical device research, fostering collaboration between academia, industry, patients, healthcare professionals, and funders. It is committed to enhancing quality of life for individuals afflicted with chronic illnesses. To achieve this, our scientific programme addresses significant issues, technical hurdles, and the existing limitations pertaining to medical device design and functionalisation. Together, we catalyse innovation in the medical devices sector with a strong foothold in fundamental science and engineering.

CÚRAM establishes long-term strategic relationships that promote the advancement of medical devices

CÚRAM recently celebrated its tenth anniversary, and it continuously works with industry donors, foundations, and philanthropists to harness the power of its cross-sector community. In developing this brain trust of expert funders, CÚRAM's clinicians and researchers are sustainably resourced in an environment that is inspiring, fast-paced, innovative and entrepreneurial. In 2024, we were able to report a 12-fold return on investment over our ten years of operation. Our present value to the Irish economy is calculated to be €756 million, building on a decade of public investment, with an initial seed fund of €64.8 million through Research Ireland, formerly Science Foundation Ireland.

Here in Galway, in the West of Ireland, we are embedded in an incredibly strong and innovative MedTech ecosystem, which we aim to continue contributing to. Our efforts thus far have secured over €10 million for Irish industry collaborators through successful EU funding applications, enabling strategic long-term academic–industry–clinician relationships.

In terms of industry, CÚRAM offers new product introduction, device scalability, and conformance with medical device standards. Additionally, we facilitate favourable licensing terms and conditions alongside strict scientific and financial reporting structures.

In this way, we ensure that new technologies progress from research to real-world medical applications, driving patient care and medical device advancements, such as pain-alleviation devices, scar-preventing implants, next-generation of neuroelectrodes, degenerated-disc repair devices, and inflammatory bowel disease treating devices.

We know the value of education within the MedTech ecosystem. We support Teachers in Residence, and to date there has been dedicated training of over 400 primary and secondary teachers all over Ireland, with more than 8,500 students reached. Notably, there have been 14 curriculum-linked lesson plan kits co-created and evaluated. We embrace the input of industry partners, such as Boston Scientific and Medtronic, taking advantage of our progressive online platform. It's been an honour to see artists, researchers, teachers, and school children designing murals inspired by CÚRAM's research, and we are delighted to continue our partnership with Óide, providing interdisciplinary STEAM CPD workshops to secondary school teachers. It's these activities that reach the community directly and create a lasting a positive feedback loop. ▸

CÚRAM's research focuses on creating and translating medical devices that are guided by patient and clinical needs.

The Centre passionately connects the patient voice with the combined expertise and technologies of Ireland's leading scientists. These include clinicians and engineers from our partner universities, as well as international industry partners. Our research is shaped and guided by the invaluable perspectives of people with lived experience of chronic illness. As result of this effort, our outputs particularly benefit patients with chronic health issues, such as cardiovascular, musculoskeletal, neural, soft tissue, renal and urology, and respiratory diseases.

CÚRAM's research expertise spans biomedical engineering and sciences that include device design, integrating cutting-edge nanotechnology, microelectronics, soft robotics, and biosensor systems. These elements combine to develop devices that offer real-time health monitoring and therapeutic interventions. For example, tissue engineering and regenerative medicine use advanced biomaterials and stem cell technologies, addressing critical needs in chronic disease management and complex tissue repair.

There is increased and widespread use of medical devices in healthcare, but conversely there is a lack of optimal clinical trial designs, with no clear pathways for safe and effective use of new devices. We have a dedicated translational research platform at CÚRAM that works to enhance clinical study methods for medical devices. It focuses on biostatistics, health economics, regulatory analyses, and critical evaluation of study design to effectively translate fundamental concepts and designs into clinical use. In collaboration with the Health Research Board Clinical Research Facility Galway (HRB CRFG), experts in this area accelerate the translation of medical device projects and provide structured support for CÚRAM projects approaching clinical evaluations.

The Centre passionately connects the patient voice with the combined expertise and technologies of Ireland's leading scientists.

CÚRAM builds strong training networks for future healthcare innovation leaders.

People are at the centre of what we do. It is the talent of our researchers that allows us to have far-reaching impact. Ireland is one of the top employers of MedTech professionals in Europe, and this is thanks to our rich talent pool of third-level graduates and our dynamic supports for upskilling. Training programmes like those at CÚRAM are a hugely valuable component in our drive to create diverse and best-in-class talent. This is how we enable the future success and competitiveness of MedTech in Ireland.

CÚRAM's networks offer high-quality training, positively influencing the talent pipeline and adding significantly to Ireland's research infrastructure. We ensure an interdisciplinary approach is embedded in these programmes and support the new mission of Research Ireland, the first objective of which is "[to] promote the attainment and maintenance of excellence in the standard and quality of research and innovation". It's through these fantastic experiences for young researchers across CÚRAM that our built investment grows and strengthens our long-term impact in the MedTech field. By way of meaningful collaborative opportunities between researchers and public audiences, we create better understanding, input, and awareness of CÚRAM's research. The programme carries an importance in and for society, and it provides an avenue for researchers to symbiotically understand the needs of our society in a personal and meaningful way. This is the way forward, and this is the way we can ultimately increase the impact and value of our work for patients and their lives.

People are at the centre of what we do. It's the talent of our researchers that allows us to have far-reaching impact. Ireland is one of the top employers of MedTech professionals in Europe.

Professor Abhay Pandit is the Established Professor in Biomaterials and Founding Director of CÚRAM, the Research Ireland Centre for Medical Devices, hosted at the University of Galway. He is the author of 28 patents and has licensed four technologies to medical device companies. He has published over 350 texts, including senior author papers in journals such as *Science Translational Medicine*, *PNAS*, *Science Advances*, *Nature Communications*, and *Biomaterials*. He has been honoured with the *George Winter Award 2022*, the *Chandra P Sharma Award 2023*, and the Biomaterials Advances Innovation Award 2023 for his research contributions to biomaterials. He is a Fellow of the American Institute for Medical and Biological Engineering (AIMBE), the Tissue Engineering, and Regenerative Medicine International Society (TERMIS), the Irish Academy of Engineering, and the International Union of Societies for Biomaterials Science and Engineering (IUSBSE). He is currently the President Elect of TERMIS (Global).

CÚRAM | Spotlight On

Name
Dr Eoin McEvoy

College / Department
School of Engineering,
College of Science and Engineering,
and CÚRAM Research Ireland Centre
for Medical Devices

Introduction
Hi, my name is Eoin, and I am an Associate Professor in Biomedical Engineering. Our work focuses on the development of advanced computational and experimental models that provide new understanding of cell and tissue remodelling in cancer and immune-mediated disease, motivating novel mechano-therapeutics and treatment strategies.

Can you describe the main focus of your current research?
I currently lead an ERC-funded project to investigate the mechanobiology of tumour growth and therapy resistance. Within this space, we hope to develop a personalised framework to predict patient-specific outcomes in breast cancer, with ongoing projects such as spheroid and organoid analyses, as well as active cell-based computational modelling. We also have a number of other research topics spanning muscle atrophy, immune cell mechanobiology, and soft tissue biomechanics.

Name
Dr Catalina Vallejo Giraldo

College / Department
School of Engineering,
College of Science and Engineering,
and CÚRAM Research Ireland Centre
for Medical Devices

Introduction
I am originally from Medellin, Colombia, where I studied Biomedical Engineering at Universidad EIA and Universidad CES. I completed my PhD with Dr Manus Biggs at CÚRAM Research Ireland Centre for Medical Devices, based at University of Galway, in 2018. This focused on the modification of implantable electrode systems to improve their performance when used, for example, in neural recording and in deep brain stimulation in patients with neurological disease such as dystonia and Parkinson's disease.

Can you describe the main focus of your current research?
My current research is based on my previous work on the advancement of biomaterials for neural-electrode interfaces. Thanks to my earlier findings, my laboratory focuses on expanding the understanding of the fundamentals of cell–cell interactions in 3D cellular configurations to simulate specific brain diseases by applying physical and mechanical cues. This allows us to understand the critical changes in cell morphology, molecular markers, and sugar profiles to inform the development of novel biomaterial platforms to target these diseases.

Name
Dr Andrew Daly

College / Department
School of Engineering,
College of Science and Engineering,
and CÚRAM Research Ireland Centre
for Medical Devices

Introduction
I am an Associate Professor in Biomedical Engineering at the University of Galway and a funded investigator at CÚRAM. I lead the Biofabrication research group, where we focus on the challenge of 3D bioprinting functional human organs, with a particular focus on the heart. Our team is composed of talented researchers from diverse fields, including biomedical engineering, biomaterials, computer science, biotechnology and stem cell biology.

Can you describe the main focus of your current research?
My research focuses on 3D bioprinting functional human heart tissue. This is a challenging goal, as the heart is an incredibly complex organ with an intricate 3D anatomical architecture and over 11 major cell types. We're taking a unique developmental approach. Rather than attempting to directly bioprint the fully formed adult heart in all its complexity, we're mimicking how the heart forms in the embryo. We've recently discovered that specific shape-changing processes can improve the beating function of the heart cells within our bioprinted tissues, which is a very exciting finding.

Celebrating 10 Years of CÚRAM

Oct 2014

University of Galway establishes CÚRAM as a global hub of research expertise in medical device technology, with a backing of €68m.

Nov 2015

CÚRAM's Artists in Residence present The Chimera Art and Science Programme exhibit 'The Future is Here'.

Feb 2016

CÚRAM and Galway Film Centre launch new 'Science on Screen' project.

Jun 2016

CÚRAM secures top rank with €2.1m from EU for medical devices fellowship programme 'MedTrain'.

Jun 2016

Biomedical researchers in collaborative project to develop Ireland's first synchronised beating heart cells from human stem cells.

Oct 2019

CÚRAM develops cross-curricular lesson resources for PE and Science teachers.

Feb 2020

CÚRAM Investigator to lead €7.45m EU Horizon 2020 Research Project.

Aug 2019

Funding to advance development of 'Tight Alright' device to treat venous leg ulcers.

Feb 2019

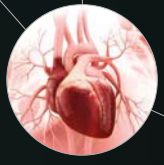
CÚRAM part of UK-Ireland joint initiative investment in training students.

Jun 2020

CÚRAM, RCSI and UCD co-fund a new National Preclinical Imaging Centre (NPIC).

Feb 2021

Researchers develop Hydrogel injection may change the way the heart muscle heals after a heart attack.



Mar 2021

Social Robot 'SuperMario' to improve patient-family communication in paediatrics.

Feb 2022

CÚRAM Scientific Director appointed TERMIS EU Chair

Jun 2022

CÚRAM Investigator Sharon Glynn, and PhD candidate Aoibhín Sheedy awarded Fulbright Scholarship.

Aug 2016

First co-funded clinical trial successfully completed with Arch Therapeutics studying the performance of the AC5 Topical Hemostatic Device™ in skin lesion patients with bleeding wounds.

Nov 2016

CÚRAM partners with centres in US and NI to develop new device for bone fracture repair.

Mar 2017

Announcement of international research collaboration with Mayo Clinic.

Apr 2017

Alliance for research and innovation in wounds launched.

Aug 2017

CÚRAM signed a collaborative research agreement with Factor Bioscience, a US-based biotechnology SME that is pioneering nucleic-acid and cell-based technologies.

Dec 2017

CÚRAM Scoops Top Award for Academic Contribution to Medtech.

Jan 2018

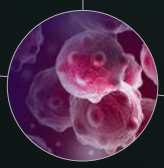
President of Ireland Future Research Leaders awardee joins CÚRAM.

Apr 2018

CÚRAM's Scientific Director first Irish academic to be elected to AIMBE.

Aug 2018

Study discovers first in world treatment strategy to address breast cancer relapse.



Aug 2023

Ireland leading the way in drive to make science laboratories more sustainable – led by CÚRAM's Una Fitzgerald.

Apr 2023

CÚRAM awarded over €7m funding to create 50 postdoctoral research positions.

Mar 2024

Scientific Director appointed TERMIS Global President-Elect.

Aug 2022

CÚRAM and Queen's University Belfast collaborate under Shared Island fund to tackle issue of hospital acquired infections.

Sept 2022

CÚRAM launches White Paper exploring how MedTech researchers and research centres can work to help bridge the research-policy gap.

Jun 2024

CÚRAM SFI research centre reports 12-fold return on Government investment in 10 years.

Collaborating for Health: The New Institute Looking at Tomorrow's Health Solutions

Prof Ted Vaughan,
Professor in Biomedical Engineering and
Interim Director Institute for Health Discovery
and Innovation, University of Galway

Cois Coiribe talks to Professor Ted Vaughan, Professor in Biomedical Engineering and Interim Director of the brand-new Institute for Health Discovery and Innovation at University of Galway. The new Institute consolidates a huge amount of the activity across the University in the fields of biomedical science, biomedical engineering, regenerative medicine and beyond, bringing researchers together to work in health discovery and innovation. Prof Vaughan explains how the Institute looks to tomorrow's healthcare by focusing on gaining new understanding of disease and developing disruption solutions to health-based challenges, while benefitting from the support of Galway's close MedTech community. Read on as we get a glimpse into Prof Vaughan's experience as a researcher and Institute Director.

The Research

In this section we look at Professor Vaughan's innovative research in biomechanics and the advances being made toward medical devices that work better with the human body.

Cois Coiribe (CC): Hi, Ted. Can you please tell us a little about yourself and your background?

Ted Vaughan (TV): I'm Professor in Biomedical Engineering at the University, and I'm also Interim Director of the new Institute for Health Discovery and Innovation. I'm from Cork, but I graduated from the Mechanical Engineering programme at University of Limerick. I did my Bachelor's degree, and my PhD in the Behaviour of Advanced Materials, at University of Limerick. From there, I took up a post-doctoral research position here at University of Galway, working in the area of Bone Biomechanics. In 2015, I was appointed as a lecturer, and I've since built a research group that focuses on Experimental and Computational Biomechanics, with a special interest in medical devices. I've been working in those areas over the past 10 years or so.

CC: In the context of medical devices, we are used to incorporating traditional engineering materials, such as stainless steel, cobalt chromium, or titanium. They

are used in both orthopaedic and cardiovascular applications. If you consider orthopaedic screws for treatment of a traumatic fracture, the surgeon will have a range of different fixation devices to stabilise that fracture. The challenge comes when the impacted area heals over time. Bone and tissue growth occur around those fixation devices, and, in many cases, the surgeon will actually leave those screws or plates in place. In this situation, they will become implanted permanently. They'll stay there for the rest of the patient's life. Alternatively, in some cases, those items have to be removed in a subsequent surgery, which can lead to risks of infection and other complications.

With a biodegradable alternative, the idea is that you implant what is either polymer or metal-based bioabsorbable material. It then serves a load-bearing function for a number of weeks or months. Once that function has been completed, the material gradually begins to degrade. It's absorbed naturally through the body's metabolic processes. So, as the bone grows, that implant gradually degrades and is dissolved away. Over time, the healing tissue completely replaces the fixation device. There's no need for a second surgery, and you don't have the complication of a permanent implant embedded in the tissue. ▸

CC: What challenges do biodegradable materials present, and how do you approach these?

TV: Figuring out the timespan of degradation for a particular device is one of the most difficult challenges we have in that field at the moment. With the materials available – certainly, the metal-based ones – one of the main sources of concern is that they degrade quite quickly. It presents certain hurdles in the actual design of those devices.

Because of this, we are looking to optimise the design of these devices, aiming to prolong their lifespan prior to degradation. In doing so, we can ensure they can fulfil a load-bearing responsibility for the required time. Action areas could include minimising weak points in that structure, or we might explore novel options such as coatings. A coating essentially provides a barrier of resistance for that initial degradation process, ultimately prolonging the life of the biodegradable implant.

CC: What would you see as your most significant research insights or breakthroughs?

TV: For nearing a decade now, I've worked toward a technical development aspect combatting device degradation in collaboration with a biomaterials company, Meotec Gmbh located in Aachen, Germany. Together, we've made strides to optimise one of their coating processes, the same we spoke of earlier, which provides a barrier for biodegradable materials. Through this process, we've really learnt a lot and gained many key insights into the mechanism by which that coating works. It has informed how we can effectively design devices using that coating, and how it might be further optimised to prolong the load-bearing function of a given device.

CC: And how might patients benefit from these advances?

TV: One of the main fields for biodegradable implants is Paediatrics. A major issue with permanent implants in young people is that their bones are still growing. If you use a permanent implant in a surgical procedure, you can restrict bone growth. In that sense, finding an alternative is actually much more important for young people than it is for older adults, where their skeleton has stopped growing. Already, orthopaedic screws for the treatment of fractures in the bones of the foot have been developed using these coating technologies and are now actively used in clinical trials. Developing a product and getting it to that stage is challenging in itself and, at this point, they are showing positive results.

Our researchers have a keen sense of whether they're conducting fundamental research versus applied research. But a key goal of the Institute is to get people across that spectrum working together. Our [researchers] come together to tackle distinct health-based challenges, all working together through interdisciplinary research.

The new Institute for Health Discovery and Innovation

The brand-new Institute for Health Discovery and Innovation was launched on 10 October 2024, with Professor Vaughan as its Interim Director.

CC: Congratulations on the recent launch of the Institute. Can you tell us about its key areas of research?

TV: The overall mission of the Institute is to accelerate fundamental and applied understanding of disease, and to enable disruptive solutions to health-based challenges – put simply, to improve our understanding of disease and provide better solutions. What the Institute does is consolidate a huge amount of the activity across the University in the fields of biomedical science, biomedical engineering and beyond. It brings these researchers under a clear identity of people who are working in this area of health, discovery and innovation.

In terms of key areas, the structure within the Institute is founded on 3 pillars.

Our first pillar is **discovery**. This is mainly scientists carrying out fundamental research into the underlying mechanisms of diseases, trying to better understand their progress and development. This is a key part of being able to provide treatment or interventions. These scientists work across a wide number of diseases, so it's not disease specific. Examples are cardiovascular disease, diabetes, cancer, neurodegenerative disorders, and a range of infectious diseases.

The second pillar is **enabling technologies**. This is where, traditionally, engineers, physicists and people working in new and emerging areas – like data science or computer science and machine learning – are based. This pillar is around developing novel technologies which will directly impact healthcare. Here, people work on things like imaging approaches and diagnostics.

If we use cardiovascular disease as an example, we might ask how we better visualise cardiovascular disease, and how does that then help clinicians and doctors? How do we help them make decisions around interventions or treatments?

The third pillar is **health-based challenges**. Our researchers have a keen sense of whether they're conducting fundamental research versus applied research. But a key goal of the Institute is to get people across that spectrum working together. Our engineers – or scientists or clinicians – come together to tackle distinct health-based challenges, all working together through interdisciplinary research. It's a culmination of pillar 1 and pillar 2, bringing together those who can make an impact in a particular health challenge.

CC: How do you plan to collaborate with academia, industry, and healthcare providers to ensure the Institute's research translates into real-world and relevant solutions?

TV: We have a range of mechanisms by which we collaborate with industry, and also with healthcare providers. There are different funding schemes, like the Horizon Europe Programme, where we can build large consortia. Opportunities like this bring together key expertise across academia, industry and clinical practice across Europe. We also collaborate through more local, national funding schemes, like Enterprise Ireland or North–South partnerships. We're extremely lucky here in Galway that we have such a vibrant medical technology industry. It's right on our doorstep, and the University has extremely strong links with so many of those companies, largely because our graduates have been going out and working with those companies for the past 20 to 25 years. The links between industry activity and the University itself have undoubtedly mapped and aligned to what we do here in the Institute.

CC: What opportunities do you see in healthcare innovation today? What are the challenges? How will the Institute address them?

TV: To provide a specific example – cardiovascular disease. If we look to where healthcare is going, perhaps we can turn our eye toward preventative medicine. So that's looking at things like: why does that disease develop in the first place? And why does that disease develop in this particular patient?

We have researchers with substantial expertise in genomics and bioinformatics, people who aim to understand and unravel the association between the development of a disease and an individual's genetic profile. The other area is better imaging and better monitoring technologies. This may enable more pre-emptive screening of patients, resulting in more proactive treatments. It's that idea of moving toward something more preventative, which could delay or negate the need for dire intervention.

CC: What significance does the Galway region have for the success of the Institute?

TV: When people mention Galway, they automatically associate the locale with the MedTech sector. The region is a key advantage, there's no doubt. I think the investment and prioritisation made by the University, specifically in the area of Biomedical Science and Engineering, speaks to that.

Over the course of a graduate's career, many opportunities can present themselves. My own research moved very gradually toward cardiovascular devices due to the substantial presence of vascular companies and vascular device manufacture here in Galway. Industry engagement can come in the form of undergraduate projects through the professional placement programme or higher-level collaborative R&D projects. We have students from programmes across the University embedded in these surrounding companies, which establishes a critical link to the surrounding industry. It's really an invaluable experience, and we're lucky that these projects and placements can be part of the student journey. Oftentimes, our graduates end up working long-term in the local MedTech environment, so it's a very symbiotic relationship between industry and university.

CC: Describe your vision for the new Institute. How do you see it fostering close collaboration with other University affiliations?

TV: Our MedTech ecosystem has several components that play a specific role within the innovation and implementation cycle. The University has a comprehensive pipeline that runs from fundamental discovery in the lab to patient care. It's important to note that these breakthroughs may ultimately take 15 to 20 years, depending on what type of treatment or technology is involved.

We have expertise and opportunities at each step of that pipeline, each supporting the other. What has happened in Galway, and particularly in the University, is that we're a very close community. That support between different programmes and people with varying expertise has always happened. With our new Institute, it's about formalising that – encouraging it even further.

At the University, we have flagship national programmes, such as CÚRAM or BioInnovate, that focus on clinic-ready medical devices. The Institute provides a comprehensive piece around that, right through from discovery to innovation. It's there to enable people's expertise to flourish – affording them things like lab equipment and space – and providing other supports as needed. It's all a part of the local ecosystem. As a new Institute, we're excited about the concept of everyone working in this space, and we want to see where the next quarter of a century and beyond can take us. The future is bright.

Prof Ted Vaughan is an Associate Professor in Biomedical Engineering and a Principle Investigator in the Biomechanics Research Centre at University of Galway. Prior to his faculty appointment, he worked as a Postdoctoral Researcher (2011–2015) at University of Galway and a Visiting Postdoctoral Scholar at the University of Notre Dame. Most recently, he has taken up the post of Interim Director of the new Institute for Health Discovery and Innovation at University of Galway.

A Youthful Picture of Ireland: Informing Health Policy and Practice Through Research

Prof Colette Kelly and
Prof Saoirse Nic Gabhainn,
Personal Professors of Health Promotion, University of Galway

Cois Coiribe connects with Prof Colette Kelly and Prof Saoirse Nic Gabhainn, both Personal Professors of Health Promotion at University of Galway. They lead the University's Health Behaviour in School-aged Children (HBSC) Ireland team, based in the Health Promotion Research Centre, a World Health Organization Collaborative Centre. Founded in 1990, the Centre is now based in the School of Health Sciences, College of Medicine, Nursing and Health Sciences.

Over the last 30 years, University of Galway has made major contributions to research in child and adolescent health policy and practice through the Irish HBSC study. This national study has been repeated seven times, every four years since 1998. Over time, it has had a substantial impact on policy and strategy around children's and young people's health and wellbeing. As a long-term project, it has established, monitored and shaped national indicators of child health. Through the Irish HBSC team's leadership, it has significantly enhanced youth participation in European policy making.

An evolving time capsule

The 1990s were a decade of change, and the precipice of those 10 years saw the turning of a century. This was something novel to most of the population. We were experiencing mass access to the internet for the first time, its use becoming commonplace in the home nearing the end of the 90s, and the vision of family and success was changing as we headed into the 2000s. We also felt the waning of conflict, and the years of the early noughties brought a sense of hope.

> The early studies were a real discovery, documenting for the first time the differences between girls and boys, across social classes and between age groups. Uncovering evidence of how the context of children's lives was related to their health was really fascinating.
> –
> Prof Saoirse Nic Gabhainn

The HBSC Ireland study now encompasses the thoughts and contributions of 82,000 children but, back in 1998, its first year of collection, it included the voices of 8,497 children for the first time. Before this, there was little evidence available on children's health and wellbeing across the nation. This new effort documented the context and patterns of children's health in Ireland, its efforts blooming into invaluable insights over the years to come.

> The HBSC Ireland study now encompasses the thoughts and contributions of 82,000 children.

HBSC is an international collaboration and, in 1998, research teams in 27 countries across Europe and North America took part. Now, the International HBSC network spans 51 countries from Canada to Kazakhstan and Greenland to Cyprus. The network has also grown to include linked projects undertaken in Africa, Asia, South America and Australia. The European office of the World Health Organization collaborates closely with the network. Data from these studies is crucial to understanding young people's health, tracking changes over time, and highlighting new issues, thereby contributing to the decision-making efforts of governments, NGOs, community groups and schools.

Recording the pulse of modern adolescent health

Every four years, school children ranging in age from 9 to 18 years across Ireland are invited to participate in the HBSC survey. With consent from the appropriate guardians, these children and adolescents complete a series of questions that record the pulse of the modern adolescent health landscape. Once only collected in paper format, a new avenue opened with online access, and this often presents the contemporary medium of data collection, with students typing their answers and clicking a submit button to document history.

Each survey round starts with agreeing core questions, decided in collaboration between 450 researchers involved in the HBSC network. They focus on health, health behaviour and the social contexts of health, each with a strong emphasis on continuity over time. In addition to these, emerging issues are introduced during each survey round. Examples include the introduction of questions on mental health, vaping and internet use and addiction. For older children, questions on gender and sexual identity are included. ▸

> Schools decide whether to use paper questionnaires or to take part online. The online option takes a lot of work to prepare in advance but saves time afterwards as the responses are delivered without delay to our computers in the University.
>
> – Prof Colette Kelly

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For each country, items of national interest are included in the mix. Ireland's survey has taken steps to draw up queries that speak to evidence gaps as well as questions that respond to stakeholder needs, including those of the participating children. Efforts have been made by the HBSC Ireland team to embed youth involvement, allowing children greater influence over the shape of the questionnaire, such as deciding on topics and specific questions, and offering them opportunities to explain the findings. For example, Ireland has recently included questions on the environment based on proposals from children, questions on period poverty based on requests from the Department of Health, and questions on sun-safety behaviour based on requests from the Institute of Public Health and the Cancer Control Programme of the Health Service Executive.

HBSC Ireland has led the development of youth participation in the study and international policy. Recently, it led the inclusion of children and young people in the WHO Child and Adolescent Health Strategy for Europe (2025–2030), developing protocols during this process which other country teams could replicate to include youth in their decision-making.

The world of young people in numbers

Every four years, new data comes to life that paints a picture of Ireland, composed by youthful hands. Sometimes they project a positive change; other times they depict negative changes across physical, mental and social health. No matter the result, the work is defined by the contribution of voices often drowned by the louder discourse of older generations. In this study, children are at the forefront, offering insight into their current lives and the physical, emotional and digital contexts they live in.

> **Over time HBSC trends have noted a reduction in smoking, drinking and cannabis use, and improvements in the context of children's lives like being able to talk to parents and having good places to spend free time in their local area. On the other hand, there has been an increase in dieting, feeling low and feeling pressure from schoolwork over the years.**
>
> – Prof Saoirse Nic Gabhainn

Some behaviours have changed little over time, for example, 19% report never having breakfast on weekdays, and 18% report they have gone to bed or school hungry because there was not enough food at home. One of the most negative recent changes has been a substantial reduction in sexually active 15- to 17-year-olds who reported that they used a condom which was 48% in 2002 down from 62% in 2018, while those reporting using no contraception at all increased from 22% in 2018 to 34% in 2022.

New issues covered in the recent studies reveal that 10% of girls reported period poverty and 60% of girls reported not being able to go to school because of period symptoms. Also new is the information on loneliness; 15% of boys and 26% of girls reported feeling lonely all or most of the time over the past 12 months.

HBSC Ireland findings are regularly used and cited in national and international strategy and policy documents. Notably, since 2017, over national and international 100 policy documents have cited statistics and observed evidence from HBSC Ireland. Not only have the youth of Ireland shaped the construct of decades through moments frozen in time, but they have impacted research on a global scale, offering insight from the eyes of a child.

Childhood and adolescence are important phases of life, particularly for learning and development, and set the stage for adulthood. Children face a range of unique challenges and opportunities in their lives, and while some of these repeat over generations, others can be completely new and confusing. HBSC Ireland's job is to collect and use the best possible evidence to understand what affects adolescent health, and how to improve children's lives, with a particular focus on reducing inequalities in health. The data is used to advocate for changes in policy and practice so that children can thrive in their homes, schools, neighbourhoods and communities. Continued research investment in this area is essential to understand how and why child and adolescent health changes over time and differs across economic, geographical and social settings. It's also a crucial vehicle to continue tracking whether policy changes are working to reduce disparities in health. By listening to children, we can understand their worlds and include their priorities in our goals to collectively build a healthier society.

Collaborating with children, policy makers, schools and practitioners has been really important to providing the evidence to support action for children. Our next report on trends between 1998 and 2022 will be available in early 2025, and we hope to start the whole cycle of the study for the eighth time in winter 2025/26.

– Prof Colette Kelly

All HBSC Ireland papers and reports can be found here.

HBSC network can be found here.

The World Health Organization's international findings can be found here.

Prof Colette Kelly is a Personal Professor of Health Promotion and has served as Director of the Health Promotion Research Centre (2018–2023) and Director of the BA Social Care programme (2011–2018). She has been Vice Dean for Graduate Studies in the College of Medicine, Nursing and Health Sciences (2018–2021), and also a member of Academic Council (2018–2021). Prof Kelly is a registered Public Health Nutritionist, and her research interests include child and adolescent health, food and nutrition, food environments, vulnerable groups and participatory methodologies. Prof Kelly leads the group dedicated to youth engagement across the Health Behaviour in School-aged Children (HBSC) network and sits on the overall study co-ordinating committee.

Prof Saoirse Nic Gabhainn is a Professor of Health Promotion and Co-Director of the World Health Organization Collaborative Centre for Health Promotion Research. She has degrees in Psychology and Health Promotion from University of Galway and the University of Nottingham. Since 1993 she has contributed across all of the programmes offered by the Discipline of Health Promotion, and she was Director of Postgraduate Research (2008–2015; 2019–2023), Chair of the University Societies Co-ordination Group (2014–2023) and member of Academic Council (2021–2024). Prof Nic Gabhainn co-leads the group on international policy development for the Health Behaviour in School-aged Children (HBSC) network and sits on the overall study co-ordinating committee.

Listening to Young People: The Key to Tackling the Climate Crisis

Dr Kathy Reilly,
Lecturer in Human Geography,
University of Galway

The CCC-CATAPULT project, co-led in Ireland by Dr Kathy Reilly, Lecturer in the field of Human Geography here at University of Galway, offers a powerful platform for young people to actively engage, placing human experiences and perspectives at the forefront and ensuring young people have a voice. In conversation with *Cois Coiribe*, Dr Reilly delves into the intersection of geography, activism, and education, illustrating how projects like CCC-CATAPULT are a critical shift toward a more inclusive and equitable approach to global discourse. Read more about the project and her involvement as a geographer who's passionate about positive impact.

The climate crisis, a global challenge, disproportionately affects young people. They face the consequences of environmental changes and policy decisions made today; however, they are often excluded from the decision-making processes.

I'm a geographer – though the communities I engage with are not what you might expect.
Geography is the thread that weaves our capacity to make sense of the world around us, exploring complex relationships between people and their environments, sensitive to diverse places and spaces. As a discipline, it celebrates diversity, its most fundamental level focusing on understanding the multifarious relationships between humans and our environments. Grasping how the nature of that relationship changes over time is at the heart of understanding the challenge of sustainability.

My work focuses on an often-unrepresented community – children and young people. Most recently, I explored how a group of young people in Galway City and County experience climate change and the climate crisis. This was possible through the CCC-CATAPULT project, which stands for Challenging the Climate Crisis – Children's Agency to Tackle Policy Underpinned by Learning for Transformation. Funded by JPI Solstice and EPA Research, the project brought young people into the research process, working with academics to examine their lived experiences and perspectives on climate change. As part of this initiative, data was co-produced by 16- to 18- year-olds in Galway (Ireland), Bristol (United Kingdom), Tampere (Finland) and Genoa (Italy), positioning Irish youth voices within a broader European framework. The Irish CCC-CATAPULT team was co-led my myself, alongside Professor Frances Fahy and Dr Bronagh Dillon.

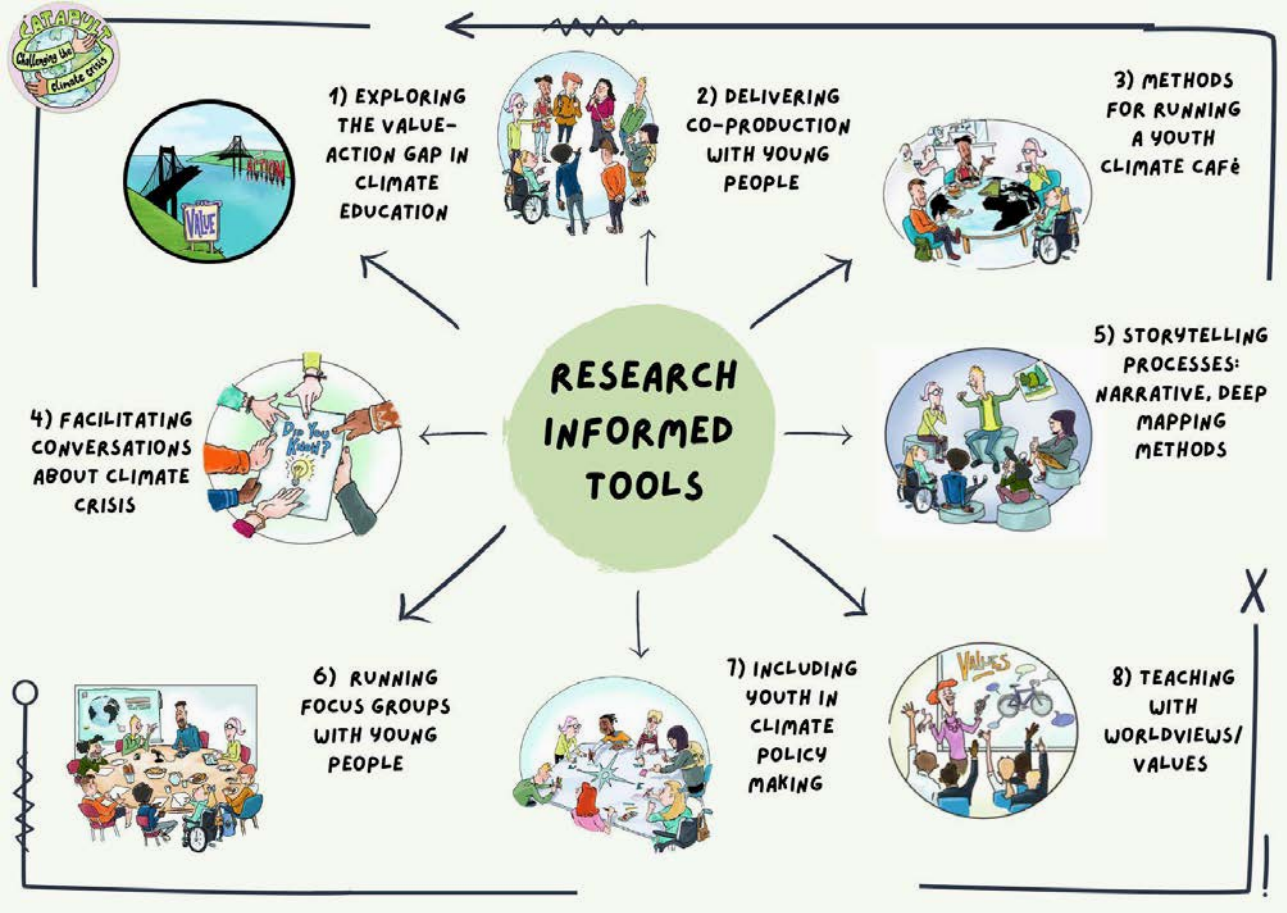
It is vital we listen to young people and include their voices in our ongoing efforts to tackle climate change. Young people are the future, but they are also important in the present. Understanding how young people experience this rapidly changing world, and their place in it, is central to developing effective solutions to the common challenges we face.

> CCC-catapult engaged over 2,000 young people, teachers and other supporters of climate education in Europe.

Engaging young people

CCC-CATAPULT engaged over 2,000 young people, teachers and other supporters of climate education in Europe. In Ireland, this included young people from 11 post-primary schools, representing over 800 young people. CCC-CATAPULT also developed a network of Youth Action Partnerships (YAPs), working with small groups of young people in Galway and across Europe in the co-creation of research tools, new knowledge, and understandings about climate crisis, ensuring that young voices were the driving force throughout the research process. ▸

> We advocate for transformative climate change education informed by and through young people's perspectives.



Key findings from the project include:

- Urban and rural differences in climate education, and formal and informal learning spaces, exist in the Galway region, and this has an impact on young people's engagement with the climate crisis.
- Intergenerational dialogue is seen as key to promoting climate change awareness, agency and trust.
- Teachers and educators require a supply of climate-focused professional development and training opportunities.
- Young people in Galway emphasised the importance of family members' role in contributing to their informal learning about, and strengthening connections to, places that young people consider of personal significance.
- Although different mechanisms and platforms exist in Ireland, young people maintain that these are limited, and that they still feel marginalised and excluded from national conversations about climate change.

The impact of CCC-CATAPULT's project was immense: young people were actively engaged in every stage of the research process, from designing the study and piloting of materials to prioritising and communicating the results. This significantly impacted young people's climate literacy, and contributed to personal development tropes, including confidence, resilience and self-awareness – qualities essential in navigating the uncertainties of a changing climate.

From a policy perspective, the impact of CCC-CATAPULT straddled a number of scales. In Ireland, we shared findings with seven local government offices, five national government departments, twelve civil society groups, and two international institutions. This work continues to grow. We disseminated results across the usual academic channels, but more importantly, we have also led numerous community engagement events and delivered five international workshops. This includes a workshop at the Red Cross Youth Summit in 2023.

With the launch of CCC-CATAPULT's toolkit this year, we anticipate further engagement with communities interested in implementing project recommendations around climate change education, intergenerational relationships, and young people's capacity for transformation.

Advocating for transformative climate change education

We advocate for transformative climate change education informed by and through young people's perspectives. I presented CCC-CATAPULT findings to national consultations for the development of the new Climate Action and Sustainable Development subject for post-primary schools. This is a timely initiative, as geography – globally recognised for its role in helping society understand the challenges of our changing world – faces declining enrolment among young people as a subject in schools in Ireland. This trend places Ireland in a precarious

position, as geography hosts the elements of climate literacy – people, place, and environment – at its core.

The introduction of Climate Action and Sustainable Development as a new Leaving Certificate subject, with clear ties to 'people, place and environment' – the 'bread and butter' of geographic knowledge – is a step forward. Enhancing the capacity of young people to address the major challenges of our age requires ensuring that geographers are front and centre in the delivery of climate change education. CCC-CATAPULT's findings strongly support this need.

Research and policy development are at their most robust when co-productive principles are applied, involving young people in co-designing new or strengthening existing research and policy engagement mechanisms. This approach ensures that, where relevant, young voices are at the centre of policy and decisions affecting their daily lives and futures. Young people clearly evidenced wanting to build on existing climate-related initiatives at national level, while also seeking to get involved in local actions that are inclusive and accessible to all.

Regarding climate change education, CCC-CATAPULT's recommendations were clear. First, there is a need to create professional, accessible and effective climate-focused classroom resources. These resources must be integrated across all core school subjects, not siloed within one discipline. Second, climate conversations must expand beyond the classroom, fostering intergenerational dialogue that promotes reciprocal and well-informed exchanges among families, communities and wider networks. This holistic approach will strengthen collective understanding and action, empowering young people.

The need to explore intergenerational trust and climate dialogue

There remains a clear need to further explore issues around intergenerational trust and climate dialogue. Taken cumulatively, our work highlights several critical and emerging research trajectories. There is a growing acknowledgement that young people are burdened with the responsibility of 'solving' the climate crisis, while often their opportunities to meaningfully contribute to debates and actions remain limited. This disconnect has led to a sense of mistrust among young people toward adults and their capacity to address climate crisis effectively. A second key issue is the common portrayal of the climate crisis – and the extreme weather events often linked to it – as challenges affecting distant people in faraway places. There is a need to examine the roles of place and proximity in shaping climate conversations.

Undoubtedly, as we move forward, we must capitalise on young people's willingness to engage in climate action, empowering youth communities to play an active role. In this way, their experiences within global frameworks can allow for a more inclusive, diverse, and intergenerational approach to climate action. This not only bridges the gap between generations but also ensures that youth perspectives are central to creating sustainable and equitable solutions.

> **... as we move forward, we must capitalise on young people's willingness to engage in climate action, empowering youth communities to play an active role. In this way, their experiences within global frameworks can allow for a more inclusive, diverse and intergenerational approach to climate action.**

Dr Kathy Reilly is a lecturer in Human Geography at the University of Galway. Dr Reilly's research interests centre on the geographies of children and young people, where she has worked on a variety of projects exploring the lived realities of these often-voiceless groups. Her work engages a variety of themes including climate, education, migration and place, and belonging in Ireland and beyond. Dr Reilly is a Dobbin Scholar, an ENLIGHT Research Impact Ambassador, the 2024 Chair of the Mary Robinson Climate Conference, winner of the inaugural Fáilte Ireland Spotlight on Sustainability Award and was recognised as a Teaching Hero by the National Forum for the Enhancement of Teaching and Learning for her work during the global pandemic. She is a former President of the Geographical Society of Ireland and an advisor for FOCUS Ireland's research committee.

CCC-CATAPULT is an embodiment of inclusive and co-productive research, striving to better connect research beyond the academy, creating positive change in the communities where we work. More information on the project can be accessed **here**.

In 2024 the broader European team launched the CCC-CATAPULT toolkit to support others (educators, supporters of learning, community groups or groups of young people) trying to further understand, begin or continue difficult discussions around climate. The toolkit can be accessed **here**.

Find out more about the School of Geography, Archaeology and Irish Studies **here**.

"Is my life a dream?" he asks,
"Because sometimes I think I imagined this
world and I'll wake up in the real one."

Living Poetry in Galway

Prof Donna Potts,
Professor, Washington State University

American poet Professor Donna Potts arrived in Ireland for the first of four visits and found that poetry seemed to be at the centre of everything, from the decoration of airports to the design of banknotes. Recipient of a Fulbright Lecturing Award to University of Galway from 1997 to 1998, she found herself immersed in a culture where poetry seemed inseparable from daily life. She returned to Galway several times, drawn to the landscape that once inspired James Joyce. In those fleeting moments, the division between art and life had "faded utterly".

He asks as though I'm big enough
to be entrusted with such vast questions ...

> It had been raining all evening, and a man with a fine tenor voice had sung "The Lass of Aughrim", just as he had in Joyce's The Dead, and it was as though we were all in the story together, and the division between art and life [...] had faded utterly.

Cois Coiribe had the chance to connect with Prof Potts and ask her what it was about Galway that consistently drew her back, inspiring her creative work as well as volumes on poet Francis Harvey, environmentalism, and Irish literature and trauma. Here she describes her dreamlike visits and explains how, for her, poetry became empowerment.

"Poetry makes nothing happen," writes W.H. Auden in his poem about Yeats, and life in the United States seldom gives people any reason to doubt his contention. As Howard Nemerov said, in America, poets are, "for the most part, an impertinence, like birds at an airport". But on my first trip to Ireland in 1997, I could have sworn poetry made everything happen. Lines of poetry were embroidered into the seats on our Aer Lingus flight; Dublin Airport graced its walls with large pictures of Irish writers; and the money dispensed from the ATM featured Irish writers, thanks to the government's earlier selection of W.B. Yeats to design the money. Somehow, I couldn't imagine our federal government letting poets loose to design our money.

In Galway, where we spent my Fulbright year, we visited the church next to Presentation Convent because we planned to send our son to Presentation School across the canal. A nun from the convent invited us in for tea, so we sat where James Joyce's wife Nora Barnacle had once worked. Pubs displayed posters of Irish writers, and when my husband visited one such pub while serving on the Irish equivalent of the PTA, a parent with only a fourth-

grade education spent the evening reciting poems by those writers. I met the poet John Montague at the Claddagh Hall, and the writer John McGahern in a class taught by Kevin Barry, the department chair. When my son and I were walking down Shop Street, he asked me, "Is my life a dream, and some day I'll wake up and be in the real world?" which inspired me to write a poem called "Waking Dreams." His question had hurled me back to my own dreamlike years following my father's suicide, and I began writing poetry again.

On Bloomsday I met Mary and Emer, grandniece and great grandniece of Nora Barnacle's early love, Michael Bodkin, a.k.a. Michael Furey, Joyce's fictional portrait of Bodkin in his story, *The Dead*. After the celebration, Mary and Emer walked me home, pointing out sites associated with Nora, James and Michael. It had been raining all evening, and a man with a fine tenor voice had sung "The Lass of Aughrim", just as he had in Joyce's *The Dead*, and it was as though we were all in the story together, and the division between art and life – once made so painfully clear to me, back in high school when a friend had asked me scornfully, "Why do you READ? Why don't you just live?" – had faded utterly.

Seven years later we returned to spend a sabbatical in Galway, and I had an office in the Moore Centre. The economic boom that had swept Ireland meant that our American dollars could no longer buy us seats on Aer Lingus. The ATM now dispensed Euros rather than Irish pounds, and the money, now bereft of poets, was nearly as dull and nondescript as the greenbacks back home. But poetry still made something happen. Kevin Barry suggested I sit in on Moya Cannon's class. I'd taught her poetry to my students. Shortly after our arrival, the phone had rung, and a gentle, lilting voice said, "This is Moya Cannon." She was looking for Jim Murphy, the owner of the house. My first reaction was to doubt that the voice could really be that of Moya Cannon, which caused my husband and son no end of amusement.

"Yeah, sure, scam artists in Ireland always claim to be poets. Works every time. Only in Ireland!"

"Well, in Ireland it just might work," I said.

When I entered the room for her class that evening, she said in her lilting way, "You're very welcome," as she did for every student who entered, and she really seemed to mean it every time. I'd planned just to observe, but she encouraged me to submit my own poetry. I submitted "Waking Dreams." The next day I got a phone call from Moya, but this time it wasn't for Jim Murphy; it was for me. She said she'd really enjoyed the poem I wrote, and then she asked if I would like to have lunch with her.

Shortly after that, my life back in America got the better of me. I'd planned to return to the US to help ▸

as though I'd been hiding the truth all along, waiting only for him to guess it.

a friend who'd just had a baby, and I discovered I was on the witness list for the upcoming trial of Tom Murray, my colleague who'd murdered his ex-wife the previous fall. I ended up testifying in a murder trial, in which he was found guilty. The verdict was announced after I returned to Galway once more, while we watched our daughter march with her Presentation class in the St Patrick's Day Parade. Walking down the canal, I saw Moya Cannon on her way to campus, smiling sunnily, stopping her bicycle to chat.

"We've missed you in class," she said.

She encouraged me to come back and write more poems. Poetry helped pull me from nightmares.

I wrote a poem about Murray's ex-wife Carmin. And later, when I learned that a colleague who had harassed me at previous conferences would read his poetry in Galway, I only briefly considered avoiding his reading, until an Irish barista I'd befriended at the coffee shop suggested, "Why don't you write a poem about it instead, and read it at the open mic after his reading?"

Though my poem didn't mention his name, he knew exactly who I was talking about. While I knew all about poetry as therapy, I hadn't seriously considered poetry as empowerment, and even as weapon, until I watched the look on his face change from smug satisfaction to fear. Thanks to the Galway poet, Kevin Higgins, who taught workshops, organised readings and introduced me to Jessie Lendennie, editor of Salmon Poetry, I eventually produced a book of poetry, *Waking Dreams*, which took its title from the poem I'd written years earlier after walking down Shop Street.

When we returned to Galway in 2011, I was a Research Fellow in the Irish Studies Centre. Moya Cannon and Director of the Centre Louis de Paor persuaded me to go to Donegal and interview the poet Francis Harvey. Eamon Little, the remarkable director whose film *Living Colour* had just screened at the Galway Town Hall Theatre, drove me there, so he could record Harvey.

I edited a collection on Harvey: *This Landscape's Fierce Embrace: The Poetry of Francis Harvey* and Eamon produced the beautiful radio programme: *All Those Names for the Mystery of Love*.

Meanwhile, I researched environmental movements in Ireland – the Shell to Sea Campaign, Burren and Bog Protests, Hill of Tara Protests – and became intrigued by the way music was integral to every protest, in the same way it had been in Ireland's quest for independence. Nessa Cronin (Irish Literature, Environmental Humanities), Méabh Ní Fhuartháin (Irish Music and Dance Studies) and Louis de Paor had precisely the kind of expertise to support my research for a book that I titled *The Wearing of the Deep Green: Contemporary Irish Writing Environmentalism*.

The poet and University of Galway alumnus Michael D. Higgins was elected president.

"Ireland has her madness and its weather still," as Auden says, but poetry continues to make something happen.

While I knew all about poetry as therapy, I hadn't seriously considered poetry as empowerment, and even as weapon.

How could I answer him, then or ever?

I researched environmental movements in Ireland [...] and became intrigued by the way music was integral to every protest, in the same way it had been in Ireland's quest for independence.

Donna L Potts is a Professor at Washington State University. She was a Fulbright Lecturing Awardee at University of Galway from 1997 to 1998, during which time she completed her publication: ***Contemporary Irish Poetry and the Pastoral Tradition*** (2011). On sabbatical from 2004 to 2005, she wrote a book of poetry, ***Waking Dreams*** (2012). A third trip saw Donna interviewing and editing a collection of essays on the Irish poet Francis Harvey, ***This Landscape's Fierce Embrace*** (2013). During this time, she also began work on her next publication: ***The Wearing of the Deep Green: Contemporary Irish Writing and Environmentalism*** (2018). At the time of this article's publication, Prof Potts is on her fourth stay in Ireland (2024) and is writing a book about Irish Literature and Trauma, while also co-editing a collection on Indigenous Ecocriticism.

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If you'd like to discuss your legacy gift, contact Stephanie at +353 (0) 86 206 1503 or **stephanie.neylon@universityofgalway.ie**

You're Home in Galway: A Story as Told by Dr Thamil Venthan Ananthavinayagan

Dr Thamil Venthan Ananthavinayagan,
Assistant Principal and Senior Legal Researcher at the Department of Justice

Dr Ananthavinayagan explains how he came to be in Galway, what influenced his human rights work, and his trajectory after leaving University of Galway. He also tells us about the warm – and surprising – welcome he received when arriving in Galway as a stranger, why Galway spoke to him during his stay, and his enduring fondness for the City of Tribes and its people.

> My father told me: "There are certain moments, my son, when you have to do the right thing. If you see injustice, then you don't look away, you speak up and fight for people when they struggle."

Cois Coiribe (CC): Hi, Thamil, thank you for talking to *Cois Coiribe*. To start off, can you please describe your connection to Galway?

Thamil Venthan Ananthavinayagan (TVA): I vividly remember the day I arrived in Galway – an event in my life which introduced me to Irish culture and the Galwegian community spirit. My mother told me to fly from my home city in Germany, Bonn, via London to Ireland, so that I could receive my uncle's blessing before I continued my PhD journey. Coming from a Tamil culture, this is important as we need to obtain blessings from our elders before major life events. My uncle bought me all sorts of groceries when I had arrived that Friday, insisting: "Nephew, Ireland is a deeply Catholic country, you won't be able to buy anything on a Sunday there." I trusted him.

I arrived on a dark, rainy Saturday evening in October of 2013. When I landed at Shannon, I took the bus for my first ever journey to Galway. I remember thinking, this bus ride is never ending. Even so, the bus did indeed arrive, and a friendly female taxi driver picked me up from the station in Galway City to cart me to my future house in Dangan. On the way, I asked her where the nearest supermarket was, which I planned to go to on Monday, as I assumed I would have to wait. She replied: "Why Monday, son?" I responded: "Well, Ireland is a Catholic country so ..."

She sighed and answered with a profound sentence: "Ah, greed has poisoned our hearts. Everything is open here on a Sunday. We don't rest, we always think about money." The next thing she did was stop at a Centra. She idled the taxi metre, went into the shop, and came out with a white plastic bag. We then continued to drive to my new house. When we got there, she gave me the white bag of groceries. Surprised, I told her that I need to pay her for the groceries, which she refused.

I told her: "Well, I will pay for the taxi ride." To this she replied: "No, son. You're home in Galway, now you're part of the Tribes. Welcome to Galway."

I think this moment really defined what Ireland is and who the Galwegians are: people of struggle who understand struggle. People who value community and who want to help. People who seek to create an inclusive Ireland. My PhD, to that end, set me up for my academic career, and the kindness of Galwegians certainly carried me through completing the PhD. ▸

CC: Tell us more about your background and upbringing – did it influence your decision to become a human rights lawyer?

TVA: I think I became a human rights lawyer because of my father. My father was a Tamil freedom fighter back in Sri Lanka, who fought for the rights of the oppressed Tamils against the Sinhala government. To put it in an Irish perspective, he was the Tamil version of Michael Collins. He was the freedom icon to Tamils. During his imprisonment of 7 years, he was brutally tortured – knowing this, I had asked him why he had given up his privileged life as civil engineer, his background coming from a highly esteemed family. His answer was: "There are certain moments, my son, when you have to do the right thing. If you see injustice, then you don't look away, you speak up and fight for people when they struggle."

He was a lawyer without a law degree. I suppose I wanted to fulfil his dream. I studied law in Germany, where I was born, and worked as a lawyer in refugee and tenancy law, but I also worked in the political sphere for politicians in Düsseldorf and Berlin. I pursued an LLM at Maastricht University in the Netherlands. When Michael O'Flaherty, the then-Director of the Irish Centre for Human Rights, advertised a PhD position in Galway, I applied. The rest, then, became history.

CC: Please walk us through your career after you finished the PhD in Galway.

TVA: After the PhD, I was 'head-hunted' by a private university in Dublin to be a Senior Lecturer in 2017, and I later worked across all the major universities in Dublin. I also worked as a panel member at the International Protection Office, with responsibility for interviewing asylum applicants in Ireland. I published my PhD with Springer, part of the publishing entity Springer Nature. The PhD dealt with the United Nations human rights machinery, using Sri Lanka as a case study. I also went on to publish a range of other peer-reviewed articles and chapters with Springer.

> **I think this moment really defined what Ireland is and who the Galwegians are: people of struggle who understand struggle. People who value community and who want to help. People who seek to create an inclusive Ireland.**

During the pandemic, I found I needed to make some big decisions – I wanted to continue my academic career, but not within its current context at that time. A position came up at the University of Nottingham, and I applied. I started at the University of Nottingham in 2021 and worked there until 2023. I taught a variety of courses, organised various human rights events, mentored, and held other extra-curricular positions for the School of Law. I was even voted to the Senate of the University of Nottingham, and I won the Lord Dearing Award, an award for learning and teaching excellence. Around this time, I was also promoted to Assistant Professor.

Toward the end of the academic year of 2022–2023, it became evident that my wife didn't want to move to the United Kingdom. She was working with the Irish civil service, and she encouraged me to apply for a senior civil service role in the Department of Justice, namely Assistant Principal and Senior Legal Researcher. While delighted to be successful, I was very sad to leave something I love, that being teaching and the intellectual engagement with students. In August 2023 I started with the Irish civil service, and ultimately felt it was the right thing to do. I was also offered a guest professorship at a university in Torino, Italy, and an Adjunct Professor role at Woxsen University in India, which I accepted. Since October 2024, I have also been a Lecturer at Maynooth University, a position I was recruited for directly by the Dean of the School of Law. In this way, I find myself fulfilling a role in direct service to Ireland, but I also have the opportunity to pursue my academic passion.

I've now lived 11 years in this country, and I consider Ireland home. I feel it is my duty to serve the state as a civil servant. The motto of the Department of Justice is: "Safe, fair and inclusive Ireland." I think that resonated with me on many levels, and it reminded me strongly of arriving that first day in Galway. I'm pleased to contribute to a country which allows people to find their safe haven in an inclusive Ireland.

CC: What advice would you give researchers and students in Galway?

TVA: My father always told me: "It is not a shame to fall, it is a shame if you don't get up." Pursuing a PhD, or any studies, especially when you are away from home, is not easy. You will think of giving up on many occasions. But, if you are on a similar journey, my wife and I came here and overcame our difficulties – amongst the Galwegian people, any challenge will be easy to overcome. Students and researchers in Galway are blessed – the kindness of the people and their history is an inspiration.

Dr Thamil Venthan Ananthavinayagan, LLM, PhD has worked since 2023 as Assistant Principal and Senior Legal Researcher at the **Department of Justice**. As of 2024, he was appointed ad-hoc Lecturer at Maynooth University. Prior to this he was a human rights academic at the University of Nottingham 2021–2023, then promoted to Assistant Professor in Human Rights Law in 2023. He had been Senior Lecturer between 2017–2021 at all major Dublin universities. Before this he worked as a Fellow at the Irish Centre for Human Rights in Galway 2013–2017. His research interests are rooted in human rights from Third World Approaches to International Law (TWAIL) to critical investigations of the United Nations human rights regime. He has recently published a co-edited book titled **The Wretched of the Global South**.

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Generating Opportunities at University of Galway's Data Science Institute: Dr Dabrowski's Path to Genesys

Dr Maciej Dabrowski,
Senior Director of Product Management,
Platform at Genesys

There's a saying about being at the right place at the right time. For Dr Maciej Dabrowski, attending University of Galway's Data Science Institute (DSI) – then called Digital Enterprise Research Institute (DERI) – opened unexpected doors. We explore Dr Dabrowski's journey from student in Poland to his role as Senior Director of Product Management, Platform at Genesys.

We asked him: What part did University of Galway play? His answer: It made my career possible.

Cois Coiribe (CC): Please introduce yourself, including your name, role and company.

Maciej Dabrowski (MD): My name is Maciej Dabrowski, and I am the Senior Director of Product Management, Platform at Genesys. I was previously the Chief Data Scientist at Genesys and Altocloud for approximately 10 years, then about 2 years ago, I moved to product management. In my current role, I am responsible for our data platform and analytics products, ensuring that Genesys AI models can use high-quality data when needed.

Genesys is a global leader in AI-powered customer experience orchestration. More than 8,000 organisations worldwide use our solution to create personalised experiences for their customers and employees. Our product helps resolve customer issues and also increases employee productivity using artificial intelligence. You are likely using our platform when you call your bank with a question about your mortgage, talk to a bot when trying to find out where your package is, or send a social message to an airline because your flight was delayed. This set of experiences is what we call a customer journey, and it is a source of really valuable data about an individual's needs, situation or the problem they are facing. Building a platform that can collect and curate relevant data so it can help agents resolve problems faster in a more personalised manner, with the assistance of AI, is what my job is about.

Genesys is a relatively large company that employs over 6,000 people around the world. The site in Galway was set up in 2018, after the acquisition of a start-up called Altocloud, and it now employs over 400 people in Ireland. We are fortunate to be part of a very thriving local ecosystem, partnering with University of Galway through research projects, thesis supervision, or internship grants.

> More than 8,000 organisations worldwide use our solution to create personalised experiences for their customers and employees.

The beginnings were tough, as I had to first find my footing in a new country and fully understand what line of research I wanted to pursue. After a few months, I found my research topic at the intersection of computer science and Artificial Intelligence, and I tied it with an aspect of psychology and human decision-making.

CC: Would you please walk us through your motivations to join the Data Science Institute (DSI) at University of Galway and discuss your journey from then to where you are now?

MD: I came to Ireland around 18 years ago to do a PhD. I'm a Computer Science graduate from Poland, and I studied both computer science and business and economics there. During my final year, one of my housemates had travelled to Ireland for an internship. When he came back, he said, "Maciej, you always talked about doing a PhD; I went to this institute in Galway that is doing very interesting research, you should have a look at their programmes."

He was talking about the Data Science Institute at University of Galway – back then called DERI.

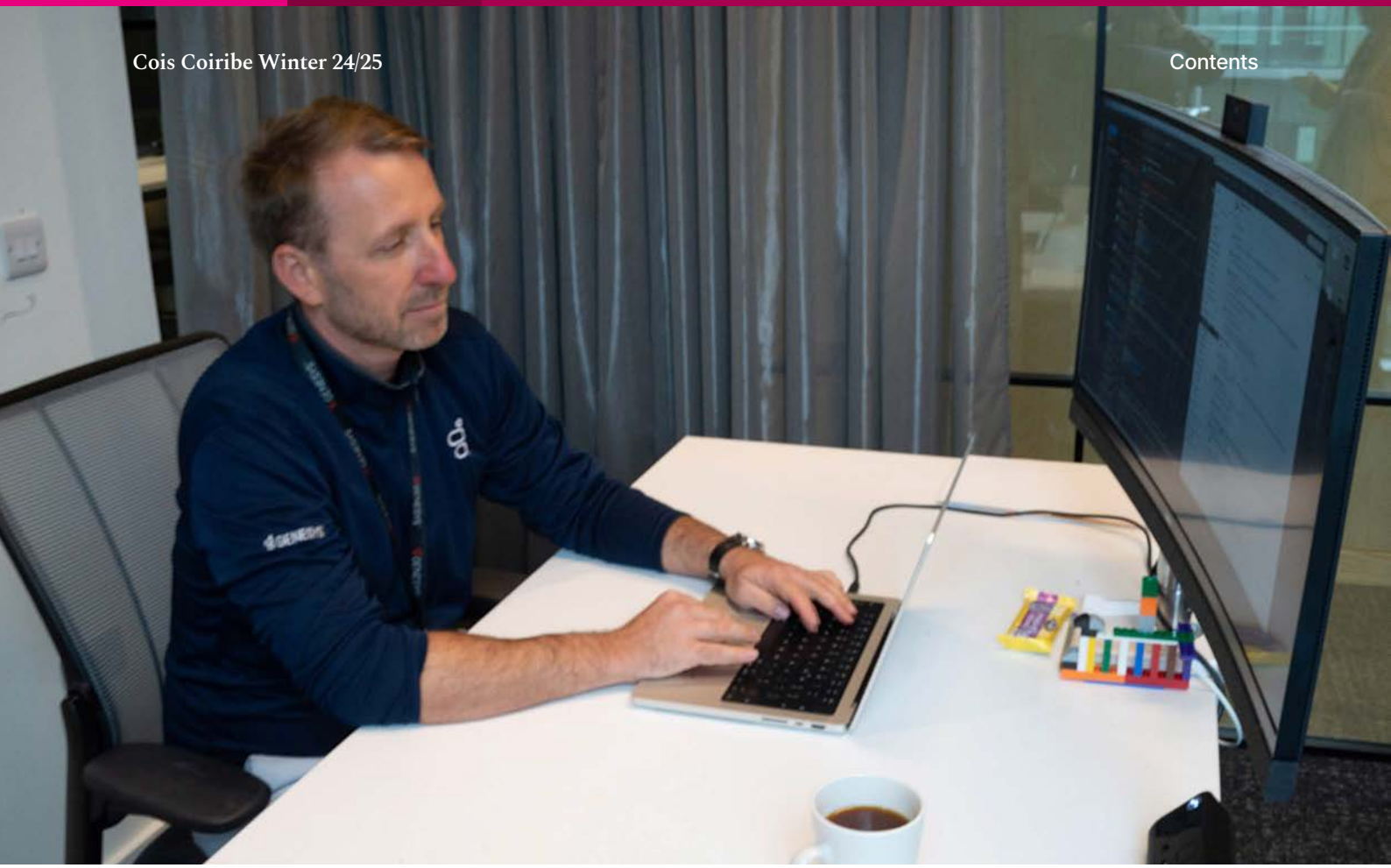
I looked into it and found it very interesting. After a round of interviews, my PhD journey began. At the time, I knew very little about Ireland, having never been to the country before. Nevertheless, I packed my suitcase and flew into Shannon Airport. When I arrived in Galway, the sun was shining, the city looked stunning, and I really liked it.

The beginnings were tough, as I had to first find my footing in a new country and fully understand what line of research I wanted to pursue. After a few months, I found my research topic at the intersection of computer science and Artificial Intelligence, and I tied it with an aspect of psychology and human decision-making. My PhD research was conducted between DERI and the J.E. Cairnes School of Business and Economics; my supervisor, Tom Acton, who did an amazing job mentoring me throughout my PhD, was from the latter. To give the gist of the topic, I worked on building new AI algorithms that work for, and with, people to ensure they make better decisions. My research focused on applications of AI in online commerce, known as recommender systems, ensuring that customers can discover and purchase products that are not only more suitable, but also objectively good – great deals.

It was a truly an amazing time, and I did a lot of interesting work. I also made many life-long friendships with the amazing people who came to do research at DERI from all over the world. Heading into my PhD viva voce, most of my time was spent writing. After it was all done, I thought to myself: *What next?*

I still remember sitting down, contemplating what I wanted to do after my PhD. One evening, I decided to set up my Twitter (now X) account. The first tweet I saw was a job posting for a Postdoc at DERI, working on Social Networks with Alex Passant and Professor John Breslin. It was a great fit; I got the job and started my next chapter working as a Postdoc at DERI for two more years. I had a lot of fun, but eventually, there came a time when I decided to look for industry opportunities. This was another occasion where University of Galway shaped my future and career. It was through DERI's work with industry that I met my future boss and mentor, Joe Smyth, Senior Vice President of R&D for Digital & AI at Genesys. ▸

I worked on building new AI algorithms that work for, and with, people to ensure they make better decisions.



My memories of my first encounter with him are vivid. Over coffee, Joe told me he was building a start-up, and that it was in stealth-mode, that the business would use AI to change the future of customer journey analytics. He offered me an opportunity to join the team and lead the AI and data function, and that is how I became the Chief Data Scientist at Altocloud, a company led by Barry O'Sullivan, who held the role of CEO, and who is also popularly known as one of the dragons on the show Dragons' Den.

Long story short, we had an amazing team and culture, we worked super hard – and had fun along the way – and we went on an exciting start-up journey that included being the first tenants of Galway Portershed. The business grew, and we were acquired by Genesys in 2018. I then became the Chief Data Scientist for Genesys, and now Genesys Ireland employs more than 400 people across the country. We are part of a huge global business, and here the fun continues.

To make this point very clear, without University of Galway, and without that PhD, I would not be where I am right now. Credit is due to the type of research I've been able to do, but also to the people and the connections that followed. It made this career possible and, really, made Galway the new home for my family.

CC: You mentioned researching AI in your PhD; can you please explore the psychology piece behind your reference to making better choices through AI?

MD: Yes. I noticed a niche when observing early iterations of recommender systems such as Amazon. While building more accurate algorithms makes sense, end customers don't care about model accuracy; they want to make better product purchasing decisions in a more subjective and objective sense.

There's a whole area of science called Decision Science, focused on understanding how our brains work when we are making all kinds of decisions. Picking a coffee, for example, has a very low cost of making a mistake, while other choices, like buying a car, have a much more lasting, larger impact; we approach them differently.

My work merged the new AI algorithms with human decision-making strategies. Take, for example, buying a car: you might have some criteria in mind, like a budget of up to €15,000, certain mileage, and a particular brand. However, there may be a car that has slightly higher mileage, but it also has additional features, like a better stereo, leather seats or adaptive cruise control. Using a traditional website, you may never see those options, as the cars will be filtered based on your initial, fixed criteria.

Without University of Galway, and without that PhD, I would not be where I am right now. Credit is due to the type of research I've been able to do, but also to the people and the connections that followed. It made this career possible and, really, made Galway the new home for my family.

Alternatively, the AI model will say: this car does not fully meet the criteria you used, but it is a very optimal choice; how do you feel about relaxing your constraints and choosing this slightly more expensive car with more features? It adds that missing element of a 'value for money' standpoint. This is how technology and AI are working with the human element of things. It's not that novel now, but 15 years ago that concept was in its infancy, worth a PhD.

CC: In today's digital and generative AI landscape, can you comment on whether you believe in an inherent risk in terms of ethics?

MD: Current widespread application of AI definitely creates the need for AI ethics and governance, which is also recognised by both private and public sectors through various AI regulations, like the EU AI Act. At Genesys, we recognised this a couple of years ago, and this is when we took steps to truly understand those risks and mitigate them. For example, we have an AI working group spanning privacy, legal, compliance, security and product functions that focuses on AI ethics and compliance, as well as our in-house data anonymisation frameworks. We are also partnering with University of Galway and working closely on new ways to detect bias in AI models, or to design better tools to catalogue data used by AI in complex data ecosystems. This is a rapidly evolving domain that will shape how AI technology is applied, and we are yet to see how it affects our daily lives.

> There is a shift toward using AI to be more effective for humans, integrating it into the workflow and workforce as a tool to amplify efficiency within a given task or tasks.

Find out more about University of Galway's Data Science Institute (DSI) here.

Find out more about Genesys here.

> We have an AI working group spanning privacy, legal, compliance, security and product functions that focuses on AI ethics and compliance, as well as our in-house data anonymisation frameworks.

CC: Is there particular advice you would offer students who are interested in AI and data science?

MD: Yes. I think it's a fantastic space that offers interesting work with a huge impact. Generative AI technologies, like ChatGPT, truly democratised AI, as you don't need to be an engineer or a data scientist to use these capabilities. You can instead just talk to an AI agent using natural language.

I think that there are a couple of different types of opportunities in AI nowadays. The work on new, groundbreaking generative AI models, like Language Learning Models (LLMs), requires an unbelievable amount of financial and technological resources, very few companies can afford that. Most modern AI jobs are focused on building products that use both traditional and generative AI. For that, you need programming skills and an understanding of scalability challenges, coupled with a good understanding of how to use generative AI models through concepts like prompting. Finally, the rapid growth of generative AI led to an explosion of opportunity in the AI ethics and compliance domain, and I expect this trend to continue.

My advice to students is that AI is here to stay, so no matter what line of work you choose, you will be using or building it. There is a shift toward using AI to be more effective for humans, integrating it into the workflow and workforce as a tool to amplify efficiency within a given task or tasks, so it is definitely beneficial to understand a bit more about AI so you can better benefit from it.

Dr Maciej Dabrowski, Senior Director of Product Management, Platform at Genesys, is a University of Galway alumnus. He conducted PhD research between the Data Science Institute (formerly Digital Enterprise Research Institute) and the J.E. Cairnes School of Business and Economics. He later went on to complete a Postdoc with the University and the Institute, focusing on Social Networks and Knowledge Graphs. Formerly the Chief Data Scientist for the startup Altocloud, which was later acquired by Genesys, he continued in this role at Genesys before moving into his current position in Product Management.

Crossing Oceans and Building Solutions: Dr Emir Muñoz's Journey to Senior Manager, Machine Learning at Genesys

Dr Emir Muñoz,
Senior Manager,
Machine Learning at Genesys

As well as a graduate of University of Galway. Dr Muñoz worked with the University's Digital Science Institute (DSI), previously the Digital Enterprise Research Institute (DERI). This experience provided a stepping stone into the world of industry engagement, leading to a permanent position with Genesys, a Contact Center as a Service (CCaaS) company with a far-reaching global footprint. Read below to learn about Dr Muñoz's journey from Santiago, Chile to Galway, Ireland, and how University of Galway paved a path toward success.

Cois Coiribe (CC): Please introduce yourself and provide a bit of background on your journey to University of Galway and beyond.

Emir Muñoz (EM): I was born in Santiago, Chile. In 2012, I was presented with an opportunity to have an international experience as part of an exchange programme between Latin American and European universities. University of Galway was on the list of possible places to visit, and I had read a couple of papers by Professor Paul Buitelaar about Natural Language Processing. This familiarity led to University of Galway becoming my first choice. More specifically, I elected to join the Digital Enterprise Research Institute (DERI), now transformed into the Data Science Institute (DSI), to work with Dr Aidan Hogan, who later happened to follow an academic career in Chile and is now an Associate Professor, and Dr Alessandra Mileo, who is currently Associate Professor and Principal Investigator at the Insight SFI Research Centre for Data Analytics, Dublin City University, particularly in the areas of Linked Data and Machine Learning.

The DERI team was substantial, with people of more than 50 nationalities. It was truly a great thing to be a part of. I enjoyed my experience to the extent that my three-month internship evolved into living on the west coast of Ireland for more than 12 years and counting. At the start of it all, I wasn't very familiar with Ireland, let alone Galway, but upon my arrival, I felt welcome, felt at home. Very quickly, I understood why Galway has a tendency to draw people in, and why those same people seldom leave after spending time among its charming streets and friendly populace.

CC: Can you expand on what led you to be involved in the field of Machine Learning?

EM: During high school, I was interested in the subjects of Chemistry and Biology, and I wanted to study Biochemistry at university. Destiny had something else prepared for me, and I ended up studying Informatics Engineering. I've always been a problem solver, and the market for computer skills – 20 years ago at this stage – was growing, so I took the challenge. I was the first in my family to enter university, so it wasn't always easy. All the adversities, opportunities, and people who helped me along the way prepared me for where I am

today. Some of the best advice I've received is to never assume negative outcomes beforehand, even if goals seem unreachable.

When DERI joined the INSIGHT Centre for Data Analytics, I got the opportunity to join an industry–academia collaboration, and I ended up being hired by Fujitsu Ireland – a branch of the Japanese company – to pursue my PhD at University of Galway. The team of professionals I worked with was amazing, and it was genuinely fun to work with them. During that time, I focused on applying Machine Learning to Semantic Web and Healthcare use cases. I ended up specialising in Knowledge Graph Mining, which became the topic of my thesis. Knowledge graphs are a graph representation of knowledge, where entities such as people, locations, and things are represented with nodes and relations are connections between those nodes, e.g., "Galway, city_of, Ireland" represents the fact that Galway is a city in Ireland.

Curiosity has always been a driver for me, and with the team's support, I published my first patent. It's one of more than ten submissions to date, and it ultimately proved the benefits of an industry–academia collaboration. When teams have the right mindset, innovation comes naturally.

CC: You're now a Senior Manager, Machine Learning at Genesys. Can you walk us through your entry to this position and your responsibilities?

EM: Fast forward to 2018, and I was fortunate to join Genesys, which was entering the Irish market after acquiring the Altocloud startup – which was based in Galway – to build its Artificial Intelligence group. I was recruited by Dr Maciej Dabrowski, who was part of Altocloud (and also an ex-DERI-an), while he was building a Data Science team. Up to that point, I was unfamiliar with Genesys, and I was soon amazed to discover its global presence and market leadership. Nowadays, Genesys is a recognised name in Galway, and in fact all of Ireland, for its innovation and contributions to the AI and Tech community. Even with rapid growth, Genesys has created a welcoming, inclusive, and productive work environment for onsite and remote employees, bringing the culture of a small team to a big organisation.

Genesys Ireland Scrum team Jeepers Creepers, 2023.

At Genesys, I manage a team of Machine Learning professionals, and together we have been working on traditional Machine Learning and, more recently, with Large Language Models (LLM) to understand their capabilities to provide deliverables such as Virtual Agents and Agent Copilots, to improve customers' and agents' experience in contact centres. Working with the latest technology has been inspiring, and we are already shipping products infused with Generative Artificial Intelligence (AI).

CC: What have you carried with you from University of Galway, and what insight would you offer people wishing to work in your field?

EM: In my role as Senior Manager, Machine Learning, I directly apply research and engineering skills acquired during my MSc and PhD to build innovative AI systems responsibly. Genesys also actively collaborates with researchers in DSI at the University, investigating responsible AI and LLM use cases for low-resource languages. In this way, there is a healthy spirit of development shared between the University and Genesys, and this offers a great opportunity for industry–academia innovation.

As a hiring manager, I always look for curious applicants willing to build end-to-end AI applications: from collecting and understanding data to building Machine Learning models and understanding the business impact of solutions. If a person in this space displays those traits, it's a good sign that they're in the right place.

Dr Emir Muñoz works in the Conversational AI group at Genesys Cloud, Ireland. In his role as Senior Manager for Machine Learning, he leverages his industry and academic experience to lead R+D+I projects, focusing on features that leverage artificial intelligence and Machine Learning solutions for contact centre optimisation and customer experience. He holds a BEng, MSc, and PhD. Dr Muñoz also has active participation in **Portershed** and ITAG activities, such as the **ITAG AI forum**.

A 'Sport for All' Approach, from Beginners to High Performance

Des Ryan,
Director of Sport and Physical Wellbeing, University of Galway

With two great passions – development and education – Director of Sport and Physical Wellbeing at University of Galway Des Ryan focuses both on guiding elite athletes to fulfil their potential and encouraging as many people from the University community as possible to enjoy the benefit of sport.

As we celebrate the success of our student athletes, Director Ryan explains how the University can better support them and create an inclusive and diverse active environment where everyone is welcome.

Cois Coiribe (CC): Could you tell us a bit about yourself?

Des Ryan (DR): I'm from a small village, Aughrim, Co. Galway. I was involved in many different sports in my youth, and my journey took me from Garbally College to Strawberry Hill St Mary's University in Twickenham. I was then delighted to come back to Galway in 1997 to work with Connacht Rugby as a development officer as well as a Strength and Conditioning coach for underage players; as part of this experience, I progressed to the position of Head of Strength and Conditioning with the senior team at Connacht Rugby.

It was later that an opportunity appeared with the Irish Rugby Football Union (IRFU) for a Strength and Conditioning Coach and Fitness Education Manager. I managed the physical development of players across the four provincial academies alongside the coach education programme, in relational to physical development. That's where my passion is: development and education. In a collaborative effort, we came up with an Irish Rugby approach to physical development, through a new and unique certified conditioning course.

Arsenal Football Club Academy saw the strength and conditioning development work in the IRFU, and they approached me for the role of Head of Sport Medicine and Athletic Development. That was an exciting progression for me. I spent nine great years at Arsenal, with great progress on player and facilities development in that timespan, and I made lifelong friends and colleagues. Post-COVID, I was keen to get back to the West of Ireland. The opportunity came with an offer from Setanta College and, just recently, the role of Director of Sport and Physical Wellbeing came up at University of Galway; it's a fantastic role with a university that has a fantastic history of sport, and in my own city. I'm looking forward to being here for the long term, developing sports across campus. ▸

CC: Tell us more about your role as Director of Sports & Physical Wellbeing at University of Galway.

DR: A major focus of my role is that it's dual aspirational. As Director of Sport and Physical Wellbeing I support elite sport while ensuring the wider community is active and can enjoy the benefits of being active. In this university, we aim to create opportunities for everyone. There are 42 clubs, but we aim to grow that. We offer three tiers of opportunity and whether you're a beginner, looking to stay fit, or aim to compete in the Olympics, there's a place for everyone, and we want to expand this model across all sports.

> Guided by our core values, we are constantly evolving to offer comprehensive coaching and support.

Our mission is to become the most progressive and caring university sports programme on the island of Ireland. What does that mean? We have mapped out the community and created clustered circles to ensure that everyone has an opportunity. The first circle is our elite scholarship athletes, then the varsity circle is the teams that compete nationally, and next is the active circle, representing individuals who participate in clubs or simply engage in casual physical activity. One additional circle consists of inactive people. Our goal is to get people who are not active into the active circle.

We already have amazing athletes, like our World Under 23 medal-winning rowers. For our student scholarships, we want to identify future stars in our area. We will reach out and invite them to explore our programmes, like sports science, strength and conditioning, sports psychology, or sports nutrition.

In October and November of 2024, we invited sports organisations in our area to experience the University's vibrant sports community, reflecting our value of openness. This all contributes to building a high-challenge, high-support environment for young athletes. Guided by our core values, we are constantly evolving to offer comprehensive coaching and support.

CC: You've worked with Arsenal as Head of Sport Medicine and Athletic Development. How do you plan to leverage those experiences, and how do you aim to recognise and nurture elite sport here at the University?

DR: I've already begun. One of Arsenal Football Club's strengths was their clear vision and philosophy, which asked: What are we trying to achieve? How will we achieve it? They focused on four pillars of development for the players: technical–tactical, champion-mentality, psych–social, and lifelong learning. I'm working with all team coaches to create a performance plan based on these pillars. Each coach has been challenged to define their team's philosophy, mission, and strategy. This is a collaborative effort, feeding into the University's wider Strategic Plan.

This University has a good history in Gaelic games and other sports. Liam Nolan, for example, represented us at the Golf Open, practising alongside Tiger Woods – a great experience for a dual-aspirational athlete. This happened while Liam was being supported by the Sports Unit. Many of our students and alumni represented the University in July's All Ireland Football and Camogie finals. We've also had many alumni compete in the Olympics and, with the right support and structure, our women's soccer players could make it to the Women's Super League in England. It's up to us to bring out the best in our players and athletes, and also to bring the best players and athletes to the University from the University of Galway's catchment area.

CC: Have you had the opportunity to establish partnerships with external organisations / professional sports bodies since your arrival at University of Galway?

DR: We are fortunate to have strong partnerships here. My goal is to strengthen and formalise them. For example, Our relationship with the Gaelic Games associations and Connacht GAA. We also have a good relationship with the Galway City Harriers, Connacht Hockey, and the hockey club in Galway. It's one of the few facilities of its kind in the region, and it provides a great opportunity to engage with local clubs and schools. There are also the likes of the Galway Bay Rugby Club, Galway United, and the Connacht Rugby National Talent Squad for girls, all of whom use our facility regularly. We are looking forward to hosting a Connacht A game versus Ulster A on the 28th of December. We also have the Wheelers Team of the Titans Basketball Club, a new collaboration for training opportunities and facility use geared toward the activity of wheelchair basketball. It's a pleasure to be partnered with this team and club. I'm committed to continuing to foster this openness and community engagement. Our community sports education programme was a great success so far; alongside my own workshop, we had Heather Boyle (IOC), Joanne Murphy (Ironman), and Russell Earnshaw (Magic Academy) deliver workshops on campus for the community.

When it comes to scholarship athletes, it is imperative that we establish strong collaborations with inter-county managers and high-performance coaches in Olympic sports. We must develop a comprehensive training plan that upholds fundamental principles. We need to ensure that athletes are not overworked – whether this is on the field, in the water, or within their academic pursuits. Taking a holistic approach is vital. We need to map out commitments and align our efforts with national governing bodies to guarantee that players are well looked after. I think that universities are fundamentally positioned to offer essential support services for sport in Ireland, and we as institutions play a critical role in the development of these athletes.

CC: One of the key aspects of university life is participation in sports – how will you encourage participation by all students, regardless of skill level?

DR: 'Sport for All' is just as important in University of Galway as high performance, reflecting the value of our dual-aspirational approach; we

> Our location is unmatched, from the beautiful Corrib River to Dangan Pavilion and the entirety of our campus grounds. Plans are on the way to establish a Water Sports Centre on the banks of the Corrib, which will be a hub for physical wellbeing.

promote both high performance and sport for all. We organise taster sessions to actively engage students, encouraging them to participate by creating a welcoming environment and showing them clear pathways to getting involved in campus sport. Research shows that being active leads to better self-esteem and stress management, and that it can also lead to increased energy levels, boosted academic performance, and enhanced memory skills.

In January, we'll have an event where I'll give a talk about the benefits of sport, then say: let's be active for 30 minutes. There will be the opportunity to sing in a choir, go for a walk, play pickleball. We'll be active for 30 minutes, and then we'll talk about options like these, which offer many health benefits. Another big extravaganza is our February sports day against ATU; this will function as a sports day, and there will be some high-competitive, intermediate, and just-for-fun activities.

Aligned with our mission, we are committed to fostering an inclusive and welcoming environment for all. As part of this, I intend creating a working group to develop EDI initiatives, ensuring transgender and non-binary individuals feel respected and included in the sports community. This will be done with community input to establish how this can be best implemented.

CC: Where do you see University of Galway's sports programme in the next five years?

DR: Our location is unmatched, from the beautiful Corrib River to Dangan Pavilion. Plans are in conversation to establish a Water Sports Centre on the banks of the Corrib, which will be a hub for physical wellbeing. Our location is well-suited to sports of all kinds. In five years' time, I think the University will be well down the road of achieving our mission of being the most progressive and caring university sports programme on the island of Ireland. I can see us being a living lab for athletic studies. At the end of the day, we are an educational body, and I would love to see the sports programme used for cutting-edge research and as a national example of good practice. I can also see Dangan Pavilion being very efficient and smartly planned, with sustainability at its core. I can see the start of the development of a stad municipal or Bardas na Cathrach in Galway. I see this being our home venue, and its grounds being used for recreational and community sport as well. We also have opportunities for alumni to support students; I welcome conversations on how this can be done. Support can be geared towards a programme, sport, player, or the supply of equipment, and collaborative systems can be mutually beneficial and enjoyable.

> In five years' time, I think the University will be well down the road of achieving our mission of being the most progressive and caring university sports programme in Ireland.

I see us being leaders of sport, with numerous active club members and many high-performance athletes and players reaching their high potential. I think we can be a place for other universities to learn from, and that our example can be one showing how we can achieve excellent health and wellbeing of students. I can see us excelling and being the one to watch, the one to follow and the one to learn from – all in the collegiate spirit of sharing with our friends and other universities, building a portfolio of successful collaborative projects.

Alumni are important to us in the Sports Unit. We had a very enjoyable Athletics club reunion, where current athletes got to mix with past athletics. This reunion included a presentation of an Excellence Award by University of Galway Athletics Club to Padraig Griffin, recognising his exceptional contribution to Irish athletics. There was also a very enjoyable 150th anniversary celebration event, organised by the Rugby club. I look forward to more of these events in the future that will continue sporting traditions and connect current students with alumni.

Des Ryan is a leading youth coach and performance manager in sport. Prior to joining the University, he worked for Setanta College as Director of Coaching and Athletic Development; Arsenal Football Club Academy as Head of Sport Medicine and Athletic Development; Head of Strength and Conditioning at Connacht Rugby; and Strength and Conditioning Coach and Fitness Education Manager within the IRFU. Des Ryan has presented at the UKSCA – the UK's Professional Body for Strength and Conditioning, the Australian Strength and Conditioning Association (ASCA) and the National Strength and Conditioning Association (NSCA) conferences, as well as many other conferences around the world.

A Year in Sports

Athletics

At the All-Ireland Intervarsity Cross Country Championships 2024, for the first time since 1991, the University of Galway Athletics Club won the overall team title.

Fiona Everard was crowned the Female Individual Champion for the second year running. Following Fiona, first year student Caitlin Hughes made her debut with the university, placing 12th. Shauna Leydon and Neasa Ni Ainifein also placed high, coming in 23rd and 26th. With a strong team of thirteen, the women's team placed fourth overall, missing out on a medal by only nine points.

The men's team was led by Thomas McStay, who placed 4th overall in the men's race. Oisin Murray followed in 6th, with Oisin Davis placing 9th. Daniel Ryan Eilis made his university debut, placing 12th. He was closely followed by Donal Farren and Luke Johnston who placed 13th and 14th respectively. The men's team of fifteen dominated the competition, beating out UL, the nearest challengers, by 45 points, taking home the Fox Trophy.

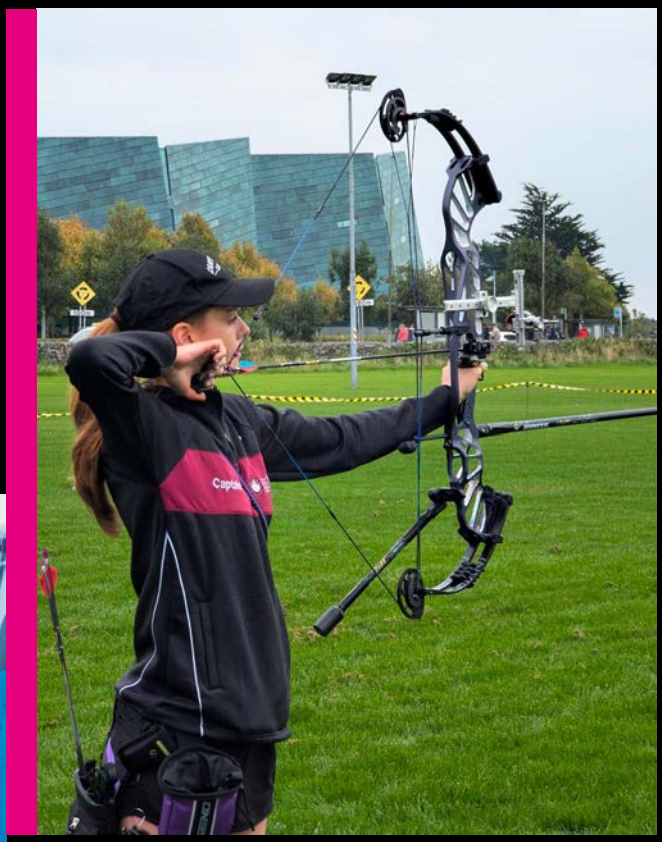
William McDonnell, Multi-Sport

Multi-Sport

The Multi-Sport Club has expanded, with two new sports being tested within this club. There is now a Pickleball Club and Cycling Club. Pickleball train on Mondays and cycling are welcoming new members!

Archery

At the ATU Intervarsity competition the University of Galway Archery Club won many medals. Szymon Kozak placed 3rd in the Barebow Advanced Open. Eveline Nee placed 1st in the Compound Female. Stephen Treacy placed 2nd in the Compound Open. Aaron Burke placed 3rd in the Recurve Advanced Open. Dominik Pazdan placed 1st in the Recurve Beginner Open.



Fencing

Intermediates were held in UCD. The club won medals: Laoise Gillic won bronze in the Women's Foil and Lias Faiud the Men's Sabre.

Sailing

At the 2024 Sailing Intervarsity competition the University's silver team placed 4th and the bronze team placed 6th.

Credit: University of Galway Sailing Club.

The Sailing Team at the IUSA Sailing Event in November.

Hockey

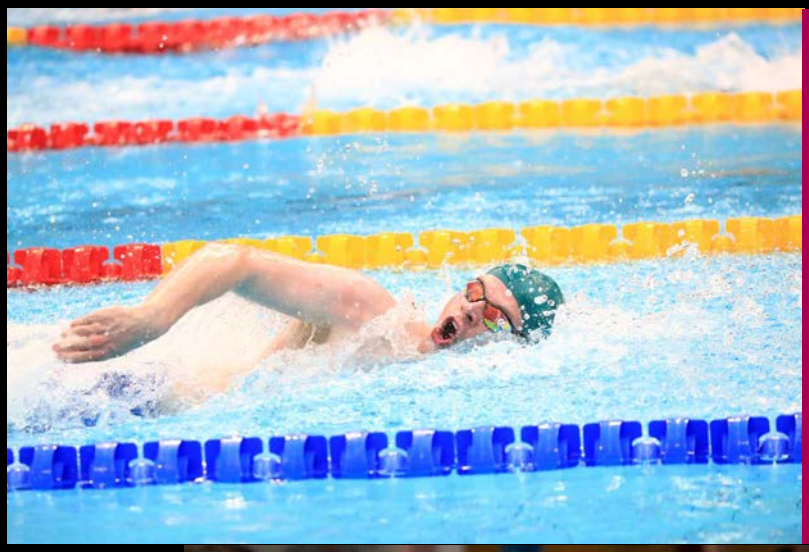
The women's hockey team (1s) beat Greenfields 5-4 in their first match of the season. Their success is sure to be continued throughout their season.

Men's Soccer

The University of Galway Men's Soccer Club beat ATU Sligo 7-1. Under manager Dave Daly this is their second impressive win in the CUFL after defeating ATU Galway 2-1 in Dangan. A quarter final spot is now guaranteed with one game left in the series away to TUS Midwest next week. Goals were scored by Dave Tarmey (3), Milo O'Malley (2), Mark O'Halloran and Andy Horan.

Swimming

The University of Galway hosted its highly anticipated Swim Club Invitational Gala, bringing together top university swim teams across a variety of events. Éidhne Kennedy delivered a standout performance, placing 2nd in the men's 50m freestyle and 1st in the 50m breaststroke. Daehan Coll and Paddy Grimes just missed out on medals, finishing 4th and 5th, respectively. In the women's 50m freestyle, Niamh Kennedy claimed 1st with Adrianna Kaximierczak and Kristin Hollingworth finishing 4th and 6th. Thomas Davey placed 3rd in the men's 100m breaststroke, Stuart Vaughan placed 6th. Jillian Thomas placed 4th in the women's 100m breaststroke. Niamh Kennedy claimed 3rd place in the women's 100m backstroke. Daehan Coll and Paddy Grimes just missed out on medals, finishing 4th and 5th respectively in the 50m freestyle. Jake Van de Beek placed 3rd in the 50m breaststroke. In the 100m Individual Medley (IM), Daehan Coll and Stuart Anthony Vaughan finished 4th and 5th respectively. Ailbhe Mulhall placed 3rd in the women's 100m freestyle. Paddy Grimes placed 1st in the 50m fly, with Kristen Hollingworth and Ailbhe Mulhall placing 2nd and 3rd place in the women's 50m fly.



Frisbee

The Trinity Tea Party Beginner's Tournament was a great event for the beginner members of the Frisbee Club, giving them a great learning experience.

Sub-Aqua

The Sub-Aqau Club competed at the Diving Ireland 2024 Intervarsity competition. They came out as the overall winners, placing first in 4/5 of their events.

Credit: University of Galway Sub-Aqua C

Sub-Aqua club at the 2024 Intervarsity Competition.

Cricket

The University of Galway Cricket Team have had a successful season. In the CCU T20 Blast they won all their matches, making their way through all seven matches unbeaten. They also dominated in the CCU Senior Cup, ending their 17-year-long drought with their final victory.

Rugby

The University of Galway Women's Rugby Club beat Westport 33–24. The University of Galway Men's Rugby Club beat Ballina 38–35.

Table Tennis

The University of Galway Table Tennis Club attended the Connacht Table Tennis Championships in Athlone.

2nd, David Noonan (coach)
3rd, Rory Mc Donnell (vice-captain)
4th, Asad Wadood

Volleyball

Men's Volleyball: Beat ATU Galway 3-0 in their first match of the season.

Women's Volleyball: Beat TUS 3-0 in their first match of the season.

Volleyball has an exciting year ahead of them as they've become one of the high performance sports at the University of Galway.

Hurling

Two of the University of Galway Hurling Club members received recognition for their abilities:

Joe McDonagh Player of the Year, Charlie Mitchell.
Nicky Rackard Player of the Year, Liam McKinney.

Rowing

At the World U23 Championships, the University of Galway rowers put in an incredible performance. Donnacha Keeley placed first in the Lightweight Men's Double Sculls. Brian Colsh placed third in the Men's Double Scull. Donagh Claffey just missed out on a place in the A final but managed to place 7th overall.

Credit: University of Galway Rowing Club.

The Women's Four Team at the Irish National Rowing Championships 2024.

Weightlifting

The University of Galway Weightlifting Club has had a busy summer.

They won nine golds, eight silvers and three bronze medals. They've competed in National Age Grade Championships, Cork Open, International Gunther Stapfer Memorial and Intervarsities 2024. Yan Leydon even represented Ireland at the Celtic Nations Weightlifting Championships.

Credit: Taegan Stanley.

Cormac Maguire.

Credit: Taegan Stanley.

Evan Kelly.

In the News

June

04/06: University names a teaching facility as the Galway John Room, named after well-known Irish Traveller John Ward, who was born and raised in Galway city and was a firm believer in the value of education.

07/06: Researchers announce the creation of 'digital babies' to better understand infants' health in the critical first 180 days of life with the 360 advanced computer models simulating the unique metabolic processes of each baby.

12/06: University of Galway is named the No1 university in Ireland for sustainable development by Times Higher Education Impact rankings for the third year in a row.

17/06: Galway Professor Pat Dolan is presented with the Medal of the Maria Grzegorzewska University in Warsaw for life-long work and achievements in the field of children's rights.

18/06: CÚRAM, the Taighde Éireann – Research Ireland centre for medical devices, celebrates 10 years by launching economic report that puts its value to the Irish economy at €756 million.

26/06: Professor Ciarán Ó hÓgartaigh announces he is to step down as President.

July

01/07: The University is awarded €1.4m to lead a research consortium Methane Abatement in Grazing Systems project to pioneer greenhouse gas reduction solutions for agriculture.

04/07: Professor Peter McHugh is appointed Interim President of University of Galway.

09/07: Professor Frances Fahy is appointed as the new Director of the Ryan Institute.

10/07: University of Galway ranks 98th out of almost 700 institutions in the QS World University Rankings: Europe 2025

22/07: The literary collection owned by Ronnie O'Gorman, the late founder and publisher of the Galway Advertiser, is donated to the University.

30/07: University of Galway leads a team of Arctic scientists to investigate whether climate change is reducing the impact that some of tiniest organisms in the oceans have on CO2 levels in the atmosphere.

August

01/08: Scientists discover the glaciers in the Andes have shrunk to their smallest size in 11,700 years, revealing that areas in the tropics have already warmed beyond anything experienced during the entire Holocene age.

07/08: Researchers develop a new, portable technology for on-the-spot testing of water quality to detect one of the most dangerous types of bacteria, Shiga toxigenic Escherichia coli (STEC).

13/08: Professor Rebecca Braun, Executive Dean of the College of Arts, Social Sciences and Celtic Studies at University of Galway, is appointed to the inaugural board of Taighde Éireann – Research Ireland.

29/08: A new report from the WHO Regional Office for Europe shows alarming decline in adolescent sexual health behaviour in Ireland.

30/08: The European Society of Cardiology release updated guidelines – compiled by an international panel of experts including Professor Bill McEvoy – on the management of elevated blood pressure and hypertension to better identify people at risk of heart attack and stroke.

September

03/09: Professor Caroline McGregor is appointed Director of the Institute for Lifecourse and Society.

04/09: Professor Becky Whay takes up the role of Interim Deputy President and Registrar.

11/09: Bronze bust of Nobel Peace Prize Laureate Liu Xiaobo is donated to the Irish Centre for Human Rights.

18/09: Active*Consent programme calls for the Further and Higher Education and Training sectors to set firm targets for consent education and sexual violence prevention among students and staff.

30/09: New INTERSTROKE study reveals frequent fizzy or fruit drinks and high coffee consumption is linked to higher stroke risk.

October

10/10: Minister Patrick O'Donovan launches our new Institute for Health Discovery and Innovation.

18/10: Research by University of Galway and University College Cork reveals menopause remains a hidden and taboo subject in the workplace.

18/10: Government confirms expansion of healthcare programmes for Pharmacy and Graduate Entry Medicine, with more than 120 student places a year on the courses.

22/10: Our student athletes share success, taking home three titles, including the Overall Team award, at the Cross Country All-Ireland Intervarsity Championships.

23/10: A new study, led by University of Galway, reveals climate change lessons recorded by tiny polar organisms – foraminifera as they have lain deposited in seabed sediment for centuries.

10/25: Aithnítear an Máistir Gairmiúil san Oideachas (MGO) mar Shár-Scoil Apple.

30/10: Professor Karyn Morrissey contributes to annual health and climate changereport The Lancet Countdown.

30/10: University celebrates 175 years of educating students, marking a milestone date in our history – midday October 30, 1849, when the first 68 students began their studies at the University.

November

05/11: Researchers highlight key role of language in migrant integration in rural Ireland in new study

10/11: University of Galway hosts the Galway Science and Technology Festival Exhibition as part of Science Week 2024.

12/11: Dr Una Murray is appointed to support the United Nations' Intergovernmental Panel on Climate Change assessment of climate change and its impact.

13/11: Latest INTERSTROKE study shows sever stroke risk linked to high blood pressure, smoking, and irregular heartbeat.

13/11: International Affairs Office is relaunched as Global Galway.

21/11: Professors Ines Thiele, Henry Curran and Patrick W. Serruys are named on the annual Highly Cited Researchers 2024 list from Clarivate.

25/11: University of Galway joins 15 third level education institutions in Ireland as part of the global campaign – 16 Days of Activism against Gender-Based Violence.

27/11: University of Galway spinout, Relevium Medical, is awarded €4.6 million in Government funding to develop an immediate and long-lasting treatment for knee osteoarthritis.

06/12: University of Galway and Medtronic Win Best Collaboration Award at MedTech Rising 2024.

10/12: Active* Consent and Galway Rape Crisis Centre launches new research on training for education staff to receive disclosures of sexual violence and harassment.

Ollscoil na Gaillimhe
University of Galway

Governing Authority *Election 2025*

Use your vote to shape the future of University of Galway

February 2025 marks the beginning of a new 4-year term of office for the University's Governing Authority, Údarás na hOllscoile.

Voting will take place **online from 9am January 14th until 12pm January 15th 2025 (GMT)**. Staff will receive a unique link by email on January 14th at 9am to vote only in the staff constituency to which they belong.

Find out more at:
www.universityofgalway.ie/governance/governing-authority/udaraselections2025

Alumni Events

An Evening of Insight at the House of Lords

On Thursday, 28 November 2024, alumni and friends gathered in the historic House of Lords in Dublin for a thought-provoking discussion ahead of Ireland's General Election. The event, chaired by broadcaster and University of Galway alumnus, Sean O'Rourke, featured an expert panel exploring the challenges and opportunities shaping the nation's future. The panel included Alan Ahearne, Professor of Economics at the University of Galway and adviser to Taoiseach/Tánaiste Micheál Martin; Harry McGee, Political Correspondent with *The Irish Times*; and Marie Louise O'Donnell, broadcaster, writer, lecturer, and former Senator. Their engaging contributions sparked lively debate and offered valuable insights into the key issues at stake. Proceeds from the evening supported the University of Galway Student Hardship Fund. View event photos here.

Alan Ahearne, Sean O'Rourke, Marie Louise O'Donnell and Harry McGee

Dorian Jaros and Rupert McCauley

Anne and Ciaran McLoughlin, Vincent Ahern and Evelyn Concannon

Mary Howley, Dympna Mulkerrins, Marie Louise O'Donnell and Ellen Mulkerrins

Donal McKenna, Padraig O'Deaghain, Oisin Sheedy, Hugh McInerney and Darragh Bohan

Alumni BBQ and the Galway International Arts Festival 2024

On Friday, 26 July 2024, over 200 alumni and friends gathered for the University of Galway's annual Alumni BBQ followed by the Gavin James concert in Fisheries Field. The event was a lively celebration with great food, music and the chance to reconnect with classmates. Enjoy the event highlights here.

Bernie Collins, Sarah Dunne, Fiona and Patrick Greaney


Daniel Walsh, Niall Crossan, Carol Boylan and Mark McGuinness


Cathy Higgins and Melissa Canny


Suzanne and Angela Whelan

University of Galway and 150 Years of Rugby

To mark 150 Years of Rugby at the University of Galway, the Rugby Club hosted a black-tie celebration on Saturday, 12 October 2024 at The Galmont Hotel & Spa in Galway. The evening, expertly hosted by RTÉ Sport's Darragh Maloney, featured special guests including Ciaran Fitzgerald, Gerald Davies, Declan Kidney, and Mick Molloy. It was a memorable night of reconnection, with players, coaches, alumni, and friends coming together to honour this incredible milestone. Stay connected with the Rugby Club and update your details here.


Mayor of Galway Cllr. Peter Keane with guest speaker, Gerald Davies, former Welsh International and University of Galway graduates, Minister Hildegarde Naughton and Joey Costello.

Celebrating Milestones

A Milestone in Our Shared History

At midday on Tuesday 30 October 1849, 68 students stepped through the Archway, beginning a journey that transformed Queen's College Galway into today's thriving University of Galway. With nearly 20,000 students and 133,000 graduates, our community continues to shape the world. From addressing global challenges to making lasting contributions in every field, the impact of our graduates is felt far and wide. We invite you to celebrate this milestone with us. From a historic photo competition to oak tree planting and a library exhibition, there's something for everyone.

Learn how to get involved: Our History & Heritage – University of Galway. We also thank those who support our campus, students, and research. Your contributions help build our future.

Discover the impact of our scholarships and read Jenny's story: Jenny Kenny – University of Galway.

Dr Joseph Duggan

The Duggan Brothers: Pioneers of Our First Graduates

This year, we celebrate a remarkable milestone as we reflect on the inaugural class of 1849. Among the 68 pioneering students who walked through the Archway were two brothers from Flood Street, Galway – Charles Winston and Joseph Michael Duggan.

Charles, an Arts and Science graduate, went on to serve as an Inspector of National Schools and contributed to the Royal Society of Antiquaries. His brother, Dr. Joseph Duggan, dedicated his life to caring for the Turloughmore community and advancing medical knowledge. We extend our gratitude to University of Galway graduate Kay Duggan-Walls for sharing her family story and a treasured photograph of her great-grandfather, Dr. Joseph Duggan. Their story is a testament to the enduring legacy of our earliest graduates.

Read more about the Duggan Brothers: Alumni Spotlight – University of Galway.

Each year, alumni return to reconnect, reflect and celebrate their time at University of Galway. Our reunion programme is a cornerstone of this tradition, with a special 50th Reunion held annually, alongside milestone celebrations for the 20th, 30th and 40th anniversaries each September. Next July, we are excited to introduce a new 10 Year Anniversary event as part of the Galway International Arts Festival. Whether you are marking a personal milestone or looking to reunite with classmates, we are here to support you in organising your event. Whatever the year, these days are a fantastic opportunity to relive memories, forge new connections and strengthen the bond with your *alma mater*.

Class of 1970

Class of 1972

Class of 1973

A Day to Remember: Cumann Caoga Bliain Reunion

The Aula Maxima was alive with stories and laughter as we welcomed 160 graduates from the Class of 1974 on 12 October 2024, alongside alumni from 1970–1973 who missed their reunions due to Covid. The 'Cumann Caoga Bliain' Reunion brought friends back together, united by their shared experiences as UCG graduates. The day began with a warm welcome from Professor Peter McHugh, Interim President, University of Galway. Highlights included a tour of the archives led by Kieran Hoare and engaging campus tours guided by our wonderful Student Ambassadors, Mary Patricia Corrigan, Beatrice Stringa and Laura Mohnaczká. Thank you to everyone who joined us and made this day so special.

Update your details **here**.
View highlights of the day **here**.

Class of 1971

Class of 1974


Medical Class of 1974

Celebrating our Alumni Award Recipients

We were delighted to welcome back two of our distinguished Gradam Alumni don Ghaeilge awardees in October for their Cumann Caoga Bliain Reunion! Mairéad Ní Nuadháin (BA 1974), recipient of the Alumni Award in 2007 and Pádraigh Firtéar (BSc 1974), honoured in 2004, returned to campus to mark this special milestone with their classmates. As we look back on their achievements, we are also looking ahead. Nominations for the Alumni Awards 2025 are opening soon. Join us in celebrating our exceptional graduates with recipients honoured at the prestigious Alumni Awards Gala Banquet on May 23rd, 2025. Stay tuned for details on how to nominate a University of Galway graduate who inspires you.

Mairéad Ní Nuadháin and Pádraigh Firtéar

Paul Zablocki, Matthew O'Connell, Anne Ranfall, Jordana DiStasio and Charles Hoffman

20th Anniversary Reunion of International Summer School Alumni

We were delighted to welcome back alumni from the International Summer School for their 20th Anniversary Reunion in June 2024, including Paul Zablocki, Matthew O'Connell, Anne Ranfall, Jordana DiStasio and Charles Hoffman. During their visit, they enjoyed a tour of the campus and a presentation by Kieran Hoare on the Imirce project, which highlights letters from Irish emigrants in the US. Learn more about the project **here**.

UCGAC/UGAC Reunion and Tribute to Padraig Griffin

University of Galway Athletics Club (UGAC) held a memorable reunion on 14 November 2024 in the Aula Maxima, bringing together past and present members. Des Ryan, Director of Sport, highlighted the event's success in connecting athletes from different generations and celebrating the club's evolution. Special guest Padraig Griffin, BA 1963, received an Excellence Award for his outstanding contributions to Irish athletics. A former Olympic coach and key figure in Irish athletics, Padraig's efforts include founding Ballinamore AC and coaching Olympians Eddie Leddy and Colin Griffin. The event also celebrated the club's recent successes and ongoing growth with thanks to Murt Coleman for organising the reunion. See event photos **here**.

UCGAC /UGAC Reunion and Tribute to Padraig Griffin

A Day to Remember: Milestone Reunions

On 7 September 2024, 260 graduates from the classes of 1984, 1994, 1999 and 2004 returned to campus for a memorable Milestone Reunion. The day was filled with sunshine, reconnections, fine food, lively music, and much enjoyment. The event included campus tours led by our student ambassadors, a Mass for deceased classmates in the Chapel, and insightful remarks from Professor Peter McHugh, Interim President on the enduring value of our alumni community. This occasion highlighted the strength of the University of Galway alumni network and the importance of staying connected. We look forward to welcoming many more graduates back to campus for future reunions!

Update your details **here**.
View highlights from the event **here**.

Professor John Breslin, Professor Alma McCarthy, Louise Monaghan and Interim President, University of Galway, Professor Peter McHugh

Eimear Cannon, Ann Kelly, Jackie Barry, Jennifer Conneely and Karen Smyth

BComm 1994

BComm 1984

Carmel Ward and Collette McCloskey

Honorary Conferrings

Martin Griffiths Doctor of Laws (LLD) *honoris causa*

Martin Griffiths has fifty years of professional experience with the United Nations and other global institutions. He served most recently as the leader of the global humanitarian system as well as the UN's principal troubleshooter in the conflicts and crises of today.

Martin is recognised as one of the most accomplished international mediators of conflicts around the world. He founded the Centre for Humanitarian Dialogue in Geneva in 1999, which has since become the world's leading and largest private diplomacy institution. To date he has led mediations in every continent, from Indonesia, Thailand, Myanmar and Afghanistan, to Spain, Sudan and Venezuela. He reached the top of the profession as the UN mediator in Yemen from 2018 to 2021.

Martin's humanitarian experience started as a frontline aid worker in the UNICEF Thai/Cambodia Border Operation in 1979. He went on to regional and then global responsibility for humanitarian action in both the non-governmental sector and within the United Nations.

In his most recent position as United Nations Under-Secretary-General for Humanitarian Affairs and Emergency Relief Coordinator, Martin Griffiths led humanitarian negotiations, both for principles and for access to those in need. He also led the global advocacy for humanitarian funding and for the rights of people and communities affected by crises. In mid 2024, 300 million people required humanitarian assistance at an estimated minimum cost of 56 billion US dollars a year.

Tony Connelly Doctor of Literature (DLitt) *honoris causa*

Tony Connelly is Europe Editor for RTÉ, Ireland's public broadcaster, covering EU and European Affairs for over 20 years.

Tony has more recently been reporting extensively on the conflicts in the Middle East and Ukraine, in particular Russia's invasion in 2022.He has also reported on conflicts in Africa, the Caucuses and the Balkans. Tony has also reported extensively on Britain's withdrawal from the European Union, and its impact on Ireland, and was called as an expert witness on three occasions to House of Commons Brexit committees, as well as to the Oireachtas Committee on European Affairs.

His book Brexit and Ireland: the Dangers, the Opportunities, the Inside Story of the Irish Response, was nominated Irish non-fiction book of the year in 2018. Tony is the recipient of two ESB National Media awards, a European Journalism Award and a New York Festivals radio award.

He has received the Outstanding Achievement Award from the UCD Smurfit Graduate School journalism awards, and an Irish Law Society Justice Media Award for his coverage of the Brexit negotiations. Tony's documentary 'Hidden History', on his grandfather and the Irish War of Independence, was broadcast on RTE in June 2023. His book 'Don't Mention the Wars: A Journey Through European Stereotypes', was published in 2014.

Tony was born in County Derry, Northern Ireland in 1964. He was educated at St Columb's College, Derry, and is a graduate of Trinity College, Dublin and the London School of Journalism. He is married with three children and lives in Brussels.

Keith Finnegan Doctor of Literature (DLitt) *honoris causa*

Keith Finnegan, an iconic voice in Irish broadcasting and long-time host of *Galway Talks* on Galway Bay FM, is celebrated for his remarkable career and deep commitment to the people of Galway. This honorary doctorate recognises his unparalleled contributions to Irish media and the Galway community, as well as his inspiring leadership in local radio.

Keith began his career on Radio West in 1989, a station that would later become Galway Bay FM. Over a 34-year span, Keith's impact grew, and he ultimately became CEO & Director, leading the station with vision and dedication. As host of Galway Talks, Keith's voice resonated through countless homes and businesses across Galway, fostering connections and championing community interests.

Keith's legacy includes an impressive 20,000 hours behind the microphone, and he has led notable milestones, such as serving as Grand Marshal of the St. Patrick's Day parade in St. Louis and covering St. Patrick's Day events from the White House. His achievements earned him a place in the IMRO Hall of Fame in 2022, further solidifying his place as a pivotal figure in Irish broadcasting.

In 2023, Keith was granted the Freedom of the City of Galway, a rare honour that places him among prestigious figures like Nelson Mandela and Hillary Clinton. This award, presented by Galway's Mayor Eddie Hoare, highlighted his lasting contributions and connection to the city. In his acceptance speech, Keith expressed his humility and gratitude, reflecting on his commitment to Galway and the station he loves.

Keith's journey has been supported by his wife Joan and their children, Katie and Aidan, who have been alongside him in every step of his career. As he looks forward to new ventures, this honorary doctorate marks not only his achievements but his enduring legacy within both Galway and Irish broadcasting.

Owen Reidy Doctor of Laws (LLD) *honoris causa*

Owen Reidy has been the General Secretary of the Irish Congress of Trade Unions since October 2022. The ICTU organises and represents the interests of over 760,000 workers across the island of Ireland through its 46 affiliate trade unions. The ICTU is the coordinated voice of the Irish trade union movement representing the interests of workers in dialogue with government and the EU and with other social partners.

Prior to this appointment he was the Assistant General Secretary of the ICTU for a 6 year period with responsibility for Northern Ireland. He represented our NI unions on issues such a Brexit and engaged with both he UK government and Stormont during this period.

He started his trade union career in SIPTU in 1998 working in a number of capacities and has represented and organised a diverse range of workers in both the public and private sector. Before joining the ICTU in 2016 he was a member of the SIPTU senior management team and was involved in several high-profile disputes including the Luas, Dublin Bus, Bus Eireann and Irish Rail strikes and the Greyhound lockout.

Owen is from Donegal. He is a graduate of University College Dublin with a BA in History and Politics and an MA in Politics. He is a father of two.

Paul Yock, MD Doctor of Science (DSc) *honoris causa*

Paul Yock is the Martha Meier Weiland Professor of Medicine, Emeritus, and founding co-chair of Stanford's Department of Bioengineering. He was also the founding director of Stanford Biodesign, which is now the Stanford Mussallem Center for Biodesign.

Dr Yock is internationally known for his work in inventing, developing, and testing new devices, including the Rapid Exchange™ stenting and balloon angioplasty system, which is now the primary system in use worldwide. He also invented the fundamental approach to intravascular ultrasound imaging and founded Cardiovascular Imaging Systems (CVIS), later acquired by Boston Scientific. He has authored 55 US patents, over 300 scientific articles and two books.

Recent awards include the Transcatheter Therapeutics (TCT) Career Achievement Award, the American College of Cardiology Distinguished Scientist Award, and two of the top three awards from the U.S. National Academy of Engineering: the 2018 Gordon Prize for Technology Education and the 2019 Russ Prize for 'outstanding bioengineering achievement.'

Josh Makower Doctor of Science (DSc) *honoris causa*

Josh Makower is the Yock Family Professor of Medicine and Bioengineering at the Stanford University Schools of Medicine and Engineering, and is the Director and Co-Founder of the Stanford Mussallem Center for Biodesign. Josh is the Founder and Executive Chairman of ExploraMed, a medical device incubator that has created 10 companies over the past 20 years. He is also a Senior Advisor to Patient Square Capital, and an Advisory Venture Partner with Sofinnova Partners. Josh currently serves on the boards of Elevage, Revelle Aesthetics, ExploraMed, Moximed, Willow, X9 and Coravin.

Josh holds over 300 patents and patent applications for various medical devices in the fields of cardiology, ENT, general surgery, drug delivery, plastic surgery, dermatology, aesthetics, obesity, orthopedics, women's health, and urology. He received an MBA from Columbia University, an MD from the NYU School of Medicine, and a bachelor's degree in Mechanical Engineering from MIT. Josh is a Member of the National Academy of Engineering, a Fellow of The National Academy of Inventors and The American Institute for Medical and Biological Engineering, and was awarded the Coulter Award for Healthcare Innovation by the Biomedical Engineering Society in 2018.

Éanna Ní Lamhna Doctor of Science (DSc) *honoris causa*

Éanna Ní Lamhna holds science degrees from UCD. Her thesis on the ecology of Irish sand dunes and saltmarshes was published in the Journal of Life Sciences. She set up the Irish Biological Records Centre in 1974 and is responsible for the original distribution maps of mammal and insects. She lectured postgraduates on sustainability for 20 years in TU Dublin. Her publications include a series of five studies on Irish Air Quality, nine books including Wild Dublin and her most recent – The Great Irish Biodiversity Book. She was President of An Taisce from 2004–2009 and more recently President of the Tree Council of Ireland.

She is a judge of Environmental initiatives undertaken by local groups on a county level such as Pride of Place and Love Where You Live.

She is a highly respected radio and television broadcaster on environmental issues. She was included in Irelands 'influential hundred' list in 2012. She is a much sought-after speaker and lecturer. She is a fluent Irish speaker and was a Heritage Expert under the Heritage in Schools Scheme, from its start in 2000 until 2020. She writes the weekly Eye on Nature column in the Irish Times. She is a Co. Louth woman and has a husband, three children and seven grandchildren.

Dolores Keane Doctor of Music (DMus) *honoris causa*

Dolores Keane was born in Caherlistrane, Co. Galway in the west of Ireland and was raised from the age of four in her grandmother's house by her aunts, Rita and Sarah Keane, who were themselves known throughout the world for their Sean Nós singing.

She made her first recording for Radio Eireann at the age of five and somewhat later became a founder member of the internationally known traditional Irish group, De Dannan. She toured with them for four years. Dolores worked on a series of film scores and programmes for the BBC and formed two very successful bands, the 'Reel Union' and 'Kinvara'. She also toured with Planxty and collaborated with The Chieftains on the album 'Bonapart's Retreat'.

In 1994, a solo album, entitled 'Solid Ground', was released on the Shanachie label (available on Dara Records) and received critical acclaim in Europe and America.

In August 1995, Dolores received the prestigious Fiddler's Green Hall of Fame award in Rostrevor, Co. Down, for her 'significant contribution to the cause of Irish music and culture'. Dolores contributed to the RTE/BBC production 'Bringing It All Back Home', a series of programmes illustrating the movement of Irish music (in particular) to America with the emigration of a large section of the population and its influence on American contemporary music.

Dolores has toured extensively throughout the world. She is also featured singing with Tommy Sands the title track of 'Where Have All the Flowers Gone', a celebration album of 39 songs written by Pete Seeger.

In 2023, a special documentary celebrated Dolores at 70, recreating the magic and mystery of the music of Dolores and the Keane family at the original family home of Carragh Cottage.

Marina Fiddler Doctor of Laws (LLD) *honoris causa*

Marina Fiddler is the co-founder of MADRA, a Connemara-based dog rescue and adoption service. Founded in 2005, the charity has gone from strength to strength with Marina at the helm. Driven by a desire to do something about the stray dog problem in Ireland, Marina focussed on developing relationships with local authority pounds.

After moving to Galway in the 1980s she quickly became involved with the Galway SPCA, only stepping back as a volunteer when she and her husband Paul opened their own dog boarding and training facility in Connemara in 1995. This facility gradually evolved into the charity's current rescue centre, with priority being given to unwanted and stray dogs over boarding space for family pets.

Marina still lives at the rescue centre in Camus, dedicating her time 24/7 to help the MADRA team, the animals in their care and the dog owners who need MADRA's support. Over the past twenty years, an estimated 10,000 dogs have been rescued by the predominantly volunteer-run organisation. The charity continues to work towards the prevention of unwanted dogs by educating the public on responsible dog ownership through awareness raising initiatives, education programmes, neutering programmes and providing dog training advice and support.

A lifelong advocate for animals, her tireless work with MADRA was previously recognised in 2010 when she received the Galway Person of the Year Award.

Marina's decades of involvement in animal welfare have seen her invited to contribute to several local and national forums, and since 2019 she has served as a trustee with the ADCH (www.adch.org.uk) which is an umbrella group for dog and cat welfare organisations across the UK, Ireland and the Channel Islands. Marina travels to the UK regularly to support and mentor the smaller member organisations.

Tara Nic Dhiarmada Doctor of Laws (LLD) *honoris causa*

A Dublin native originally, prior to 2005, Tara spent several years in San Francisco, where she immersed herself in animal welfare work, gaining valuable experience with San Francisco SPCA and 'Rocket Dog Rescue', both organisations known for their pioneering no-kill policies and rehabilitation. During this time, she also earned a professional qualification in dog training and behaviour, specialising in working with dog aggression and strong breeds. San Francisco's advanced approach to animal welfare, both in policy and practical administration, gave Tara vital skills in handling formalities and rescue operations, which would prove invaluable upon her return to Ireland.

Tara returned to Ireland with a renewed sense of purpose and a deepened commitment to dog welfare. It was then that she met Marina Fiddler, who also had a mutual dedication to improving the lives of unwanted and abandoned dogs. With their combined experience, passion and dedication, they founded MADRA, turning their shared vision into a widely respected rescue charity that continues to have a profound impact on the region.

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Content and Production Manager
Bríd Seoige, Head of Content, University of Galway

Alumni Team
Catherine Conroy, Alumni Relations Manager, University of Galway

Colm O'Dwyer, Alumni Relations Executive Officer, University of Galway

Design
Darragh Neely Design

Photography
Aengus McMahon, Martina Regan, Mike Shaughnessy

Ollscoil na Gaillimhe
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