



**BREAKING
BOUNDARIES
2030**

UCD College of Health and Agricultural Sciences

NEWSLETTER

Research Innovation & Impact

Vol 2. Edition 1



RESEARCH INSIGHTS

A message from VP for Research,
Innovation & Impact
– Prof Lorraine Brennan



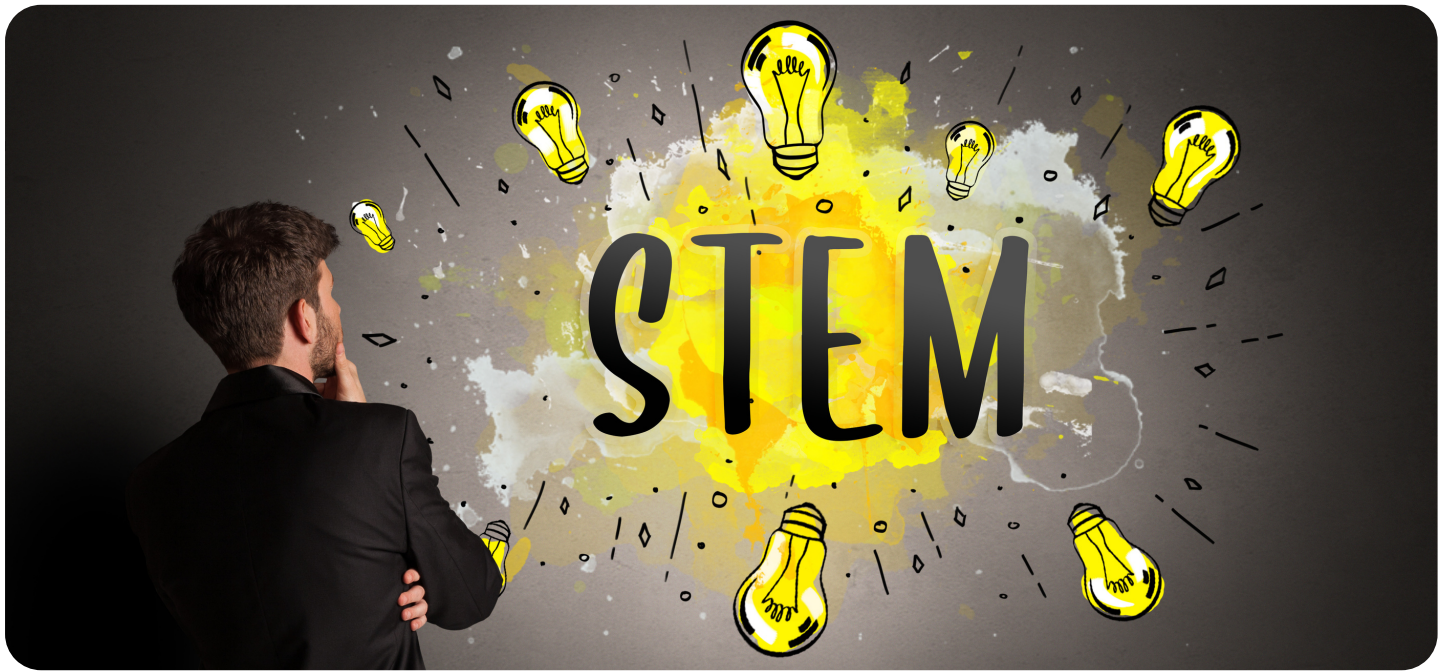
Welcome to our third edition of the College of Health and Agricultural Sciences Research Insights newsletter. This edition highlights the excellent and collaborative research performed by our research community, including the recent announcement of large scale funding for cancer research.

We feature three projects funded by the 2023 UCD STEM Challenge Fund – which is a joint initiative between the three UCD Colleges of Science, Engineering & Architecture, and Health & Agricultural Sciences to support highly collaborative and high-impact research in UCD. The multidisciplinary research grants supported researchers from different disciplines to bridge fields and tackle complex research questions. The funds have supported data generation that underpinned successful grants and patent applications.

We also take the opportunity to celebrate our wonderful postgraduate community and highlight the CHAS graduate research symposium that brought together researchers from different disciplines across the college. It was a wonderful day that allowed our future generation of researchers to exchange ideas and present their results. We encourage you all to get involved in the 2026 CHAS graduate research symposium.

Finally, we extend a warm welcome to new faculty, researchers and research students to our research community. In this edition, we highlight some of new staff that recently joined CHAS and I look forward to finding ways to interact and work with them going forward. Finally, I would like to thank you all for contributing to a vibrant research community here at CHAS.





CROSS COLLEGE STEM CHALLENGE FUND UPDATE

UCD STEM Challenge Fund is a joint initiative between the three UCD Colleges of Science, Engineering & Architecture, and Health & Agricultural Sciences to support highly collaborative and high-impact STEM research in UCD. In 2023, we awarded 8 collaborative multi-disciplinary projects led by CHAS PIs.

We are delighted to report that these projects have funded teams from different Colleges and Schools to work together to develop innovative projects that are seeding future grant applications and collaborations. Supporting multi-disciplinary collaborations within UCD has huge long-term benefits and enables UCD PIs to generate preliminary data to support larger grants. These examples highlight the potential of such initiatives.

Project title: Development of a pancreatic cancer-on-chip model of immune cell infiltration

Project Team: Dr Stephen Thorpe (School of Medicine - SOM), Dr Mario Manresa (School of Biomolecular and Biomedical Science), Dr Nan Zhang (School of Mechanical and Manufacturing Engineering) and Dr Carlos Matellan (SOM), a postdoc in Dr Thorpe's group.

This project brought this multidisciplinary team together to address a key challenge in the modelling of pancreatic cancer which is one of the leading causes of cancer related deaths. Pancreatic cancer is the stiffest tumour type, with a dense collagen-based extracellular matrix surrounding the cancer cells. This makes it difficult for immune cells to access the tumour. At the 2023 STEM Research Day, we linked up and realised that there was potential to bring our respective expertise together to address the challenge of developing an in vitro organ-on-chip

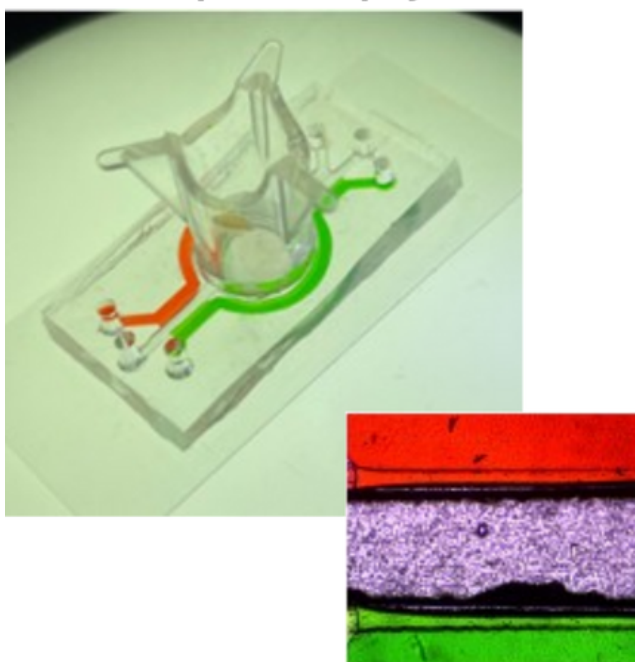
model to assess immune cell infiltration in a dense stroma microenvironment. This will allow us to address key questions in understanding how to improve immune cell infiltration in developing new treatments for pancreatic cancer and other fibrotic diseases such as inflammatory bowel disease.

The project began with the development of novel microfluidic chip designs. Dr Zhang provided expertise and facilities in 3D printing of microfluidic chip masters and the manufacture of microfluidic chips. This work was supported by two Biomedical Engineering Master's students who developed novel chip designs, and a Biomedical Health and Life Sciences student who conducted cell culture experiments. These students were supported by Dr Carlos Matellan, an Irish Research Council Postdoctoral Fellow.

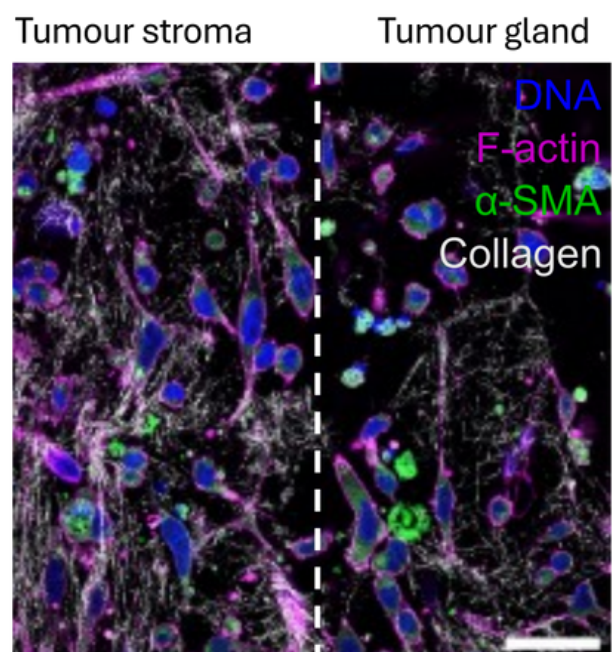
We have generated proof of concept data using pancreatic cancer cells and cancer associated fibroblasts embedded within both collagen and gelatin methacryloyl hydrogels. Dr Matellan has also explored monocyte migration and interactions with fibroblasts embedded in collagen hydrogels in these devices.

The data obtained has supported several successful funding applications. These include Dr Matellan's recently commenced Wellcome Early Career Award which will use the developed organ-on-chip devices to model colorectal cancer, and Dr Thorpe's Precision Oncology Ireland 2.0 projects funded by Research Ireland, Breakthrough Cancer Research, and the Mater Hospital Foundation, which will use the developed systems to explore the interaction between immune cell function and tumour stiffness in pancreatic and breast cancer. Ultimately, this STEM Challenge Fund project has ignited an exciting and enjoyable collaboration and supported us in obtaining substantial funding to date

Insert chip for biopsy culture



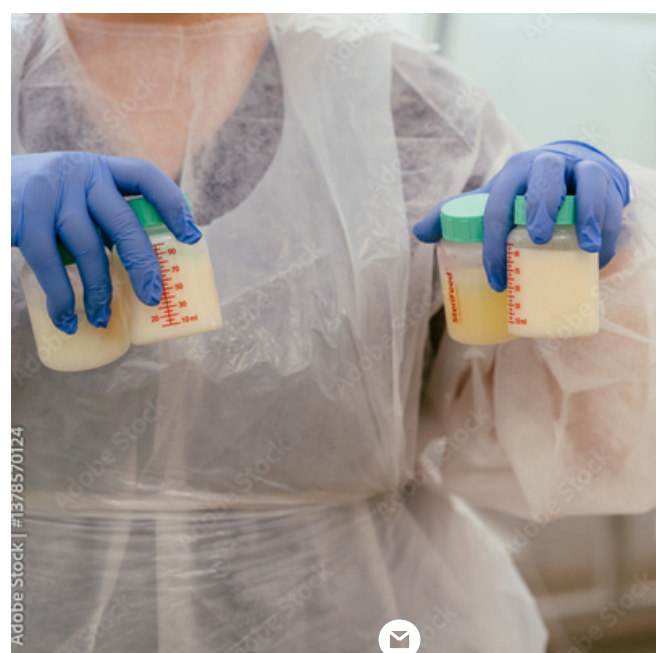
Tumour-stroma interface chip



Project title: Weighing in on breastmilk bioactives – the impact of breastmilk pro inflammatory bioactives on infant growth and development

Project Team: Dr Clare Reynolds (School of Public Health, Physiotherapy and Sports Science - SPHPSS), Dr Martina Wallace, Associate Professor Aifric O'Sullivan, Associate Professor Sharleen O'Reilly (School of Agriculture and Food Science - SAFS)

This CHAS-funded project explored how maternal health influences the immune and hormonal profile of breastmilk, with implications for infant growth and development. Using samples from the international Bump2Baby and Me trial, which recruited women at high risk of gestational diabetes, the team analysed over 100 milk samples at six weeks postpartum.



Breastmilk is more than nutrition, it delivers immune factors, growth factors, and hormones that shape infant immunity, gut development, and long-term metabolic health. Our analysis confirmed this complexity: while leptin and adiponectin were consistently detected, other cytokines varied widely across women. Crucially, maternal metabolic health, especially triglyceride levels and glucose control, emerged as the key drivers of breastmilk immune composition, outweighing the effects of short-term dietary intervention. Elevated triglycerides, for example, were linked to a more pro-inflammatory milk cytokine signature.

These results highlight the importance of supporting maternal metabolic wellbeing to optimise the protective properties of breastmilk. They also reinforce the bidirectional nature of the mother–milk–infant triad, where maternal health imprints directly on milk composition and potentially on child outcomes.

The findings will be presented at the Society for Reproductive Investigation meeting (US, 2026), further underlining the project's international impact. A full manuscript is in preparation, and the team is leveraging this work in an application to further examine the molecular signatures in breastmilk that impact infant development.

The CHAS STEM Challenge Fund provided critical seed funding that enabled cutting-edge laboratory analyses, fostered international collaboration, and laid the foundation for future larger scale research.

Project Title: Peak performance wearables: When near enough isn't good enough.

Project team: Professor Kate Pumpa (SPHPSS), Associate Professor Stephen Redmond (School of Electrical and Electronic Engineering), Polat Goktas (CEDAR)

Almost half of elite athletes do not consume enough food to meet the demands of their training, competition, and recovery. This condition, known as low energy availability, negatively impacts an athlete's performance, health, and wellbeing. Assessing an athlete's energy availability requires accurate exercise energy expenditure data, but current wearable devices provide inconsistent and inaccurate results. This challenge is especially pronounced in team sports, where existing devices rely solely on movement sensors and heart rate data, and are often not permitted for use during training or competition.

The STEM Challenge seed funding enabled a collaboration between Kate Pumpa in Sport Science and Stephen Redmond in Engineering, to work together to develop AthlenX wearables. Over the last 18 months, with the assistance of 2 electronic engineering's and an engineering masters student, we have developed a prototype which encompasses a range of movement and temperature sensors that can be worn during exercise. The initial prototype was evaluated in 30 athletes at rest, when walking and running within the Institute for Sport and Health Physiology laboratory. We implemented and evaluated three modelling approaches to predict VO_2 from wearable-derived features, comparing their performance against indirect



calorimetry, the gold standard for measuring oxygen consumption and, by extension, energy expenditure in the lab.

Since the initial round of data collection, we have been working closely with NovaUCD. An invention disclosure form has been submitted and consultation with a patent attorney firm has reported the data processing and device appears to be patentable. We are currently preparing a Proof-of-Concept application to submit to Enterprise Ireland (EI). The additional funding from EI will strengthen the technical foundation and reliability of the device and enable additional laboratory testing to refine the algorithms.

This collaboration and product development would not have occurred without the STEM Challenge grant. It brought together two researchers in different colleges, with similar interests, but very different skill sets. Together, we have developed a product that has commercial potential and will solve a real world problem for athletes.

CHAS GRADUATE RESEARCH STUDENT SYMPOSIUM

The College of Health and Agricultural Sciences was delighted to host the **CHAS Graduate Research Student Symposium** on Tuesday 29 April 2025. Abstracts were submitted by graduate research students from across the college's five schools, and on the day, we saw over 70 posters and 11 presentations.

The event was a terrific showcase of the high quality and interdisciplinary research on-going across the college, and an excellent opportunity for students and faculty to network and discuss their research.

Our student organising committee was before chaired by Brian Mullen (SPHPSS), and included Sean Lonergan - School of Veterinary Medicine (SVM), Shiva Dubey (SAFS), Tiernan Harris (SPHPSS), Oscar Falconer (SAFS), Catriona O' Daly - School of Nursing, Midwifery and Health Systems (SNMHSS) and Zining Liu (SAFS). The committee played a key role in the delivering the event, including co-chairing the presentation sessions and arranging the guest speaker session. The committee invited colleagues from Novartis, Eamon Boland, Tommy Burke and Colin Phillips, and Tara Hughes from the UCD Careers Network to participate in an engaging panel discussion on career opportunities post PhD. The session offered valuable insights for students taking the next steps on the path to their chosen careers.



The student organising committee

The event concluded with a prize giving ceremony for poster and oral presentation excellence. Prizes were awarded as follows:

Poster Winners

- Ishani Atukoralalage, SOM
- John Francis OGrady, SAFS
- Laura OToole, SNMHSS

Oral Presentation Winners

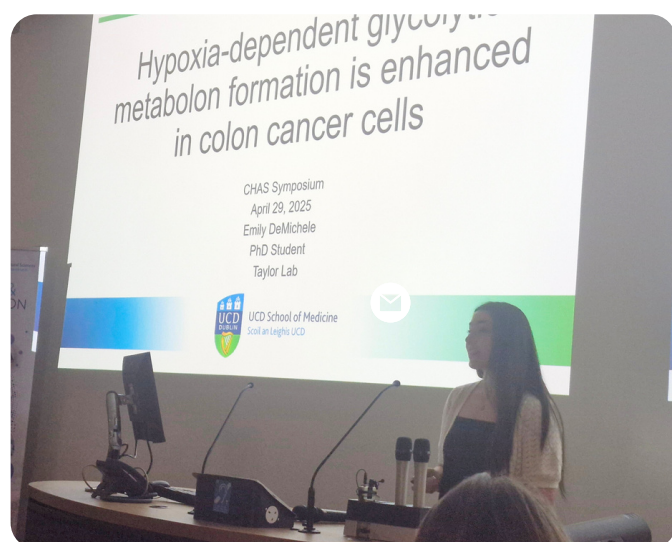
- Emily DeMichele, SOM
- Rory Lambe, SPHPSS
- Ruth Colbert, SOM
- Neil Maher, SAFS

Overleaf is a snapshot of the research presented by some of the prize-winners. We look forward to the **next Graduate Research Symposium** which will take place on **30 April 2026 with details to follow in January 2026.**

Emily DeMichele, SOM

Characterization of the hypoxia-dependent glycolytic metabolon complex

All mammalian cells break down glucose through glycolysis to fuel energy production. In low-oxygen (hypoxic) conditions—a common feature of the gut—the transcription factor HIF-1 enhances glycolysis to help cells adapt and maintain energy balance. The Taylor Lab recently uncovered a novel role for HIF-1: it associates with glycolytic enzymes during hypoxia, promoting the formation of “glycolytic metabolons.” We found that metabolon formation is enhanced under hypoxia in both normal and cancerous colon epithelial cells, though the effect is stronger in cancer. In contrast, small intestinal epithelial cells did not show this response, suggesting a colon-specific adaptation. Similarly, colon tissue from mice exposed to hypoxia for 96 hours displayed higher glycolytic enzyme colocalization, indicating this process also occurs physiologically. Overall, these findings highlight a colon-specific metabolic adaptation that cancer cells can exploit. Future investigations will focus on the cancer-specific mechanisms behind this response, with significant implications for chemotherapeutic innovation.



Neil Maher, SAFS

Investigating the effect of 3-nitrooxypropanol on milk production and enteric methane emissions of Irish autumn-calving dairy cows

My research focuses on improving the sustainability of winter-milk systems in Ireland. Winter-milk, or autumn-calving herds ensure a supply of fresh milk throughout the winter months in Ireland, where our dairy herds are predominantly spring-calving. Agriculture contributes 38% of Irish GHG emissions, with methane accounting for 63% of these emissions. One area of my research is investigating the effect of 3-Nitrooxypropanol (3-NOP), a methane-reducing feed additive, on methane and milk production of autumn-calving cows. To be effective in methane reduction, 3-NOP needs to be present in the rumen throughout the day, making it difficult to feed in an Irish grazing scenario. However, feeding through an indoor diet as is fed to autumn-calving herds over the winter months provides an opportunity for its use in Ireland. The results of my experiment showed methane production in cows offered 3-NOP was reduced by 26%, with a 2% increase in milk solids production also observed.

Ishani Atukoralalage, SOM

Minimally Invasive Heart-Valves for Correction of Congenital Valve Defects

My research focuses on developing scaffolds for congenital valve defects, with a particular emphasis on the pulmonary valve. Current treatment options for paediatric valve replacement are limited and often require multiple surgeries over a child's lifetime. Tissue-engineered heart valves present a promising alternative, as their ability to grow and remodel could eliminate the need for repeated surgeries. To date, I have designed a scaffold that mimics the structure of the pulmonary valve and evaluated its cytocompatibility and hemocompatibility. I have also compared static and dynamic seeding techniques to identify the most effective method for promoting cell infiltration and initiating tissue formation within the scaffold. My next phase involves applying mechanical stimulation under in vitro physiologic conditions to further assess tissue development and maturation.



Ruth Colbert, SOM

Investigating microglial behaviour and responses after spinal cord injury using microglial-specific Hexb-tdTomato mice

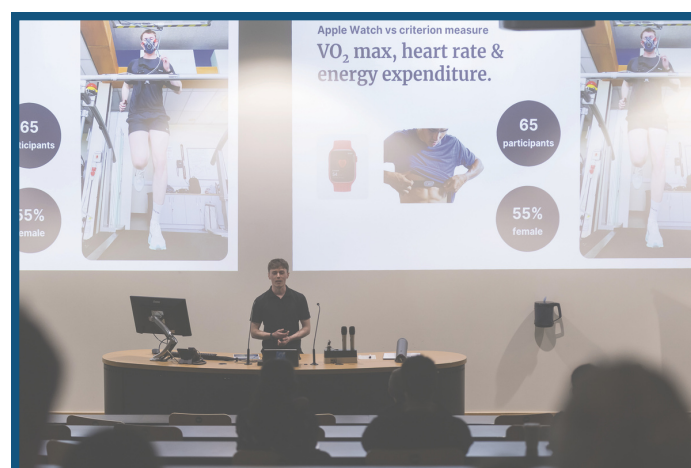
My research is in neurotrauma – specifically looking at the neuroinflammatory response that characterises the secondary injury phase of spinal cord injury (SCI). I'm interested in studying the behavioural and phenotypical changes that occur in microglia – the resident immune cells of the central nervous system. Microglia can exert beneficial or detrimental effects on the outcome of SCI and recovery depending on their microenvironment, however, in this context it is challenging to discriminate resident microglia from infiltrating peripheral macrophages. My project utilises a novel reporter mouse – *Hexb*^{tdTomato} – in which microglia faithfully express the red fluorescent protein, tdTomato. To this end, I have mapped the migration and morphogenesis of microglia in *Hexb*^{tdTomato} mice after SCI, using fluorescence microscopy. I have also isolated tdTomato + microglia for bulk sequencing, to map how their transcriptional profile evolves in the subacute phase of injury. Future work will elucidate how microglia respond to immunotherapy post-SCI.

Rory Lambe, SPHPSS

The accuracy of Apple Watch measurements and a digital biomarker for cardiovascular health

Wearable devices are increasingly used for personal health and to inform digital biomarkers for clinical assessment and remote monitoring. We conducted a validation study to investigate the measurement accuracy of Apple Watch. We recruited 70 young adults who conducted a maximal exercise treadmill test using indirect calorimetry, a criterion assessment method for energy expenditure (calories burned) and VO₂ max, a measure of cardiorespiratory fitness. Apple Watch showed moderate agreement with the criterion for energy expenditure (mean absolute percentage error: 12%) and for VO₂ max (mean absolute percentage error: 13%).

However, we found large measurement variability for both biometrics, indicating that individual measurements may differ substantially from the criterion.



Despite this, the accuracy of VO₂ max estimates aligned more closely with traditional prediction methods from submaximal exercise that are often preferred in clinic due to their practicality. For heart rate, Apple Watch showed strong agreement with the Polar H10 (mean absolute percentage error: 0.9%). Building on this validation, we are now conducting research among patients with cardiovascular disease at the Beacon Hospital to develop a digital biomarker for cardiovascular disease, which combines point of care blood testing with wearable data, to facilitate remote monitoring and preventative care.



NEW ACADEMIC STAFF IN CHAS

In 2025 we welcomed a number of new colleagues to the College. It is an exciting time for the College as we see an expansion in the Faculty and we look forward to developing new research collaborations and bringing fresh perspectives to research. We extend a warm welcome to all and have highlighted some of new colleagues below.



School of Medicine



Dr Rebecca Corrigan

is an Associate Professor, Ad Astra Fellow and a Conway Fellow in the SOM at UCD. She is a molecular microbiologist who established her lab at the University of Sheffield in 2015 after receiving a Wellcome Trust & Royal Society Sir Henry Dale Fellowship. This award was renewed in 2019, when Rebecca was also promoted to Senior Lecturer. In 2018, she was awarded a Lister Institute Research Fellowship. Rebecca returned to Ireland in 2024 to take up a position in UCD. Her research interests include the study of stress signalling pathways, virulence and antimicrobial resistance (AMR) mechanisms of the pathogenic bacterium *Staphylococcus aureus*. She is currently working as part of a Wellcome Trust Discovery international collaboration on how high-level antibiotic resistance arises in bacteria, as well as the role of *S. aureus* stress responses in cystic fibrosis lung infections, osteomyelitis and recurrent tonsillitis.



Dr Luis Iglesias Martinez is an Ad Astra Fellow in Artificial Intelligence and Medical Data Analytics in the SOM. He holds a B.S. in Chemical Engineering from the National Autonomous University of Mexico (UNAM), Mexico, an M.Sc. in Biotechnology from Chalmers University of Technology, Sweden and a PhD in Systems Biology and Bioinformatics from UCD. Dr Iglesias Martinez leads a research group at Systems Biology Ireland (SBI) that develops artificial intelligence (AI) models for cancer genomics and transcriptomics. He is a principal investigator in the Molecular and Genomics Interrogation of Childhood Cancer – Ireland (MAGIC-I) project, a five-year project aiming to perform whole-genome and transcriptome sequencing for every childhood cancer case in Ireland in collaboration with SBI, Precision Oncology Ireland, Children's Health Ireland (CHI), Illumina and GenSeq. Within MAGIC-I, he oversees the bioinformatic analysis and focuses on designing AI models for personalised patient outcome predictions and simulations.



Dr Alexandros Sykaras

was born in Thiva (Thebes), Greece, a town with a prominent role in Greek mythology and history. Although none of his family members have a university degree, they instilled in him a deep value for education and reading. He obtained a Medical Degree, followed by an M.Sc. and a Ph.D. in the Molecular Basis of Human Diseases from the University of Crete. His interest in the mechanisms of disease, sparked during time as a medical student, led him to molecular medicine related research in the USA, UK, Sweden, and Ireland. His Ph.D. focused on the molecular characterisation of duodenal cholecystokinin cells. After completing his residency in Athens, he was awarded the Certificate of Satisfactory Completion of Specialist Training (CSCST) in Histopathology in 2023. He then joined the Department of Pathology at UCD SOM as a Special Lecturer in August 2023. His main research interests focus on the pathogenesis of steatotic liver disease and neuroendocrine tumours of the gut.

School of Public Health, Physiotherapy & Sports Science



Dr. Julie Broderick

is an Associate Professor in University College Dublin. She commenced in UCD in July 2025. Prior to this she was Head of Physiotherapy in Trinity College Dublin from 2023-2025 and an Assistant/Associate Professor since 2014. Her background is physiotherapy, with a career that bridges clinical excellence, academic leadership, and a deep commitment to social justice. She is also committed to teaching excellence, and she has a digital badge in Universal Design for Learning. She has experience of inter-professionally delivered teaching enhanced by simulation from her time in Trinity College Dublin. She specialises in cardio-respiratory physiotherapy, both clinically and academically, and leads research at the intersections of chronic disease (cardio-respiratory conditions and cancer) as well as social exclusion and health equity. She is especially passionate about physical activity interventions aimed at improving frailty and physical performance in socially excluded populations and those with chronic illness.



Dr Dave O'Neill

holds a BSc in Sports

Coaching and Performance, an MSc in strength and Conditioning and a PhD in athlete physiology. Dave's PhD was titled 'Jockey Weight-making in Ireland'. Dave is currently a teaching fellow at University College Dublin in Sport and Exercise Science. Dave's key areas of interest include athletic development, strength and conditioning, physiology and holistic performance. Dave is also the founder of Elevate Performance, a team of sports science professionals who actively provide support to several athletes, teams, and clubs in an array of sports, including GAA, rugby, football and various individual sports. Dave's research interests are broad and encompass many strands of sports science including the physiology of weight-making, strength and conditioning and athletic development for field sports.



Dr Jakim Berndsen

is an Assistant Professor in the SPPHSS. Jakim's research sits at the intersection of sport and data science, using Artificial Intelligence and Machine Learning to uncover new insights into how athletes train, perform, and stay healthy. His work explores areas such as athlete development, injury prevention, and performance optimisation, with a focus on translating complex analytics into practical tools that support evidence-based decision-making in sport.

Before joining UCD, Jakim led Data Science Research & Development at Kitman Labs, where he helped design and evaluate AI solutions used by professional teams and governing bodies worldwide. He has also contributed to research in endurance and marathon running, analysing large-scale datasets to understand the factors that shape performance across populations.

School of Veterinary Medicine



Dr Heather Grieve is an Assistant Professor in Companion Animal Health and Welfare Surveillance at the SVM. She worked in pharmacovigilance prior to completing a PhD in Veterinary Epidemiology, where her research explored the use of informatics approaches for improving identification and reporting of adverse events in veterinary medicine. At UCD, Heather is leading the development of a companion animal health surveillance system for Ireland, based on routinely collected veterinary clinical data. Drawing on her background, she hopes to bring a One Health lens to this research, including exploring topics such as antimicrobial use and resistance. She is looking forward to building collaborations with researchers across the University and in clinical practice.



Dr Miriam Casey is

an Ad Astra Fellow in the SVM. She qualified as a Veterinary Surgeon from UCD and spent several years in first opinion and referral practice before completing MSc's in pathology and comparative medicine at the Universities of Bristol and Glasgow. She went to complete a PhD in Glasgow and the Pirbright Institute about the epidemiology of foot-and-mouth disease at the wildlife-livestock interface in East Africa. After her PhD she worked in the Irish Department of Agriculture's National Disease Control Centre and in the European Commission for the control of Foot-and-Mouth Disease in the UN-FAO. Miriam returned to UCD in 2019, to the Centre for Veterinary Epidemiology and Risk Analysis, and worked on Covid-19 and infectious diseases of farm animals. She developed expertise in dynamic infectious disease modelling which forms the basis of her current fellowship. Miriam is interested in understanding the processes underlying population-level transmission of infection, and informing their effective control.



Dr John Mark O' Leary

graduated from the University of Glasgow in Veterinary Medicine (2004), completing an MSc in equine veterinary dentistry from the University of Edinburgh (2012), alongside his specialist training in large animal surgery from the European College of Veterinary Surgeons (2015). John Mark also completed specialist training in equine veterinary dentistry from the European College of Veterinary Dentistry (2019). Having worked as an Assistant Professor in Large Animal Surgery at University College Dublin Veterinary Teaching Hospital since 2016, John Mark is currently enrolled as an Irish Clinical Academic Training fellow at Dublin Dental University Hospital where he is doing a PhD on the molecular pathways of pulpitis, a painful inflammation of the dental pulp, so that better diagnostics and therapies can be developed.

As part of his ICAT PhD John Mark will compare the inflammatory and mineralisation pathways and markers of healthy and inflamed pulp cells from human brachyodont and equine hypsodont teeth using transcriptomic and proteomic analyses. This work will help to determine whether there are translational differences between species and types of teeth.



Michael Duggan

graduated from the University of Bristol School of Veterinary Medicine and has gained extensive experience in mixed-species practice, as well as first-opinion and referral equine practice across the UK and Ireland. He is a European Board of Veterinary Specialisations European Specialist in Equine Surgery and recently completed a Doctorate in Veterinary Medical Specialisation (DVMS). This doctoral research focused on the equine lipopolysaccharide model of joint inflammation and the use of platelet-rich plasma in joint disease.

Michael's research interests lie within the field of One Health, particularly the optimisation of clinical outcomes for both humans and animals through translational research. As an Irish Clinical Academic Training fellow, his PhD is investigating the effects of joint loading on cartilage development, adaptation, and repair, with a specific emphasis on the impact of space travel. In addition to his academic and clinical roles, Michael serves as an FEI Official Veterinarian at international equine sporting events and is an Associate Editor of the Irish Veterinary Journal.

School of Nursing, Midwifery and Health Systems



Dr Sonam Banka-Cullen

has over 14 years of academic experience in digital health, health informatics, psychology, and mental health. Her research focuses on improving health and wellbeing among vulnerable groups, including children, people who use drugs, those affected by domestic abuse, and people experiencing homelessness. She has secured over €7.3 million in research funding and led major national and international projects addressing health inequalities through digital and community-based approaches. Dr Banka-Cullen's work has informed policy, guided evidence reviews, and supported further funding for initiatives tackling key health and social challenges. She has extensive experience conducting mixed-methods studies and collaborating across disciplines.

As an educator, she is recognised for her innovative teaching and use of design thinking to connect students with real-world health issues. As an Ad Astra Fellow and Assistant Professor in Digital Health and Health Informatics, she remains committed to research that drives meaningful social impact.



Dr Seán Kearns

is an Assistant Professor in General Nursing at University College Dublin, where he joined the SNMHS in January 2025. He also practises as an Advanced Nurse Practitioner (ANP) specialising in endocrine care and transgender health at the National Gender Service, St Columcille's Hospital. Seán's academic work focuses on healthcare access for minority populations, nurse-led innovation, and patient and public involvement (PPI) in research. He is Principal Investigator of the Gender-Affirming Genital Surgery Outcomes Study, exploring surgical pathways and patient experiences to inform future models of care.

With a background spanning medical, surgical, and clinical trial nursing, Seán is committed to advancing evidence-based, equitable, and person-centred healthcare. His teaching and research aim to strengthen the role of Advanced Nurse Practitioners and improve health outcomes for gender-diverse and other underserved communities.

School of Agriculture and Food Science



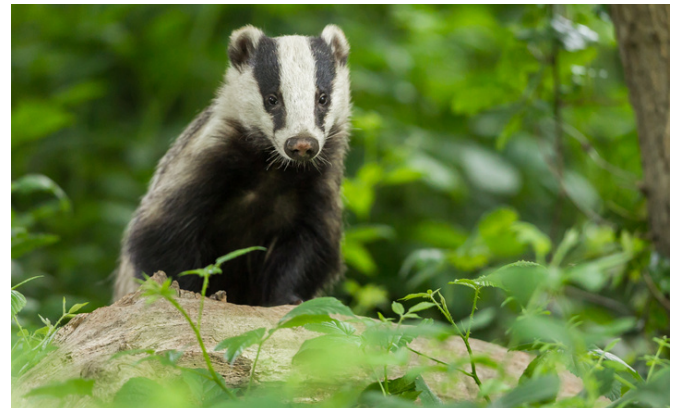
Dr. Vilma Xhakollari

is an Assistant Professor (Ad Astra Fellow) at the SAFS. She completed her PhD at the University of Bologna, where her research focused on consumer preferences for gluten-free products and adherence to a gluten-free diet. Before joining UCD, Dr. Xhakollari contributed to several UKRI and Horizon 2020 projects across the UK, Italy, and Spain. Her main research interests lie in consumer preferences, food choice behaviour, and functional foods. Her work combines economic and psychological perspectives, with a focus on quantitative methodological approaches. Building on her work in consumer behaviour, she is now expanding her research to engage with other stakeholders in the food supply chain, aiming to investigate how their behaviour affects economic performance within the supply chain.



Dr. Virginia Morera-Pujol

is an ecologist working in science-based solutions for wildlife management and conservation. She has a PhD on seabird behaviour and conservation from the University of Barcelona. She moved to UCD in 2021 and started working as a postdoctoral researcher at the School of Biology and Environmental science, where she participated in projects studying the distribution of deer in Ireland, and the effect of their overabundance in the biodiversity of Irish forests.



She then moved onto leading a project studying the distribution of badgers in Ireland, with the aim of better understanding their role on the spread of bovine tuberculosis. With a background of wildlife research and obvious links to the Irish agricultural landscape through her research on deer and badgers, she now holds a position at the SAFS as Ad Astra Assistant Professor of Land Use and Wildlife Health.

UCD One Health Centre Conference 2025
 From Priorities and Clusters to Real-World Impact
 One Health in Action

9th December 2025
 09:00 AM – 17:00 PM
 Doors Open 8.30am
 O'Reilly Hall
 University College Dublin Belfield

UCD College of Health and Agricultural Sciences

PRECISION ONCOLOGY IRELAND – 2 (POI2)

POI2 is the largest cancer research project ever funded in Ireland. Under the umbrella of a Strategic Partnership Programme, Research Ireland and a consortium of 6 Irish academic institutions (UCD, TCD, RCSI, DCU, UoG, UCC), 11 industry partners, 9 charities, and 7 foundations invest €28 million over 5 years to develop personalized approaches to cancer prevention, diagnosis and treatments.

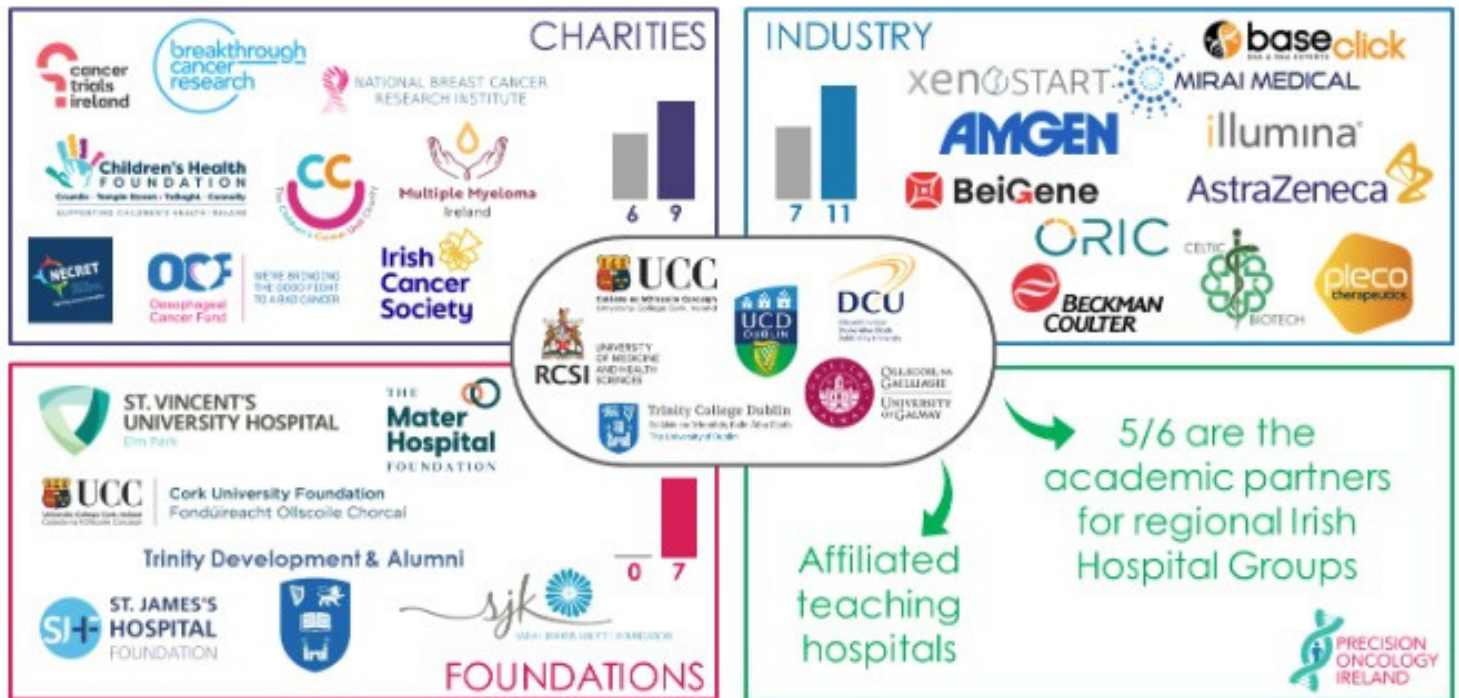
POI2 is led by Systems Biology Ireland UCD, with Prof Walter Kolch as Director and Prof Donal Brennan as Deputy Director. It was officially announced 8 October 2025 at the International Conference for Systems Biology 2025 hosted by Systems Biology Ireland at the Royal Convention Centre in Dublin.

POI2 builds on the achievements of POI, which was launched in 2019, also led by UCD (Prof Walter Kolch as Director and Prof William Gallagher as Deputy Director). POI has created a strong community of cancer researchers in Ireland who use modern technologies to improve the life and clinical outcomes of cancer patients.

Cancer has overtaken heart disease as the No1 killer in Ireland, and its incidence is still rising. Due to advances in research more people survive cancer than ever before. Key is to take research innovations to the patient early and quickly. While POI had focused on the cancer cell, POI2 casts a wider net trying to understand how cancer interacts with the host, what role the immune system plays in cancer and how we can leverage its power to achieve more and better cures, and how cancer is modulated by host factors, such as diet, obesity and the microbiome.



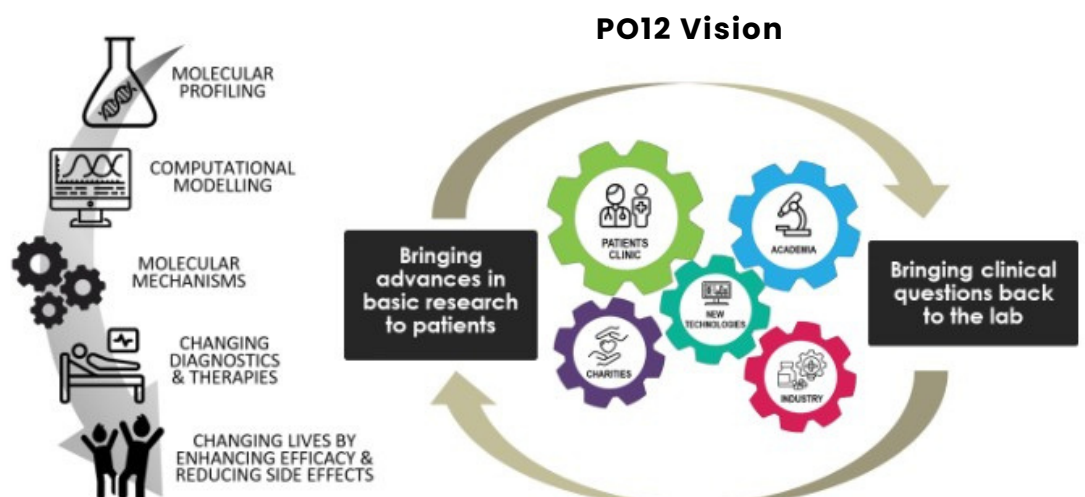
PO12 Consortium



Combining deep domain specific expertise of the consortium members with advanced computational modeling and the construction of "Digital Twins" of cancer, PO12 will bring advances in cancer research to the clinic.

This remit is underpinned by the shared resources, which comprise state of the art omics, imaging, computational modelling, and biobanking. The scientific agenda is closely linked to a training program and an education and public engagement program that includes patient involvement.

PO12 will train 48 PhD students emphasizing the integration of wet and dry lab work. Importantly, an extensive public engagement and patient involvement program will provide us with the opportunity to carry out cutting edge research as a team with all stakeholders, and especially work together with patients to make cancer a manageable disease for each patient.



OUR COLLEGE

The UCD College of Health and Agricultural Sciences was established in 2015 and brings all of UCD's health professionals under one banner providing an exciting opportunity to exploit synergies which exist across the **One Health spectrum**.

CHAS is committed to excellence in research and innovation to deliver impact locally, nationally and globally. At its core we adopt a One Health approach that sustainably balances and optimises the health of people, animals, and ecosystems. Our breadth of expertise enables us to deliver new knowledge in various areas including animal health and food systems, optimising healthcare, and developing innovative solutions for major diseases. Our work spans from basic molecular science through to clinical and translational research that allows us to transform scientific discoveries into real-world health solutions. Furthermore, our work will play a critical role in addressing climate change and helping Ireland transition to a climate neutral economy by 2050.

Learn More about our Researchers and their Research Work.

Check out our [Research Showcases](#).



December, 2024
 UCD College of Health and Agricultural Sciences

NEWSLETTER

 Research Innovation & Impact



RESEARCH INSIGHTS

A message from VP for Research, Innovation & Impact - Prof Lorraine Brennan



making real world impacts on society, technology and the environment. This is the first in a series of newsletters we plan to develop highlighting the breadth and impact of our research.

Welcome to Research Insights, your gateway to research in health and agricultural sciences.

As we draw close to the end of the year is a good time to reflect on and celebrate our research achievements in the College of Health and Agricultural Sciences. In this newsletter we focus on research outputs and impact because they reflect the tangible ways our research work contributes to solving global challenges, shaping policy, and improving lives.

You will find contributions from across the college that collectively show that we are



Watch and Listen to a word from our College of Health and Agricultural Science - VP for Research, Innovation & Impact - Prof. Lorraine Brennan

[Watch](#)

Catchup with our Previous Research Insights newsletters.

Check out our [Newsletters](#).

