



BREAKING BOUNDARIES 2030

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 it 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](#)



COLLEGE OVERVIEW


CHAS Achievements

2019 - 2023



TOTAL FUNDING
€243M


TOTAL PUBLICATIONS



4628
(SciVal)


”

1.96
Field Weighted Citation Impact



UCD College of Health and Agricultural Sciences


Our Researchers




TOP 5 COUNTRIES FOR OUTPUT COLLABORATIONS

- Ireland
- U.K.
- U.S.A
- Australia
- Germany


NUMBER PHD STUDENTS

557 


INNOVATION

10 

LICENSES

18 

SPIN-OUTS

5 



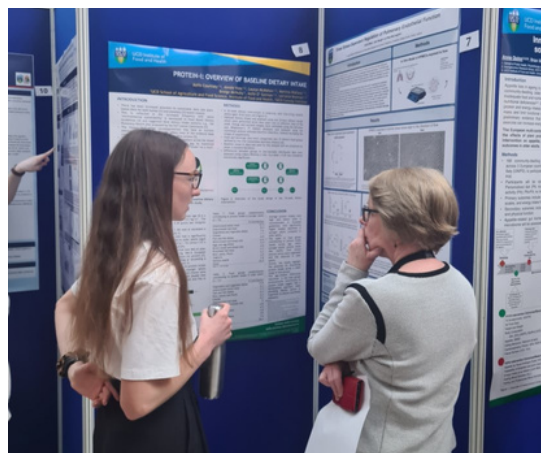
We are proud to showcase the latest research work across our five schools. To learn more about some of our current areas of innovation and impact visit our Researcher Showcases.

[Read More](#)



RESEARCH SYMPOSIUM

The Graduate Research Symposium took place on May 1st. The event was well supported by faculty, staff and researchers.



The day was marked with extensive conversations as students exchanged studies and findings and connected with other disciplines within the college to share their experience, network and connect for possible future collaborations. Over 100 of our graduate students presented their work in oral and poster presentations. The excellence of the work was evident with an amazing array of topics highlighting the impactful work being carried out in CHAS.



[Read More](#)





UCD SCHOOL OF MEDICINE


The School of Medicine has had another successful year of research outputs which have had immediate impact on patient care, knowledge of disease mechanisms and translation and technology transfer.

Researchers from the School of Medicine continue to publish in high impact journals and the school's Field -Weighted Citation Impact currently stands at 2.29.

HIGH PROFILE RESEARCH PAPERS RECENTLY PUBLISHED

MD candidate **Dr Lucy Geraghty** is the lead author on a paper which was published in [The New England Journal of Medicine](#) in May 2024 entitled Video versus Direct Laryngoscopy for Urgent Intubation of Newborn Infants. The paper outlines that videolaryngoscopy had greater success than direct laryngoscopy at first attempt. Dr Geraghty's research was supervised by Professor Colm O'Donnell, Consultant Neonatologist at the National Maternity Hospital.



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HIGH PROFILE RESEARCH PAPERS RECENTLY PUBLISHED

In June 2024 Professor of Chemical Pathology Prof **Carel Le Roux's** paper Obesity in Adults, was published in The Lancet. This research recommends that obesity treatments should aim for health gains rather than weight loss. Read the article [here](#).



Professor Fionnuala McAuliffe published the results of a study which investigated changes to maternal inflammatory biomarkers during pregnancy in *Scientific Reports* in July 2024.



This research has increased understanding as to why first-time mothers are at greater risk of placental disease such as pre-eclampsia and fetal growth restriction. Read the article [here](#).

UCD CLINICAL TRIALS UNIT

Dedicated to supporting the design, development and conduct of clinical trials.

UCD Clinical Research Centre.

WWW.UCD.IE/MEDICINE/CTU

Advise Industry & Academic Partners, Conduct Trials, Manage scale, Datasets & Analysis, Disease Registries, Methodological Research.



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AWARDS

In recognition of the value and impact of the research being carried out researchers from the **School of Medicine** have been the recipients of a number of prestigious awards including:

Dr Sarah Kierans was the recipient of the Royal Academy of Medicine in Ireland (RAMI) Biomedical paper of the year for her paper in the Proceedings of the National Academy of Sciences.



This research will assist in identifying new therapeutic targets in a range of diseases where glucose metabolism is altered, including cancer, diabetes and chronic inflammatory disease.



Dr Luke Jones was named as the Senior Researcher of the Year by the Irish Cancer Society in February 2024. Dr Jones' research is focused on acute myeloid leukaemia.

Dr Mark Pickering was the recipient of the Chris Hawes Outreach and Education Award from The Royal Microscopical Society. Dr Pickering's main area of research is focused on understanding the factors underpinning the structure and function of the nervous systems.

Dr Carla Moran, was awarded the 2024 American Thyroid Association Van Meter Award in recognition of her outstanding contributions to research on the thyroid gland.

We look forward to 2025 in anticipation of further impactful research outputs from our talented medical researchers.



SCHOOL OF NURSING, MIDWIFERY AND HEALTH SYSTEMS



The School Hosted its 2nd Annual Conference Empowering Care: Innovations in Healthcare for a Sustainable Future in June 2024 with over 300 delegates from 40 countries in attendance.

Dr Sean Paul Teeling in collaboration with The School of Nursing, Midwifery and Health Systems hosted the 11th Annual National Lean Healthcare Symposium on the 22nd of November 2024.




Melissa Kinch (3MT®)

After a truly impressive presentation representing UCD on the [IUA National Three Minute Thesis competition](#), UCD ThesisIn3 2024 winner Melissa Kinch from School of Nursing, Midwifery and Health Science is also competing with researchers from all over the globe in the Universitas21 Three Minute Thesis Competition (3MT®).



[Read More](#)

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RECENT PUBLICATION NEWS

In 2023, the UCD School of Nursing, Midwifery and Health Systems published 235 research articles with a FWCI of 1.58

Adult General Nursing:

Siobhán Brereton led on 'Postgraduate Critical Care Nursing Students' Experiences of Simulation Working With the Same Simulated Participant: A Qualitative Evaluation.'

Read the article [here](#).



Child Health:

Shannon Sinnott with **Niamh Buckley** and **Suja Somanadhan** co-authored 'The Impact of music on health and wellbeing of children and young people with rare diseases in healthcare settings: A scoping review.' Read the article [here](#).

Mental Health Nursing:

Associate Professor Sinem Uzar Ozcetin reports on 'The Relationship Between Attitudes Toward Death, Rumination, and Psychological Resilience of Oncology Nurses.' Read the article [here](#).

Midwifery:

Niamh Vickers, and, Denise McGuinness co-authored 'It's far from the norm': breastfeeding beyond 1 year in the Republic of Ireland.' Read the article [here](#).



Health Systems:

Dr. Praveenkumar Aivalli led on 'Navigating intersectoral collaboration in nutrition programming: implementors' perspectives from Assam, India.' Read the article [here](#).



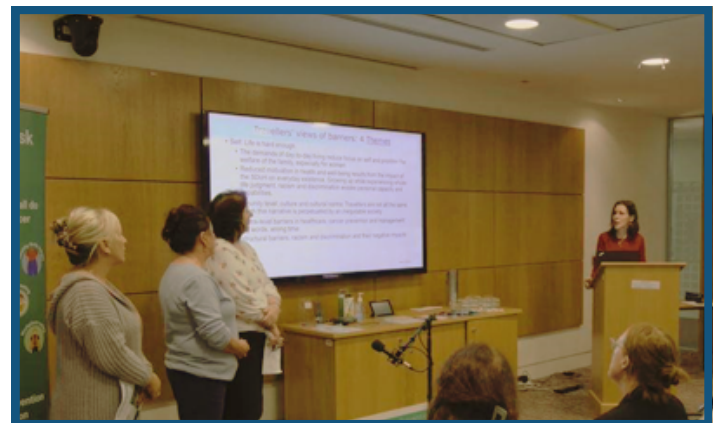
AWARDS

Fulbright Irish TechImpact Scholar Award

Associate Professor Kate Frazer as a Fulbright Health Impact Scholar, Kate will join transdisciplinary colleagues at the University of California San Francisco (UCSF) world-leading Center for Tobacco Control Research and Education to conduct research examining secondhand smoke exposure in marginalised communities, specifically with families experiencing homelessness.



Dr Patricia Fox co-presented with Traveller Community Health Workers from Pavee Point on Cancer Awareness and Attitudes among the Traveller Community in Ireland: a co-designed research project in collaboration with the Traveller Community at the Irish Cancer Prevention Network Symposium: 'Cancer prevention in Ireland – sharing new insights'. The research team included **Associate Professor Kate Frazer** and **Dr Regina Joye** from the SNMHS, **Professor Patricia Fitzpatrick**, UCD School of Public Health, Physiotherapy and Sports Science, colleagues from Pavee Point and the National Cancer Control Programme.



Congratulations to Research Assistant **Jaspreet Kaur Dullat** who won third prize at the National Patient Safety Office Conference poster competition in September.



SCHOOL OF AGRICULTURE AND FOOD SCIENCE

It was another action packed year for the UCD School of Agriculture and Food Science with many achievements noted by the School's Research, Innovation and Impact Committee.



Subjects relevant to the School continue to perform highly in the International University Rankings with Agriculture and Forestry at UCD ranked number 1 in Ireland and 69th globally based on the latest QS World University Rankings While Food Science and Technology is ranked 1st in Ireland and 15th globally based on the latest US News and World Report Subject Rankings.


In terms of citations we perform higher than 6 of the top 10 universities in our subject globally, performing 89% higher than the global average in terms of field-weighted citation index for the subject area.

INTERNATIONAL ACADEMY OF FOOD SCIENCE AND TECHNOLOGY

Professor Dolores O'Riordan, UCD School of Agriculture and Food Science and Vice President for Global Engagement was elected as a fellow of the International Academy of Food Science and Technology (IAFoST). The academy, one of the world's leading voices for food science and technology, is an internationally recognised group of elected individuals aiming to strengthen food science and technology's role in helping secure the world's food supply and eliminate world hunger. The organisation elected Professor O'Riordan at its recent World Food Congress in recognition of her exceptional contributions to the field.



[LEARN MORE](#)

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Congratulations to **Professor Pat Lonergan** who received a Pioneer Award recently by the Association for Embryo Technology in Europe for this outstanding contribution to research in this field. His research focuses on understanding the regulation of embryo development in vivo and in vitro, embryo maternal communication and the establishment of pregnancy in cattle as well as aspects of bull fertility.



Read [More](#)



Emerging Greentech Start-Up Wins UCD's 2024 VentureLaunch Accelerator Programme Congratulations to UCD School of Agriculture and Food Science staff **Dr Ajay Menon** and **Professor James Lyng** on their emerging greentech start-up SusBioME which was selected as the overall winner of the 2024 UCD VentureLaunch Accelerator Programme. SusBioME is developing technology for use in the anaerobic digestion process to increase renewable gas yields from biomass.

UCD Horticulture develops 'Top 10 Pollinator-friendly Plants' guide

A new guide to help boost Ireland's population of insect pollinators has been developed by UCD Horticulture. The All-Ireland Pollinator Plan has released a new [free resource](#), Top 10 Pollinator-friendly Plants for Different Situations, a booklet containing 24 lists of native and non-native pollinator-friendly plants that are suitable for different urban situations including gardens, hanging baskets, and ponds.

The guide was developed in collaboration with **Dr Noeleen Smyth**.



NOTABLE PUBLICATIONS

Over the course of 2024 the School of Agriculture and Food Science researchers have published over 230 articles, of which 102 articles were published in top 10% Journals. Some feature articles in the top 1% are highlighted below (in chronological order):

Dr Barry McMahon contributed to a publication in Nature Ecology & Evolution demonstrating that genetic diversity has been largely neglected in biodiversity monitoring, and when addressed is detached from other conservation issues, such as habitat alteration due to climate change. The paper highlight a need to build toward future capacity of expanded monitoring.

In February Dr Barry McMahon published in The Lancet Planetary Health highlighting the need for systems thinking in the area of One Health to addressing the challenges of antimicrobial resistance.

Dr Marco Garcia-Vaquero published a paper in Trends in Food Science & Technology which identifies food-grade particles which can be extracted from multiple biomass to be used as stabilizers of Pickering emulsions. Highlighting that future research must explore the use of emerging technologies to improve the formation and microencapsulation of Pickering emulsions for the delivery of bioactive compounds and the development of nutraceuticals or functional foods.



Prof Frank Monahan featured in a publication in Trends in Food Science and Technology which looked at the application of techniques are capable of authenticating meat provenance with an accuracy up to 100%. Results including instant meat authentication within minutes to milliseconds is the first step toward transformation of meat authentication systems and would support potential applications in the meat industry.

Dr. Martina Wallace was published in *Cell Metabolism* how serine, glycine, and one-carbon (SGOC) metabolism fluxes across the eye, liver, and kidney sustain retinal amino acid levels and function.

The analysis of 38 ancient genomes, found 4 distinct population ancestries in the aurochs—European, Southwest Asian, North Asian and South Asian—each of which has dynamic trajectories that have responded to changes in climate and human influence was the focus of a paper **Dr Kevin Daly** contributed to in *Nature*.

In terms of climate mitigation **Dr Magdalena Necpalova** featured in November edition of *Nature Sustainability* which challenged the assumption that legume crops, which do not receive N fertilizer, emit little N₂O. This paper highlights that approximately 40% of N₂O emissions occurs during the soybean phase. Using models of cropping systems, researchers identified strategies that combines cover-crop management and earlier planting of extended growth soybean varieties to reduce emissions from soybean production by 33%. These practices reduce nitrous oxide emissions from soybean production, thus not only contributing to climate-change mitigation but also maintaining productivity while adapting to changing weather patterns.



Dr Simon Hodge was published in *Nature* in a paper which shows the many pesticides found in bumble bee-collected pollen are associated with reduced colony performance during crop bloom, especially in simplified landscapes with intensive agricultural practices.

Nuffield Scholarship



Dr. Zoe McKay, Assistant Professor of Grass and Forage Science in the School of Agriculture and Food Science in UCD has been announced as one of this year's four Irish professionals to receive the prestigious Nuffield Scholarship.

SCHOOL OF VETERINARY MEDICINE

This year the School of Veterinary Medicine welcomed three new Ad Astra Assistant Professors, **Dr Osvaldo Bogado Pascottini**, **Dr Miriam Casey** and **Dr Judith Evers**. All three have a background as veterinary practitioners, prior to a move into research. Their work focuses on understanding bovine fertility, disease epidemiology and developing neuromodulation therapies, respectively.

These are research-focused roles, enabling them to invest time in building their research teams and the Vet School is looking forward to seeing their research develop.



NEW SEMINAR SERIES

A new seminar series, *Veterinary Research in Action* has been established to disseminate our research within the school. This runs alongside other dissemination initiatives such as the Dean's Clinical Club.



HIGH PROFILE AWARDS



Prof David Brayden was elected to the Royal Irish Academy.



Dr. Nicola Fletcher was announced as European Research Council (ERC) Synergy laureates.

We support many initiatives to promote research uptake amongst our undergraduates. In November, we relaunched our Undergraduate research day to showcase this work. The event, led by **Dr. Sourav Bhattacharjee**, was a perfect opportunity for the School's undergraduate students and faculty to showcase their research data and enthusiasm for promoting undergraduate research.

The undergraduate students presented their data as posters and talks in ThesisIn3 formats, were judged by an adjudication panel. Prizes for the best talk and poster presenters were also given.



HIGH PROFILE PAPERS

Dr Pamela Kelly was involved in a cross-discipline study examining plasma-derived extracellular vesicles as biomarkers in melanoma, published in *Translational Oncology*. The identified differences proteo-metabolomic signatures relevant in differentiating between disease stages. [Read More.](#)

Dr Osvaldo Bogado Pascottini and **Prof Mark Crowe** published a paper in a special issue to celebrate 50 years of the *journal Theriogenology*, examining the future of cattle reproduction in a European context.

Dr Nicola Fletcher and team reported the first discovery of European deer with anti-SARS-CoV-2 antibodies, in the fallow deer population at the Phoenix Park (Emerging Infectious Disease). [Read More.](#)



DVMS student **Eirini Chrysovergi**, with supervisors **Assoc Prof Kevin Murtagh** and **Prof Carmel Mooney**, published a paper in *Animals* examining bioactive adrenomedullin as a potential biomarker for sepsis in dogs. This biomarker may provide information on disease severity. [Read More.](#)



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SCHOOL OF PUBLIC HEALTH, PHYSIOTHERAPY AND SPORTS SCIENCE.

The School of Public Health, Physiotherapy, and Sports Science has had a highly productive year, with significant contributions to public health, clinical research, and sports science. Achievements include an FWCI of 1.71, 44 external grants, and over 150 peer-reviewed publications, showcasing expertise in areas like chronic pain management, biomonitoring, sports injury rehabilitation, and environmental health.



Dr. Keith Smart advanced methodological integrity with the ENTRUST-PE framework, promoting equity, transparency, and rigor in pain research. This initiative supports ethical practices and inclusivity across health sciences. [Read More.](#)

Ethnomedicine and Public Health

Professor Ronnie Moore's research has explored the integration of traditional medical systems like Ayurveda and Unani with Western biomedicine. His work, including studies with the Jarawa community in the Andaman Islands and lectures in India, highlights indigenous practices and rural health economics. His publications, such as *Pandemics, Public Health, and Social Science*, have added depth to discussions on cultural influences in medicine. [Read More.](#)



Human Biomonitoring for Public Health

Dr. Alison Connolly leads the HBM4IRE project, which examines chemical exposures and public health impacts. Her work engages policymakers and researchers to establish a national biomonitoring program. [Read More.](#)



Sports and Physiotherapy Research

The School's sports research received global recognition, with **Professor Eamonn Delahunt** ranking among the top 1% of cited scientists worldwide. His work on injury prevention and musculoskeletal health, along with the School's partnership with the United Rugby Championship, led by Dr. Nicol van Dyk, underscores its leadership in this field.

Smoking Cessation and Cancer Care

Professor Patricia Fitzpatrick's research, funded by the Irish Cancer Society, focuses on smoking cessation for cancer patients. Her work, adopted by the National Cancer Control Programme, will inform the next National Cancer Strategy, improving patient outcomes and reducing treatment complications. [Read More.](#)



Real-World Mobility Monitoring

The €50 million Mobilise-D project, co-led by **Professor Brian Caulfield** and **Dr. Alison Keogh**, has set benchmarks for mobility monitoring in clinical trials. This large-scale initiative involved 2,400 patients across 10 countries and is entering a new phase to expand its impact. [Read More.](#)





Sustainable Food Systems and Child Wellbeing

Dr. Sarah Browne has developed a framework for sustainable food systems in nutrition and dietetics education, presented at international conferences.

Dr. Ross Neville's child wellbeing research, funded by the Department of Children, Equality, Disability, Integration, and Youth, uses data from the Growing Up in Ireland study to influence policies supporting young people.

Dr. Mary Walsh leads the Fragility Fracture group, whose findings are improving care standards for hip fracture patients. Collaborating with national and international bodies, the group is shaping care protocols for thousands of patients annually.



As President of the European Pain Federation, **Dr. Brona Fullen** led the development of a European Pain Research Strategy, advocating for increased funding and translating findings into policy.

Dr. Celine Murrin's evaluation of the EU School Food Scheme is helping revise programs to promote healthy eating in early childhood settings.

The UCD Centre for Support and Training in Analysis and Research (CSTAR) supports researchers with training in statistics and meta-analysis, co-authoring publications and promoting research transparency across health disciplines.

As the School looks ahead to 2025, its commitment to bridging academic inquiry with societal impact remains unwavering. From advancing public health systems to enhancing sports science and addressing global health challenges, the School continues to improve quality of life for diverse populations worldwide.