



UCD School of Agriculture  
& Food Science

# Ireland's Future Food Systems

UCD School of Agriculture and Food Science  
Biennial Research Symposium

Wednesday, 4th December 2024

09:00 – 16:00

G-15, Lecture Theatre

UCD School of Agriculture and Food Science

# PROGRAMME

9.00-9.30		Registration and Posters session
9.30 – 10.00	<b>Welcome &amp; Keynote Address</b>	<b>Welcome</b> Prof. Frank Monahan   Dean of Agriculture and Head of School, UCD School of Agriculture and Food Science <b>Keynote Address</b> Prof. Kate Robson Brown   UCD Vice-President for Research, Innovation and Impact
10.00 - 11.00	<b>Session 1: Defining food systems and the challenges faced</b>	Chairperson: Francis Butler   Professor of Biosystems and Food Engineering <ul style="list-style-type: none"><li>Eileen Gibney   Director of the UCD Institute of Food and Health</li><li>Edel Kelly   Associate Dean of Research Innovation and Impact SAFS</li><li>Tommy Boland   Professor of Ruminant Nutrition</li></ul> <i>Q &amp; A at the end of the session</i>
11.00-11.15		Coffee Break
11.15-12.30	<b>Session 2: Current and future land use</b>	Chairperson: Michael Wallace   Professor of Agriculture and Food Economics <ul style="list-style-type: none"><li>Mark Scott   Dean of Architecture, Landscape Architecture, Planning &amp; Environmental Policy in UCD and Chair of the Land Use Review technical working group.</li><li>David Styles   Associate Professor in Agri-sustainability</li><li>Aine Ni Dhubhain   Professor of Forestry</li></ul> <i>Q &amp; A at the end of the session</i>
12.30-13.15		Lunch and poster session
13.15-14.45	<b>Session 3: Food technology and changing dietary patterns</b>	Chairpersons: Martina Wallace   Assistant Professor of Human Nutrition, Marco Garcia Vaquero   Director of Food Science Programmes <ul style="list-style-type: none"><li>Breige McNulty   Professor in Human Nutrition</li><li>Ronald Halim   Lead, UCD Algae Group and Professor in the UCD School of Biosystems and Food Engineering</li><li>Nessa Noronha   Director, Food for Health Ireland</li></ul> <i>Q &amp; A at the end of the session</i>
14.45 – 15.45	<b>Session 4: Future technologies and solutions</b>	Chairperson: David MacHugh   Professor of Functional Genomics <ul style="list-style-type: none"><li>Karen McGrath   Researcher in Digital Agriculture at UCD</li><li>Catherine Lascurettes   Chief Operations Officer, AgTech Ireland</li><li>Karl Richards   Head of Climate Centre, Teagasc</li></ul> <i>Q &amp; A at the end of the session</i>
15.45-16.00	<b>Wrap up and best poster presentation</b>	Chair of organising committee: Prof. Tommy Boland   UCD School of Agriculture and Food Science

# SPEAKERS

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## **Frank Monahan**

Dean of Agriculture and Head of the School, UCD Agriculture and Food Science

Frank Monahan is Dean of Agriculture and Head of the School of Agriculture and Food Science at University College Dublin. He holds a B.Sc (Biochemistry), Higher Diploma in Education and Graduate Diploma in University Teaching and Learning from University College Dublin and a PhD (Food Science and Technology) from University College Cork. Prior to joining UCD he was a postdoctoral scientist at the University of California, Davis and a visiting scholar at Michigan State University. His teaching is primarily in the area of Food Science, with research interests in food authentication, muscle fatty acids and antioxidants, and the impact of animal production systems (particularly animal diet) on the composition and sensory quality of meat and muscle foods. He has over 200 published peer reviewed papers and experience in leading/collaborating on national funded research projects under Irish Department of Agriculture Food and the Marine, Teagasc Walsh Scholarship and Science Foundation Ireland programmes and participating in EU programmes.

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## **Professor Kate Robson Brown**

UCD Vice-President for Research, Innovation and Impact

Professor Kate Robson Brown was appointed as UCD Vice-President for Research, Innovation and Impact on 1 March 2024.

Before her tenure at UCD, Professor Robson Brown began her career at the University of Cambridge, where she received her PhD in Human Phylogenetics at Newnham College, and then held a Research Fellowship at Downing College. Her research explores the microstructure of living tissues and their response to changing and extreme environments; human factors; forensics; biomimetics in engineering design, and multi-scale modelling of complex material structures and systems. Moving to the University of Bristol, Kate held a fractional appointment across two Faculties (Science and Engineering / Arts Social Sciences and Law) as a Professor of Engineering Mathematics and Biological Anthropology. She was the Director of the Jean Golding Institute for Data Science and AI from 2017-2024. In 2017, she was also awarded a Fellowship from the Alan Turing Institute (the UK National Institute for Data Science and AI) and later was formally seconded to the Turing Institute as the Chair of their Research and Innovation Advisory Committee. She was honoured with an Honorary Fellowship in 2024 for her extensive contributions.

Professor Robson Brown was the University of Bristol lead in the West of England Space Cluster 'SpaceWest' and a Lay Chair for NHS Postgraduate Medical Education South West (Severn Deanery). She retains her status as a Visiting Professor in Data Science at Strathmore University in Nairobi and as an advisor to the ESA Human and Robotic Exploration Directorate. Kate is co-chair of the Space Academic Network, a Board member of the UK Life and Biomedical Sciences Association, and a member of the Space Partnership Board.

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## **Professor Francis Butler**

Professor in the UCD School of Biosystems and Food Engineering

Professor Francis Butler is a Full Professor in the UCD School of Biosystems and Food Engineering. Professor Butler is an engineer by training and joined UCD as an academic in Biosystems Engineering in 1990 having previously worked in production management in the Irish dairy Industry. He was Head of Subject, Biosystems and Food Engineering, until September 2022. He was appointed a full Professor in 2023. His teaching responsibilities at undergraduate and graduate level include modules in food chain integrity, global cold chain safety and bioprocess engineering principles. Professor Butler main research interests are food chain integrity and quantitative risk assessment of microbiological and chemical hazards in foods.

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## **Eileen Gibney**

Prof of Nutrition at University College Dublin, and Director of the UCD Institute of Food and Health

Eileen Gibney is a Prof of Nutrition at University College Dublin, and Director of the UCD Institute of Food and Health. Her personal research interests are broad, covering much of the food system. In the area of personalised nutrition she develops strategies and innovative technologies for personalised dietary and lifestyle feedback, including supporting the transition to healthy and sustainable diets. She has led many intervention studies including those in Food for Health Ireland, examining the impact of dairy foods on health. She also considers the impact of food environment, examining the provision of healthy foods in retail environments, and the delivery of population nutrition guidance. Eileen has been a principal investigator on many national and international projects including; Food4me, FNS-Cloud, PLAN'EAT, MaNuEl, SuHe and others. Most recently Eileen has been appointed as Co-Director for a, 35M Euro Co-Centre for Sustainable and Resilient Food Systems with multiple partners across Ireland and UK.

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**Edel Kelly**

Assistant Professor in Agriculture and Food Economics at the School of Agriculture and Food Science, University College Dublin

Edel Kelly is Assistant Professor in Agriculture and Food Economics at the School of Agriculture and Food Science, University College Dublin (UCD). Her research interests address cross-cutting topics, specifically technology adoption and innovation at farm level and the link between our science, our farms and our food. Communicating environmental sustainability issues at farm-level and the importance of soil and water as key natural resources in a grass-based system are two areas her research interests revolve around with a focus on the impact of policy. She is also actively engaged in teaching, mentoring students, and is currently the Associate Dean for Research Innovation and Impact at the School of Agriculture and Food Science.

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**Tommy Boland**

Professor of Ruminant Nutrition in the school of Agriculture and Food Science

Tommy Boland is Professor of Ruminant Nutrition in the school of Agriculture and Food Science. He sits on the UCD Sustainability - Research, Innovation and Impact WG meeting and is co-chair of the Livestock Research Group of the Global Research Alliance. His research interests are in the area of sustainable pasture based livestock production systems and he leads the climate neutral animal agriculture challenge in the BiOrbic SFI centre.

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**Michael Wallace**

Professor of Agriculture and Food Economics and Head of UCD Agribusiness and Rural Development Section

Michael Wallace is Professor of Agriculture and Food Economics and Head of UCD Agribusiness and Rural Development Section. He obtained his BSc and PhD in Agricultural Economics from Queen's University Belfast and MSc in Economics from the University of Warwick. His research interests focus on the economic analysis of agricultural and environmental policies and their impacts on farm households and rural communities. He also conducts analytical modelling to evaluate farm-level innovations and technical adaptations on the sustainability of agricultural systems.

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**Mark Scott**

Professor of Planning and Dean of Architecture, Planning & Environmental Policy in UCD

Mark Scott is Professor of Planning and Dean of Architecture, Planning & Environmental Policy in UCD. Mark's research is focused on environmental planning, rural planning and development, and land-use governance, publishing extensively in these areas. Mark is heavily involved in the Government's ongoing national land use review. This included leading the socio-economic research for Phase 1 of the Land Use Review, and in Phase 2 he is Chairing the Government's Land Use Technical Working Group and is a member of the National Oversight Group. Mark is a Board Member of the Heritage Council and is also a member of the National Planning Advisory Forum. Mark has also acted as an advisor or given evidence on spatial planning and land-use governance to various Oireachtas Committees, the UK House of Lords Land Use Committee, the Northern Ireland Assembly, and to the OECD.

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**David Styles**

Associate Professor in agri-sustainability and Co-Director on the Agricultural Science BSc programme at the University of Galway

Dave is Associate Professor in agri-sustainability and Co-Director on the Agricultural Science BSc programme at the University of Galway. He has 20 years' experience quantifying (inter-)system sustainability across food, energy, bioproduct and waste management systems at Trinity College Dublin, Ireland's Environmental Protection Agency, the European Commission Joint Research Centre, University of Bangor and University of Limerick. Dave is a member of IEA Task 45 on bioenergy, the Climate Change Advisory Council's Carbon Budget Committee, and the expert advisory board to the National Bioeconomy Forum. He currently coordinates or leads work packages across 12 projects, including LandingZoNeS, EAT-Packaging, RADIANT, CircAgric-GHG and INFORMBIO, combining life cycle assessment and foresight analyses to provide scientific evidence on system transformations required to deliver climate neutrality and circular economy aspirations (within planetary boundaries).

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**Professor Áine Ni Dhubhain**

Director of the Forestry undergraduate degree programme

Professor Áine Ni Dhubhain UCD is the Director of the Forestry undergraduate degree programme. For over 30 years she has engaged in research on farmers' attitudes to forestry and on the behaviour of farm forest owners. She has also conducted a number of studies on the social impact of forestry in Ireland and on the social acceptability of forestry.

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**Martina Wallace**

Assistant Professor in the Nutrition and Food Science section in the School of Agriculture and Food Science, UCD

Martina Wallace is an Assistant Professor in the Nutrition and Food Science section in the School of Agriculture and Food Science, University College Dublin. Dr. Wallace joined the School in 2020 and current projects seek to understand how altered branched chain amino acid metabolism contributes to adipose and liver dysfunction in obesity and type 2 diabetes.

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**Dr. Marco Garcia-Vaquero**

Assistant Professor, School of Agriculture and Food Science at University College Dublin

Assistant Prof. Dr. Marco Garcia-Vaquero works at the School of Agriculture and Food Science at University College Dublin (UCD, Ireland). Dr. Garcia-Vaquero's primary research interest focuses on the full utilization of algae (macroalgae and microalgae) and other agrifood by-products for the generation of novel foods and food ingredients. Dr. Garcia-Vaquero's areas of expertise include the use of innovative or disruptive technologies for the production of biologically active molecules that can be used as nutraceuticals or functional foods, by studying also the chemical composition, biological properties and practical and safety aspects of the introduction of new ingredients in food matrices.

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**Breige McNulty**

Associate Professor in Human Nutrition within the UCD School Agriculture and Food Science

Breige McNulty is an Associate Professor in Human Nutrition within the UCD School Agriculture and Food Science. Over the last 16 years she has been involved with the National food consumption surveys in Ireland, which has collected detailed dietary and lifestyle data across all age groups. Her research focuses on using such data to gain an understanding of the impact of foods, nutrients, food ingredients and chemicals on health with a view to underpinning food safety and policy. She has contributed to and published over 100 research papers within this area.

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**Ronald Halim**

Assistant Professor in the School of Biosystems and Food Engineering at University College Dublin

Ronald Halim is an Assistant Professor in the School of Biosystems and Food Engineering at University College Dublin. He has multidisciplinary research interests in microalgae. Dr. Halim leads the UCD Algae Group, a research group specialising in the development of microalgae sciences and technology for integration in circular bioeconomy. He is project coordinator for SusAlgaeFuel (a Horizon Europe project investigating the development of microalgal sustainable aviation fuel in the EU from waste feedstock) and AlgaeBrew (a FOSC project examining the use of microalgae for the valorisation of brewery waste into omega-3 oil rich aquaculture feed).

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**Dr Nessa Noronha**

Director of Food for Health Ireland

Dr Nessa Noronha (PhD) has been the Director of Food for Health Ireland since January 2019. After completing her PhD in Food Science in 2008 from UCD, which included time as a research fellow in Pennsylvania State University, she moved to research in the industrial sector, working for three years with Glanbia Plc in R&D in the area of dairy ingredients. From 2011 to 2016, she was Research Programme Manager with Food for Health Ireland and in 2017 she became the UCD Agri-Food Research Partner, where she advised and supported academic leaders in the development of medium- to long-term plans across the Agri-Food research theme. Her activities included developing the research themes for One Health, Precision Agriculture, Bioeconomy, and Food and Health.

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**David MacHugh**

Full Professor of Functional Genomics, School of Agriculture and Food Science, University College Dublin, Ireland

David MacHugh obtained a BA (Mod) degree in Genetics from Trinity College Dublin in 1988 and undertook PhD research in animal genomics at TCD, which he completed in 1995. His postdoctoral work on livestock paleogenomics was funded by a Wellcome Trust Research Fellowship in Bioarchaeology. In 1999 he took up a Lectureship in University College Dublin and was appointed Associate Professor in Genomics in 2009 and Full Professor of Functional Genomics in 2019. Between 2018 and 2021 he was Vice Principal for Research, Innovation, and Impact at the UCD College of Health and Agricultural Sciences ([www.ucd.ie/chas](http://www.ucd.ie/chas)). He is also a Conway Investigator ([www.ucd.ie/conway](http://www.ucd.ie/conway)), co-founder and Scientific Advisor to Equinome/Plusvital Ltd. ([www.plusvital.com](http://www.plusvital.com)), and a co-founder and member of the Scientific Advisory Board of IdentiGEN Ltd. ([www.identigen.com](http://www.identigen.com)), which is now part of MSD Animal Health.

David's research programme is focused on functional genomics of host-pathogen interactions for *Mycobacterium bovis* infection and development of novel disease biomarkers for bovine tuberculosis. Other research activities include livestock production genomics; population genomics of extinct and modern livestock populations; and in collaboration with Professor Emmeline Hill, genomics of health and performance traits in Thoroughbred horses. He has published more than 160 peer-reviewed scientific publications, and a full research profile is available at: [people.ucd.ie/david.machugh](http://people.ucd.ie/david.machugh).

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**Dr Karen McGrath**

Research Assistant at UCD's School of Agriculture and Food Science

Dr Karen McGrath is a Research Assistant at UCD's School of Agriculture and Food Science. She holds a degree in Agricultural Science and a Masters in Agricultural Extension and Innovation. Her research interests lie at the intersection of agriculture and digital technology. Her PhD research explored farmer adoption of digital technologies, with an emphasis on the use of participatory methods like design thinking and co-design to design and implement sustainable digital innovations in agriculture.

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**Catherine Lascurettes**

Director of Cúl Dara Consultancy

Catherine Lascurettes is the Director of Cúl Dara Consultancy, specialising in agricultural policy and sustainability. She was awarded a Nuffield Ireland Scholarship in 2000 and has been the Executive Director of Nuffield Ireland since 2021. In 2023, she was appointed Chief Operations Officer for AgTech Ireland, an industry body representing the agtech sector, from startups to established companies in biotech, data capture, management and analysis, machinery, animal identification, health, feed supplementation and beyond.

Catherine has had a long and distinguished career in the agri-food sector and was the Irish Farmers' Association's Dairy Executive for 26 years. In this position, she worked with elected committees of farmers to support and advise them in developing policies, providing technical research and expertise, as well as advice to optimise communications and outcomes. Her expertise in global dairy market analysis has informed and supported decision making by IFA, but also by farmers for their own businesses.

She has extensive experience of Europe's agricultural policy, including the negotiation of several CAP reforms, and has over many years represented dairy farmers at home and in Brussels. Catherine has a strong understanding of the focus on environmental and climate sustainability which now underpins all agricultural and farming policies in Ireland, in Brussels and beyond.

Catherine is a long-standing member of the Ireland Branch of the French Foreign Trade Advisor organisation CNCCEF, and of the Industry Advisory Committee of VistaMilk.

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**Karl Richards**

Senior Principal Researcher Officer, Teagasc

Karl Richards is a Senior Principal Researcher Officer at Teagasc. He leads the newly established virtual Teagasc Climate Centre. He leads the National Agricultural Soil Carbon Observatory quantifying carbon emissions and sequestration on mineral and peat soils. He previously led a team of researchers in the area of nitrogen cycling including the impact of management practices on reducing Nitrogen losses (nitrous oxide, nitrate leaching and ammonia). He has published extensively on measures to reduce nitrous oxide and nitrate emissions, including leading the protected urea research that commenced in 2012. Internationally, he has worked on a range of Internationally funded competitive research projects, was a member of the EU Nitrogen Expert panel, a national representative on the Global Research Alliance and has published over 180 scientific papers.

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