Food
Research
Programme

TEAGASC FOOD INNOVATION GATEWAYS

Smarter Food: *How Artificial Intelligence is Shaping the Future of Ireland's Food Industry*

4th November 2025
Teagasc Food Research Centre, Moorepark, Fermoy, Co. Cork

teagasc
Agriculture and Food Development Authority

Food Innovation Gateways

Welcome to Food Innovation Gateways 2025

Smarter Food: *How Artificial Intelligence is Shaping the Future of Ireland's Food Industry*

Programme

09.30-10.00	**Registration and Refreshments**
10.00-10.05	**Welcome Address** Mr. Liam Herlihy, Chairperson, Teagasc
10.05-10.20	**Opening Address** Mr. Timmy Dooley, Minister of State at the Department of Agriculture, Food and the Marine
10.20-10.30	Professor Frank O'Mara, Director, Teagasc
10.30	**Session 1: Thought Leadership** Chair: Dr Norah O'Shea, Senior Research Officer, Food Chemistry & Technology Department, Teagasc
10.30	Professor Barry O'Sullivan, University College Cork
11.00	Mr Paul Pierotti, Partner AI & Data, Ernst & Young
11.20	Ms Sarah Bolmer, Vice President Product, Triplebar
11.40	Professor Alex Shenfield, Professor of Machine Learning, Sheffield Hallam University
12.00	**Lunch** **Demonstrations** 1. Teagasc ICT: Research and Innovation Team a. Teagasc Data Tools - Transforming, Analysing and Visualising Data b. Teagasc GPT & Data Analysis Assistant c. AI Adoption, Governance and the Teag-Ask AI Tool suite. 2. Integrating Artificial Intelligence into Spray Drying: Data-Driven Process Optimisation 3. AI-Enabled Vision For Smart Meat Processing And Quality Assessment 4. CoDiet 5. CeADAR- Ireland's Centre for AI 6. Enterprise Ireland – Support For Companies 7. Engage@Teagasc – Pathways For Innovating With Impact

Programme Continued

13.00

Session 2: Industry Panel Discussion

Chair: Dr. Siobhán Jordan, Head of Technology Transfer and Commercialisation, Teagasc

1. Ms Aishling Sheridan, Data Science & Engineering Centre of Expertise, Kerry Group
2. Mr Pat Mahon, R&D Technology Platform Lead, Dawn Farm Foods
3. Mr Oran O'Flynn, CEO and co-founder, Talio,
4. Ms Hilda McCormack, Global Automation & Emerging Tech Lead, Carbery Group

13.30

Session 3: Fireside Chat with Keynote Speakers

How best can the food and drink sector in Ireland take maximum advance of AI?

Chair: Dr Norah O'Shea, Senior Research Officer, Food Chemistry & Technology Department, Teagasc.

1. Professor Barry O'Sullivan, University College Cork
2. Mr Paul Pierotti, Partner AI & Data, Ernst & Young
3. Ms Sarah Bolmer, Vice President Product, Triplebar
4. Professor Alex Shenfield, Professor of Machine Learning, Sheffield Hallam University

14.00

Session 4: Feeding Growth: AI Opportunities in the Agri-Food Sector

Mr Danny O'Brien - Managing Director of EMEA and Global Programs at SVG Ventures | THRIVE

14.30

Round Up & Next Steps

Dr. Siobhán Jordan, Head of Technology Transfer and Commercialisation, Teagasc

14.45

Closing Remarks

Prof Mark Fenelon, Head of Food Research Programme, Teagasc

15.00 **Networking and Engagement with Demonstrations**

Mr Liam Herlihy

Mr Herlihy is a dairy farmer from County Waterford. He was originally appointed Chairperson of the Teagasc Authority in September 2018. He was reappointed in July 2023 for a further period of five years by Minister McConalogue. He brings to the Authority considerable commercial experience and deep insights into the farming, food and general agricultural sector in Ireland.

He is also Chairperson of FBD Holdings since May 2017 having joined the Board in 2015. Previously he was Group Chairperson of Glanbia Plc for over seven years, a leading Irish-based performance nutrition and ingredients group. During this time he presided over a period of significant structural change and unprecedented growth for Glanbia plc. He is also a former Director of the Irish Dairy Board, now Ornua and ICOS.

Mr Herlihy completed the Institute of Directors' Development Programme and holds a certificate of merit in Corporate Governance from University College Dublin.

Minister of State Timmy Dooley

Minister of State

Minister of State Timmy Dooley TD is an Irish Fianna Fáil politician who has been a Teachta Dála (TD) for the Clare constituency since the 2024 general election, and previously from 2007 to 2020. He served as a Senator from 2020 to 2024.

Following the 2024 General Election, Minister of State at the Department of Agriculture, Food and the Marine with special responsibility for Fisheries and at the Department of the Climate, Energy and the Environment with special responsibility for the Marine.

Professor Frank O'Mara

Director of Teagasc

Professor Frank O'Mara was appointed Director of Teagasc on 1 October 2021. He joined Teagasc in 2006 and was Director of Research since 2009. He is an agricultural scientist and sustainable livestock systems specialist, with over 30 years' experience in technical senior managerial capacities in Agri-Food research, education and development institutions. He also contributes to various national and EU committees and bodies, review panels and scientific advisory boards, and became President of the European Animal Task Force in 2020. He was Lead Author on the fourth assessment report of working group III of the IPCC. He was appointed Adjunct Professor in UCD in 2017.

Prof. Mark Fenelon

Head of Food Research at Teagasc

Professor Mark Fenelon is the Head of Food Research Programme at Teagasc and responsible for the programme at the research centres located at Moorepark, Fermoy, Co. Cork and Ashtown, Dublin in Ireland. He is a Senior Principal Research Officer and was appointed to his current position in March 2015. Mark was appointed Adjunct Professor at University College Dublin, Ireland (School of Biosystems and Food Engineering) on 1st June 2020 and Adjunct Professor at University College Cork, Ireland (School of Food and Nutritional Science, College of Science, Engineering and Food Science) on 1st June 2021. Mark began his career in Teagasc as a Senior Research Scientist in 2004. Prior to joining Teagasc, he worked in the infant formula industry in research and development. Mark graduated with a B.Sc. in Food Science and Technology from University College Cork, Ireland in 1994, a PhD in Food Science and Technology in 2000, and a Diploma in Process and Chemical Engineering in 2007. His main research interests are in dairy (and plant-based food) chemistry and related processing technologies. He has expertise in rheology, protein–carbohydrate and protein–mineral interactions, and associated instrumentation and analytical techniques. He has extensive experience in food formulation, processing, and functionality from both industrial and academic perspectives.

Session 1: Thought Leadership

Opening Keynote Speaker:

Professor Barry O'Sullivan

University College Cork

Professor Barry O'Sullivan, FAAAI, FAAIA, FEurAI, FIAE, FICS, MRIA is a full professor at the School of Computer Science & IT at University College Cork (Ireland) and a visiting professor at Northwestern (Illinois, USA). He works on artificial intelligence, constraint programming, operations research, AI/data ethics, and public policy. He contributes to several global Track II diplomacy efforts related to geopolitical aspects of AI. He is founding director of the Insight SFI Research Centre for Data Analytics at UCC and the SFI Centre for Research Training in AI. He is founding Editor-in-Chief of ACM AI Letters. He served as Vice Chair of the European Commission's High-Level Expert Group on Artificial Intelligence which formulated the EU's ethical approach to AI. He currently represents the European Union at the Global Partnership on Artificial Intelligence. Professor O'Sullivan is a Fellow and a past President of the European Artificial Intelligence Association. He is also a Fellow of the Association for the Advancement of Artificial Intelligence (AAAI) and a Fellow of the Asia-Pacific AI Association. He is a member of the Royal Irish Academy and holds a number of ministerial appointments, such as Chair of the National Research Ethics Committee for Medical Devices and member of the Irish Government's AI Advisory Council. He conducts his diplomacy work in collaboration with INHR (Geneva, Brussels, Washington DC), the Center for New American Security (Washington DC), and the Geneva Centre for Security Policy. His awards include Science Foundation Ireland Researcher of the Year (2016), Member of the Royal Irish Academy (2017), IPEC-EATCS Nerode Prize (2020), Science Foundation Ireland Best International Engagement Award (2021), and the European AI Association's Distinguished Service Award (2023). Professor O'Sullivan has been involved in winning and overseeing over €400m in R&D funding.

Keynote Speaker:

Paul Pierotti

Ernst & Young

Paul Pierotti is a Partner in EY Ireland's Data and AI Practice. He brings 30 years of experience in applying Data and AI to improve strategic decisions and business outcomes. This typically involves Paul working with an organisation's leadership team to define their data vision and business case by use case. He then helps build the related data products that are embedded in operational processes to realise that value.

Paul has developed a detailed understanding of such use cases across +250 successful projects, covering accelerating market trend insights, improving B2B and B2C sales, ensuring more robust supply chains, increasing manufacturing yield and automating finance and credit processes. This includes clients working in the agri-food sector. He has a BSc in Mathematics and MSc in Industrial Mathematics.

Keynote Speaker:

Sarah Bolmer

Triplebar

Sarah Bolmer is Vice President of Product and leads product strategy and commercialization for the company's portfolio in Protein Production across Biopharma and Industrial applications. Sarah joined Triplebar in 2021 and has led Triplebar's product teams in protein asset development, and now generative AI data generation and deployment. Sarah has more than 10 years of experience in bio-based product development, using synthetic biology and fermentation to develop and manufacture novel products with applications in Food, Agriculture, and Consumer Products. She is passionate about using biology to create products that are better for people and planet.

Keynote Speaker:

Professor Alex Shenfield

Sheffield Hallam University

Professor Alex Shenfield is Professor of Machine Learning at Sheffield Hallam University and Research Theme Lead for Digital Connectivity and Technology at the Advanced Food Innovation Centre (AFIC). He is a Senior Member of the IEEE (SMIEEE), Fellow of the Higher Education Academy (FHEA), and technical committee member for the IEEE Bioinformatics and Bioengineering Technical Committee (BBTC) (part of the IEEE Computational Intelligence Society). His main research interests are in the field of machine learning and particularly in its application to real-world problems in food and drink manufacturing, with an emphasis on translating advanced methods into practical solutions.

Session 2: Industry Panel Discussion

Chair: Dr. Siobhán Jordan

Head of Technology Transfer and Commercialisation Teagasc

Dr Siobhán Jordan leads Engage@Teagasc, Teagasc's office for technology transfer, commercialisation, entrepreneurship and industry engagement. Her team enables the translation of scientific outputs, including AI tools, into real-world agri-food solutions. With a strong background in biotechnology, engineering, and genetics, Siobhán brings a practical understanding of how research can deliver benefits for farmers, industry, and society. She also plays a key role in initiatives such as AgNav, a collaboration with Bord Bia and ICBF to support climate-smart farming through integrated data and digital tools. Prior to joining Teagasc, Siobhán held a number of roles in the UK and was the founding Director of Interface in Scotland, creating new pathways for research-industry collaboration. A Fellow of the Royal Society of Edinburgh, she has helped shape national and European policy in innovation and is a strong advocate for research with purpose and partnerships that deliver sustainable impact.

Panel Member 1:

Ashling Sheridan leads the Data Science & Engineering Centre of Expertise at Kerry Group, where she champions the use of data as a strategic asset to drive innovation and competitive advantage. Her global team delivers impactful data solutions using AI, machine learning, and advanced analytics which enable Kerry's digital transformation. Drawing on over 15years experience, Ashling is passionate about making data work harder for people, products, and purpose. She holds a Research MSc and a BAI (Hons) in Civil, Structural & Environmental Engineering from Trinity College Dublin.

Panel Member 2:

Oran O'Flynn is the CEO and co-founder of Talio, a Dublin-based AI platform helping food and beverage companies such as Kerry Group, Valeo, and others identify and capitalise on emerging trends through large-scale analysis of menu, retail, and social data. A chemical engineer and NASA alumnus, Oran has raised over €1 million for Talio from investors across Europe and the US and now leads the company's expansion into new international markets.

Panel Member 3:

Hilda McCormack is the Global Automation & Emerging Tech Lead at Carbery Group, where she delivers productivity and efficiency gains across the business, leveraging automation and AI technology solutions. With over two decades of experience spanning strategic IT leadership, programme delivery, and operational excellence, Hilda has held senior roles at Dell Technologies, including Director of IT Strategy and Operations and Director of Executive Support.

Her career reflects a strong focus on aligning technology with business outcomes, fostering high-performing teams, and championing customer-centric innovation. Hilda is known for her ability to lead complex global programmes, integrate emerging technologies, and shape future-ready digital strategies.

She studied Computer Science in MTU and is currently undertaking a masters in personal and management coaching at UCC.

Panel Member 4:

Pat Mahon is the R&D Technology Platform Lead at Dawn Farm Foods, from a Food science background and with over 25 years' experience across Quality, NPD, and R&D roles in the cooked meats sector. For many years Pat has led the translation of culinary innovation into scalable manufacturing solutions of cooked meat & plant-based protein products.

In recent years, Pat has focused on exploring the leveraging of sensor connectivity and data capture across development and production environments to accelerate R&D, identify sustainability opportunities, and support data-driven decision-making across the business.

Session 3: Fireside chat with Keynote speakers

Chair: Dr Norah O'Shea

Senior Research Officer, Food Chemistry & Technology Department, Teagasc.

Dr Norah O'Shea is a Senior Research Officer in the Food Chemistry & Technology Department at Teagasc. Her research focuses on the digitisation of dairy processing, integrating emerging process analytical technologies, at-line rapid sensors, and Industrial Internet of Things (IIoT) platforms to enhance efficiency and innovation within the dairy sector.

Dr O'Shea is a Funded Investigator in the research centre VistaMilk and a Principal Investigator in the Dairy Processing Technology Centre (DPTC). She leads the Digital Dairy Lab at Teagasc, managing and supervising a multidisciplinary team of postdoctoral researchers and PhD students. Her work bridges food science, digital technologies, and advanced manufacturing to drive the future of sustainable and intelligent dairy processing.

Panel Members:

Professor Barry O'Sullivan, University College Cork

Mr Paul Pierotti, Partner AI & Data, Ernst & Young

Ms Sarah Bolmer, Vice President Product, Triplebar

Professor Alex Shenfield, Professor of Machine Learning, Sheffield Hallam University

Session 4: Feeding Growth – AI Opportunities in the Agri-Food Sector

Mr Danny O'Brien

Managing Director of EMEA and Global Programs at SVG Ventures | THRIVE

Mr Danny O'Brien - Managing Director of EMEA & Global Programs Danny O'Brien serves as the Managing Director of EMEA and Global Programs at SVG Ventures | THRIVE, a prominent investor in the agri-food tech sector. In this role, he oversees the firm's European portfolio and leads THRIVE's accelerator programs in Silicon Valley, Calgary, and Melbourne, which are pivotal in generating substantial deal flow and fostering innovation. Prior to his current role, Danny expanded his expertise in corporate innovation with firms in London and New York before becoming an entrepreneur, founding two startups, including a venture capital platform catalyzing investment in emerging startups which initially led him to agtech in 2018. Today, his contributions to the industry are further demonstrated through his board memberships with three of the firm's portfolio companies and his advisory role at the International School of Agri-Management in Spain. Here, he also shares his expertise with master's students as a lecturer. He holds a master's degree in marketing Practice from the Michael Smurfit Graduate Business School (UCD) and a Bachelor of Business Studies from DCU.

Demonstration Area:

1. Teagasc ICT: Research and Innovation Team

a. Teagasc Data Tools - Transforming, Analysing and Visualising Data

Keelin Cooney

Teagasc through digital innovation is turning complex information into actionable data driven insights. See the solutions we use to efficiently collect, transform, and analyse diverse data streams. By combining data science, data modelling, and interactive visualisation, we make it easier to understand trends, predict outcomes, and optimise processes.

b. Teagasc GPT & Data Analysis Assistant

Alex Oltean, Noel McCarthy & Mark Fenelon

The Data Insights Assistant, part of Teagasc GPT, showcases the integration of AI with Teagasc's research data to enhance decision-making. This custom-built tool enables natural language querying, automated analysis, and visual insight generation from Teagasc datasets. It simplifies data access, improves analytical efficiency, and helps staff identify actionable insights without requiring technical expertise.

For demonstration purposes, the Assistant currently uses data extracted from the Moorepark Technology Limited (MTL) Niro Tall Form spray drier, illustrating how AI-driven analytics can uncover patterns and insights within real research datasets.

Developed by the ICT Research and Innovation team, the Assistant highlights Teagasc's growing capabilities in AI and knowledge management.

c. AI Adoption, Governance and the Teag-Ask AI Tool suite.

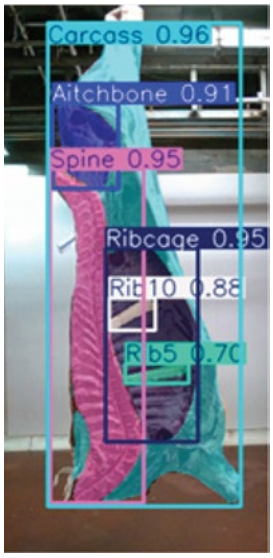
John Leamy

The Teag-Ask AI Tool Suite showcases practical and trusted applications of Artificial Intelligence – from content creation, decision support, and knowledge management to intelligent data analysis. Discover how Teagasc is embedding the responsible and ethical adoption of AI across the organisation to enhance productivity, insight, and innovation.

2. Integrating Artificial Intelligence into Spray Drying: Data-Driven Process Optimisation

Eoin Murphy, Norah O'Shea & Denis Dowling

Teagasc, in collaboration with VistaMilk and the I-Form Research Ireland Centre's, is harnessing artificial intelligence to optimise spray drying processes. By integrating existing data streams from advanced sensors, data analytics, and machine learning, the project aims to enhance milk powder quality, reduce energy consumption, and improve process control—supporting sustainable, efficient, and precision-driven dairy and food ingredient manufacturing.



3. AI-Enabled Vision for Smart Meat Processing and Quality Assessment

Carlos Esquerre, Georgios Anagnostou, Ruth Hamill & Laura Alvarez Jubete

A range of computer vision modalities coupled with AI and data analytics expertise permit development of bespoke decision support tools for meat companies.

Offerings include:

- Data analytics expertise including machine learning and AI to provide companies with insights across a range of business goals
- Vision technologies for online meat inspection
- State of the art imaging technologies (X-Ray CT, 3D Imaging) coupled with contemporary AI for carcass quality assessment.
- Smart carcass and meat quality prediction with hyperspectral imaging systems.
- Process analytics for added value meats, monitoring product performance throughout processing.

CoDiet

Liam Walsh & Orla O'Sullivan

CoDiet aims to combat diet-related diseases through innovative monitoring technologies and personalised nutrition. Unhealthy diets are associated with changes in the body that increase our risk of common diseases such as heart disease, diabetes and obesity (non-communicable diseases). Little is known about the steps that link what we eat to the development of non-communicable diseases, and the current tools used to collect dietary information rely on self-reporting, such as through food journals, which can be inaccurate and unreliable. The EU-funded CoDiet project plans to address these gaps in our knowledge and develop new ways to personalise dietary advice and help society to become healthier.

CeADAR

Julia Palma

CeADAR, Ireland's Centre for AI, is the national centre supporting organisations across Ireland to explore, experiment with, and integrate AI into products and processes.

Established in 2013 and funded by Enterprise Ireland and the IDA, CeADAR bridges the gap between academic research and industry needs, accelerating the journey from concept to market-ready solutions. With a strong focus on business impact, CeADAR empowers companies to boost productivity, competitiveness, and sustainability through innovative, real-world AI applications. In addition to delivering technology services and collaborative research projects, CeADAR provides expert national and EU-level advisory, supports AI policy development, and plays a vital role in start-up incubation, workforce training, and innovation funding.

Engage@Teagasc

Sharon Sheahan

The Engage@Teagasc Team support a wide range of industry engagements and entrepreneurship including enabling industry to access collaborative research or consultancy to solve business challenges and adopt intellectual property opportunities. Industry can partner with Teagasc in multiple ways including joint collaborations with state-of the-art scientific expertise, and access to technologies, research services, world-class facilities and specialist equipment.

For further information, or enquiries on how to partner with Teagasc research, contact engage@teagasc.ie

Enterprise Ireland

Enterprise Ireland supports food and beverage companies to scale up and expand their global footprint. Our Research, Development & Innovation (RD&I) funding is designed to support food companies in developing smarter, more sustainable solutions. Whether you're tackling technical challenges in production, enhancing product quality, or innovating for consumer trends, our supports are here to help you stay ahead of the curve and boost your competitive edge.

For more information contact:
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FOOD INNOVATION GATEWAYS

www.teagasc.ie/food