



Alessandro FERRAGINA

Institution: Meat Technology Centre, Teagasc

Academic Mentor: Dr Ruth Hamill

Commercial Partner: ABP Food Group

Commercial Mentor: Declan McDonnell

Alessandro's gained his primary and masters degrees in Animal Science at the University of Perugia. He then worked at the Italian National Association of Pig Breeders, where he conducted an in-depth study in programming and application of biostatistics.

During his PhD at the University of Padova, he worked on many collaborations with European institutions, participating in international training and conferences. He was also a visiting student at the University of Alabama at Birmingham, developing expertise in infrared technologies – in particular the chemometric process – publishing eight peer reviewed papers.

Alessandro has twice received funding from COST (European Cooperation in Science and Technology) Action, carrying out research collaborations at Teagasc in Ashtown, Dublin working on Hyperspectral imaging for beef quality prediction.

Throughout his career, Alessandro retained his passion for the traditional agriculture production of his home region, Calabria, managing a field of 500 secular olive trees producing high-quality olive oil. Alessandro also has obtained a qualification as a sommelier.

See case study overleaf

Dr Ruth Hamill

Dr Ruth Hamill has 18 years research experience, including projects applying spectroscopic analysis to prediction of meat quality. Her interests focus on muscle molecular biology and meat science, in particular, biological processes underpinning meat quality; identification of novel biological markers of quality; and characterisation of the structure/function relationship in meat products. She is Task leader at the Teagasc Meat Technology Centre and collaborates with the Irish Cattle Breeding Federation.

Declan McDonnell

Declan McDonnell is R&D Manager ABP Food Group, with 33 years experience in the meat industry. He is responsible for innovations in the company's divisions such as beef/lamb, pet-food, renewables and food ingredients and is the holder of over 40 patents in these areas. He leads a team of seven researchers for in-house R&D as well as external participations.

Meat Technology Centre, Teagasc

Teagasc is Ireland's leading agriculture and food research institution. It undertakes innovative investigation and knowledge transfer under four headings: Animal & Grassland; Crop Environment & Land Use; Rural Economy & Development; and Food.

ABP Food Group Ltd

ABP Food Group processes, produces, and exports beef and meat products, specialising in beef processing, de-boning, and packing for human and pet consumption. It serves retail, supermarket, foodservice, manufacturing, wholesale, and catering markets internationally.

Alessandro's project

This project examines HSI (Human Systems Integration) to develop prediction models for carcass and meat quality.

HSI systems will be applied online to characterise carcasses selected from thousands of animals available to the Meat Technology Centre at Teagasc.

A significant component of the work will be the assessment of a portable or simpler online version of the technique within a real factory setting.

The host company, ABP Food Group, is very active in this area but has not had access to hyperspectral imaging techniques to date due to technical uncertainty.

The outcome of this project will be the creation of tools that can be used to enhance accuracy in breeding programmes for key meat quality traits, and copper-fasten Ireland's reputation for premium quality beef.
