

Food and Nutritional Sciences

Food and Nutritional Sciences (Report to GB 2019)

Programmes Taught by the School	<p><i>Undergraduate Degrees and related programmes:</i> BSc (Hons) Food Science BSc (Hons) Food Science and Technology (International) BSc (Ord) Food Science and Technology (International) BSc (Hons) Nutritional Sciences Diploma in Food Studies (International)</p> <p><i>Taught Postgraduate:</i> HDip Food Science & Technology MSc Food Science Postgraduate Certificate in Dairy Technology and Innovation Postgraduate Diploma in Nutritional Sciences</p> <p><i>Research Degrees:</i> Research MSc PhD</p>
Number of Students in the School by FTE	395
Number of Staff in the School by Headcount	The School has 16 Academic staff; 12 Technical Staff, 4 Administration Staff and 11 Postdoctoral Researchers

Brief Description of School Structure (disciplines/departments/units if applicable):

The School of Food and Nutritional Sciences at UCC has a longstanding national and international reputation for provision of quality education in Nutritional Sciences and in Food Science and Technology. The School staff contributes to its flagship programmes, and *BSc (Nutritional Sciences)* and *BSc (Food Science)*, in addition to its recently introduced *BSc (Food Science and Technology International)* as well as other taught programmes in Food Science and Nutrition, including a newly launched *Postgraduate Certificate in Dairy Technology and Innovation*. Our staff also contributes to other University programmes such as *BSc (Food Marketing and Entrepreneurship)*, *BSc (International Development and Food Policy)*, *BSc (Public Health and Health Promotion)*, *BSc (Nursing)* amongst others. The School also hosts the Food Industry Training Unit (FITU), which offers a number of part-time level 7 qualifications in food-related areas as well as servicing the part-time continuing

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professional development (CPD) and training needs of people working in, or associated with, the food and related industries.

New Programmes in the Pipeline:

An Outline Programme Proposal for an MSc in Clinical Nutrition and Dietetics with an exit award of Postgraduate Diploma in Clinical Nutrition was approved at Academic Board on 20th September 2017 and is being progressed by the School.

New Appointments:

Mr Michael O'Grady was appointed to the role of Technical Officer in 2018.

Awards & Achievements:

The Cork Centre for Vitamin D and Nutrition Research, under PIs Professors Mairead Kiely and Kevin Cashman, won Food Lab of the Year and the top prize of Research Academic Lab of the Year at the Irish Laboratory Awards in Dublin on 7th March 2019



Dr Alice Lucey (Lecturer in Nutritional Science) and Dr Therese Uniacke-Lowe (Senior Technical Officer) graduated with Diplomas in Teaching & Learning in February 2019.

On Thursday 14th February 2019, the UCC School of Food and Nutritional Sciences took part in the annual Dawn Meats Great Agri-Food Debate hosted by Waterford Institute of Technology. Meg Minihaue (4th Year BSc Nutritional Sciences) won the award for best overall speaker.

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In November 2018 Megan Ross, who is at present studying for her PhD in Food Science, under the supervision of Professor Alan Kelly, was awarded the highly prestigious Bronze Award for her presentation at the Global Food Science Student competition in Jiangnan University, Wuxi, China.

UCC's Teagasc Walsh Fellowship 4th Year PhD Food Science student Orla Power, won the Institute of Food Science and Technology Ireland (IFSTI) medal for Best Food Science and Technology Presentation at the 25th Anniversary Walsh Fellowships Seminar which was held at Johnstown Castle, Co. Wexford on Friday 5th October 2018.

A School award ceremony recognized high achievers from the Class of 2018 on 17th Sept 2018: This ceremony cemented a five-year partnership with Kerry Group in recognizing the most talented graduates of the BSc Food Sciences and BSc Nutritional Sciences programmes. Thomas France was the winner of Kerry Group Medal in Food Science and Ciara Brennan won the Kerry Group Medal in Nutritional Sciences. The Karl McCarthy prize was also awarded to Thomas France, who achieved the highest result in the brewing and beverage final year module.



Pictured above: Prof. Paul McSweeney, Food & Nutritional Sciences; Dr Eileen O'Neill, Programme Director BSc Food Science; Thomas France, winner of Kerry Group Medal in Food Science and the Karl McCarthy prize; Ciara Brennan, winner of Kerry Group Medal in Nutritional Sciences; Dr Tony Sheehy, Programme Director BSc Nutritional Sciences.

In July 2018 the BSc Food Science received formal accreditation from the UK's Institute of Food Science and Technology, becoming the first programme outside the UK to be so recognized.

In July 2018 Minister Michael Creed announced that a project led by Dr Alice Lucey, Lecturer in Nutritional Science, was successful in a call funded by the Department of Agriculture, Food and the Marine. The project, 'RubusElite' involves the development of a novel high protein, polyphenol enriched dairy beverage for athletes and physically active individuals. The RubusElite project will be coordinated by University College Cork, and represents collaboration between food and nutritional

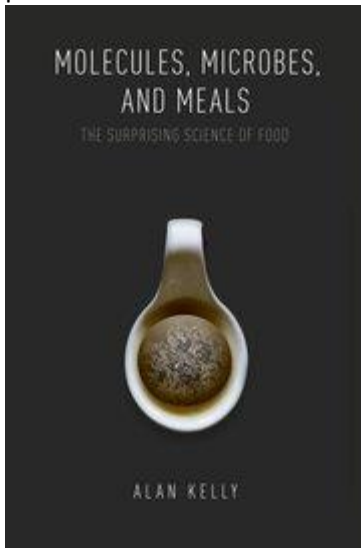
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scientists within the School including Dr Lucey, Professor Nora O'Brien, Dr Seamus O'Mahony, and Dr Shane Crowley, and also involves partners at WIT and Teagasc.

In Spring 2018: Dr Alice Lucey provided three talks on "Healthy Ageing: Nutrition and Bone Health" for Cork County Libraries as part of a National Healthy Living Week Campaign by Healthy Ireland.

Publication Announcement

Professor Alan Kelly's book *Molecules, Microbes and Meals: The Surprising Science of Food* (Oxford University Press) is shortly to appear in publication. Aimed at the non-specialist reader, the book provides an overview of the science of food.



Research Group Highlights

Dr Aoife Ryan's research group (Nutritional Sciences):

Awards:

Dr Aoife Ryan's post grad students and staff received a number of awards in 2018 including:

(1) Dr Louise Daly was selected as one of 3 winners across college of SEFS of 'Research Publication of the Year'. This was for a paper she published in the *Journal of Cachexia, Sarcopenia and Muscle* (impact factor 12.8) entitled: 'Loss of skeletal muscle during systemic chemotherapy is prognostic of poor survival in patients with foregut cancer'. She will be presented with this award on 28th March.

(2) Irish Society of Parenteral and Enteral Nutrition (2019) - two of the top 3 abstracts submitted to the conference which will be held in the Aviva on 28th March came from Dr Aoife Ryan's group:

(a) Dr Louise Daly: 'Determinants of quality of life in patients with incurable cancer'

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(b) Erin Sullivan (2nd year PhD student): 'Loss of Adipose Tissue Mass During Systemic Chemotherapy Predicts Poor Survival in Patients with Colorectal Cancer'

(3) Dr Louise Daly (post doc) was selected by the Nutrition Society to represent Ireland at the 'International Early Career Research Championships (Nutrition)' held in London in December 2018 (pictured below).



(4) Irish Nutrition and Dietetic Institute Research Study day – Erin Sullivan (2nd year PhD student) received a highly commended award for her poster entitled: "Loss of adipose tissue mass during systemic chemotherapy predicts poor survival in patients with Colorectal Cancer"

(5) Erin Sullivan was awarded second prize for best oral presentation at the Irish Society of Gastroenterology winter meeting (2018)

(6) Post docs from the group published 2 papers in high impact factor journals:

(a) Loss of skeletal muscle during systemic chemotherapy is prognostic of poor survival in patients with foregut cancer. Daly LE, Ni Bhuachalla EB, Power DG, Cushen SJ, James K, Ryan AM. *Journal of Cachexia, Sarcopenia & Muscle* 2018, 9(2), 315-325. Impact factor 12.8

(b) Computed tomography diagnosed cachexia and sarcopenia in 725 oncology patients: is nutritional screening capturing hidden malnutrition? Ni Bhuachalla É, Daly LE, Power DG, Cushen SJ, Maceneaney P, Ryan AM. *Journal of Cachexia, Sarcopenia & Muscle* 2018, 9(2): 295-305. Impact factor 12.8

Books

In 2018 Dr Aoife Ryan, Lecturer in Nutritional Sciences, launched her latest cookbook *Making the Most of Every Bite*. The book was commissioned and sponsored by the HSE for patients with disease-related malnutrition which is estimated to affect 145,000 adults and children in Ireland. Up to 100,000 copies

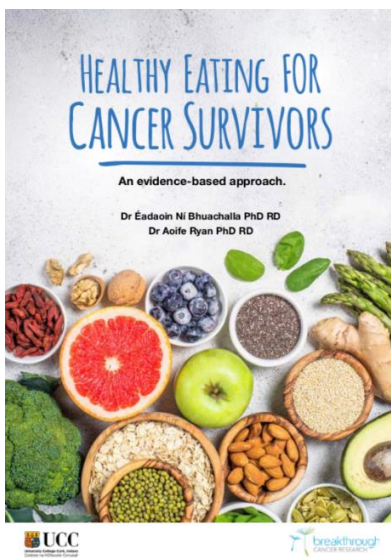
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are available free of charge through the HSE from their website. The book was launched in Dublin with the Minister for Health Simon Harris.



Pictured L to R: Dr Sharon Kennelly, Clinical Specialist Dietitian, HSE; Simon Harris Minister for Health, Dr Aoife Ryan (UCC) and Dr Éadaoin Ní Bhuachalla (HSE and PhD graduate from UCC).

In March 2019 a fifth cookbook from the School of Nutritional Sciences will be launched, entitled *Healthy Eating for Cancer Survivors*. With a rising tide of misinformation on nutrition and cancer available to cancer survivors in the media and online, Dr Aoife Ryan (UCC) and Dr Éadaoin Ní Bhuachalla (HSE and formerly UCC) co-authored this book as a free evidence-based resource for cancer patients entering the survivorship phase of their illness. Sponsored by Breakthrough Cancer Research, the book is based on the latest guidelines from the World Cancer Research Fund/American Institute for Cancer Research and is endorsed by the National Cancer Control Programme (NCCP), the Irish Nutrition and Dietetic Institute (INDI) and the Irish Society of Medical Oncology (ISMO). Ten thousand copies will be distributed to hospitals throughout Ireland in the first print run.



Pictured: Cover of Healthy Eating for Cancer Survivors, to be launched March 2019

Food Ingredients Research Group (PI: Dr Seamus O'Mahony)

Achievements:

- Dr Ritika Puri was awarded a Marie Skłodowska Curie – Career FIT fellowship (€ 241.000) in 2018 to carry out a 3-year project on developing super-premium milk protein ingredients with Dr Seamus O'Mahony as supervisor and the Food Ingredients Research Group (FIRG) as the hosting laboratory, in collaboration with an Irish dairy industry partner in conjunction with the Dairy Processing Technology Centre.



- In 2018, Dr Francesca Bot received the ILM certificate for completing the Professional Skills for Research Leaders programme



- In February 2019, Dr Diana Oliveira and Dr Francesca Bot received their digital badge award for completing the Project Management for the Agri-Food Sector program.
- In December 2018, Paraskevi Tsermoula received a 'highly commended' award for her oral presentation entitled 'Recovery of protein-rich extracts from bovine and porcine hearts with techno-functional properties' at the 47th Annual Food Science and Technology Conference,

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hosted at UCC in conjunction with the Institute of Food Science and Technology of Ireland (IFSTI). (Pictured below).



International conference presentations:

- In September 2018, Dr Diana Oliveira presented her work on valorisation of whey protein-based side-streams at the 16th EuroFed Lipids Congress in Belfast. This work was funded by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 713654.





- In June 2018, Dr Diana Oliveira was awarded with the H2020 proposal preparation support grant from Enterprise Ireland (€14,000). With this award, Dr Oliveira was able to bring a senior researcher for a period of two months to the Food Ingredients Research Group to develop a competitive research proposal.

International Collaborations:

- A new collaboration with Dr Sonia Calligaris, professor at University of Udine, Italy, has been established and, as a result, a master's student, Alberto Berlese, conducted his research project from March to August 2018 in the Food Ingredients Research Group at UCC.
- As a result of the collaboration between with Dr Diana Oliveira and Dr Seamus O'Mahony, from the Food Ingredients Research Group, School of Food and Nutritional Sciences, and international partners Dr Leo Alonso and Dr Javier Fontecha from the Spanish institutes CIAL and IPLA-CSIC, a poster was presented at the Euro-Global Conference on Food Science, Agronomy and Technology in Rome, Italy in September 2018 entitled: "Investigation of whey protein-based side-streams as potential source of polar lipid-enriched dairy ingredients".

Selected Food Ingredients Group Publications:

- In November 2018, a review on "Delactosed permeate as a dairy processing co-product with major potential value" by Dr Diana Oliveira, Dr Ritika Puri, Dr Mark A. Fenelon and Dr Seamus O'Mahony, was accepted for publication in the special issue of the *International Journal of Food Science and Technology* entitled "Valorisation of food processing by-products."