Food Safety
AUTHORITY OF IRELAND

FSAI Science Conference 2019

Dr Wayne Anderson

September 2019 EFSA AF Meeting

Theme and Venue

The Science of Food Safety
–What's our Future?

21st & 22nd August 2019

The Convention Centre, Dublin

Food Safety
AUTHORITY OF IRELAND

Keynote Speakers

The Future of Risk Assessment in Europe

Dr Bernhard Url
European Food Safety Authority

Future Challenges in Food Microbiological Risk Assessment

Prof Séamus Fanning
UCD Centre for Food Safety

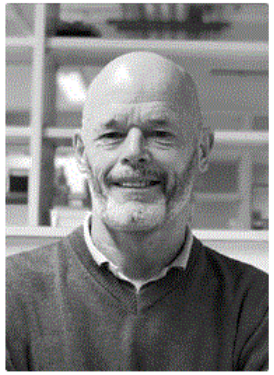
Dr Diane Benford
Vice-chair EFSA Scientific Committee

Future Challenges in Food Chemical Risk Assessment

Science to Support Regulation

Prof Albert Flynn
University College Cork

Dr John Bell
European Commission's Directorate-General for



Prof Colin Hill
University College Cork

The Gut Microbiome and its Role in Health and Food safety

Future Proofing the Food Systems in Europe. R&I Challenges

Conference Programme

Wicklow Hall 2	Wicklow Hall 1
Welcome	
Wicklow Hall 2 (Level 2)	
Plenary 1: The Future of Risk Assessment	
Wicklow Hall 2 (Level 2)	
Coffee Break	Coffee Break
Application of Molecular Profiling to Microbial Communities	Chemical Safety Challenges for Sustainable Food
Wicklow Hall 2 (Level 2)	Wicklow Hall 1 (Level 2)
Track: Microbiological Safety	Track: Chemical Safety
Lunch	Lunch
Foodborne Viruses: Regulatory Gaps and Future Controls	(Re-) Emerging Chemical Safety Risks
Wicklow Hall 2 (Level 2)	Wicklow Hall 1 (Level 2)
Track: Microbiological Safety	Track: Chemical Safety
Coffee Break	Coffee Break
Lightning Presentations	
Wicklow Hall 2 (Level 2)	

Plenary 2: The Science Behind Regulated Foods	
Wicklow Hall 2 (Level 2)	
Coffee Break	Coffee Break
Antimicrobial Resistance	Approaches to Chemical Exposure Modelling
Wicklow Hall 2 (Level 2)	Wicklow Hall 1 (Level 2)
Track: Microbiological Safety	Track: Chemical Safety
Lunch	Lunch
Approaches to Pathogen Characterisation, Tracking and Control	Challenges in Official Control of Chemicals
Wicklow Hall 2 (Level 2)	Wicklow Hall 1 (Level 2)
Track: Microbiological Safety	Track: Chemical Safety
Poster Prize Award and Closing Remarks	

Specific Session Sponsors for Invited Speakers

- (Re-) Emerging Chemical Safety Risks

Prof. Johanna Zilliacus

Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden.

- Foodborne Viruses: Regulatory Gaps and Future Controls

Prof. Albert Bosch

Enteric Virus Laboratory, Department of Genetics, Microbiology and Statistics and Institute of Nutrition and Food Safety, University of Barcelona, Barcelona, Spain.

- Chemical Safety Challenges for Sustainable Food

Prof. Dr Rudolf Krska

University of Natural Resources and Life Sciences, Vienna (BOKU), Department of Agrobiotechnology (IFA-Tulln), Institute of Bioanalytics and Agro-Metabolomics, Vienna, Austria.

- Approaches to Pathogen Characterisation, Tracking and Control

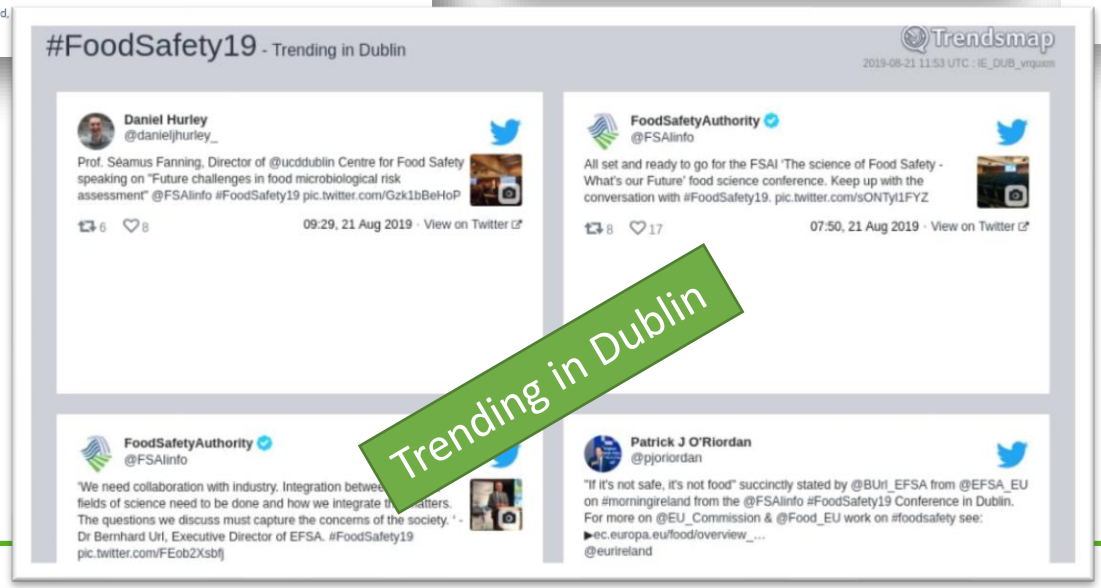
Dr John Donaghy

Nestlé S.A., Vevey, Switzerland.

Poster Prize Winners

- 1st **Dr Sandeep Tamber** *Effectiveness of preparation practices on the inactivation of Salmonella enterica ser. Enteritidis on frozen, breaded raw chicken products*
- 2nd **Ms Julia Le Jeune** *Conversion of Irish national consumption data to raw agricultural commodity values for the estimation of dietary exposure to pesticide residues*
- 3rd **Mr Conor Davin** *A cross-sectional and longitudinal study of Hepatitis E Virus in commercial Irish pig farms*

Twitter



Trending in Dublin

Print Media and Radio Coverage

419,000 Listeners daily

Artificial meat poses major food safety challenges, conference told

Fat, collagen and haemoglobin levels in synthetic meat could be set precisely

KEVIN O'SULLIVAN
Environment & Science Editor

'The world has to wake up to the implications of a new era of rapid food innovation, including the generation of synthetic meat that will be routinely available on supermarket shelves or manufactured in the home, an international conference has been told.

These novel foods will pose huge food safety and regulation challenges, Prof Mark Ferguson, director general of Science Foundation Ireland, has predicted.

Speaking at a conference in Dublin on The Science of Food Safety: What's Our Future?, he cited the latest valuations of artificial meat industry by venture capitalists at $140 billion (€126 billion).

Its latest manifestation was going beyond plant-based meat to "truly synthetic meat" cultured using stem cells from cattle. The fat, collagen and haemoglobin content could be set precisely by a digital device.

An artificial meat burger currently costs €300,000 to produce in a lab, he said, but was predicted to cost 16 cent by 2021.

"That point will be very interesting," Prof Ferguson said.

It has been predicted that every home would eventually have its own bioreactor, that would produce a piece of meat by 3D printing it, on instructions from a smartphone, he said. And these disruptive technologies would radically change traditional food chains.

"This is real. Think about the food safety implications . . . If in the regulation business, you need to keep up with this."

How to feed 10 billion people without increasing greenhouse gas emissions would be another immense task facing the world, he added.

€300,000

The current cost of producing an artificial burger in a lab but this is predicted to drop to 16 cents by 2021

"Climate change is the biggest challenge to agriculture and the food system probably in modern history."

Prof Ferguson highlighted how Crispr technology made possible a genetically modified plant capable of capturing 30 per cent more carbon in the soil.

"Won't it be interesting to see how society and the consumer reacts to genetic manipulation of food that is not about increasing profit but about doing good for the planet?"

Carbon taxes

While carbon taxes might work in the energy sector, if applied to food industry "it may well end up with people starving", he said. As a consequence, science and innovation would be required. He had no doubt that it could deliver in such circumstances while huge opportunities would also arise.

European Food Safety Authority (EFSA) director Dr Bernhard Url said: "Food in Europe has never been safer" but an erosion of trust in society was a threat to the food safety system. This trend was seen in the vaccination controversy, the response to use of chemicals in agrifood industry, and the reaction to Crispr technology.

A particular [illegible] expectation [illegible] be zero [illegible]

also indicated in the ongoing controversy about glyphosate herbicide with citizens asking how can it be that we find glyphosate in the urine of my children. I don't want that."

EFSA explains that up to a certain concentration it is safe and it is true, he said, "but that is not the question".

It was a values issue that had to be negotia[illegible] level, he said; evidence need[illegible] arise from po[illegible] not, citizens c[illegible] ence when [illegible] their values a[illegible] risks of being[illegible]

Dr Pamela [illegible] utive of the F[illegible] ty of Ireland, the event to m[illegible] versary, said [illegible] portant [illegible] tion [illegible]

Circulation 58,131

EU watchdog calls food waste a scandal

KEVIN O'SULLIVAN

Europe's high levels of food waste "are an ethical scandal at a time when hundreds of millions of people around the world are going hungry", according to the head of the EU food safety watchdog.

"Theoretically, 100 million people could potentially have the calories that we throw away," Dr Bernhard Url of the European Food Safety Authority (EFSA) told a food safety conference in Dublin.

The growing gap between food production and consumption had contributed to the high levels of waste of between 20 and 30 per cent – adding up to 88 million tonnes of food thrown away every year at a cost of €143 billion.

"The food production systems are so complex, spanning global supply chains, that people don't know where the stuff comes from, who is processing it, what is really in there. So there's a bit of distrust," Dr Url said.

The EU introduced a law last year requiring member states to report food waste levels yearly from 2020 and provide incentives for collecting and redistributing unsold food. Globally, a third of the world's food with a value of nearly $1 trillion is lost or thrown away each year.

Dumped

Food waste is also environmentally destructive because when dumped in landfill, it rots and produces greenhouse gases, he said at a media briefing.

Part of the reason for food waste was consumer confusion over "best before" and "use by" labels, Dr Url believed. While the former indicates a product's quality, the latter – applicable to perishable foods such as meats and eggs – is more stringent and indicates hygiene status.

EFSA experts investigated if the shelf life of eggs could be extended to decrease food waste but found increased risks of salmonella poisoning.

"But the 'best before' date is one where more awareness has to be built with consumers and say, 'don't throw it away. Look at it. Smell it and maybe you can use it'," he added.

The future of food

A scientific revolution

Food production driven by science is about to enter an era of rapid innovation. Synthetic meat composed from stem cells in cattle, and made with remarkable precision, is about to hit supermarket shelves. It will lead to dramatic changes in human diets, while being immensely challenging for the farming and agrifood industry – which in Ireland is at the heart of the economy.

Separately, there is a demand that sustainability be at the core of the food industry to reduce its large carbon footprint, especially in beef production. Yet it has to gear up to be able to feed a world population of 10 billion.

Advanced gene editing and synthetic biology in food production are already happening in the laboratory. It is predicted that the €300,000 synthetic burger made in the lab will soon cost 16 cent, and ultimately will be made in the home using a bioreactor with instructions from a smartphone.

A conference in Dublin to mark the Food Safety Authority of Ireland's 20th anniversary considered how best to respond. The immense food safety challenges are obvious; regulatory authorities have to contend with a new frontier. Risk assessment needs to innovate to determine the impact of new technologies. All too often in the past risk analysis and regulation did not keep up with food innovation. Instances of fraud and adulteration, and delays in tackling new forms of food poisoning outbreaks often resulted. Those failings fuelled the BSE crisis and, more recently, a horse meat scandal in some EU markets.

Ray Ryan

Food in Europe 'has never been safer'

Food in Europe has never been safer, according to executive director of the European Food Safety Authority Bernhard Url. At an international conference in Dublin, marking the 20th anniversary of the Food Safety Authority of Ireland, he said that this is because science plays a crucial role in the EU food system.

[illegible]ty's chief [illegible]ela Byrne [illegible]apid speed [illegible]duction pro- [illegible] mirrored [illegible]lysis and [illegible]nsure food [illegible]ety. [illegible]ommission [illegible]Direc[illegible] [illegible]ell sai[illegible]

rent and emerging risks will surround food supply into the future as a result of climate change, new technology and a desire to restrict carbon outputs.

He said there is [illegible] to ensure the f[illegible] system is pr[illegible] upcomi[illegible] duction[illegible] that it[illegible]s trust and help[illegible]ens to make informed food choices.

Professor Mark Ferguson, director general, Science Foundation Ireland and chief scientific advisor to the Government, stressed the need for research fund-[illegible]

Circulation 25,419

439,000 listeners tuning in

Online Media

The Irish Times| Visits: 12,170,505

Artificial meat poses huge food safety challenges – conference

Erosion of trust in society is a threat to food safety, says European food authority

Wed, Aug 21, 2019, 20:41

Kevin O'Sullivan Environment & Science Editor

Dr Pamela Byrne, chief executive of Food Safety Authority of Ireland, and Dr Bernhard Url, executive director of the European Food Safety Authority. Photograph: Shane O'Neill, SON Photographic

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Traditional food chains

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European Food Safety Authority (EFSA) director Dr Bernhard Url said: "Food in Europe has never been safer" but an erosion of trust in society was a threat to the food safety system. This trend was seen in the vaccination controversy, the response to use of chemicals in agrifood industry, and in the reaction to Crispr technology.

Zero risk

A particular problem was the expectation that there should be zero risk in food but that was impossible, Dr Url said. "It was also indicated in the ongoing controversy about glyphosate herbicide with citizens asking how can it be that we find glyphosate in the urine of my children. I don't want that."

EFSA explains that up to a certain concentration it is safe and it is true, he said, "but that is not the question".

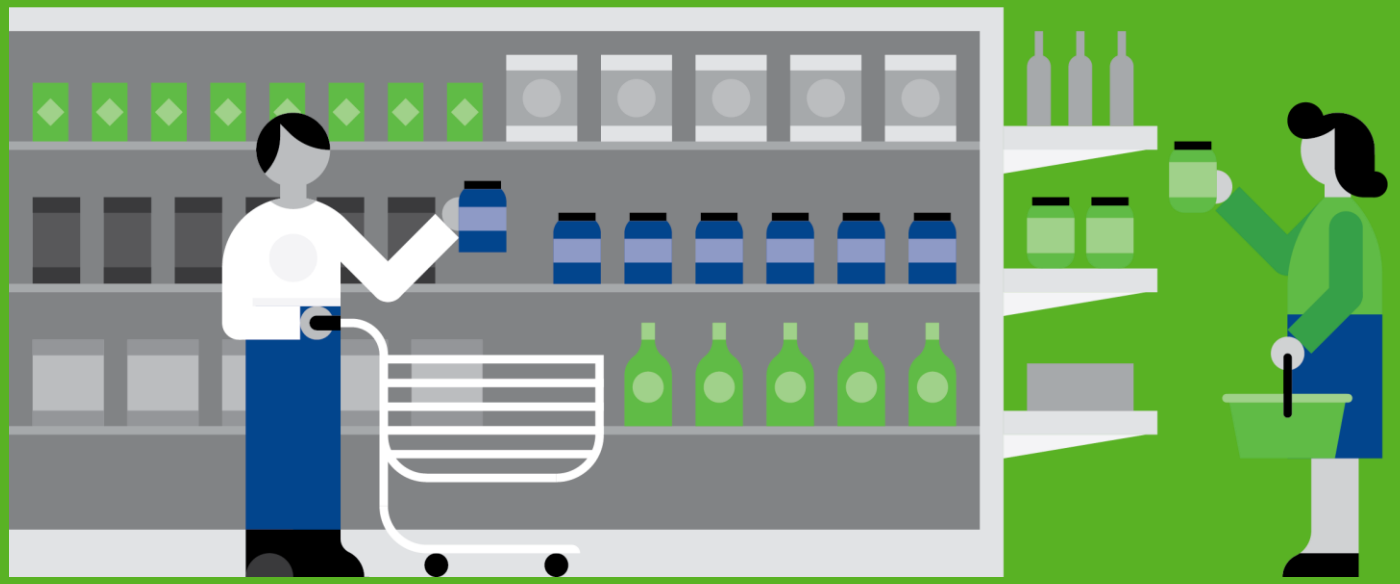
It was a values issue that had to be negotiated at a political level, he said; scientific risk and evidence needed to be kept separate from politics. When it was not, citizens can dismiss the science when it doesn't match their values and accuse scientists of being corrupt.

Dr Pamela Byrne, chief executive of the Food Safety Authority of Ireland, which is hosting the event to mark its 20th anniversary, said we were at an important milestone in the evolution of our food systems.

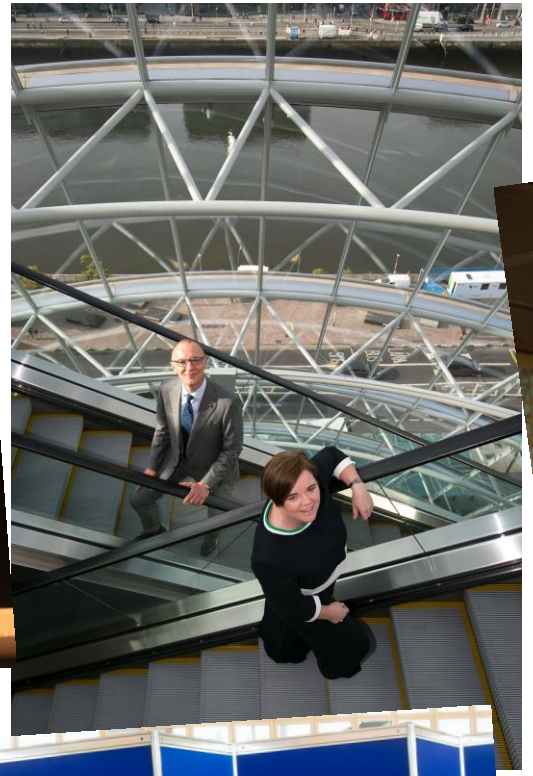
"Science is required to create more sustainable, nutritious and healthier food, but the rapid speed of change in production processes must be mirrored by robust analysis and oversight to ensure food integrity and safety," she said.

Conference Statistics

314	22	99	106	35	59
Attendees	Countries	Organisations	Abstracts	Speakers	Posters



Conference in Pictures



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