AIFST21
FOOD SCIENCE
DELIVERING IN A CHANGING WORLD

Thursday 21st October 2021

DAY 4: SUSTAINABILITY, RESILIENCE AND FOOD SECURITY IN A CHANGING WORLD

09:00 – 09:45 AM	**K6- KEYNOTE ADDRESS:** FOOD, NUTRITION, AND TECHNOLOGY : PARADIGM SHIFTS IN THE 21ST CENTURY FOOD INDUSTRY *Professor Charles Brennan, RMIT*
10:00 - 11:30 AM	**4.1 - COLLABORATION AS AN INNOVATION ACCELERATOR** *Presented by: CSIRO*
12:00 - 1:30 PM	**4.2 - TRACEABILITY AND TECHNOLOGY** *Presented by: NSW Government Food Authority*
2:00 – 3:30 PM	**4.3 - FOOD FRAUD AND FOOD DEFENCE**
4:00 - 5:30 PM	**4.4 - COVID-19 RECOVERY AND THE FOOD INDUSTRY**

PRESENTATION & SPEAKER BIOS

K6 | KEYNOTE SPEAKERS

Professor Charles Brennan

Executive Dean of Science at RMIT University, Melbourne, Australia

Topic: Food, Nutrition, and Technology : Paradigm Shifts in the 21st Century food industry

About:

An established senior academic with over 25 years experience.

Accomplished in leadership, financial management, change management, academic and government governance, co-ordination of academic faculties and departments, development of teaching and research strategy, personal research groups, and pan-national research projects. Globally recognised researcher having written over 250 scholarly works, H index of 53 Editor in Chief of three internationally peer-reviewed SCI journals.

Personal research projects include the utilization of plant and fungal bio-active components into functional foods in relation to human nutrition and manipulation of chronic diseases, understanding of the diversity of plant foods throughout the world and their importance in human society

4.1 | COLLABORATION AS AN INNOVATION ACCELERATOR

George Feast

SME Collaboration National Lead Voice of Industry

Topic: Research that supports collaboration as an innovation accelerator

About:

George leads the SME Collaboration Nation program which forms part of CSIRO's wider SME Connect team who work across the Australian ecosystem to facilitate projects between small-medium sized businesses (SMEs) and research organisations. The program aims to increase the rate of SME-research collaboration by amplifying existing facilitation programs, simplifying and removing barriers to collaboration and helping businesses and researchers understand the value of collaboration for positive impact.
George has worked in the field of start-ups and small businesses for many years, having founded the CSIRO Kick-Start program and has worked with, and in, SMEs during his time as a researcher. His research background is in Organic Chemistry, but please don't let that out you off – transferable skills are useful in all areas of collaboration!

Olympia Yarger

CEO, Goterra

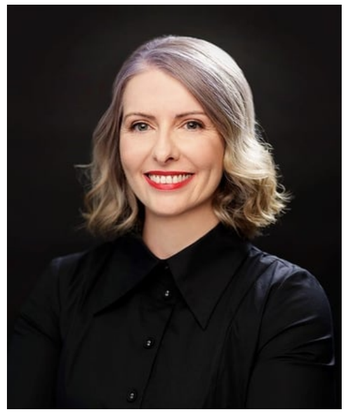
Topic: Voice of industry - how collaboration has accelerated innovation

About:

Based in Canberra with a global vision, Goterra is committed to creating solutions for waste management, redefining the culture of food waste within our communities and providing sustainable and stable livestock feed options for our farmers.

Our team of Agricultural, Entomological and Engineering experts have developed truly modular insect farming technology, to decentralise waste management with insect farming systems that can process any food waste, anywhere. At the same time as producing nutritious insect meal creating feed security for our farmers and regional industry for our communities.

4.1 | COLLABORATION AS AN INNOVATION ACCELERATOR



Justine Lacey
Research Director

Topic: Collaborating for responsible innovation: stakeholder engagement, trust and acceptance

About:

Dr Justine Lacey leads CSIRO's Responsible Innovation Future Science Platform. This new research program aims to assess the risks, benefits and uncertainties of a broad range of areas of future science and technology development with the goal of ensuring that we design and deliver responsible science and technology for the benefit of all Australians. A key focus area of this research is to ensure we catalyse the adoption of responsible technologies by a range of stakeholders and end users, and equip communities to assess the how these technologies might change their lives.

Presentation overview:

Responsible innovation encourages innovators to work together with a range of stakeholders during the research and innovation process with a view to aligning those innovations with the values, needs and expectations of society. This is not a novel idea, but it can be challenging to realise in practice. How can we bring science to our understanding of the drivers of trust in and acceptance of new innovations, and what role does collaboration play in making an innovation both responsible and responsive to society?

Hussein Rifai
Chair, SPC

Topic: Venture capital perspective

About:

Mr Rifai is the Chairman of SPC Global. He has been managing private equity funds and advising clients for over 30 years. Through his career he has worked in many sectors, including FMCG healthcare, technology, communications, financial services, and government. He has worked in Australia, North America, Europe, Asia Pacific and in the Middle East.
Mr Rifai holds a Bachelor Science Electrical Engineering (San Jose State University, San Jose, CA); Masters Business Administration (University of Technology, Sydney, NSW); and Graduate Diploma Supply Chain Management (Stanford University, Palo Alto, CA)

4.2 | TRACEABILITY AND TECHNOLOGY

SP Singh

Research Horticulturist, *NSW Government Food Authority*

Topic: Traceability in the fresh produce sector- opportunities and challenges in adoption

About:

Dr Sukhvinder Pal (SP) Singh leads Horticultural Food Safety Research Program at the NSW Department of Primary Industries. His research program is focused on developing and translating new technologies and solutions to improve food safety and traceability in the horticulture sector. Strong engagement with the industry is the key driver of science-based best practice adoption and facilitating change for positive outcomes for the industry, governments and consumers. His research portfolio has several R&D projects of national importance, including fresh produce traceability. In addition to his research role, he is the Treasurer of the Australian Society of Horticultural Science and an Associate Editor of the Journal of Horticultural Science and Biotechnology. He also holds an adjunct faculty position at the University of Newcastle.

Presentation overview:

The ability to track and trace produce in the supply chain is not a new requirement for this sector but doing it rapidly and accurately is an emerging requirement in the evolving regulatory regimes and international trade. Digital traceability, based on a global set of standards, is the solution that would allow capturing and sharing data in an operable and widely acceptable manner for all actors along the supply chain. In this presentation, an overview of opportunities and challenges in the adoption of end-to-end digital traceability, with special reference to the primary producers, will be presented. Through a case study on the Australian melon industry, the lessons learnt will be shared, and these have broader implications for the fresh produce sector.

4.2 | TRACEABILITY AND TECHNOLOGY

Anthony Zammit

Manager, NSW Shellfish Program, *NSW Government Food Authority*

Topic: Real-time monitoring for the NSW oyster industry

About:

Anthony Zammit holds a Bachelor of Applied Science degree from the University of Tasmania and a Masters in Environmental Science and Law from the University of Sydney. Anthony Zammit has worked in the area of bi-valve molluscan shellfish safety for over twenty years and has been an active member of the Australian Shellfish Quality Assurance Advisory Committee for fifteen years. Anthony has represented Australia in international forums on molluscan shellfish safety including as a host, Co-Chair and International Advisory Committee member of the International Conference on Molluscan Shellfish Safety and as a visiting international expert to assist developing countries develop their shellfish safety programs. Mr Zammit was appointed as the Manager of the NSW Shellfish Program in 2005. In this position he leads a multidisciplinary team that develops environmental monitoring programs to facilitate the real-time risk management of shellfish harvest areas by closing areas to harvest when adverse environmental conditions are present. He enjoys working collaboratively with industry to develop innovative solutions to food safety challenges that provide triple bottom line outcomes of food safety, industry profitability and environmental sustainability.

Presentation overview:

The Oyster Industry Transformation project provides a more accurate method of managing the weather related closure regime for NSW shellfish harvest areas. Partnership with researchers and industry has realised net economic benefits are evidenced through in depth economic analysis at the business level.

4.2 | TRACEABILITY AND TECHNOLOGY

Craig Shadbolt

Principal Food Safety Scientist, *NSW Food Authority*

Topic: Whole genome sequencing as a tracing & investigation tool

About:

Dr Craig Shadbolt is the Principal Food Safety Scientist with the New South Wales Food Authority and Department of Primary Industries, Australia's only through-chain food safety agency. Craig has been with the NSW Food Authority since 2004 and has over 15 years experience in ensuring that outbreaks of foodborne disease and other food hazards are managed effectively to prevent harm to human health and limit damage to the food industry.

Prior to joining the Food Authority, Craig was employed in 2001 in a scientific advisory role with the Commonwealth Department of Health, Food Safety and Surveillance Unit. In this role Craig was responsible for advice and development of food policy and regulation, as well as involvement in the operation of OzFoodNet, Australia's national surveillance system for detection and investigation of foodborne disease outbreaks.

Craig has a BSc Hons (1998) and PhD in Food Microbiology (2004) from the University of Tasmania, specialising in survival and inactivation of E. coli under different environmental conditions.

Presentation overview:

Whole Genome Sequencing is well established in Australia and internationally as a tool for tracking and tracing of microorganisms, and for investigation of foodborne disease.

While there are various databases that exist for sharing of sequence information, there may be reluctance by the food industry to share data in case this is misinterpreted and causes reputational loss.

Greater collaboration between businesses and food safety regulators could significantly enhance knowledge of microorganisms in various environments and their diversity, leading to better informed control measures.

4.3 | FOOD FRAUD AND FOOD DEFENCE

Andreas Klieber

Managing Director, Quality Associates

Topic: Artificial Colours – Achilles' heel of the food industry

About:

Andreas has worked in the food industry for over 30 years, having held senior technical management roles with Australian (Coles) and UK (Marks & Spencer) retailers following Senior Lecturer roles teaching and researching food safety and quality at Australian Universities.

Quality Associates provides a wide range of quality and food safety services to these sectors including product quality investigations and monitoring, food safety culture development, food safety systems (incl. HACCP, TACCP, VACCP), supply chain & internal audits, product recall management, product specification management & legal compliance of food labels and factory design.

Presentation Overview:

There is strong consumer sentiment for natural colours and healthy foods. Consequently, major brands have taken a position of No Artificial Flavours, No Artificial Colours (NAFNAC) in their food products.

The food industry relies heavily on supplier approval and ingredient certification to ensure compliance. However, there have been significant incidents of food fraud using unauthorised, hazardous dyes in foods, and at times has been exposed to undeclared, permitted artificial colours.

This presentation explores the vulnerability of the food industry to this type of threat and explores options to safeguard brands and consumers.

Dr Michael Gray

Waters Australia, Applications Support Specialist

Topic: Radian ASAP: Immediate protection against Food Fraud

About:

Michael has worked in analytical and separation sciences for twenty years. He completed post - graduate studies on the fundamentals and optimisation of two - dimensional liquid chromatography. Michael has worked in a broad range of industries that comprise the pharmaceutical, natural products, environmental forensics, occupational hygiene and food industries.

Presentation Overview:

Food business operators are looking for rapid testing of raw ingredients and finished foods that enable quicker decision making on whether to accept or reject consignments.

The new RADIAN ASAP is a simple to use, direct analysis device that rapidly generates a spectral fingerprint of food products. LiveID software is used for real-time sample classification including authentic food products, adulterated mixtures and incorrect food products.
Example applications are will be presented in the fight against food fraud that include adulteration in oregano, edible fats, cocoa butter as well as quality control examples such as manuka honey and natural tea varieties.

4.3 | FOOD FRAUD AND FOOD DEFENCE

Melanie Wishart

Account Director - Retail Customer Engagement, *GS1*

Topic: Traceability, visibility, and transparency to combat food fraud

About:

Melanie is passionate and committed to providing expert advice to best address client and industry challenges. She has an in-depth knowledge of the GS1 system of standards and services to improve business efficiencies, food safety and visibility through the supply chain.
As part of the Customer Engagement team she helps to deliver strategic projects and implementation with industry within the Traceability, Food Safety and Compliance Pillar.

For over 20 years Melanie has contributed to improvements in supply chain management in Australian business and Industry and is responsible for driving the adoption of the GS1 standards into the Fresh Foods and Grocery sectors. Projects range from implementing DataBar on loose fresh produce, the Supply Chain Improvement Project, recent pilots for 2D barcodes at Point-Of-Sale and the GS1 National Traceability Advisory Group.

Presentation overview:

Food fraud and food defence are serious problems affecting global food supply chains, authorities and consumers. Essentially the solution to the food fraud problem starts with a foundational layer of globally accepted traceability standards acting as building blocks to identify, capture and share information about objects at key points in the supply chain. Visibility is an outcome of traceability capability across the value chain. Transparency of product and supply chain data can allow stakeholders to make appropriate business decisions in the event of a food fraud/defense incident.

This presentation will look at the different counterfeit controls and countermeasures and explain how global data standards are a valuable component to any solution targeted at detecting, deterring and disrupting food fraud and food defence activities.

4.3 | FOOD FRAUD AND FOOD DEFENCE

Trent Bartlett

General Manager - Food, Retail and Supply Chain, BSI

Topic: Leveraging the audit process to reduce business risk

About:

Trent Bartlett leads the Food, Retail and Supply Chain sector of BSI Group ANZ. He has over 25 years' experience in the Food and Beverage sector, initially in site and regional Quality Management roles and more latterly in the Certification industry. He is passionate about supporting food businesses, large and small, in improving their performance and helping to create a sustainable and resilient industry in Australia.

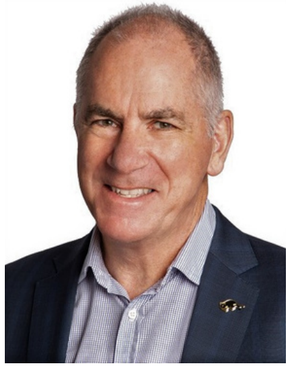
BSI's team of auditors are industry experts working across food safety, social compliance and environmental standards to support manufacturers, primary producers and food service clients in ensuring safety and quality of their products, as well as sustainable and ethical practices across their supply chain.

Presentation overview:

As a certification audit approaches, businesses often switch to 'audit mode'. The intensity of preparation is increased as they ensure they are prepared for their audit day. Once the audit is completed, its importance and relevance will often recede into the background. As a result, many opportunities to more thoroughly evaluate system performance are overlooked, and possibilities for incremental improvement and risk reduction are squandered.

In this presentation, we consider how businesses can get more from the audit process through a deeper analysis of audit findings, an understanding of themes and trends, and the early warning signs of system vulnerabilities that can lead to withdrawal and recall.

4.4 | COVID-19 RECOVERY AND THE FOOD INDUSTRY



Deon Mahoney

PMA Australia-New Zealand Ltd

Topic: COVID-19 and food safety – keeping workers healthy and food safe

About:

Deon Mahoney possesses wide ranging, long-term experience across the entire food industry. During his career he has been involved in establishing food safety policy, microbiological risk assessments, risk communication, development and enforcement of food legislation, establishment of food safety programs, and delivery of training and education. As Head of Food Safety at PMA A-NZ, Deon provides high level technical guidance and support to the fresh produce industry, ensuring the safety and suitability of produce.

Deon also undertakes consultancy work for the food industry through DeonMahoneyConsulting, is a member of JEMRA, and a fellow of AIFST.

Presentation Overview:

The presentation focuses on how the food industry can best manage the challenges presented by the pandemic, keeping supply chains functional and managing occupational health and safety challenges.

The emphasis is on implementing a hierarchy of key risk reduction strategies, whilst keeping up to date with the latest requirements of State and Territory health agencies. The strategies involve vaccination, workplace design, keeping personnel safe through preventive measures and behaviours, and testing plans.

Vivien Kite

Group General Manager, Result Group

Topic: COVID and the Chicken Meat Industry - Impacts and Learnings

About:

Dr Kite has extensive experience in the chicken meat industry and has contributed significantly to the collaboration between the industry, government and the research community in Australia for over 30 years.

Having obtained her PhD at the University of New England in Armidale in hen physiology and behaviour, Vivien took up the offer of a Post-doctoral Fellowship at the Poultry Research Centre (now the Roslin Institute) in Scotland, working on a Commission of the European Communities animal welfare grant project. She joined the ACMF in 1989 as its Deputy Director and Research Manager, before accepting the position of Executive Director in 2015.

Presentation Overview:

This presentation focuses on how the challenges faced by the Australian chicken industry over the course of the pandemic - including the threats posed by disruptions to the supply chain (including to bird welfare), operating in the face of restrictions and of incursions - and how the industry responded to those challenges. It describes the impacts on businesses and on the market for chicken meat over the course of the pandemic, and the learnings the chicken industry has taken from it.

4.4 | COVID-19 RECOVERY AND THE FOOD INDUSTRY

Craig Shadbolt

Principal Food Safety Scientist, *NSW Food Authority*

Topic: COVID-19 Risk Assessment and Mitigation
About:

Dr Craig Shadbolt is the Principal Food Safety Scientist with the New South Wales Food Authority and Department of Primary Industries, Australia's only through-chain food safety agency. Craig has been with the NSW Food Authority since 2004 and has over 15 years experience in ensuring that outbreaks of foodborne disease and other food hazards are managed effectively to prevent harm to human health and limit damage to the food industry.

Prior to joining the Food Authority, Craig was employed in 2001 in a scientific advisory role with the Commonwealth Department of Health, Food Safety and Surveillance Unit. In this role Craig was responsible for advice and development of food policy and regulation, as well as involvement in the operation of OzFoodNet, Australia's national surveillance system for detection and investigation of foodborne disease outbreaks.

Craig has a BSc Hons (1998) and PhD in Food Microbiology (2004) from the University of Tasmania, specialising in survival and inactivation of E. coli under different environmental conditions.

4.4 | COVID-19 RECOVERY AND THE FOOD INDUSTRY

Joseph Ekman

Technical Director, *Fresh Produce Group*

Topic: COVID-19 Made Easy

About:

Joe has over 30 years experience in the produce industry, ranging from research, extension, training and supply chain management. He is the Technical Director at Fresh Produce Group - a leading fresh produce grower, packer, exporter and importer. He leads a small but elite product technology team that integrate with other FPG teams across the farms, distribution centres and logistic operations, through to international customers and suppliers. Their mission is to provide excellence in science-based decision support to other FPG business units in all technical matters.

Presentation overview:

A brief journey through COVID-19 Crisis Management in a fresh produce company and what we learnt about pandemic preparedness and what followed