5th Asia-Pacific Food Safety International Conference 2021

An IAFP Asia-Pacific Conference

January 27-28, 2021

Organizers

The Hong Kong Polytechnic University 香港理工大學

Innovation and Technology Development Office 創新及科技發展處

Food Safety Consortium 食品安全聯盟

International Association for Food Protection®

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Towards Safer Global Food Supply

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Co-organizers

GLOBAL CENTRE FOR FOOD SAFETY AND QUALITY
Powering Food Safety and Quality with Science and Technology

IAFP Japan

Southeast Asia Association for Food Protection

台灣食品保護協會 (國際食品保護協會-台灣分會)
Taiwan Association for Food Protection
Affiliate of International Association for Food Protection

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

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International Association for Food Protection

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Hong Kong Food Safety Association
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Better Life

Shanghai
Hong Kong
And the World

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David W. Tharp
Executive Director
International Association for Food Protection

On behalf of the International Association for Food Protection (IAFP), we welcome you to the 5th Asia-Pacific Food Safety International Conference and look forward to an informative two days of presentations by leading food safety professionals. IAFP's Hong Kong Affiliate, the Food Safety Consortium, in conjunction with other Affiliates: the Southeast Asia Association for Food Protection, the Taiwan Association for Food Protection and IAFP Japan along with the DISH Global Centre for Food Safety and Quality and the Alma Mater Studiorum Universita Di Bologna have organized what promises to be an outstanding event that provides a platform for food safety experts across the Asia-Pacific region and worldwide to present the latest scientific information and industrial technologies concerning food safety. We are proud to once again be a co-sponsor being able to help advance food safety in the ASEAN (Association of Southeast Asian Nations) community.

The increase to improve technical competence and understanding of food safety management in the Asia-Pacific region among stakeholders in the supply chain has been strongly addressed in recent years. The region has placed tremendous effort on legislating food safety regulations and securing resources for enforcement. From government and academia to everyday consumers, food safety remains an issue of high priority and concern. IAFP continues its efforts to work diligently with food safety leaders in the region and around the world to help identify issues and explore solutions in promoting food safety and consumer health.

This conference's growing attendance and high caliber of speakers and topics prove how critical food safety concerns are in this part of the world. Hong Kong provides an ideal location to help further the Asia-Pacific region's food industry efforts to continue to meet global standards and become a preferred supplier of food to the rest of the world.

We hope you gain valuable insight from your participation in this meeting that brings food safety to the forefront in the Asia-Pacific region and helps "Advance Food Safety Worldwide."

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Food Safety Consortium 食品安全聯盟

Steering Committee

Addressing Unmet Food Safety Needs through Innovation

An affiliate of

International Association for Food Protection®

Towards a Fresh Start, Towards Safer Global Food Supply

We would like to welcome all speakers, guests and participants to the **5th Asia-Pacific Food Safety International Conference** (APFSIC). For The Hong Kong Polytechnic University (PolyU) and the Food Safety Consortium (FSC), it has been a wonderful opportunity to organize this International Association for Food Protection (IAFP) Asia-Pacific regional conference, despite the challenges we all experienced throughout the year. It is also a unique chance to build on what FSC have achieved and to explore collaboration with a diverse range of stakeholders to bring to the world safe global food supply, which has never been more important.

Under a new normal, global food supply is calling for pioneering innovative technologies with great adaptability, safety, and quality. Food safety issues and evolving trends under the pandemic require the support of foresighted, cross-disciplinary research with applications of big data, IoT, artificial intelligence, and machine learning in the domain. We hope that through this fifth regional IAFP conference, we can synergize our expertise and power globally yet with regional considerations to tackle food safety challenges with unprecedented determination and strength.

Since FSC's establishment in 2015, we have been actively engaging with the global community and our Corporate Members in addressing unmet food safety needs through innovation. We encourage the food industry to join FSC to expand our collaborative efforts. Let's embrace 2021 with the best innovations, the strongest partnerships, and extreme resilience.

Ir Professor Ping-kong Alexander Wai
Former Deputy President and Provost
Chair Professor of Optical Communications
PolyU
President and Vice-Chancellor designate,
Hong Kong Baptist University

Prof. Wing-tak Wong
Deputy President and Provost
Chair Professor of Chemical Technology
PolyU

Prof. Terence Lok-ting Lau
Interim Associate Vice President
(Innovation and Technology Development), PolyU
Convener, Food Safety Consortium
Chair, Organizing Committee, APFSIC 2021

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Organizers

www.polyu.edu.hk

With the vision to excel in professional education, applied research and partnership for the betterment of Hong Kong, the nation and the world, The Hong Kong Polytechnic University [PolyU] strives to accelerate the translation of academic discoveries into real-world applications in collaboration with industrial and commercial sectors with our expertise, state-of-the-art technology and resources.

www.polyu.edu.hk/itdo/fsc

Food Safety Consortium [FSC] aims at engaging stakeholders from the academia, industry and other organizations to tackle food safety and related matters with cutting-edge and applied technologies. We create an industry network and provide support to industry with PolyU's applied technology portfolio and enhance the capability and competence on food safety and its related technology development through academic and industrial collaborations.

www.polyu.edu.hk/itdo

ITDO fosters high-impact research collaboration with local and international parties including universities, industry, governments through the formation of strategic alliances on technology development in addressing global unmet needs through innovation. We also strive to heighten the awareness of the significance and protection of intellectual properties.

www.foodprotection.org

IAFP provides food safety professionals with a forum to exchange information on protecting the food supply. This is achieved through two monthly journals; the *Journal of Food Protection* and *Food Protection Trends*, an online newsletter titled the *IAFP Report* and through an Annual Meeting in North America. IAFP also holds a symposium in Europe each year and an annual, international symposium in addition to supporting food safety events in Dubai and China. Membership can be obtained at our Web site at www.foodprotection.org.

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Co-organizers

GLOBAL CENTRE FOR FOOD SAFETY AND QUALITY
Powering Food Safety and Quality with Science and Technology

www.polyu.edu.hk/itdo/fsc/en/index/DISH

DISH is a unique, non-profit platform founded by four economies - Denmark, Italy, Sweden, Hong Kong to foster European - Hong Kong/China - Asia Pacific collaborations in food safety. The centre aims to translate cutting-edge innovations and into high quality applications through research, development, exploring collaborations and technology transfer. The partnership between PolyU and Lund University, National Food Institute - Denmark Technical University, and the University of Bologna effectively synergize the expertise and dedications of all four universities and our extensive networks to solve global, everyday food safety challenges with world-class solutions.

IAFP Japan

https://iafp-japan.net

The Japan affiliate of IAFP has just been established in 2019 comprising around 30 members. The objective of the establishment of Japan affiliate is to publicize IAFP activities in the world for relevant stakeholders in Japan to recognize worldwide issues, because the Japanese research and industrial community tends to highly fit domestic issues and customs. However, since international harmonization and sharing the issues all over the world is pressing issues, we suppose that Japanese research community should contribute internationally. The Japan affiliate of IAFP acts in collaboration with a few Japanese relevant societies such as Japanese Society of Food Microbiology and the Japanese Society for Food Science and Technology. Although the Japan affiliate is still developing stage, we would be very grateful if we could be a hub of research community around the globe, in particular Asia pacific region.

Southeast Asia Association for Food Protection

https://www.linkedin.com/groups/6795836/

The Southeast Asia Association for Food Protection (SEA AFP) provides a forum for professionals in the area of food safety and quality and improves the professional status of our members by assisting members in their technical work and professional development. We also disseminate to the community information regarding the protection of the food supply. We promote sanitary methods and procedures for the development, production, processing, distribution, preparation and serving of food. We also promote methods and procedures for supervision and inspection of the production, processing, distribution, preparation and serving of food. Improved methods for the examination of food samples, development and adoption of uniform equipment and quality standards to improve the sanitary handling of food, promoting methods and procedures and improving the food supply are among our key missions. We also cooperate with other professional groups in the improvement and promotion of food safety.

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Co-organizers

台灣食品保護協會 (國際食品保護協會-台灣分會)
Taiwan Association for Food Protection
Affiliate of International Association for Food Protection

http://en.tafp.org.tw/origin/

The Taiwan Association for Food Protection (TAFP) is the 48th international branch of the International Association for Food Protection (IAFP), which was founded in 1911. The following are the aims of IAFP:
1. Provide its global members with the latest information and technologies on food safety;
2. Improve the systems of food manufacturing and supply;
3. Raise the global standard for food safety and security; and
4. Facilitate effective communication among the various international food safety organizations.

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

https://www.unibo.it/en/homepage

Since its origins in 1088, the University of Bologna has been student-centered hosting prominent figures from science and the arts. Based in five campuses (Bologna, Cesena, Forlì, Ravenna, Rimini), with a branch in Buenos Aires, it offers a teaching catalogue diversified and tailored to the needs of present-day society: over 200 degree programmes among its 32 Departments and 11 Schools are offered to over 81,000 students, 5,000 graduates are enrolled in PhDs and 3rd cycle programmes.

As a comprehensive research university, the University of Bologna invests in the multidisciplinary cross-cultural approach and in the inseparable connection between research and teaching. One of the most active universities leading and participating in European research and academic cooperation projects, UNIBO has formed knowledge alliances with industries and public/private organizations and is a hub of international networks. Beyond its close European links, it enjoys multiple connections with America, Africa, Asia and Australia.

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CHAIR

Prof. Terence L.T. Lau

Interim Associate Vice President (Innovation and Technology Development),
The Hong Kong Polytechnic University (PolyU)
Convener, Food Safety Consortium, PolyU

COMMITTEE MEMBERS

(in alphabetical order of last names)

Tong-Jen Fu, Ph.D.

Research Chemical Engineer
U.S. Food and Drug Administration

Prof. Lee-Yan Sheen

Distinguished Professor
Institute of Food Science and Technology
National Taiwan University

Cindy Jiang

Senior Director
Global Food Safety Risk Management
Global Supply Chain
McDonald's Corporation

David W. Tharp

Executive Director
International Association for
Food Protection

C. B. Alvin Lee, Ph.D.

Director, Center for Processing Innovation
Associate Professor of Food Science
and Nutrition
Institute for Food Safety and Health (IFSH)
Illinois Institute of Technology, Moffett Campus

Prof. Jason Wan

Associate Director - Institute for
Food Safety and Health
Professor of Food Science
Illinois Institute of Technology

Prof. Xiumei Liu

Chief Scientist and Professor of the
National Institute of Nutrition and
Food Safety, Chinese Center for
Disease Control and Prevention

Zhi-nong Yan, Ph.D.

Executive Director
Walmart Food Safety
Collaboration Center

SECRETARY

Nelly Lam

Senior Manager,
Innovation and Technology Development Office, PolyU
Food Safety Consortium
DISH Global Centre for Food Safety and Quality

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Join more than 4,000 food safety professionals who are committed to **Advancing Food Safety Worldwide®.**

foodprotection.org

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2900 100th Street, Suite 309 Des Moines, Iowa 50322-3855, USA +1 515.276.3344

Food Safety Consortium
食品安全聯盟

Initiated by

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Supported by

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FSTRC 食物安全及科技研究中心 Food Safety and Technology Research Centre

and other academic and research units

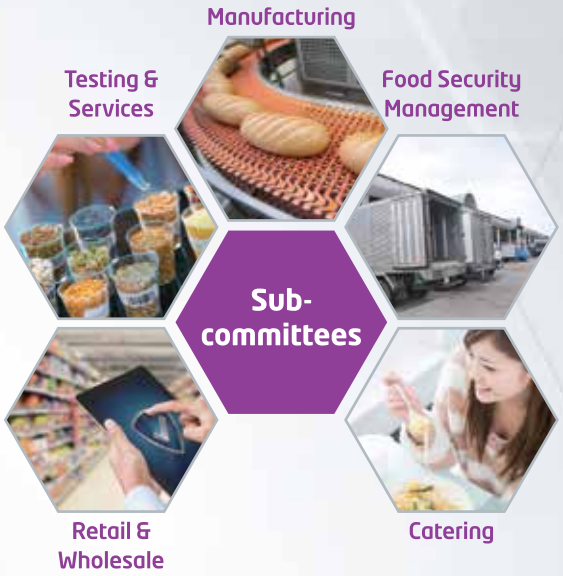
Addressing Unmet
Food Safety Needs through Innovation

The Food Safety Consortium (FSC) comprises stakeholders from the academia, industry and other organizations to address food safety challenges with cutting-edge & applied technologies, with timely and in-depth communications on food safety related matters.

Our Objectives

- To create an industry-academia network and to provide support to the industry with advanced technology and science
- To enhance capability and competence on food safety and its related technology development through academic and industrial collaborations

We Translate
Your Ideas into Real Collaborations



The FSC is steered by prominent members of the industry, academia and professional organizations to optimize its capability of advancing food safety with science and technology. Sub-committees encompassing various sectors will each be chaired by members of the Management Committee with the corresponding expertise.

Share your thoughts with us through our regular networking gatherings, industry technology needs assessment workshops, seminars and match-making meetings.

Our Strengths & Scope

We are excited to explore how we could assist the industry with our current technologies as well as to collaborate with potential partners in developing new technologies.

- Innovative technology development
- Functional food development
- Nutrition and public health
- Testing and certification
- Risk analysis and toxicology
- Food virus testing
- Genetically modified animal and plant testing
- Molecular food authentication
- Application of QA/QC systems
- Novel biological, chemical and physical testing technologies
- Professional education, training, and consultancy services
- .....and other areas

Join our Corporate Membership!

Join the FSC Corporate Membership to learn more on how PolyU expertise could assist you in addressing your challenges with science and technology, and to join hands with PolyU in advancing global food safety.

852 3400 2861 foodsafety@polyu.edu.hk http://www.polyu.edu.hk/itdo/fsc

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(in alphabetical order of last names)

Mr. Pham Viet Anh

Technical Key Account Manager Vietnam
GLOBALG.A.P.

Dr. Krishna Kumar Ballamoole

Assistant Professor, Nitte University Center for Science Education & Research
Nitte University

Assoc. Prof. Dr. Timothy Barkham

Tan Tock Seng Hospital, Singapore
National University of Singapore

Dr. Elme Coetzer-Boersma

Managing Director
GLOBALG.A.P.

Mr. Nicholas Brooke

ABAC Principal Advisor to APEC Policy Partnership on
Science Technology and Innovation (PPSTI)

Prof. Jiannong Cao

Chair Professor of Distributed and Mobile Computing, Department of Computing
The Hong Kong Polytechnic University

Prof. Francesco Capozzi

Full Professor, Department of Agricultural and Food Sciences
Head of Interdepartmental Centre for Industrial Agrofood Research
University of Bologna

Dr. Michelle Qiu Carter

Research Microbiologist
U.S. Department of Agriculture

Dr. Bernard Chang

Senior Project Fellow, Department of Applied Biology and Chemical Technology
The Hong Kong Polytechnic University

Prof. Chia-Yang Chen

Professor and Director, Institute of Food Safety and Health
National Taiwan University

Prof. Junshi Chen

Senior Research Professor and Chief Adviser
China National Centre for Food Safety Risk Assessment

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Mr. Lie Chen

Staff Product Manager, AI Center
DAMO Academy, Alibaba

Dr. Si Chen

Associate Researcher, Division of Risk Communication
China National Center for Food Safety Risk Assessment (CFSA)

Dr. Yi Chen

Research Microbiologist
United States Food and Drug Administration

Prof. Ying Chen

Vice President
China Academy of Inspection and Quarantine

Dr. Roger Cook

Principal Adviser (Strategic Science and Risk Assessment), New Zealand Food Safety
New Zealand Ministry for Primary Industries

Dr. Martin Danaher

Principal Research Officer
TEAGASC Food Research Center of Ireland

Prof. Christopher Elliott

Professor of Food Safety
Founder, Institute for Global Food Security, Queens University Belfast

Dr. Jeff Farber

Adjunct Professor, Department of Food Science, University of Guelph
Past President, IAFP

Dr. Roy Fenoff

Assistant Professor
The Citadel and Michigan State University's Food Fraud Initiative

Dr. Tong-Jen Fu

Research Chemical Engineer
United States Food and Drug Administration

Dr. Mario Gadanho

Senior R&D Scientist
Thermo Fisher Scientific

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Mr. Hugo Gutierrez

Global Food Safety and Quality Officer
Kerry Group

Mr. Tom Heilandt

Secretary
FAO/WHO Codex Alimentarius Commission

Prof. Rene S. Hendriksen

Head of Research Group, Division for Global Surveillance
Research Group for Global Capacity Building
National Food Institute, Technical University of Denmark

Dr. Alice Ho

Senior Technical Manager
Nano and Advanced Materials Institute Limited

Dr. Tim Jackson

Vice President Food Safety, Regulatory and Social Compliance
Driscoll's of the Americas

Ms. Cindy Jiang

Senior Director, Global Food Safety Risk Management
Global Supply Chain, McDonald's Corporation

Ms. Karen Jiang

Assistant Director, Innovation and Technology Development Office
The Hong Kong Polytechnic University

Prof. Håkan Jönsson

Associate Professor
Department of Food Technology, Engineering and Nutrition, Lund University
Chairman, DISH

Ms. Inna Korotenina

Director of Quality Assurance
McDonald's Corporation

Prof. Shige Koseki

Professor of Food and Agricultural Process Engineering, Research Faculty of Agriculture
Hokkaido University

Dr. Audrey Kreske

Director, Global Food Safety
Restaurant Brands International

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Dr. Hirofumi Kugita

Regional Representative
World Organisation for Animal Health (OIE)

Ms. Nelly Lam

Senior Manager, Food Safety Consortium
Innovation and Technology Development Office,
The Hong Kong Polytechnic University

Mr. Alex Lau

Solutions Architect, Cloud Platform
Oracle HK/TW

Prof. Terence Lok-ting Lau

Interim Associate Vice President (Innovation and Technology Development),
The Hong Kong Polytechnic University
Chairman, Organizing Committee of APFSIC 2021
Convener, Food Safety Consortium [IAFP Hong Kong Affiliate]

Dr. Alvin Lee

Director, Center for Processing Innovation
Associate Professor of Food Science and Nutrition
Institute for Food Safety and Health, Illinois Institute of Technology, Moffett Campus

Dr. Ka-sing Leung

Adjunct Associate Professor, Department of Applied Biology and Chemical Technology
The Hong Kong Polytechnic University

Prof. Retsef Levi

J. Spencer Standish (1945) Professor of Operations Management
MIT Sloan School of Management

Mr. Zengxin Scott Li

Senior Manager for Global Food Safety and Microbiology, Rich Product

Prof. Xiumei Liu

Chief Scientist and Professor
National Institute of Nutrition and Food Safety
Chinese Center for Disease Control and Prevention

Prof. Yuk-lam Lo

Chairman, Advisory Council on Food and Environmental Hygiene, Food and Health Bureau
The Government of the Hong Kong Special Administrative Region

Mr. Deon Mahoney

Head of Food Safety
Produce Marketing Association Australia-New Zealand Limited (PMA A-NZ)

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Dr. Tania A. Martinez

Regulatory Director – Vice President
Demos Global Group, Inc.

Dr. Hung Nguyen

Co-Leader, Animal and Human Health Program
Flagship Leader Food Safety, A4NH
International Livestock Research Institute

Mr. Thanh Nguyen

Vice President – Quality, Health, Safety & Environment APMEA
Kerry Group

Ms. Ruby O

Director of Environmental, Social and Governance
Wynn Macau | Wynn Palace

Dr. Petter Olsen

Senior Scientist
Nofima, Norwegian Institute of Fisheries and Food

Prof. Lorenzo Pastrana

Chair of the Research Office and Group Leader of the Food Processing Group
International Iberian Nanotechnology Laboratory (INL)

Dr. Ruth Petran, CFS

Principal
Ruth Petran Consulting, LLC

Mr. Yves Rey

Independent Senior Advisor to Industry Leaders
Former Danone Corporate General Manager
Former GFSI Chairman

Dr. Andrew Roberts

Risk Communication and Trust Consultant
Food Industry Asia

Prof. Saskia van Ruth

Professor, Food Authenticity
Wageningen University and Research

Prof. Jørgen Schlundt

Consultant, Schlundt Consult
Former Director, WHO Department of Food Safety and Zoonoses

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Dr. Tracie Sheehan

VP Technical Services
Merieux NutriSciences

Prof. Lee-Yan Sheen

Distinguished Professor, Institute of Food Science and Technology
National Taiwan University

Mr. Taymour Shukri

QA & HSE Director MENA
Del Monte Foods (U.A.E) FZE

Mr. Julian Sin

Senior Manager
GS1 Hong Kong

Dr. Anna Starobin

Corporate Scientist, Global QSR and Food Retail
Leader of Microbiology, Food Safety and Public Health
Ecolab

Dr. Abigail Stevenson

Vice President
Mars Advanced Research Institute, Mars

Dr. Joanne Taylor

Co-founder
Culture Excellence

Mr. David W. Tharp

Executive Director
International Association for Food Protection

Dr. John Tomlinson

APAC and Global Sales & Marketing Director
BRCGS

Dr. Edwin Lok-kin Tsui

Controller, Centre for Food Safety
The Government of the Hong Kong Special Administrative Region

Dr. Maho Urabe

Regional Veterinary Officer
World Organisation for Animal Health (OIE)

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Prof. Purnendu Vasavada

Professor Emeritus, University of Wisconsin-River Falls
Fellow - ASM, IFT, IAFP
PCV & Associates, LLC

Ir Prof. Ping-kong Alexander Wai

Chairman of Steering Committee, Food Safety Consortium
Former Deputy President and Provost
Chair Professor of Optical Communications, The Hong Kong Polytechnic University
President and Vice-Chancellor designate, Hong Kong Baptist University

Prof. Jason Wan

Associate Director - Institute for Food Safety and Health
Professor of Food Science
Illinois Institute of Technology

Dr. Maxime X. Wang

Assistant Professor, School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Prof. Jonathan W.C. Wong, MH, JP

Hong Kong Organic Resource Centre
Professor and Head of Department, Department of Biology
Hong Kong Baptist University

Mr. Simon Wong

Chief Executive Officer
Logistics and Supply Chain MultiTech R&D Centre

Dr. Di Wu

Newton International Fellow
The Institute for Global Food Security, Queen's University Belfast

Prof. Yongning Wu

Chief Scientist
China National Center for Food Safety Risk Assessment

Kathleen Wybourn

Director, Food & Beverage
Digital Assurance and Supply Chain Services
DNV GL – Business Assurance, North America

Dr. Zhinong Yan

Executive Director
Walmart Food Safety Collaboration Center

Dr. Zhongping Yao

Associate Professor, Department of Applied Biology and Chemical Technology
The Hong Kong Polytechnic University

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Dr. Michelle Yeung

Senior Veterinary Officer (Animal Health)
Agriculture, Fisheries and Conversation Department
The Government of the Hong Kong SAR

Mr. Frank Yiannas

Deputy Commissioner for Food Policy and Response
United States Food & Drug Administration

Dr. James Yuan

Sr. Director – Data Science & Analytics
Global R&D, PepsiCo

Dr. Gyun-Hyun Yuk

Associate Professor, Department of Food Science and Technology
Korea National University of Transportation

Prof. Dr. Ruth Zadoks

Sydney School of Veterinary Science, Faculty of Science, University of Sydney, Australia
Marie Bashir Institute, University of Sydney; and University of Glasgow

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Bright Food International Limited

Address : Room 2202-2203, The Galleria,
No 9 Queen's Road Central, Hong Kong

Tel : +852-27716311

Email : lqyyang@gmfintl.com (Yang Linqinyi)

Website : https://www.gmfintl.com

Profile

Established as an overseas business platform in Hong Kong, Bright Food International is a wholly-owned subsidiary of the Bright Food Group. It serves as the Group's second headquarters with a focus on global investment and financing, and the internationalization of the Group. Bright Food International is also taking steps to establish an international food and agriculture technology and innovation platform through optimizing and synergizing its resources both at home and abroad -- research institutions, academia, Industries etc.

Smart and precise agriculture, food preservation and packaging, nutrition and health, alternative protein are the four key areas of interest of this platform. By digging deep into food and agriculture technology and innovation, we do not only want to serve the purpose of injecting innovative energy into the Bright Food Group, but also want to help with the development of the industry as a whole.

Bright Food Group, the parent company of Bright Food International, is a well-established market leader in agriculture and food industry known for safe, high quality and healthy food and enjoys high brand awareness across all business segments. With its headquarters in Shanghai China, it has unique advantages due to its fully-integrated industry chain both at home and abroad. It has acquired multiple major food companies and distributors in various developed countries. Domestically, its core business includes modern agriculture, dairy, sugar, grain & oil, meat, vegetables and aquaculture. The Group's real estate and logistics, together with finances complements those core businesses.

Product Description

The Bright Food, with its headquarters in Shanghai, is an established leading conglomerate. It covers the whole chain of food and agriculture industry, from upstream to the downstream, both domestically and internationally.

- Sugar
- Grain & Oil
- Vegetables
- Beverage and Wine
- Dairy
- Animal Protein (Pig, Beef, Mutton, Aquatic products etc)
- Brand Food
- Farms
- Food Manufacturing
- Retail Distribution
- Food Import & Export
- Supply Chain Management

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佳 澤 科 技 有 限 公 司
Delta Pyramax Co., Ltd.

Delta Pyramax Company Limited

Address : 3/F, Unit A Kader Building,
22 Kai Cheung Road, Kowloon Bay, Hong Kong
Tel : +852-25112118
Email : sales@dpx.hk (Miss Webby Lau)
Website : https://www.deltapyramax.com

Profile

With an idea and a commitment, Delta Pyramax Co.,Ltd was founded in 1982. The idea was to improve the human living and working environment with worldwide sourcing. The commitment was to provide the highest quality, technology and most economic value products to our customers. Developed more than 30 years ago, this philosophy is still the fundamental operating principle of Delta Pyramax today.

Delta Pyramax had most experience on following industries: Fire & Smoke Protection System, Energy Saving System, HVAC System, Waste Water Treatment System, Air Cleaning & Filtering System, Environmental Acoustic System etc. Most of our products are leaders in the market. The focus of Delta Pyramax has always provided excellent customer service. Whether it is in the initial design phase, during construction, or after project completion, our sales teams deliver expert customer support.

Through active membership and participation, Delta Pyramax is a member of the following association: Hong Kong Registered Ventilation Contractors Association since 1992, The Fire Protection Association since 1994, The Hong Kong Air Conditioning & Refrigeration Association Ltd. since 2002. Delta Pyramax is committed to supporting our product groups and worked with product manufacturers to achieve higher product performance, testing standards, certification & guidelines for the best customer value.

Product Description

When workload already reaching capacity and COVID-19 still raging across the globe, how can the industry take food safety to the next level through handwashing technology?

Handwashing is recognized as the most effective way to safeguard hygiene and enhance food safety to prevent food poisoning and other disasters. However, it is never easy to standardize and record every single handwash for compliance audit. WHO promotes handwashing as the first of the five keys to safer food but not all staff achieve a consistent result from washing hands.

With over 20 years' experience serving food manufacturing and packaging customers in North America, Meritech has been manufacturing the only fully automated touch-free hand washing stations in the world with specifically designed soap. The hand washing systems with the dedicated soap is clinically proven to reduce pathogens in 3 log and Novovirus in 4log with only a 12-second hand wash and a consistent result every wash.

In compliance with FDA food codes, Meritech CleanTech® systems are technology designed for food safety and infection control, ensuring handwash compliance through offering standardized procedure in handwashing without depending on individual's hand washing habit. It cleans your hands (palmar, dorsal, fingers, interdigital, hyponychium and wrist) separately with the same amount of clean water, soap dosage and water pressure every time.

Meritech CleanTech® systems are used in many food establishments, such as Coca-Cola, Heinz, Kikkoman, Kellogg's, Skippy, Blue Diamond, and many more, as part of a handwashing regime. The systems are such a trusted solution for hand hygiene that it is currently installed and used in Health Service Executive COVID-19 test center, Merlin Park, Ireland. The Meritech CleanTech® systems can be designed to fit with turnstile and boot scrubbers as a solution for entrance point in food establishments, as well as designed to fit other critical control points for hand hygiene.

As Meritech CleanTech® systems only needs 12 seconds to perform a quality hygienic hand wash, this reduces 21% labour time used in handwashing compared to the conventional handwashing protocol, improving productivity and potential revenue for the food industry at the same time reduce avoidance of washing hands by staff as experiences show staff wash more frequently when Meritech CleanTech® systems are at hand.

Therefore, using Meritech CleanTech® systems is indeed a solution worth investing for food establishment, encouraging more frequent handwashing, protecting workers and brand against COVID-19 and other diseases, enhancing food safety, safeguarding the brand against food poisoning as well as providing increased productivity and potential revenue.

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Ecolab

Tel : 360-297-2912
Email : laura.maniatis@ecolab.com (Laura Maniatis)
Website : www.ecolab.com

Profile

A trusted partner at nearly three million commercial customer locations, Ecolab (ECL) is the global leader in water, hygiene and infection prevention solutions and services. With annual sales of $13 billion and more than 45,000 associates, Ecolab delivers comprehensive solutions, data-driven insights and personalized service to advance food safety, maintain clean and safe environments, optimize water and energy use, and improve operational efficiencies and sustainability for customers in the food, healthcare, hospitality and industrial markets in more than 170 countries around the world.

Product Description

Ecolab provides food safety expertise and customized programs to help solve food safety challenges and maintain consistent and safe operations. Our integrated program approach leverages technology, service, training, information, and actionable reporting to prevent and solve food safety challenges. We have the industry's most experienced and highly trained field experts, who work in partnership with our customers to implement food safety procedures and solutions. Our solutions help improve employee hygiene practices and sanitize equipment used to process, prepare or serve food, as well as detergents and cleansers to sanitize surfaces.

Our solutions include:

- Cleaning and sanitizing products and services to keep surfaces clean o Hand cleaners and sanitizers to reduce the spread of harmful microorganisms.
- Food safety training.
- Food safety audits to help food service customers identify areas for improving how they handle, store and cook foods.
- Thermometers to monitor food temperatures at which foods are cooked and stored.
- Color-coded equipment to help food preparation teams keep track of cutting boards, knives and other utensils they use to avoid possible cross contamination.
- Date labels to help ensure the freshness of foods and ingredients.
- Equipment maintenance for dish machines, dispensers and other devices.
- Antimicrobial treatments to reduce the presence of potential pathogens in meat, poultry and produce.
- Pest elimination solutions and expertise to help maintain clean and pest-free environments and protect brands.
- We provide 24/7 personal service delivered by the most experienced and highly trained field experts in the industry, who work as part of our customers' teams on-site to foster a culture of food safety and operationalize our extensive knowledge for our customers' benefit.
- We have an integrated program approach, including products, training, information, and actionable reporting, to prevent and solve food safety issues.
- Our unmatched geographic reach supports consistent food safety practices at the site level and across customer operations.
- In 2018, Ecolab formed the Ecolab Food Safety Advisory Board to identify and help solve emerging trends that could impact food safety. The insights gained from leading industry experts will help Ecolab develop new solutions and protocols to advance food safety at food processing, food retail and foodservice facilities throughout the world.

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GS1 Hong Kong

Address : 22/F, OTB Building, 160 Gloucester Road, Wanchai, Hong Kong

Tel : +852-28612819 / 28639764

Email : info@gs1hk.org / christinehong@gs1hk.org (Ms Christine Hong)

Website : https://www.gs1hk.org

Profile

GS1 Hong Kong is a neutral; not-for-profit; industry-led global supply chain standards organisation. The headquartered is located in Brussels with over 110 national chapters in 150 countries.

GS1 Hong Kong's mission is to empower business to grow and to improve efficiency, safety, authenticity and sustainability across multiple sectors and facilitate commerce connectivity, through the provision of a full spectrum of platforms, solutions and services based on our global standards.

Since our inception in 1989, we have extended our role to champion next generation technologies with innovative services and solutions. From barcode to B2B Electronic Data Interchange platform ezTRADE, track-and-trace platform ezTRACK, and to the latest initiatives adapting to the convergence of physical and digital worlds, we have been and will continue to be a trusted partner of the Hong Kong business community.

GS1 Hong Kong currently support over 8,000 corporate members where 1/3 of them are related to food & beverage and food services. GS1 Hong Kong is dedicated to uplifting food safety and quality for food and food services industry through the provision of world-class supply chain standards, solutions, technologies and knowledge.

The GS1 identification key (barcode) provides access to information about a product/food. The barcode establishes as 'one source of truth' for all food products and locations in the supply chain, from manufacturers to the final point of purchase, to improve food traceability. They can also provide faster response to food recalls and outbreak of food-borne illness.

Product Description

GS1 HK enables food-related companies to build a visible and transparent supply chain to guarantee consumer safety, build consumer trust and protect brand image.

1) Brand Protection - REAL Visibility: Empower owners and consumers with instant product authentication and traceability to ensure products are genuine and improve supply chain visibility.

2) Smart Operations / Smart Cold Chain Management: Data intelligence drives business efficiency and safety GS1 Hong Kong's Sensor Data Network and Cold Chain Management provides simplified, precise, standardised and cost-effective temperature and other environment monitoring on a real-time basis, transforming data into powerful information and insights.

3) Smart Traceability: Built on GTS and Global Information Sharing Standards (EPCIS), the solution helps businesses address the demand for end-to-end traceability, and build trust among supply chain stakeholders, from upstream suppliers to end consumers, from farm-to-fork.

4) Paperless Trading Services: Data Services facilitate paperless trading and the exchange of electronic orders, invoices and shipment notices among trading parties, and streamline the buying activity by managing information exchange between supplier and internal ERP system.

5) Quality Food Scheme: GS1 Hong Kong Quality Food Scheme (formerly named as Quality Food Traceability Scheme) encourages enterprises to optimise their food traceability practices to build consumer trust and improve food safety in local food industry. Starting from September 2020, GS1 HK launched "Quality Food Scheme+" with SGS HK as the audit partner. Taking reference from food safety management and control standards, we aim to help companies enhance food safety and food traceability in a more comprehensive and effective way.

6) Smart Professional Services: With global expertise and standard-based infrastructure framework, it supports the food industry in optimising their business operations, improving supply chain responsiveness, facilitating customer fulfillment and digitalising business processes.

7) Training: GS1 HK also offers elementary to advanced seminars/ workshops/ trainings for the needs of different individuals / companies, with tailor-made courses available: a) Introduction of food traceability b) Global standards on food traceability and safety c) Food safety-related regulations d) Industry requirements e) Food safety strategy from theory to implementation f) Digital food supply chain g) Worldwide case studies.

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Guangzhou Golden Fresh Food Co., Ltd.

Address : No. 17, Yonghe Ave., Yonghe Economic Zone, GETDD, Guangzhou, China

Tel : +86 138 2849 1980

Email : ttan@gsffresh.com.cn (Tanya Tan)

Website : https://goldenstatefoods.com

Profile

Golden State Foods (GSF) is one of the largest diversified suppliers to the foodservice industry. Headquartered in Irvine, Calif., the $5 billion company is values-based with proven performance in superior quality, innovation and customer service. Established in 1947, GSF currently services 100+ leading brands (125,000+ restaurants/stores) from its 50+ locations on five continents. Its core businesses include: processing and distribution of liquid products, protein, produce, dairy and other services. The company employs approximately 6,000 associates and is 100 percent management-owned and run. Golden State Foods also operates a national non-profit organization, the GSF Foundation.

Located in Yonghe Economic Zone, Guangzhou Golden Fresh Food Co., Ltd. (GSF Fresh Guangzhou) was formally acquired by Golden State Foods in June 2015. We are a company specializing in producing and processing fresh vegetables and fruits. We take pride in sourcing the best raw material from certified growers, keeping it cold and clean through state-of-the-art rapid chilling techniques and dozens of points of quality inspection every step of the way. Product is dispatched to distribution centers as soon after production as possible, for the highest level of freshness. We are dedicated to providing high-quality, fresh-cut produce. We strive to be industry leader in food safety and quality by demonstrating the highest level of quality and food safety performance.

Product Description

Guangzhou Golden Fresh Food Co., LTD (GSF Fresh Guangzhou) is a company specialized in producing fresh cut produce. We are the earliest company engaged in fresh-cut produce business in China. Our products cover ready-to-eat fresh-cut produce and salads.

Adhering to the quality management principle of "Starting from the source and monitoring the whole process", GSF Fresh Guangzhou has established a strict and sound food safety monitoring system from farm to fork. The raw materials of our main products are from farms with GAP certification. The cold chain control is carried out from raw materials collection to transportation to the factory. While processing, we strictly implement Hazard Analysis and Critical Control Points (HACCP) and BRC quality control system. By raw materials acceptance inspection, specific processing procedures, 1-4°C cool control of the entire processing workshop, and the control of finished products' quality, hygiene indicators, packaging, storage and transportation, we further ensure the safety, hygiene, freshness, nutrition and convenience of products.

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International Association for Food Protection (IAFP)

Address : 2900 100th Street, Suite 309 Des Moines, IA 50322 USA

Tel : +1 515.276.3344

Email : info@foodprotection.org (Lisa Hovey)

Website : https://www.foodprotection.org

Profile

IAFP is an international Member-based association focused on protecting the global food supply. Member benefits include free access to the IAFP Report and Food Protection Trends Online. Network with 4,500+ Members from around the world through our networking platform, IAFP Connect. Plus, receive discounted registration rates to attend leading global food safety meetings including IAFP 2021 in Phoenix, Arizona, July 18 – 21. IAFP also publishes the Journal of Food Protection, internationally recognized as the leading publication in food microbiology. We invite you to become a Member today!

IAFP MEMBERSHIP:
As a Member of IAFP, you receive the following benefits:
* IAFP Report (monthly e-newsletter)
* Food Protection Trends (FPT) Online (1981 - Current)
* IAFP Connect (online networking platform)
* Access to webinar recordings
* Access to Online Membership Directory
* Discount on IAFP booklets
* Special Annual Meeting registration rates
* Regional educational workshops
* Involvement in committees and Professional Development Groups (PDGs)
* Networking opportunities

Optional Benefits that require additional fees:
* Food Protection Trends (FPT) Print
* Journal of Food Protection® (JFP) Print
* JFP Online (1967 - Current)

IAFP 2021
Each year, the International Association for Food Protection hosts an Annual Meeting, providing attendees with information on current and emerging food safety issues, the latest science, innovative solutions to new and recurring problems, and the opportunity to network with thousands of food safety professionals from around the globe. Held in various locations throughout North America, this meeting has grown over the years to become the leading food safety conference worldwide. IAFP 2021 will be held In Phoenix, Arizona at the Phoenix Convention Center on July 18 - 21.

The IAFP Annual Meeting is attended by more than 3,800 of the top industry, academic and governmental food safety professionals from six continents. This renowned event owes its reputation and success to the quantity, quality, and diversity of each year's program; the quality and relevance of exhibits sharing the latest in available technologies; leading experts speaking on a variety of timely topics; and special recognition of outstanding professionals and students for their contributions in the food safety field.

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Thermo Fisher Scientific (Hong Kong) Limited

Address : Unit 09-13 & 15-18, Level 13,
Tower 1 Kowloon Commerce Centre,
No. 51 Kwai Cheong Road, Kwai Chung,
New Territories, Hong Kong

Tel : +852-31927738

Email : angela.kwok@thermofisher.com (Angela Kwok)

Website : https://www.thermofisher.com/sg/en/home/industrial/food-beverage/food-microbiology-testing.html

Profile

We enable our customers to make the world healthier, cleaner and safer

Thermo Fisher Scientific is the world leader in serving science, generating >$25 billion in annual revenue. Customers worldwide trust our products and services to help them accelerate innovation and enhance productivity. Together, we are advancing science to make a real difference. We do that by providing an unmatched combination of innovative technologies, purchasing convenience and comprehensive support through these and other product and service brands.

Within Thermo Scientific Microbiology Division, we serve public health, clinical laboratories, food companies, environmental screening and pharmaceutical laboratories with a portfolio of products that include culture media, antimicrobial susceptibility testing solutions and market-leading molecular solutions for food safety testing.

Our microbiology solutions bring together the best in food quality and safety testing. They include market-leading molecular instrumentation, sample preparation capability, PCR technology, and lab equipment and plasticware for foodborne pathogen and quality indicator detection as well as traditional culture media and biochemical or immunological tests.

With our industry insight, scientific expertise and access to market-leading technologies that enable us to quickly develop new products and protocols, we can help you remain adaptive, responsive and competitive.

Product Description

It's easy to be sure

Thermo Scientific SureTect Real-Time PCR Food Pathogen Detection System

Now, you can go into every food safety test confidently with the Thermo Scientific™ SureTect™ Real-Time PCR System. Built on proven PCR technology and backed by world-class service and support, the SureTect™ System is designed to quickly and accurately detect microorganisms in a broad range of foods and associated samples. This unique solution combines speed and performance in an easy-to-use, cost-effective platform – giving you results you can be sure about.

SureTect™ pathogen detection system offers a validated and optimized workflow to deliver maximum sensitivity and efficiency for laboratories with a diverse range of pathogens to be tested. The streamlined and rapid workflow allows consolidation of multiple assays with universal PCR cycling conditions in a few simple steps, enabling time savings compared to most methods. You will move forward confidently knowing you are helping protect consumers, your brand, and your bottom-line with a food pathogen testing system that delivers speed, accuracy, and reliability of results.

Talk to us and find out more about Thermo Scientific SureTect Real-Time PCR Food Pathogen Detection System today!

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Tyson Foods

Address : Qing Shui He Warehouse District,
Hong Ling North Road, Shenzhen, P.R.C

Tel : +86-755-82260708

Email : Li.jin@tyson.com (Li Jin)

Website : http://tyson.com.cn

Profile

Tyson Foods, Inc., was founded in 1935 in Springdale, Arkansas, United States and grows rapidly driven by innovation & our core values. We are one of the largest food company in the world and the leading food manufacturer in protein market, providing customers and consumers with full-range of protein — Chicken, Beef, Pork, Seafood and Egg etc.. Tyson was ranked 287th on Fortune 500 in fiscal 2020 with sales of over 43 billion US dollars.

Tyson Foods entered China market in 2001, and currently has three poultry complexes, six processing plants and dozens of broiler farms in China. The revenue of Tyson China in fiscal 2020 is approx. 4.2 billion RMB.

As a protein expert and industry leader, Tyson supplies diversified products with our strong supply chain on domestic and overseas raw meat resources as well as excellent R&D team and operation system to meet customers' needs, including fresh products, processed products (marinated, par-fry, grilled and fully-cooked) and bakery. With our whole industrial chain coverage advantages, we provide safety and traceability from feeding to slaughtering to processing and distribution under the product strategy of "Global Standard, Local Development". Tyson China is committed to provide best protein products for Chinese consumers, embracing our consumers with "There is a home, there is Tyson".

Day 1 [January 27, 2021 (WED)] – Plenary Sessions

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09:00	**Welcome Remarks** **Prof. Terence Lok-ting Lau** Interim Associate Vice President (Innovation and Technology Development), PolyU Chairman, Organizing Committee of APFSIC 2021 Convener, Food Safety Consortium [IAFP Hong Kong Affiliate] **Prof. Yuk-lam Lo** Chairman, Advisory Council on Food and Environmental Hygiene Food and Health Bureau, The Government of HKSAR Honorary President, Hong Kong Food Safety Association **Dr. Roger Cook** President, International Association for Food Protection [IAFP] Principal Adviser (Strategic Science and Risk Assessment), New Zealand Food Safety, New Zealand Ministry for Primary Industries
09:15	**Keynote Plenary Speeches** Moderator: **Prof. Terence Lok-ting Lau** Interim Associate Vice President (Innovation and Technology Development), PolyU Chairman, Organizing Committee of APFSIC 2021 Convener, Food Safety Consortium [IAFP Hong Kong Affiliate] Keynote Plenary Speakers: **COVID-19 and Food Safety** **Prof. Junshi Chen** Senior Research Professor and Chief Adviser, China National Center for Food Safety Risk Assessment **FDA's New Era of Smarter Food Safety** **Mr. Frank Yiannas** Deputy Commissioner for Food Policy and Response, United States Food and Drug Administration **Food Safety and Latest Regulatory Development in Hong Kong and IT Systems in CFS** **Dr. Edwin Lok-kin Tsui** Controller, Centre for Food Safety, The Government of the Hong Kong Special Administrative Region Q&A
10:15	Break

Day 1 [January 27, 2021 (WED)] – Plenary Sessions

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10:30 — Plenary Speeches and Panel Discussion

Session 1 Fostering Food Safety Culture: The Key to Safe Food for Everyone

Moderator:
Ms Cindy Jiang
Senior Director, Global Food Safety Risk Management
Global Supply Chain, McDonald's Corporation

Plenary Speakers and Panelists:

Who Sets the Food Safety Culture within a Food Company? Why it is Important for Food Business?
Mr. Hugo Gutierrez
Global Food Safety and Quality Officer, Kerry Group

Learning and Insights on Elevating Food Safety Culture from the Head Office to Each Retail Store Globally
Dr. Zhinong Yan
Executive Director, Walmart Food Safety Collaboration Center

McDonald's Korea: Elevating Food Safety Culture
Ms Inna Korotenina
Director of Quality Assurance, McDonald's Corporation

Challenges and Opportunities to Maintaining a Food Safety Culture in the Produce Industry
Dr. Tim Jackson
Vice President Food Safety, Regulatory and Social Compliance, Driscoll's of the Americas

Food Safety Culture Excellence
Dr. John Tomlinson
APAC and Global Sales & Marketing Director, BRCGS
Dr. Joanne Taylor
Co-founder, Culture Excellence

Panel Discussion / Q&A

12:00 — Invited Lecture

Food Supply Chain Analytics Informing Management of Public Health Risks
Prof. Retsef Levi
J. Spencer Standish (1945) Professor of Operations Management, MIT Sloan School of Management

Q&A

12:30 — Lunch Break

14:00 — Keynote Plenary Speech

Moderator:
Dr. Michelle Yeung
Senior Veterinary Officer (Animal Health)
Agriculture, Fisheries and Conservation Department
The Government of the Hong Kong SAR

Keynote Plenary Speakers:

Food Safety from the Perspective of Animal Health and Zoonosis
Dr. Hirofumi Kugita
Regional Representative, World Organisation for Animal Health (OIE)
Dr. Maho Urabe
Regional Veterinary Officer, World Organisation for Animal Health (OIE)

Q&A

Day 1 [January 27, 2021 (WED)] – Plenary Sessions

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14:30 **IAFP Asia-Pacific Moderated Networking Session**

Moderator:
Prof. Terence Lok-ting Lau
Interim Associate Vice President (Innovation and Technology Development), PolyU
Chairman, Organizing Committee of APFSIC 2021
Convener, Food Safety Consortium [IAFP Hong Kong Affiliate]

IAFP Regional Affiliate Presidents and Delegates:

Chinese Association for Food Protection in North America
Mr. Zengxin Scott Li
Senior Manager for Global Food Safety and Microbiology, Rich Product

Japan
Prof. Shige Koseki
Professor of Food and Agricultural Process Engineering, Research Faculty of Agriculture
Hokkaido University

Korea
Dr. Gyun-Hyun Yuk
Associate Professor, Department of Food Science and Technology
Korea National University of Transportation

Southeast Asia
Dr. C.B. Alvin Lee
Director, Center for Processing Innovation
Associate Professor of Food Science and Nutrition
Institute for Food Safety and Health (IFSH)
Illinois Institute of Technology, Moffett Campus

Taiwan
Prof. Lee-Yan Sheen
Distinguished Professor, Institute of Food Science and Technology, National Taiwan University
Director, National Center for Food Safety Education and Research, National Taiwan University
Director, Center for Food and Biomolecules, National Taiwan University

15:30 Break

Day 1 [January 27, 2021 (WED)] – Plenary Sessions

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16:00 **Plenary Speeches and Panel Discussion**

Session 2 Smart Technologies & Innovations

Moderator:
Mr. Yves Rey
Independent Senior Advisor to Industry Leader
Former Danone Corporate General Manager
Former GFSI Chairman

Plenary Speakers and Panelists:
Standards & Science & Partnerships
We Need to Dream our Future
Mr. Tom Heilandt
Secretary, FAO/WHO Codex Alimentarius Commission
Progress and Priorities in the APEC Region
Mr. Nicholas Brooke
ABAC Principal Advisor to APEC Policy Partnership on Science Technology and Innovation (PPSTI)
When Food Safety Meets IoT
Prof. Jiannong Cao
Chair Professor of Distributed and Mobile Computing
Department of Computing, PolyU
From Functional Foods to Cultured Meat
Prof. Lorenzo Pastrana
Chair of the Research Office and Group Leader of the Food Processing Group
International Iberian Nanotechnology Laboratory (INL)
Enabling Technologies for the Enhancement of Food Safety
Mr. Simon Wong
Chief Executive Officer
Logistics and Supply Chain MultiTech R&D Centre

Panel Discussion / Q&A

17:30 **Keynote Plenary Speech**

Moderator:
Ir Prof. Ping-kong Alexander Wai
Chairman of Steering Committee, Food Safety Consortium
Former Deputy President and Provost
Chair Professor of Optical Communications, PolyU
President and Vice-Chancellor designate, Hong Kong Baptist University

Keynote Plenary Speakers:
Controlling COVID-19 Transmission due to Contaminated Imported Frozen Food and Food Packaging
Prof. Yongning Wu
Chief Scientist, China National Center for Food Safety Risk Assessment
Learn, Adapt, and Invent...Moving on Codex in 2021 and Post-COVID-19
Mr. Tom Heilandt
Secretary, FAO/WHO Codex Alimentarius Commission

Q&A

18:15 **Conclusion of Day 1**

Mr. David W. Tharp
Executive Director, International Association for Food Protection

Day 2 [January 28, 2021 (THUR)] – Breakout Sessions

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	Breakout 1 New Detection Methods	Breakout 2 Risk Management Strategies	Breakout 3 EU-China-Safe: Delivering an Effective, Resilient and Sustainable EU-China Food Safety Partnership
	Moderator: **Dr. Tong-Jen Fu** Research Chemical Engineer U.S. Food and Drug Administration	Moderator: **Dr. Bernard Chang** Senior Project Fellow, Department of Applied Biology and Chemical Technology, PolyU	Moderator: **Prof. Yongning Wu** Chief Scientist, China National Center for Food Safety Risk Assessment Coordinator, EU-China-Safe
09:30	Development and Validation of gyrB Targeted SYBR Green Based qPCR Assay for the Specific and Rapid Detection of *Vibrio vulnificus* in Seafood **Dr. Krishna Kumar Ballamoole** Assistant Professor, Nitte University Centre for Science Education & Research, Nitte University	Microbial Risk Assessment for Risk Management of *Staphylococcus aureus* in Ready-to-eat (RTE) Cooked Rice with Pork Floss (CRPF) in Taiwan **Prof. Lee-Yan Sheen** Distinguished Professor, Institute of Food Science and Technology, National Taiwan University	How to Improve the Quality and Efficiency of Food Safety Risk Communication in the Era of Digital Media **Dr. Si Chen** Associate Researcher, Division of Risk Communication, China National Center for Food Safety Risk Assessment (CFSA)
09:45	GenomeTrakr and Whole Genome Sequencing Analysis for Source Tracking Foodborne Pathogens during Surveillance and Outbreak Investigations **Dr. Yi Chen** Research Microbiologist U.S. Food and Drug Administration	Practical Application of Risk Assessment Outcomes in Manufacturing and Retail Settings Helps Ensure Food Safety **Dr. Ruth Petran, CFS** Principal Ruth Petran Consulting, LLC	Effective Identification of Food Species by Next Generation Sequencing (NGS) **Prof. Dr. Ying Chen** Vice President Chinese Academy of Inspection and Quarantine (CAIQ)
10:00	The Dramatic New Potential for Genomic Fingerprinting and Sharing of Microbiological DNA Data to Enable Global Surveillance, Source Attribution and Real-time Microbial Identification **Prof. Jørgen Schlundt** Consultant, Schlundt Consult Former Director, WHO Department of Food Safety and Zoonoses	Current Approaches to Microbial Food Safety Control and Risk Management in Canada **Prof. Jeff Farber** Adjunct Professor, Department of Food Science, University of Guelph Past President, IAFP	LC-MS Tools in the Campaign against Food Fraud in Infant Formula **Dr. Di Wu** Newton International Fellow, The Institute for Global Food Security, Queen's University Belfast
10:15	Screening of Chemical Contaminants in Food Using Ultra-high Performance Liquid Chromatography / Quadruple Time-of-flight Mass Spectrometry **Prof. Chia-Yang Chen** Professor and Director, Institute of Food Safety and Health, National Taiwan University Q&A	Food Safety Journey. "Are we there yet?" **Dr. Anna Starobin** Corporate Scientist, Global QSR and Food Retail Leader of Microbiology, Food Safety and Public Health Ecolab	
10:30	Break		

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	Breakout 4 Food Safety at Food Service and Retail Settings	Breakout 5 AI, Machine Learning & Big Data in Food Safety	Breakout 6 Food Safety Training and Certification	Breakout 3a EU-China-Safe: Delivering an Effective, Resilient and Sustainable EU-China Food Safety Partnership
	Moderator: **Dr. Ka-sing Leung** Adjunct Associate Professor, Department of Applied Biology and Chemical Technology, PolyU	Moderator: **Dr. Bernard Chang** Senior Project Fellow, Department of Applied Biology and Chemical Technology, PolyU	Moderator: **Dr. Tracie Sheehan** VP Technical Services Merieux NutriSciences	Moderator: **Prof. Christopher Elliott** Professor of Food Safety Founder, Institute for Global Food Security, Queen's University Belfast
11:00	Food Safety & Behavior Change: What Happens when No One is Watching? **Dr. Audrey Kreske** Director, Global Food Safety Restaurant Brands International	AI and Science – Making the World's Food Safe **Dr. Abigail Stevenson** Vice President, Mars Advanced Research Institute at Mars	Food Safety Research and Training in Informal / Wet Markets in Southeast Asia **Dr. Hung Nguyen** Co-Leader, Animal and Human Health Program Flagship Leader Food Safety, A4NH International Livestock Research Institute	EU-China-safe Delivering an Effective, Resilient and Sustainable EU-China Food Safety Partnership **Prof. Christopher Elliott** Professor of Food Safety Founder, Institute for Global Food Security Queen's University Belfast
11:15	Improving the Effectiveness of Food Handlers' Food Hygiene Training: Application of Error Management Theory and Terror Management Theory **Dr. Maxime X. Wang** Assistant Professor, School of Hotel and Tourism Management, PolyU	Microbiological Shelf Life Prediction Using AI/ML **Dr. James Yuan** Senior Director – Data Science & Analytics, Global R&D, PepsiCo	US FSMA Food Safety Preventive Controls Principles and Training Programs **Prof. Jason Wan** Associate Director – Institute for Food Safety and Health Professor of Food Science Illinois Institute of Technology	Can Traceability Systems and Blockchain Technology Ensure Authenticity and Detect Food Fraud? **Dr. Petter Olsen** Senior Scientist, Nofima, Norwegian Institute of Fisheries and Food
11:30	Building Trust in Organic - Hong Kong Experience **Prof. Jonathan W.C. Wong, MH, JP** Hong Kong Organic Resource Centre Professor and Head of Department, Department of Biology, Hong Kong Baptist University	Visual Intelligence for Food Safety **Mr. Lie Chen** Staff Product Manager, AI Center, DAMO Academy, Alibaba	New Food Safety Certifications under the U.S. FSMA Regulation: A Perspective from a Certification Body and a Qualified Auditor **Dr. Tania A. Martinez** Regulatory Director - Vice President, Demos Global Group, Inc.	Food Fraud and the EUChinaSAFE Project **Prof. Saskia van Ruth** Professor, Food Authenticity, Wageningen University and Research
11:45	Food Hygiene Standard Certification System **Dr. Ka-sing Leung** Adjunct Associate Professor, Department of Applied Biology and Chemical Technology, PolyU	Intelligence Track and Trace for Food Supply Chain using Internet-of-Things and Blockchain **Mr. Alex Lau** Solutions Architect, Cloud Platform, Oracle HK/TW	Intentional Adulteration (IA), Food Defense, and FSMA Compliance **Prof. Purnendu Vasavada** Professor Emeritus University of Wisconsin – River Falls Fellow- ASM, IFT, IAFP PCV & Associates, LLC.	Determination of Eight Bound Nitrofuran Residues, using a Rapid Microwave-assisted Sample Preparation Approach with UHPLC-MS/MS Detection **Dr. Martin Danaher** Principal Research Officer, TEAGASC Food Research Center of Ireland
	Q&A	Q&A	Q&A	Q&A
12:00	Lunch Break			

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	Breakout 7 Consumer Communication, Expectations and Insights on Food Safety	Breakout 8 Produce Food Safety	Breakout 9 Emerging Pathogens in Foods & their Control – Global & APAC
	Moderator: **Mr. Thanh Nguyen** Vice President – Quality, Health, Safety & Environment APMEA, Kerry Group	Moderator: **Dr. Elme Coetzer-Boersma** Managing Director, GLOBALG.A.P.	Moderator: **Dr. Alvin Lee** Director, Center for Processing Innovation Associate Professor of Food Science and Nutrition Institute for Food Safety and Health Illinois Institute of Technology
14:30	Meeting Food Risk Communication Challenges from the Asia-Pacific Perspective **Dr. Andrew Roberts** Risk Communication and Trust Consultant, Food Industry Asia	On-farm Strategies to Prevent Contamination of Produce **Dr. Tim Jackson** Vice President Food Safety, Regulatory and Social Compliance, Driscoll's of the Americas	Enhanced Formation of Persister Variants in Shiga Toxin-producing *Escherichia coli* under Conditions Relevant to Produce Production **Dr. Michelle Qiu Carter** Research Microbiologist, U.S. Department of Agriculture
14:45	Empowering Consumer Trust: Food Safety Driven by Data Intelligence **Mr. Julian Sin** Senior Manager, GS1 Hong Kong	Food Safety Risk Management Continuous Improvements – For Fresh Cut Operations **Mr. Taymour Shukri** QA & HSE Director MENA, Del Monte Foods (U.A.E) FZE	Regional Echoes of a Foodborne Outbreak of Invasive Sepsis with *Streptococcus agalactiae* ST283 **Assoc. Prof. Dr. Timothy Barkham** Tan Tock Seng Hospital, Singapore and National University of Singapore
15:00	Food Sustainability at a Crossroad: From Marketing to Mattering **Ms. Ruby O** Director of Environmental, Social and Governance Wynn Macau | Wynn Palace	Challenges & Opportunities to Implement Fresh Produce Food Safety Standards in Asia **Mr. Pham Viet Anh** Technical Key Account Manager Vietnam, GLOBALG.A.P.	Is Aquaculture the Problem or the Solution for Food Security? **Prof. Dr. Ruth Zadoks** Sydney School of Veterinary Science, Faculty of Science, University of Sydney, Australia; Marie Bashir Institute, University of Sydney; and University of Glasgow
15:15	Q&A	Q&A	Q&A
15:30	Break		

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	Breakout 10 DISH Global Centre for Food Safety and Quality	Breakout 11 New Intervention Technologies	Breakout 12 Food Fraud and Authentication
	Moderator: **Prof. Terence Lok-ting Lau** Interim Associate Vice President (Innovation and Technology Development), PolyU Convener, Food Safety Consortium Founding Chairman, DISH	Moderator: **Ms Karen Jiang** Assistant Director, Innovation and Technology Development Office, PolyU	Moderator: **Ms Nelly Lam** Senior Manager, Food Safety Consortium Innovation and Technology Development Office, PolyU
16:00	DISH – a Strong Partnership for Current and Future Challenges **Prof. Håkan Jönsson** Associate Professor, Department of Food Technology, Engineering and Nutrition, Lund University Chairman, DISH	High Pressure Processing: Implementation for Milk **Mr. Deon Mahoney** Head of Food Safety, Produce Marketing Association Australia-New Zealand Limited (PMA A-NZ)	Food Fraud Prevention – Perception and Awareness of Food Document Fraud among Food Industry Representatives **Dr. Roy Fenoff** Assistant Professor, The Citadel and Michigan State University's Food Fraud Initiative
16:15	EQASIA: Improving the Quality of Bacteriology Diagnostics for AMR in the Asia Region **Prof. Rene S. Hendriksen** Head of Research Group, Division for Global Surveillance, Research Group for Global Capacity Building, National Food Institute, Technical University of Denmark	Nanocomposite and Natural Materials for Gas Barrier and Food Packaging **Dr. Alice Ho** Senior Technical Manager, Nano and Advanced Materials Institute Ltd	Solving the Problems for Authentication of Edible Oils and Quantitation of Blended Oils **Dr. Zhongping Yao** Associate Professor, Department of Applied Biology and Chemical Technology, PolyU
16:30	Foodomics and One Health **Prof. Francesco Capozzi** Full Professor, Department of Agricultural and Food Sciences Head of Interdepartmental Centre for Industrial Agrofood Research, University of Bologna	The Digital Transformation to Remote Auditing **Ms. Kathleen Wybourn** Director Food & Beverage, Digital Assurance and Supply Chain Services, DNV GL Business Assurance, North America	Food Authenticity Testing using Next Generation Sequencing **Dr. Mario Gadanho** Senior R&D Scientist, Thermo Fisher Scientific
16:45	Q&A	Q&A	Q&A
17:00	Close of Forum **Prof. Terence Lok-ting Lau** Interim Associate Vice President (Innovation and Technology Development), PolyU Chairman, Organizing Committee of APFSIC 2021 Convener, Food Safety Consortium [IAFP Hong Kong Affiliate]		

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Prof. Terence Lok-ting Lau

Interim Associate Vice President (Innovation and Technology Development),
The Hong Kong Polytechnic University
Chairman, Organizing Committee of APFSIC 2021
Convener, Food Safety Consortium [IAFP Hong Kong Affiliate]

Prof. Terence Lau is the Interim Associate Vice President (Innovation and Technology Development) of The Hong Kong Polytechnic University (PolyU) and an Adjunct Professor at PolyU's Department of Applied Biology and Chemical Technology. He is the Convener of the Food Safety Consortium - IAFP's Hong Kong Affiliate, and an Observer at the United Nations FAO/WHO Codex Alimentarius Commission. Terence is the Founding Chair and Board Member of the DISH Global Centre for Food Safety and Quality.

Terence has dedicated over 20 years in technology ventures and in the development and commercialization of innovative technologies especially in genetic testing and molecular diagnostics. He directed the first laboratory in Asia to obtain ISO 17025 accreditation for qualitative and quantitative genetically modified organism (GMO) analysis in the early 2000s and has developed over a hundred products that are available globally. He led the development of molecular avian influenza virus (AIV) detection products (including subtype H5) which were the first molecular AIV test kits to receive regulatory approval in Japan. At PolyU, he oversees innovation and technology strategic initiatives, promotion of high-impact research and collaborations, management of PolyU's intellectual properties, and their translation and application.

Terence actively contributes his knowledge and experience to the industry and government. He is members of the Expert Committee on Antimicrobial Resistance and the Enterprise Support Scheme and was a member of the Small and Medium Enterprise Committee, the Small Enterprise Research Assistant Programme, the GMO (Control of Release) Expert Group of the HKSAR Government and many others. He was also an Advisor of the Infectious Disease Centre of Peking University, an Adjunct Investigator of the Jilin Academy of Agricultural Science, and a Senior Advisor to the United Nations Office for Project Services. He is currently a committee member of the National Committee on Biometrology of China.

Terence has co-authored a number of peer-reviewed scientific articles including those published in *Lancet* and *New England Journal of Medicine*. He is the co-inventor of over 60 patents and a co-developer of 5 Chinese National Standards, and a recipient of Beijing Municipal Technology Award and Chinese Medical and Technological Award. He received his B.Sc.(Hons) in Animal and Plant Biotechnology from The University of Hong Kong, M.Phil. in Biology from The Hong Kong University of Science and Technology and Ph.D. in Physiology from Peking University.

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Professor Yuk-lam Lo

Chairman, Advisory Council on Food and Environmental Hygiene, Food and Health Bureau,
The Government of the Hong Kong Special Administrative Region
Honorary President, Hong Kong Food Safety Association

Prof. Yuk-lam Lo focuses on the work related to biochemistry research. He has been holding several important positions of various science and technology research institutes, such as the Honorary Chairman of Hong Kong Biotechnology Organization, the Honorary President of Hong Kong Food Safety Association as well as the Consultant of Chinese Center for Disease Control and Prevention (CDC). In April 2015, he was appointed as the Chairman of the Advisory Council of Food and Environmental Hygiene and Food and Health Bureau, Government Secretariat HKSAR. Prof. Lo also serves as the independent director of Sinovac Biotech Limited (NASDAQ: SVA), of CSPC Pharmaceutical Group Limited (HKG:1093), and of Luye Phama Group Limited (HKG:2186) respectively. In addition, he is an Adjunct Professor at The Chinese University of Hong Kong as well as an Honorary Fellow at The Hong Kong University of Science and Technology. Prof. Lo has dedicated himself to the advancement of science and technology in Hong Kong and China, all of these achievements won him the honor of the "Father of Biotechnology in Hong Kong."

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Dr. Roger Cook

President, International Association for Food Protection (IAFP)
Principal Adviser (Strategic Science and Risk Assessment), New Zealand Food Safety
New Zealand Ministry for Primary Industries

Dr Roger Cook is the current, and first International, President of the International Association for Food Protection; a Presidency affected like all in our lives by the SARS-CoV-2 virus and COVID-19.

Dr. Cook [Roger] is the Principal Adviser (Strategic Science and Risk Assessment) to New Zealand Food Safety (a branch of the Ministry for Primary Industries) based in Wellington New Zealand. He is also the principal food microbiologist, a position he has held since 1995.

Dr Cook [Roger] gained a PhD in 1984 Microbiology from the University of Otago and, following several years of post-doctoral research in Toronto and Detroit, returned to New Zealand in 1990 as a research scientist at the Meat Industry Research Institute of New Zealand (MIRINZ) where he lead its government-contracted research programme on meat hygiene and shiga toxin-producing *E. coli* (STEC).

Dr. Cook [Roger] now advises those that lead New Zealand's regulatory microbiological food safety risk assessment initiatives, specifically those for STEC and *Campylobacter*; design research projects to support development and verification of food safety regulations and evaluate outcomes and consequences of overseas market access requirements; develop monitoring programs for domestic and export assurances (the equivalent to the U.S. PR/HACCP and STEC programs); and provide microbiological advice to the vast array of New Zealand's domestic and export food industry.

Dr Cook [Roger] has a close working relationship with overseas regulatory authorities and science providers, is a member of the *International Commission for Microbiological Specifications for Foods* (ICMSF), and represents New Zealand on Codex Food Hygiene, on the Food Regulation Steering Committee of the Joint Australia-New Zealand Ministerial Forum on Food Regulation, and as a member of the FAO/WHO JEMRA Working Group on STECs in foods.

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Moderator

Prof. Terence Lok-ting Lau

Interim Associate Vice President (Innovation and Technology Development), The Hong Kong Polytechnic University
Chairman, Organizing Committee of APFSIC 2021
Convener, Food Safety Consortium [IAFP Hong Kong Affiliate]

Keynote Plenary Speakers

Prof. Junshi Chen

Senior Research Professor and Chief Adviser
China National Center for Food Safety Risk Assessment

COVID-19 and Food Safety

Abstract

COVID-19 is not a food borne disease, but a disease of animal origin (WHO). COVID-19 is not a food safety issue. To date, there have not been any reports of transmission of SARS-CoV-2 virus through food and caused human infection (WHO).

However, epidemiological investigations on a series of local COVID-19 outbreaks in China pointed to the possibility of fomite transmission by contaminated frozen imported seafood packaging to dock workers. In particular, during the investigation of the Qingdao outbreak in late October, 2020, live SARS-CoV-2 strains were isolated from the nucleic acid positive samples taken from the sea food package surface. The DNA sequence of virus isolated from the food packaging, infected dock worker and subsequent transmitted cases was highly homologous.

The challenges of COVID-19 on food safety control will be discussed.

Biography

Dr. Junshi Chen was graduated from the Department of Public Health, Beijing Medical College in 1956 and has been engaged in nutrition and food safety research for more than 50 years at the Institute of Nutrition and Food Safety, Chinese Center for Disease Control and Prevention (the former Chinese Academy of Preventive Medicine), Beijing. Since 2011, he took the position of Senior Research Professor at the China National Center for Food Safety Risk Assessment. He has served as the Deputy Director, Institute of Nutrition and Food Hygiene, Chinese Academy of Preventive Medicine (1987-1998); Vice President, Chinese Society of Toxicology (1998-2005); Chairperson, Codex Committee for Food Additives (CCFA, 2007-2017); chairperson, 1st National Food Safety Risk Assessment Expert Committee (2009-2019); Vice Chair and Chief Scientist, 1st National Food Standard Reviewing Committee (2010-2019); and Co-convenor, UN Inter-agency Coordinating Group on Antimicrobial Resistance (IACG, 2017-2019).

Dr. Chen's research interests include: Food safety risk assessment & risk communication; Food toxicology; Epidemiological studies on diet, nutrition and chronic diseases; Food fortification; and Chronic diseases health management and Exercise is Medicine.

Recently, he was appointed as the Chief Scientist, 2nd China National Food Safety Standard Reviewing Committee; Chair, Advisory Committee, 2nd China National Food Safety Risk Assessment Expert Committee. His other social responsibilities include: Deputy-chair, Expert Committee, Food Safety Committee of China State Council; Honorary President, Chinese Society of Toxicology; etc.

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Mr. Frank Yiannas
Deputy Commissioner for Food Policy and Response
United States Food and Drug Administration

FDA's New Era of Smarter Food Safety

Abstract

Last March, FDA was days away from releasing its New Era of Smarter Food Safety blueprint when our focus rightfully turned to the COVID-19 pandemic. By the time the blueprint was released in July, it was clear that lessons learned during FDA's response to the pandemic have accelerated the need for the New Era goals, including enhanced traceability, remote inspections, safety standards for foods ordered online and food safety culture.

Get an update on FDA's New Era of Smarter Food Safety strategic blueprint. Learn how the key components within this initiative will prepare your organization to leverage technology and other tools that help create a more digital, traceable, and safer food system. Be inspired to creatively collaborate on simpler, more effective, and modern approaches and processes that keep our global food supply chain resilient and safe.

Most importantly, get a sense of your own role because we need each and every one of you to be engaged in this important work. The New Era of Smarter Food Safety blueprint stresses the importance of FDA's partnerships with the food industry, academia, government agencies and consumers. Together, we will build a food system that is stronger and more resilient than ever.

Biography

Frank Yiannas is the Deputy Commissioner for Food Policy and Response, a position he assumed in December of 2018. He is the principal advisor to the FDA Commissioner in the development and execution of policies related to food safety, including implementation of the landmark FDA Food Safety Modernization Act (FSMA). His leadership role within the Agency covers a broad spectrum of food safety priorities, such as outbreak response, traceback investigations, product recall activities, and supply chain innovation across the full spectrum of FDA-regulated products.

Mr. Yiannas is, in effect, the Agency's chief ambassador to reduce food safety risks and achieve high rates of compliance with FDA food safety standards, working to develop innovative collaborations with external partners and stakeholders and effective relationships with government and industry leaders, as well as consumer groups.

A renowned food safety expert and author, Mr. Yiannas came to FDA from leadership roles with two industry giants: Walmart and the Walt Disney Company. Through his career, he's been recognized for his role in elevating food safety standards and building effective food safety management systems based on modern science and risk-based prevention principles.

At Walmart, which he joined in 2008 and served for over a decade, Mr. Yiannas was the Vice President for Food Safety. In this role, he led the effort to make Walmart the first U.S. retailer to require suppliers to achieve certification against one of the Global Food Safety Initiative (GFSI) benchmarked food safety schemes. More recently, he has become a globally recognized pioneer in using blockchain technology to create a more digital and transparent food system. His work has shown that by leveraging technology, the amount of time taken to trace the origin of a food back to source can be reduced from weeks and days down to seconds. Based on his work, other major food companies are now exploring the use of this technology.

His experiences in the food safety arena have also made him an advocate for the promotion of a Food Safety Culture to protect the world's food supply, arguing that science and policy alone are not enough. Advancing food safety also requires an understanding of organizational culture and principles of human behavior. Engaging on this level to help shape an organization's culture is the subject of his books *Food Safety Culture, Creating a Behavior-based Food Safety Management System, and Food Safety = Behavior, 30 Proven Techniques to Enhance Employee Compliance*.

At Disney, where he worked for 19 years, he was the Director of Safety and Health. During his tenure, Disney received the prestigious Black Pearl Award for corporate excellence in food safety from the International Association for Food Protection.

The recipient of numerous awards, in 2007, he received the National Science Foundation's International Lifetime Achievement Award for Leadership in Food Safety. He is also the recipient of the Collaboration Award by FDA in 2008 and he was named the 2015 Industry Professional Food Safety Hero Award by STOP Foodborne Illness, a consumer advocacy group.

Mr. Yiannas is a past president of the International Association for Food Protection and a past vice-chairman of the Global Food Safety Initiative. He is also an adjunct Professor in the Food Safety Program at Michigan State University, and in 2017 was awarded the MSU Outstanding Faculty Award.

A microbiologist, Mr. Yiannas received a B.S. in microbiology from the University of Central Florida and a Master of Public Health degree from the University of South Florida.

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Dr. Edwin Lok-kin Tsui
Controller, Centre for Food Safety
The Government of the Hong Kong Special Administrative Region

Food Safety and Latest Regulatory Development in Hong Kong and IT Systems in CFS

Abstract
Ensuring food safety has always been the top priority of the Centre for Food Safety (CFS). We are committed to enhance food safety in Hong Kong through a multi-pronged approach, including closely monitoring the international developments e.g. food safety standards of the Codex Alimentarius Commission and other places, as well as taking into account the local dietary practice and risk assessment results, to timely update the local food safety standards and regulatory arrangements on the basis of scientific evidence. To strengthen the regulation of harmful substances such as industrially produced trans fats and mycotoxins in food, the government launched a 3-month public consultation on the Proposed Amendments to the Harmful Substances in Food Regulations (Cap. 132AF) on 11 December 2020. Since late 2017, CFS started upgrading its IT systems to reinforce its capacity in food import control and surveillance. The first batch of online services were rolled out for food traders on the Food Trader Portal in 2019 and 2020 while more functions are expected in 2021. In parallel, CFS reviewed the control measures, streamlined the business workflow to enhance efficiency of stakeholders and started building new systems to handle food incidents. The ultimate goal is the integration of its IT systems to provide a well-connected information network in support of effective risk profiling, targeted inspection and food traceability.

Biography
Dr. Edwin Lok Kin TSUI is the Controller of the Centre for Food Safety. He is responsible for planning and directing the implementation of policies on food safety control, day-to-day management of the Centre, liaison with the Mainland and overseas food safety authorities, management of the consultative structure comprising the Expert Committee on Food Safety and overseeing regulatory functions to food safety in Hong Kong.

Dr TSUI graduated from the Faculty of Medicine of the University of Hong Kong and had practiced general medicine in outpatient service in the Department of Health in 1997. He is specialized in Community Medicine and is a Fellow of the Hong Kong College of Community Medicine and a Fellow of the Hong Kong Academy of Medicine in Hong Kong. Dr TSUI also obtained a Master degree in Medicine (Public Health) in the National University of Singapore and a Master degree in Health and Hospital Management in the University of Birmingham.

Before Dr TSUI had taken up the post in the Food and Environmental Hygiene Department in 2018, he was the Assistant Director (Traditional Chinese Medicine) of the Department of Health. He oversaw the implementation of the Chinese Medicine Ordinance and its subsidiary legislations, the promotion of safe and efficacious use of Chinese medicine and practice, the conducting of Chinese medicine related public health and health promotion activities and the planning and establishment of the first Testing Centre for Chinese Medicines in Hong Kong in 2017.

Dr TSUI is the Director of the World Health Organization (WHO) Collaborating Centre for Risk Analysis of Chemicals in Food. He was also the Director of the WHO Collaborating Centre for Traditional Medicine in 2016-2018. Prior to this, he had been responsible for and contributed in various fields in public health protection and promotion including port health measures, food safety, contingency planning, surveillance, investigation and control of public health crisis. He had assisted the WHO in 2011 and 2014 to develop WHO strategic documents on International Health Regulations and border quarantine measures. In 2016, he had been invited to be a WHO Temporary Advisor and provided professional advice in development of traditional medicines in the Western Pacific regions of the WHO.

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Moderator

Dr. Michelle Yeung
Senior Veterinary Officer (Animal Health)
Agriculture, Fisheries and Conversation Department
The Government of the Hong Kong SAR

Biography

Being the Senior Veterinary Officer (Animal Health) at the moment, Michelle has started to work in Agriculture, Fisheries and Conservation Department since 1999. She started in Animal Management Centre, providing veterinary care to animals and managing government kennel and quarantine centres for imported dogs and cats. Then for more than eight years, she worked in Import and Export Division protecting animal health status of Hong Kong by controlling import of live animals; including import of four giant pandas from the Central Government to Hong Kong Special Administrative Region (HKSAR) and two were as gifts to celebrate 10th anniversary of HKSAR's establishment; and import/export of horses participating 2008 Olympic and Paralympic Equestrian Events in HKSAR. After that she was involved in amendment of Veterinary Surgeons Registration Ordinance (Cap. 529) and drafting & passing of a new subsidiary legislation for election of registered veterinary surgeons. Michelle coordinated the first election for elected members in Veterinary Surgeons Board of Hong Kong and assisted establishment of Hong Kong Jockey Club Conghua Racecourse within the Equine Disease Free Zone in Guangzhou China. Currently, she is looking after local livestock farms (including areas related to antimicrobial resistance) and animal disease control (including avian influenza and African swine fever). Michelle was graduated with Bachelor of Veterinary Science from University of Sydney in Australia.

Keynote Plenary Speakers

Dr. Hirofumi Kugita
Regional Representative
World Organisation for Animal Health (OIE)

Dr. Maho Urabe
Regional Veterinary Officer
World Organisation for Animal Health (OIE)

Food Safety from the Perspective of Animal Health and Zoonosis

Abstract

To minimise risks of food contamination, action is needed at all stages of the food chain from production at the farm through to human consumption. The prevention, detection and control of many foodborne hazards of animal origin at the primary production phase is important to reduce the burden of disease in the animal and the risk of human illness through foodborne contamination as well as human infections resulting from direct or indirect contact with infected animals.

Veterinarians and veterinary paraprofessionals carry out a wide range of activities in animal production systems that contribute to ensuring the production of safe food. Veterinary Services may conduct inspections on-farm and in slaughterhouses to verify the health of the animals and the wholesomeness of the animal products.

The OIE provides guidance to its Members to assist them in meeting food safety objectives through different activities including developing international standards, monitoring animal diseases worldwide, creating strong international and regional networks, and supporting capacity building activities. Further, the OIE is closely working with FAO and WHO to promote One Health approach and harmonise international standards on food safety through ensuring collaboration between the OIE and Codex.

References: https://www.oie.int/en/food-safety/introduction/ https://rr-asia.oie.int/en/projects/food-safety/

Biography

Dr. Hirofumi Kugita, Regional Representative, World Organisation for Animal Health (OIE)
Dr. Hirofumi Kugita, DVM, graduated the University of Tokyo in 1978 and immediately joined the Ministry of Agriculture, Forestry and Fisheries (MAFF) of Japan.

During his more than 30-year of service, he engaged in preparation and implementation of various policies, such as animal industry promotion, agricultural marketing, trade negotiation and international cooperation. He served as a Chief Veterinary Officer and Director of Animal Health and Animal Products Safety Division of MAFF, as well as the OIE Delegate of Japan, from 2004 to 2006. Dr. Kugita was appointed as the Regional Representative for the OIE Regional Representation for Asia and the Pacific as of 1st April 2013.

Since then he has been representing the OIE Regional Office based in Tokyo and engaging in providing regionally adapted services to 32 regional members to improve the animal health and welfare as well as to enhance the capacity of National Veterinary Services.

Dr. Maho Urabe, Regional Veterinary Officer, World Organisation for Animal Health (OIE)
Maho Urabe is a Regional Veterinary Officer at the OIE Regional Representation for Asia and the Pacific. She supports activities related to the Performance of Veterinary Services (PVS) Pathway, the OIE's flagship capacity building platform for the sustainable improvement of national Veterinary Services, as well as veterinary education. Prior to joining the OIE, she worked on zoonosis control and prevention at the WHO Representative Office in Viet Nam. Maho graduated from University of Pennsylvania School of Veterinary Medicine and completed a Master of Public Health (MPH) program at Johns Hopkins Bloomberg School of Public Health. She also received on-the-job training in public health and epidemiology as an Epidemic Intelligence Service Officer of the Division of Foodborne, Waterborne, and Environmental Diseases at US Centers for Disease Control and Prevention.

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Moderator

Ir Prof. Ping-kong Alexander Wai

Chairman of Steering Committee, Food Safety Consortium
Former Deputy President and Provost
Chair Professor of Optical Communications, The Hong Kong Polytechnic University
President and Vice-Chancellor designate, Hong Kong Baptist University

Biography

Ir Professor Ping-kong Alexander Wai is the Chairman of Steering Committee of the Food Safety Consortium at The Hong Kong Polytechnic University, where he was formerly the Deputy President and Provost and Chair Professor of Optical Communications. He is the President and Vice-Chancellor designate of the Hong Kong Baptist University.

Professor Wai received a bachelor's degree in Physics from The University of Hong Kong in 1981, followed by a master's degree and a doctoral degree in Physics from the University of Maryland in the USA in 1985 and 1988 respectively. He is an expert in the field of optical fibre communications with a rich array of impactful and patented research achievements. He was elected as a Fellow of the Optical Society of America in 2009, a Fellow of the Hong Kong Institution of Engineers (FHKIE) in 2010, a Fellow of the Institute of Electrical and Electronics Engineers (IEEE) in 2012, and a Fellow of the Hong Kong Academy of Engineering Sciences in 2012. With the approval of the State Ministry of Science and Technology, he has been selected for the "National Science and Technology Programmes Expert Database" since 2012.

Professor Wai served as Chairman of the Society of Hong Kong Scholars between 2014 and 2018, and he was named President of Council of The Hong Kong Association for the Advancement of Science and Technology in 2014/15. He has served as a member of the Research Grants Council, and is currently a member of the University Grants Committee.

Professor Wai has great achievements in the higher education sector and several important research areas. His key research achievements in recent years include collaborating with internationally renowned partners in international and national High-Speed Rail projects, lunar space exploration, and building the Aviation Services Research Center to make Hong Kong an aviation maintenance hub. He also worked with the Royal College of Art to establish a laboratory for artificial intelligence in design under the InnoHK project.

Keynote Plenary Speakers

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Prof. Wu Yongning

Chief Scientist
China National Center for Food Safety Risk Assessment

Controlling COVID-19 Transmission due to Contaminated Imported Frozen Food and Food Packaging

Abstract

Since June 2020, several COVID-19 outbreaks in China have been linked to the cold-chain food and food packaging. With increasingly reported evidence, food and food packaging contaminated by COVID-19 virus may pose a risk of spreading the virus under certain conditions. According to a range of different situations, the government has issued a series of guidance documents to prevent both human-transmission and fomite-transmission, which has become a widely adopted practice of epidemic prevention and control. Moreover, technical guidances for cold-chain food tracking are also necessary. So far, the epidemic of COVID-19 has been contained in China through stringent non-pharmaceutical interventions and the integrity of the food chain has been maintained and adequate supplies of safe food is available for all consumers.

Biography

Professor Yongning Wu is Chief Scientist of the China National Center for Food Safety Risk Assessment (CFSA), PI of Food Safety Research Unit of Chinese Academy of Medical Science (2019RU014), the Director of NHC Key Laboratory of Food Safety Risk Assessment, head of WHO Collaborating Center of Food Contamination Monitoring (China), member of WHO Technic Advisory Group for Food Safety, a fellow of International Academy of Food Science and Technology, Vice-President of Chinese Society of Toxicology, President of the Food Authenticity and Traceability Association of the China Institute of Food Science and Technology, Deputy Director of Public Health of Chinese Medical Association, Standing Member of Chinese Preventive Medicine Association. In 1983 Professor Wu graduated from Nanjing Medical College and, in 1997, received a Ph.D. in Nutrition and Food Safety from the Chinese Academy of Preventive Medicine. Professor Wu serves on numerous domestic and international food safety committees such as the FAO/WHO Joint Expert Committee on Food Additives (JECFA), USP Food Ingredient Expert Committee (FCC), Scientific Committee of Food Safety Commission of the State Council of PR China, Scientific Committee of Food Safety for Hong Kong Special Government of PR China, Chief Technology Officer of China National Food Safety Risk Assessment Committee. As the director of the food contaminant subcommittee of the China Reviewing Committee on National Food Safety Standards and the head of the Chinese delegation of Codex Committee on Contaminants in Food, he is involved in the drafting of food safety standards for food contaminants, chaired the draft working group on Codex maximum limit of inorganic arsenic in rice internationally and China National Standard. As chair of the Panel on Selecting List of Non-Food Ingredients Illegally Added in Food, and member of Food Ingredients International Adulterants Expert Panel, he received an award for Outstanding Contribution to USP Standard. Prof Wu is also a member of several journals, Editorial Advisory Board for food and environmental science, and preventive medicine and has published 300 SCI papers, with H index 49.

Mr. Tom Heilandt

Secretary
FAO/WHO Codex Alimentarius Commission

Learn, Adapt and Invent … Moving on Codex in 2021 and Post-Covid19

Abstract

A normal Codex year would mean around 70-80 meeting days in at least 15 different countries. That's what Codex does – organize meetings for government experts and civil society to work together on international food standards for safety and fair practices in the food trade. This way Codex saves costs as our hosts all around the world provide the services needed for Codex meetings and the Codex community not only defines standards but can see best practices first-hand and build an important international food safety network that helps to build a global food safety and quality culture. In 2020, Codex had 5 meeting days in one country before lockdown. We had to learn, adapt and invent to continue at all. 2021 will be another new territory, and there is a lot that we do not know yet, so we have to be prepared for anything. Beyond that – post-COVID19 - what will we do different than before? What will remain from the lockdown times, what will move back to as before and what will be totally new? Some ideas and speculations.

Biography

Tom Heilandt is a German citizen with degrees in Mathematics and Computer Science. From 1990-1994 he worked in chemical industry (BAYER) and enterprise consulting (Trinzic Corp, Aion Corp). After passing the national competitive exam of the United Nations Secretariat, he worked from 1994-1998 in the United Nations Economic Commission for Europe (UNECE) in Geneva in Secretariat of the Agreements on international regulations for the transport of dangerous goods. From 1998-2005, he was Secretary of the UNECE Working Party on Agricultural Quality Standards.

In 2005, he joined the Codex Secretariat in Rome as Senior Officer responsible for communication. In October 2014, the Directors General of FAO and WHO appointed him to the position of Secretary of the Codex Alimentarius Commission.

He is a member of the:

- Administrative Council of the Fondation André-Levesque pour l'avenir de la relation (FAR), situated in the Académie des sciences morales et politiques, Institut de France (since 2005);
- International Advisory Board of the Chinese Centre for Food Risk Assessment (since 2018);
- French Order of Agricultural Merit for his contribution to the establishment of the United Nations World Food Safety Day (since 2019).

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Prof. Retsef Levi
J. Spencer Standish (1945) Professor of Operations Management
MIT Sloan School of Management

Food Supply Chain Analytics Informing Management of Public Health Risks

Abstract
The talk will highlight two types of risks on human health that originate from food supply chains, specifically food safety & adulteration and zoonotic diseases. It will illustrate how supply chain analytics can inform the management and mitigation of these two types of risks. Additionally, the talk will highlight the importance of wholesale and wet markets in the food system of China and the related risks they pose. The analysis will underscore the importance of developing better management and monitoring systems of wholesale and wet markets.

Biography
Retsef Levi is the J. Spencer Standish (1945) Professor of Operations Management at the MIT Sloan School of Management. He is a member of the Operations Management Group at MIT Sloan and affiliated with the MIT Operations Research Center. Levi also serves as the Faculty Co-Director of the MIT Leaders for Global Operations.

Levi spent a year in the Department of Mathematical Sciences at the IBM T.J. Watson Research Center as the holder of the Goldstine Postdoctoral Fellowship. He received a Bachelor's degree in Mathematics from Tel-Aviv University (Israel) in 2001, and a PhD in Operations Research from Cornell University in 2005. Levi spent almost 12 years in the Israeli Defense Forces as an officer in the Intelligence Wing.

Levi's current research is focused on the design of analytical data-driven decision support models and tools addressing complex business and system design decisions under uncertainty in areas such as health and healthcare management, supply chain, procurement and inventory management, revenue management, pricing optimization and logistics. With a multi-million award from the Walmart Foundation, Levi currently leads a multi-year US-China collaborative effort to develop new predictive risk analytics tools and testing technologies and platforms to address core food safety challenges in China.

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Fostering Food Safety Culture: The Key to Safe Food for Everyone

It is everyone's responsibility to foster, support and strengthen food safety culture on farms, in food production facilities, at retail stores, and in homes. We will not make dramatic improvements in reducing foodborne illness outbreaks or recalls without doing more to influence the beliefs, attitudes, and behaviors of people and actions of organizations. A positive food safety culture is a prerequisite to effective food safety management.

This panel of distinguished speakers will share insights and proven examples on how to elevate food safety culture within their organization: food retailer, food service, food production and on farm. Information and practices on leveraging food safety culture assessment tool will also be discussed.

Audiences will gain insights and best practices on how they can become a champion to advance food safety culture within their companies.

Moderator

Ms. Cindy Jiang
Senior Director, Global Food Safety Risk Management
Global Supply Chain, McDonald's Corporation

Biography

Cindy Jiang is a Senior Director of Global Food Safety Risk Management at McDonald's Corporation. Food Safety is the #1 priority for McDonald's business as it serves over 60 million customers in 120 countries every day. Cindy leads the development of global food safety risk management strategy and action, establishing science and risk based standards and procedures, and collaborating with internal and external stakeholders to advance food safety culture and systems from farm to restaurant.

Since 2008, Cindy has been an active GFSI board of director. She is also a board member of SSAFE, IFIC, and a member of advisory board for Bor S. Luh Food Safety Research Center of Shanghai Jiao Tong University, China.

After receiving Master Degree in Food Science and Nutrition, Cindy joined McDonald's in 1990. Cindy is a professional member of International Association of Food Protection, American Society for Quality, and Institute of Food Technologist. She is passionate about advancing Food Safety & Quality Management Systems globally.

Plenary Speakers and Panelists

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Mr. Hugo Gutierrez

Global Food Safety and Quality Officer
Kerry Group

Who Sets the Food Safety Culture within a Food Company? Why it is Important for Food Business?

Abstract

We will discuss how Kerry is managing a transformation to best in class, investing in cultural and behavioral science as well as processes and technology. During this presentation, Kerry will discuss the efforts that have worked well as those that did not to extract the practical learning for the entire audience.

Biography

Hugo Andres Gutierrez is the Global Food Safety and Quality Officer for Kerry. In this position, Gutierrez is responsible for developing and executing a long-term strategy to transform quality, food safety, and employee safety systems into world class. In his previous position as Vice President of Quality and Regulatory at Hershey Corporation, he provided leadership to Hershey's global Food Quality, Regulatory and Food Safety programs in addition to implementing 6 Sigma programs and a Supply Chain Learning and Development team for the Company. Gutierrez has 25 years of experience in leading global, virtual and multi-cultural quality, food safety and regulatory teams.

Gutierrez has also served as Director of International Quality and Regulatory Operations (QRO) for General Mills. In this position, he was responsible for working with regional and international functional leaders to enhance Food Safety Culture, quality systems, and Food Safety programs. Gutierrez worked to strengthen the quality organization by developing leaders that could support the technical area while connecting with the business side of the company around the world. His career with General Mills also included positions of Director, QRO for the Yoplait Division and Technical Development Director for Latin America and South Africa.

Prior to General Mills, Gutierrez held QA-related positions with Cadbury Schweppes USA, Pfizer in Canada and Adams (Warner Lambert) in Colombia.

Gutierrez holds a BS in Industrial Engineering from Javeriana University and an MBA from Icesi University, both in his home country of Colombia. He speaks fluent Spanish, French, English and basic Portuguese.

Gutierrez and his family currently reside in Fontana, Wisconsin.

Dr. Zhinong Yan

Executive Director
Walmart Food Safety Collaboration Center

Learning and Insights on Elevating Food Safety Culture from the Head Office to Each Retail Store Globally

Abstract

Food safety culture is as a prerequisite system as food technology for improving food safety. This presentation will emphasize importance of integration of food safety culture into cooperate mission and strategies. It will illustrate how to establish food safety culture throughout a company by six elements of a mature food safety culture demonstrated by the best practice from a retailor through years of experience. A consistent and effective system to build food safety culture from home office to stores is a continuous improvement progression.

Biography

Dr. Zhinong Yan is the Executive Director, Walmart Food Safety Collaboration Center (WFSCC). He has nearly 30 years of academic and industry experience in microbiology and food safety. Before joining the WFSCC, he was the Food Safety Director, Asia Pacific at Ecolab; he also worked at a food equipment company and a food safety consulting company where he had provided food safety solutions for over 150 different food plants in over 20 countries. He has involved and conducted over 200 food safety and sanitation trainings. Dr. Yan actively participates in the industry construction work; he is currently Vice Chair of the Global Food Safety Initiative's (GFSI) China Steering Committee, Chairperson for AFP China, Vice President of China Animal Health and Food Safety Alliance, and Expert Advisor of Food Safety Committee of the China Chain-Store & Franchise Association (CCFA) and China Children Food Safety Program of China Children and Teenage Foundation (CCTF). Dr. Yan has a Ph.D from Auburn University in Plant Pathology, and he received his B.S and M.S from China Agriculture University in Beijing.

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Ms. Inna Korotenina
Director of Quality Assurance
McDonald's Corporation

McDonald's Korea: Elevating Food Safety Culture

Abstract
McDonald's brand mission is making delicious, feel-good moments easy for everyone. Every day McDonald's welcomes more than 60 million of our customers across the globe. Serving safe food is our primary commitment. One success factor of McDonald's brand is that the customers exactly know what they will get when they go to McDonald's restaurants – no matter in what country. This talk will share key practices for each stage at McDonald's Korea to ensure food safety and quality from farms to restaurants. It will also illustrate how we continue to elevate the food safety culture within our 3-legged stool system through holding Food Safety Town Hall and other engaging activities. At McDonald's, we recognize the importance of having a strong food safety culture from the crew members to the CEO.

Biography
Leading Food Safety and Quality in McDonald's Korea Ms. Korotenina is currently responsible for fostering the Food Safety culture and enhancing a continuous improvement procedure.

Ms. Korotenina has over 25-year experience in the food industry. She started her career in one of the largest Russian wholesale companies in 1995.

Joining Danone in 2002, Ms. Korotenina took various positions and broadened her experience in suppliers' development, audits, regulation compliance, and quality assurance.

Moving to Mondelez Intl. in 2009, she held the Quality Leader position of Russia in Corporate Quality. Ms. Korotenina was responsible for the food safety system and quality programs, as well as led quality culture and benchmarking initiatives. She contributed to Russia's key projects, including new product development, the latest manufacturing lines installation, EOM development, and qualification.

Ms. Korotenina joined McDonald's Russia in 2015 and oversaw food safety and various quality-related agendas. Ms. Korotenina contributed to suppliers' development and enhanced the quality and food safety culture.

Dr. Tim Jackson
Vice President Food Safety, Regulatory and Social Compliance
Driscoll's of the Americas

Challenges and Opportunities to Maintaining a Food Safety Culture in the Produce Industry

Abstract
The safety of fresh and frozen produce is impacted by the practices and behavior of workers in the field, in distribution centers, pack lines, processing operations and transportation. For fresh produce, exposure and handling in retail, wholesale and foodservice operations are also points of potential contamination. Much of this produce does not undergo further processing prior to consumption, and washing is often ineffective at removing pathogens that are already attached. The seasonality of the workforce, cultural and language variation introduce additional challenges to ensuring proper, effective food safety practices in the field and throughout the value chain. The development and maintenance of a robust food safety culture is an important factor in the success of these operations, regardless of size and complexity. Potential hurdles and approaches to create, sustain and monitor food safety culture are discussed for these operations.

Biography
Tim provides leadership within Driscoll's to protect and enhance our brand with focus on food safety, organic integrity, social compliance, worker safety and regulatory compliance. He and his team operate primarily through the execution networks they support across Driscoll's of the Americas and through connections with Global Support Functions that have responsibility in these areas.

Tim has been with Driscoll's since July of 2017. Prior to joining Driscoll's, Tim was the Director of Food Safety for Nestlé US and Nestlé Canada, with responsibility for thermal processing and food safety programs in hygiene, microbiology, allergens and chemical contaminants.

From 2015 to 2020 Tim also served on the Executive Board of the International Association for Food Protection.

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Dr. John Tomlinson
APAC and Global Sales & Marketing Director
BRCGS

Food Safety Culture Excellence

Abstract
The BRC Global Standards Food Safety Culture Module is operated in conjunction with Taylor Shannon International (TSI) and Campden BRI, and is the result of 15 years of academic research on food safety and organisational culture carried out by Dr Taylor at TSI. It is a voluntary module provided in conjunction with the BRC Global Standards audit which provides certificated sites with a quantitative assessment of their food safety culture. The assessment report provides a score for 4 key culture categories – People, Process, Purpose and Proactivity, and 16 dimensions. The scores and accompanying summary report provide an insight into the prevailing food safety culture and allow a mechanism to measure change.

The food safety culture report is derived from a combination of an online survey of staff attitudes completed by site employees and managed by TSI together with a questionnaire completed by the BRC auditor immediately after the audit and based on the findings from the BRC audit.

Biography
Dr John Tomlinson is the Global Sales & Marketing and APAC Director for BRCGS and has been with the organisation since 2015. He is the Operational Director for APAC and his team directly engage with brand owners, partners and suppliers in the region delivering a range of supply chain assurance services and tools.

John has developed the service package value proposition for all production sites operating to a BRCGS core standard since 2018 and led the company rebrand in 2019, with its new brand identity and values.

Previously he was Director of Sales for the British Standards Institution (BSI) and was responsible for selling and developing BSI's global publishing business through an international network of direct and indirect sales channels.

John has extensive experience in the global food and beverage sector in analytical testing, new product development, R&D, management system certification, consulting and IT solutions. Prior to working for BSI, he has held commercial and technical management roles with Eurofins, Leatherhead Food International and Whitbread.

He has a PhD and a first class honours degree in chemistry.

Dr. Joanne Taylor
Co-Founder
Culture Excellence

Biography
BSc Psychology, PgCert Education and Research, PgCert HACCP, PhD Risk Management

Joanne is a travel lover, bookworm and crazy cat lady. She is also uniquely qualified and experienced in food safety and quality culture.

Joanne is a qualified psychologist, educator and researcher, with a PhD in risk management and behaviour change. Over the past 20 years she has taken a multi-disciplinary, innovative approach to a diverse range of academic, government and industry programs across multiple countries.

1. Academia: Joanne has led University MSc modules in Organisational Culture, International Business, Research Methods (Survey Design), Food Safety and HACCP, in the UK and UAE. She has authored a large number of peer-reviewed journal articles, including highly commended articles on organisational culture.

2. Government: Joanne has consulted to governments of the UK, Thailand, Brunei, Oman, Abu Dhabi, Dubai, Sharjah, Ajman and Qatar, as well as working on projects for the World Health Organisation / Food Agriculture Organisation (WHO/FAO). She has led large scale government programs to bring about improvements in safety and quality on a national scale.

3. Industry: Joanne has worked with a diverse range of companies as a trainer, auditor, researcher and culture assessor. She has led the development of innovative industry systems and tools that are used in over 85 countries around the world.

Smart Technologies & Innovations

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From some years now the agri-food business has been facing its biggest challenges, namely, from turmoil in domestic and international markets, intensified by the Covid-19 pandemic to shift in consumer preferences, and to technology-enabled improvements.

For governments, the increase in medical expenses related to food borne diseases and the negative impact of the agri-food business on climate change have consequently entailed them tightening food regulation constraints while new products and production methods driven by new technologies should entail them setting up a new adapted and globally harmonized regulatory framework.

Today's consumers are intensively concerned about the relationship between their diets and their health and the planet as well, highly connected, they are increasingly empowered by technologies.

Can Smart Technologies and Innovations provide appropriate and adequate solutions to be used for enhanced food safety and nutrition management for the greater good of the food industry and ultimately consumers.

Moderator

Mr. Yves Rey
Independent Senior Advisor to Industry Leaders
Former Danone Corporate General Manager
Former GFSI Chairman

Biography

Yves Rey is a French citizen and a graduate of ENSAIA, France and holds MSc degrees in chemistry and biochemistry. He has more than 44 years' experience in world's leading food, beverage and packaging companies in 10 different countries.

Yves Rey is an experienced General Manager with a strong business and consumer-oriented mindsets, with a extensive and demonstrated knowledge in food manufacturing and processing, food science, food safety and quality management, general management and a strong food related academy background and food law.

He started his career in 1975 with Heineken in production and then joined Schweppes in 1982, first as Plant Manager and then as Operations Director. In 1991, he was appointed Technical Director of Coca-Cola. In 1994, he was appointed General Manager for Europe of McCain Sunnyland, before moving on in 1999 to become General Manager South Europe of Wipak Flexible Packaging. Yves joined Groupe Danone in 2003. He held the position of Corporate Quality General Manager and then since January 2015 he holds the position of senior advisor to DANONE's board. In 2016, he has been appointed Senior Advisor to the United Nation office for project services in Asia Pacific and Executive Director of IFAAO created to address the growing challenge of determining the authenticity of food ingredients. He also serves as Honorable Advisor of China Food Safety Initiatives; a China based NGO set up in partnership between the food industry and CFDA/AQSIQ and holds the position of conference ambassador to CIFSQ (China International Food Safety and Quality) conference.

Yves has been a longstanding member of the GFSI board (Global food Safety Initiatives) - from 2006 to 2011, as vice-chair from 2008 to 2011 and as Chair from 2012 to 2014. Yves was on the board of Directors for Safe Supply of Affordable Food Everywhere (SSAFE) and is working closely with CFDA, AQSIQ and CNCA in China on the global harmonization of food safety requirements, with USDA and FDA (USA) regarding food safety standards, with DG-Sanco in Europe on Food Fraud and with CODEX FAO and OIE on harmonized food safety standards and animal welfare.

Plenary Speakers and Panelists

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Mr. Tom Heilandt
Secretary
FAO/WHO Codex Alimentarius Commission

Standards & Science & Partnerships We Need to Dream our Future

Abstract

One of the things I missed most in 2020 was going to restaurants and sharing meals with friends. I have a read a lot of science fiction books in my life and many of them had some variation of a food printer where you can order a dish and it will appear seconds later perfectly prepared, delicious and safe. We are still far from that and some may feel that this is not even a desirable technology, but last year I would not have minded getting together with friends all over the world on zoom and try out some cyberfood together. We need to dream innovation to make safe, good food available in every home all the time regardless if the "Chef" is in the printer or physically there. We need to create a food safety and quality production and consumption culture. We need to develop the science and the standards based on this and we need to do it in partnerships – private – public – national – regional – international and global.

Biography

Tom Heilandt is a German citizen with degrees in Mathematics and Computer Science. From 1990-1994 he worked in chemical industry (BAYER) and enterprise consulting (Trinzic Corp, Aion Corp). After passing the national competitive exam of the United Nations Secretariat, he worked from 1994-1998 in the United Nations Economic Commission for Europe (UNECE) in Geneva in Secretariat of the Agreements on international regulations for the transport of dangerous goods. From 1998-2005, he was Secretary of the UNECE Working Party on Agricultural Quality Standards.

In 2005, he joined the Codex Secretariat in Rome as Senior Officer responsible for communication. In October 2014, the Directors General of FAO and WHO appointed him to the position of Secretary of the Codex Alimentarius Commission.

He is a member of the:

- Administrative Council of the Fondation André-Levesque pour l'avenir de la relation (FAR), situated in the Académie des sciences morales et politiques, Institut de France (since 2005);
- International Advisory Board of the Chinese Centre for Food Risk Assessment (since 2018);
- French Order of Agricultural Merit for his contribution to the establishment of the United Nations World Food Safety Day (since 2019).

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Mr. Nicholas Brooke
ABAC Principal Advisor to APEC Policy Partnership on Science Technology and Innovation (PPSTI)

Progress and Priorities in the APEC Region

Abstract

The Covid-19 pandemic has caused major disruptions to both food production and distribution resulting in severe bottlenecks along the entire food supply chain and this has been further compounded by shifts in consumer demand due to the rise in at home consumption. Economic challenges have also provided a further layer of complexity as many people, including farmers have faced cash flow issues.

APEC members have implemented a number of measures to reinforce the food supply chain, promoting public/private partnerships to improve food security and greater resilience in the food system through the development and adoption of digital technologies, pursuing initiatives across the region to keep food trade open and recognising that food trade is an essential component of food security and avoiding measures that are not based on evidence and scientific risk assessment.

Concurrently APEC under the leadership of New Zealand is to develop a new **Food Security Roadmap** to replace the APEC Food Security Roadmap Towards 2020. Pre-Covid-19, the region's food systems were already facing significant challenges in terms of population growth, urbanisation, climate change and the depletion of natural resources. It is intended that the new Road Map will chart a course through the immediate Covid-19 challenge and at the same time develop longer term policy approaches to ensure that the region's food systems are productive, efficient and innovative as well as sustainable and inclusive.

Biography

Nicholas Brooke who has lived in Hong Kong for the last 40 years is a Chartered Surveyor by profession and the Chairman of Professional Property Services Limited which is a specialist consultancy, based in Hong Kong, providing a selected range of advisory services across the Asia Pacific Region. He is a recognised authority on land administration and planning matters and is very much involved with a series of initiatives designed to improve the quality of life in Hong Kong and to enhance the built environment for the benefit of future generations.

Mr. Brooke is also a keen advocate of the importance of innovation and technology here in Hong Kong and was closely involved with the establishment of the Hong Kong Science and Technology Parks Corporation, joining the Board in May 2001 and leading the development of all three phases of Hong Kong Science Park until he stepped down as Chairman in June 2014. He also is the ABAC Principal Advisor to the APEC Policy Partnership on Science, Technology and Innovation (PPSTI) which provides guidance to APEC and its 21 member economies on the priorities and projects to be pursued in responding to the challenges faced in the current rapidly changing world, largely in the fields of science, technology and innovation.

In July 2018, Mr Brooke was elected as the Asia Pacific Chairman of the Urban Land Institute, of which he is also a Lifetime Trustee.

Mr. Brooke is the immediate past Chairman of the Hong Kong Harbourfront Commission, the role of which is to co-ordinate the planning, design, implementation and management of the various initiatives around Victoria Harbour. Mr. Brooke has served on the Hong Kong Town Planning Board and the Hong Kong Housing Authority and is also a Justice of the Peace (JP).

Mr. Brooke was awarded the Gold Bauhinia Star (GBS) by the Hong Kong Chief Executive on 1 July 2018 in recognition of his distinguished public and community service.

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Prof. Jiannong Cao

Chair Professor of Distributed and Mobile Computing, Department of Computing
The Hong Kong Polytechnic University

When Food Safety Meets IoT

Abstract

The food safety challenges remain open despite the efforts taken in food safety research and technology development. To migrate the increasing food risks, traditional approaches like food lab testing and post risk analysis are not enough to ensure safe and secure food production, distribution, and consumption. With the rapid development of the IoT technology, we are provided with new approaches to oversee the entire food supply chain and tackle the key challenging issues. In this talk we describe how the IoT technology enables featured food safety services, including transparent traceability, time-efficient status detection, and accurate risk prediction. First, the wide deployment of IoT sensors along the food supply chain, whose data can be seamlessly stored on blockchain, can help to realize authentic and transparent food traceability. Second, new food sensing techniques are proposed to detect the food quality status in a time-efficient and non-intrusive way. Third, the massive IoT data can be utilized to accurately predict food safety risks so that actions can be made in advance. We will also report our recent research works in IoT-enabled food safety.

Biography

Dr. Cao is the Otto Poon Charitable Foundation Professor in Data Science and the Chair Professor of Distributed and Mobile Computing in the Department of Computing at The Hong Kong Polytechnic University. He served the department head from 2011 to 2017. He was the founding director and now the associate director of University's Research Facility in Big Data Analytics. He is also the director of the Internet and Mobile Computing Lab.

Dr. Cao's research interests include parallel and distributed computing, wireless networking and mobile computing, big data and machine learning, and cloud and edge computing. He published 5 co-authored and 9 co-edited books, and over 500 papers in major international journals and conference proceedings. He also obtained 13 patents. Dr. Cao received many awards for his outstanding research achievements. He is a member of Academia Europaea, a fellow of IEEE and a distinguished member of ACM. He received the Overseas Outstanding Contribution Award from China Computer Federation in 2017.

Prof. Lorenzo Pastrana

Chair of the Research Office and Group Leader of the Food Processing Group
International Iberian Nanotechnology Laboratory (INL)

From Functional Foods to Cultured Meat

Abstract

In the last decades, consumers' growing attention to the close relationship between health and nutrition is emerging as a new trend, functional foods, mostly regarding the incorporation of natural bioactives into food. This motivates a growing market for personalized healthy food, which aims to tailor and fabricate diet specifically based on an individual's health condition. In the light of this, three dimensional (3D) food printing has gained increasing attention for its distinctive potential to create geometric complex structures, enabling mass production while having economic and environment benefits. On the other hand, sustainability of the food system is another important driver for consumers. Meat production is the main responsible for green house emissions. Cell-based meats appear as an appealing alternative since these substitutes are produced with cells grown using more efficient cell culture techniques instead of in the animals. By means of 3D bioprinting it will be possible to use food inks formulated with bioactives to figure out healthier and sustainable meat analogs.

Biography

Lorenzo Pastrana is currently Chair of the Research Office and Group Leader of the Food Processing Group, at the International Iberian Nanotechnology Laboratory (INL). He is also Professor of Food Science at the University of Vigo where he was the Director of the Centre of Research transference and Innovation (CITI) and Head of Knowledge Transfer Office (2009-2010). He founded the Galician Agri-Food Technology Platform (2006) engaging academic institutions and companies to pave the clusterization of the sector. Currently, he takes part of the scientific board of the Portugal Foods innovation cluster. In 2015 he joins the INL as Head of the Department of Life Sciences that included three Research Units, namely Food, Environment and Health. At INL his research is marked oriented with a multidisciplinary approach integrating methods and concepts of the biotechnology, nanotechnology and mathematical modelling. Currently he is working in three main research lines: Food Structure with emphasis in 3D printing materials, encapsulation technologies for improving functional foods and food personalization and active and intelligent food packaging. He is author of more than 180 scientific contributions and 4 licenced patents relating the development of new food products and process. He was the PI of more than 30 National and European research projects and contracts and promoter of 2 food start ups.

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Mr. Simon Wong
Chief Executive Officer
Logistics and Supply Chain MultiTech R&D Centre

Enabling Technologies for the Enhancement of Food Safety

Abstract

There are many enabling technologies for the enhancement of food safety. Blockchain for product tack and tracing, 5G and Beidou infrastructure for effective logistic support, are examples of such technologies.

Hong Kong is ideal for enhancing high-end food products trade between Mainland China and the Rest of the World. For example, HK is the largest import party for Japanese agricultural products for consecutive 15 years. Issues remain in regulations, import operations and other hurdles. Safety concern is shared both by the customers and the suppliers. The technologies developed by LSCM, for example, eLock and eFTP systems, are to facilitate green lane cross boundary logistic support for enhancing logistic efficiency.

Pharmaceutical supply support is another field that needs technology support. LSCM is working on blockchain technology to meet eHealth objectives with secured online pharmaceuticals data sharing among patients, doctors, and pharmaceuticals. On cross-boundary pharmaceutical supply chain, blockchain is also used to provide track and tracing, while protecting data privacy.

As more trade in food products is expected in this part of the region, we need to rely on more technologies to enhance safety in supply chain and logistics. All stakeholders need to work together to make this happen.

Biography

Mr Simon K Y Wong is the Chief Executive Officer of the Logistics and Supply Chain MultiTech R&D Centre (LSCM). It was established in 2006 by the HKSAR Government and charged with the mission to research and develop relevant technical solutions to serve the logistics, construction and eCommerce industries in Hong Kong and the Pearl River Delta region.

Mr Wong has more than 30 years of working experience in the commercial sector. Before joining the LSCM, Mr Wong held a number of technology development and management positions in Hong Kong and Taiwan. He worked at the General Electric Company between 1996 and 1999, and he was the President of GE Appliances Asia from 1999 to 2004. He joined Johnson Electric in 2004 as the President of JE Trading Limited. He was highly involved in developing supply chain solutions for customers and exploring new business models. He held this position until 2010.

Mr Wong holds a master degree in Electrical Engineering and Computer Science from the University of California, Berkeley, United States. Mr Wong is also actively contributing to various councils and advisory bodies in Hong Kong.

Mr Wong has conferred a Medal of Honour by the HKSAR Government in 2020.

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IAFP Affiliates are organizations whose objectives are consistent with those of IAFP and whose members have united to apply for a formal Charter as an Affiliate Association. There are currently 57 IAFP affiliates around the world and the number is increasing. In this session, you will hear from APAC affiliates on their latest initiatives in advancing food safety, and explore with the affiliate community in strengthening collaborative efforts. Attendees will be able to participate in the discussion session.

Moderator

Prof. Terence Lok-ting Lau

Interim Associate Vice President (Innovation and Technology Development), The Hong Kong Polytechnic University
Chairman, Organizing Committee of APFSIC 2021
Convener, Food Safety Consortium [IAFP Hong Kong Affiliate]

IAFP Regional Affiliate Presidents and Delegates:

Chinese Association for Food Protection in North America
Mr. Zengxin Scott Li
Senior Manager for Global Food Safety and Microbiology, Rich Product

Japan
Prof. Shige Koseki
Professor of Food and Agricultural Process Engineering, Research Faculty of Agriculture
Hokkaido University

Korea
Dr. Gyun-Hyun Yuk
Associate Professor, Department of Food Science and Technology
Korea National University of Transportation

Southeast Asia
Dr. C.B. Alvin Lee
Director, Center for Processing Innovation
Associate Professor of Food Science and Nutrition
Institute for Food Safety and Health (IFSH)
Illinois Institute of Technology, Moffett Campus

Taiwan
Prof. Lee-Yan Sheen
Distinguished Professor, Institute of Food Science and Technology, National Taiwan University
Director, National Center for Food Safety Education and Research, National Taiwan University
Director, Center for Food and Biomolecules, National Taiwan University

Mr. Zengxin Scott Li

Senior Manager for Global Food Safety and Microbiology, Rich Product

Biography

Zengxin "Scott" Li is Senior Manager for Global Food Safety and Microbiology at Rich Product in Buffalo, New York. In this position, he works with his colleagues all over the world to establish food safety standard and program for Rich Products, provides technical support for manufacturing plants in area of food safety and microbiological testing, serves as lead instructor for various food safety training programs. Scott engaged with various industrial association, such as International Association for Food Protection, Consumer Brand Association, to enhance food safety practice and culture. Scott has over 10 years for experience in the food industry, he holds a Master degree for food safety and technology from Illinois Institute of Technology.

Since 2014, Scott has served various positions for the Chinese Association for Food Protection in North America (CAFPNA), an affiliate of IAFP, including president, president-elect and secretary. He is currently the IAFP delegate for CAFPNA.

During spare time, Scott spends most of time with his wife and two boys, traveling, hiking and exploring natures.

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Prof. Shige Koseki

Professor of Food and Agricultural Process Engineering, Research Faculty of Agriculture
Hokkaido University

Biography

Shige is the Professor in Agricultural and Food Process Engineering, Hokkaido University, Japan. He obtained the PhD in 2002 form Hokkaido University, and then he worked at National Food Research Institute as a research food technologist for 10 years. During the period, he joined the research group of University of Tasmania from 2010 -2011 as a visiting researcher. He has been an active IAFP member since 2000 and has appointed as a President of Japan affiliate of IAFP. He has been actively studying predictive microbiology for long period of time. As a ComBase associate member, he has developed and managed a useful database Microbial responses viewer (MRV) that provides bacterial growth/no growth boundary conditions since 2008. Recently, his research group is actively studying on stochastic modelling for bacterial inactivation and has published eight papers in highly impact journals within the past three years. He will be hosting the next International Conference on Predictive Modelling in Foods (12th ICPMF) in 2022 at Sapporo, Japan.

Dr. Hyun-Gyun Yuk

Associate Professor, Department of Food Science and Technology
Korea National University of Transportation

Biography

Dr. Yuk earned a Ph.D. degree majoring in food microbiology and safety from the Department of Food Science and Technology at Mississippi State University, USA in 2003. He had postdoctoral experience at the University of Florida from 2004 to 2007. He worked as a Research Food Technologist in the Food Safety Intervention Technologies Research Unit at the United States Department of Agriculture, Agricultural Research Service, Eastern Regional Research Center from 2007 to 2009. He was an Assistant Professor of Food Science and Technology Programme at National University of Singapore as an Assistant Professor from 2009 to 2016 and served as the President of Southeast Asia IAFP affiliate. Currently, he has served as an Associate Professor at the Department of Food Science and Technology, Korea National University of Transportation since 2017. He is an Editor of Food Control and Foods, and an editorial board member of Journal of Food Protection and Food Microbiology. To date, Dr Yuk has authored or co-authored more than 100 publications in internationally recognized peer-reviewed journals. He is a member of organizing committee of the 6th Asia-Pacific Symposium on Food Safety 2021 which will be held in Jeju Island, Korea on Nov 11-12, 2021.

Dr. Alvin Lee

Director, Center for Processing Innovation
Associate Professor of Food Science and Nutrition, Institute for Food Safety and Health
Illinois Institute of Technology

Biography

Dr. Alvin Lee is a microbiologist and virologist with more than 20 years research experience with a doctorate from the Royal Melbourne Institute of Technology in Australia. He currently leads IFSH Center for Processing Innovation and co-leads the joint IFSH/FDA Microbiology Research Platform on food safety and defense related projects. He is a member of the Executive Board of NoroCORE, a USDA-NIFA Food Virology Collaborative based at North Carolina State University, and leads the Prevention and Control CORE. Current research support includes funding from USDA, US FDA and various industry contracts that evaluate and validate preventive controls for bacterial and viral pathogens. His research focuses on various food processing technologies include high pressure processing, pulsed light, high powered ultrasound, gaseous technology and legacy thermal technologies to inactivate pathogens.

Dr. Lee is a scientific reviewer on a number of scientific journals and publications and a Lead Instructor for Food Safety Preventive Controls for Human Foods. He teaches food microbiology within the Department of Food Science and Nutrition and has mentored more than 30 graduate students and post-doctoral fellows. He is a current active member of the International Association for Food Protection and the Institute of Food Technologists.

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Prof. Lee-Yan Sheen
Distinguished Professor, Institute of Food Science and Technology
National Taiwan University

Biography

Dr. Lee-Yan Sheen is a distinguished Professor at the Institute of Food Science and Technology, National Taiwan University (NTU). His research interests are food safety, dietary therapy, and functional food development with more than 37 publications in the recent five years. His researches combine the concept of Western dietary therapy and traditional Chinese dietary therapy to explore its function and its benefit for human health, value-added food products as well as preventive medicines for improving the quality of human life. Dr. Sheen has been held the 3rd Asia Pacific International Conference on Food Safety in 2013 to keep focusing on the health medicine-related applications and food safety area in Taiwan.

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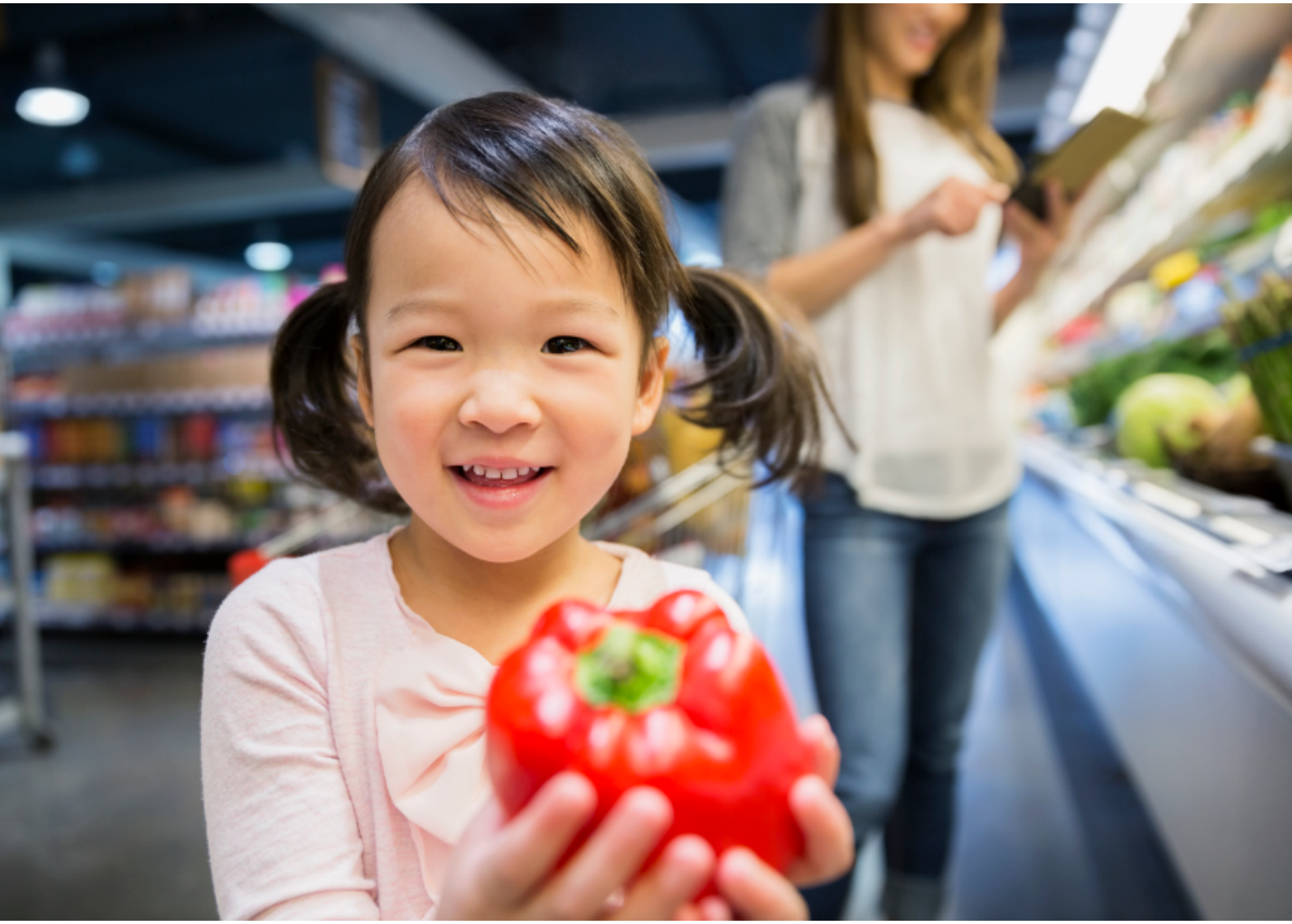
Mr. David W. Tharp
Executive Director
International Association for Food Protection

Biography

David Tharp, Executive Director, International Association for Food Protection (IAFP) David Tharp serves as Executive Director at the International Association for Food Protection (IAFP) with offices located in Des Moines, Iowa, USA. David began his association career in 1993 as the Director of Finance and Administration with a promotion to Executive Director taking place in 1997. David has served on the board of directors for many food safety related organizations including the 3-A Sanitary Standards and the Food Allergy and Anaphylaxis Network; Partnership for Food Safety Education; and currently on the International Food Protection Training Institute. He also served on a number of convention and visitor bureaus (CVB's) convention councils including the cities of Portland and Louisville while currently serving on councils in Toronto and Des Moines. His degree in Business Administration was earned from Drake University with a major in Accounting. In addition, David is a Certified Public Accountant (CPA) and achieved the Certified Association Executive (CAE) designation from the American Society of Association Executives. IAFP provides food safety professionals worldwide with a forum to exchange information on protecting the food supply. This is achieved through two monthly journals; the Journal of Food Protection and Food Protection Trends, an online newsletter titled the IAFP Report and through an Annual Meeting in North America where research topics on food safety issues are presented. IAFP also holds a symposium in Europe each year and separate, international symposia.

IMPACTING WHAT MATTERS.
WHERE IT MATTERS MOST.



Ecolab works behind the scenes at nearly three million customer locations to impact what matters most: clean water, safe food and healthy environments.

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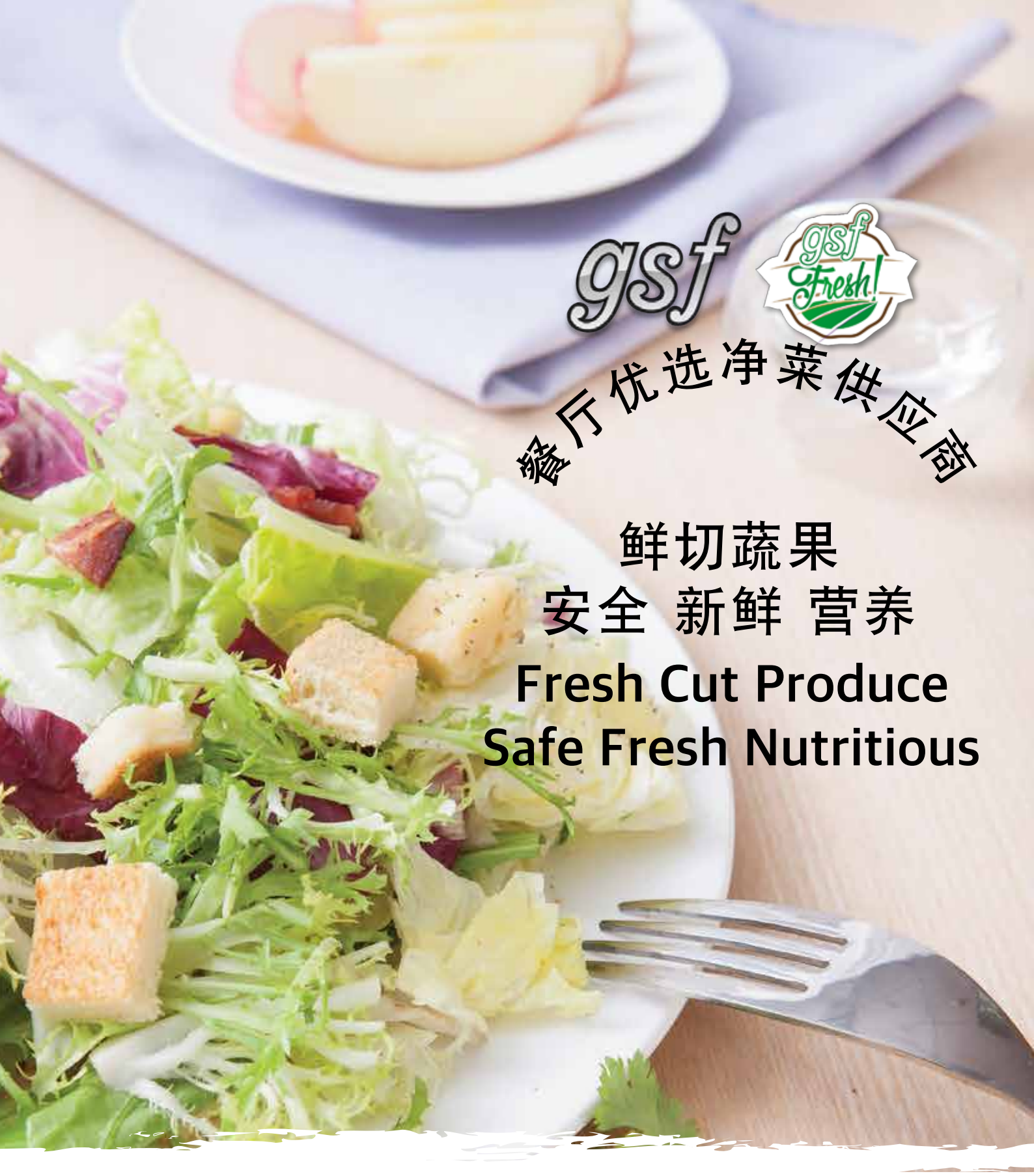

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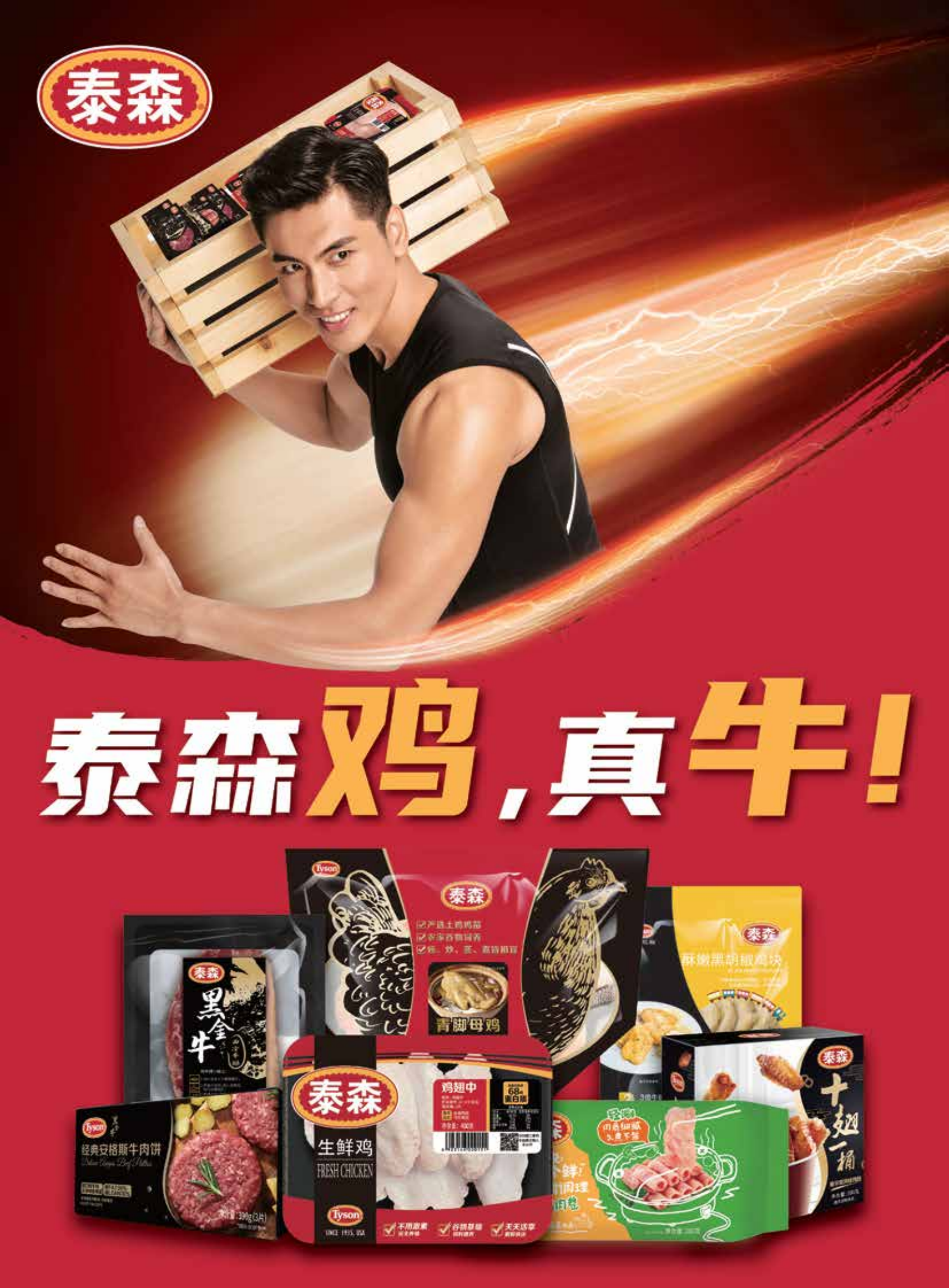
Safe Fresh Nutritious

广州金鲜食品有限公司

Guangzhou Golden Fresh Food Co., Ltd.


泰森
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经典安格斯牛肉饼
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FRESH CHICKEN
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New Detection Methods

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Moderator

Dr. Tong-Jen Fu
Research Chemical Engineer
U.S. Food and Drug Administration

Biography

Dr. Fu is a Research Chemical Engineer with the U.S. Food and Drug Administration. She conducts a wide range of research related to produce safety and food allergens. Her research on produce safety includes approaches to minimize microbial cross-contamination during washing of fresh produce, pathogen reduction in sprouts and factors affecting seed treatment efficacy. Her allergen research focuses on structural and physicochemical properties of allergenic proteins and how processing conditions may affect the allergenic potential and detection of these proteins.

Dr. Fu provides technical expertise in support of the Agency's regulatory programs. She participated in the development of the Produce Safety Rule and related guidance documents and provided expert review of FDA and international guidelines on safety assessment of foods derived from recombinant-DNA plants and on allergen management in food establishments.

Dr. Fu has authored or co-authored 38 journal articles, 5 book chapters, 113 abstracts and has co-edited 3 books. She is an active member of IAFP and has served on the Program Committee, Affiliate Council, and Executive Board.

Presentations and Speakers

Dr. Krishna Kumar Ballamoole
Assistant Professor, Nitte University Centre for Science Education & Research
Nitte University

Development and Validation of gyrB Targeted SYBR Green Based qPCR Assay for the Specific and Rapid Detection of *Vibrio vulnificus* in Seafood

Abstract

Vibrio vulnificus is seafood borne pathogen capable of causing life-threatening septicemia, wound infections and acute gastroenteritis among immunocompromised humans. Currently available methods for the detection of V. vulnificus in food samples have limited application in disease surveillance or as a routine test in the food industry. The Joint FAO/WHO Expert meeting held in 2010 has underlined the need to harmonize and standardize molecular based methods to detect the organism. Hence a SYBR green based qPCR assay targeting a unique region of gyrB was developed for its sensitive detection. The specificity of the assay was studied using V. vulnificus and other bacterial strains belonging to Vibrio and non-Vibrio species. The assay unambiguously distinguished V.vulnificus with a sensitivity of 10 CFU/mL in pure culture while 100CFU/g was detected in clam meat homogenate with an efficiency of ≥ 98%. The utility of the qPCR assay was validated with naturally incurred seafood samples, where 24 out of 59(40.67%) seafood samples tested positive for V. vulnificus after 6-8 h enrichment in APW-P broth. In contrast, conventional PCR could detect only 11 samples (18.64%). Our results show the qPCR assay developed in this study could be used as a rapid method for screening seafood samples for the presence of V. vulnificus, as the assay can be completed within 9-12 h including the enrichment of seafood in APW-P broth. The gyrB targeted qPCR developed in this study can provide excellent results on the presence and load of V. vulnificus in naturally contaminated samples quickly and efficiently; thus it could find application as a routine test in the seafood industry for the analysis V. vulnificus.

Biography

Dr. Krishna Kumar Ballamoole is working as Assistant Professor at Nitte University Centre for Science Education and Research. His research focuses on characterization of food borne pathogen, antibiotic resistance and development of newer diagnsotic techniques for the control of food borne pathogens. He has published more than 20 reseach articles in the peer reviewed journals of internal repute. His research efforts have led to the development of monoclonal antibody based sandwich ELISA for the rapid detection of pathogenic Vibrio parahaemolyticus in seafood" (Int J Food Microbiol. 2011 Jan 31;145(1):244-9). His contribution to research also resulted in generation of the complete gnome sequence of important human pathogens Vibrio parahaemolyticus, Salmonella Weltevreden and Campylobacter fetus (Genome Announc. May/June 2014 vol. 2 no. 3 e00607-14). He has also involved in investigating the "Prevalence & impact of antibiotic resistant bacteria of non-human origin". The study demonstrated the presence of silent antibiotic resistance genes and this study also demonstrated the first report on Class I integron in Salmonella Weltevreden (J Appl Microbiol. 2012 Jun;112(6):1113-22). Furthermore, A rapid and sensitive multiplex PCR (mPCR)-based assay was developed for the detection of antibiotic resistance genes from the bacteria isolated from the environment (J Microbiol Methods. 2013 Jun;93(3):233-8).

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Dr. Yi Chen
Research Microbiologist
U.S. Food and Drug Administration

GenomeTrakr and Whole Genome Sequencing Analysis for Source Tracking Foodborne Pathogens during Surveillance and Outbreak Investigations

Abstract
Whole genome sequencing (WGS) has been a powerful tool for tracking and tracing foodborne pathogens. FDA developed a GenomeTrakr Network, which includes 42 network laboratories from government, academia and private partners. The data are housed in public databases at the National Center for Biotechnology Information (NCBI). WGS is now routine in FDA's outbreak response and compliance/surveillance. Internally (across our agency), and in collaboration with United States Department of Agriculture Food Safety Inspection Serve and Centers for Disease Control and Prevention. In this presentation, we describe multiple cases of outbreaks and surveillance samplings in which WGS helped identify the source and pattern of contamination, with a focus on L. monocytogenes cases. WGS traced the trade of contaminated equipment between food manufacturers, identified emerging clones that are of significant public health concerns, identified clades that were specific to different facilities of the same firm, those that were specific to different production lines of the same facility and those that were specific to different ice cream varieties produced on the same production line; and identified the clade of isolates that persisted in the equipment. WGS also identified repeated introduction, persistence and inter-zone transfer of L. monocytogenes in food production environment.

Biography
Dr. Yi Chen is a research microbiologist at the Center for Food Safety and Applied Nutrition (CFSAN) of FDA. He provides leadership on research activities on method development and validation for the detection and enumeration of L. monocytogenes and Cronobacter in foods and environments. Dr. Chen also leads projects that study the behaviors of L. monocytogenes in various food matrices to elucidate the risk of L. monocytogenes contamination in these foods. He is the expert on whole genome sequencing analysis for surveillance and outbreak response. Recognized as the subject matter expert on L. monocytogenes, he has provided scientific advice for various FDA assignments, outbreak investigations and laboratory analyses. Dr. Chen received his Ph.D. in Food Science at the Pennsylvania State University in 2007. He currently serves as a member of Microbial Method Validation Subcommittee of FDA, co-General Referee for AOAC International, and Editorial Board member for Applied and Environmental Microbiology.

Prof. Jørgen Schlundt
Consultant, Schlundt Consult
Former Director, WHO Department of Food Safety and Zoonoses

The Dramatic New Potential for Genomic Fingerprinting and Sharing of Microbiological DNA Data to Enable Global Surveillance, Source Attribution and Real-time Microbial Identification

Abstract
As Next Generation DNA Sequencing (NGS) spreads globally fast, there is an obvious potential to use a global microbial Whole Genome Sequence (WGS) database to aggregate, share, mine and use microbiological genomic data.

In the not so distant future such data collections will be used as diagnostic tools. In the end, all microbial species, strains, clones will be in the database, enabling any laboratory to upload its sequence and seek the correct answer, meaning species, type (clone) and antimicrobial resistance. If/when all microbiological labs start using this system, it will also enable real-time global surveillance of all relevant communicable diseases (human, animal, plant).

The Global Microbial Identifier (GMI) an initiative presently involving > 250 researchers from > 50 countries is managed by a Steering Committee, and operates through four Working Groups and annual Global Meetings. The main activities until now includes GMI minimum data requirements for genomic databases (used in NCBI and EBI), three global GMI Lab Proficiency Tests assessing NGS capacity, two letters to Governments of all countries (192) about the potential benefits of microbial DNA sharing.

Biography
Jørgen Schlundt (JS) is Doctor Veterinary Medicine and PhD from University of Copenhagen, Denmark 1983.

1983-99
JS worked in Denmark including a 3-year period in Zimbabwe, focusing on the areas of risk assessment and decision support related to environment protection, food safety and food production (farm-to-table).

1999-2010
JS headed Department for Food Safety and Zoonoses at WHO, focused on definition of risk analysis principles, creation of a new WHO Expert body for microbiological risk assessment (JEMRA), creation of the Adv. Group on Integrated Surveillance of Antimicrobial Resistance (AGISAR), initiation of the WHO global burden of foodborne disease initiative, creation of the International Food Safety Authorities Network (INFOSAN) and the WHO Five Keys to Safer Foods messages. In addition JS headed the WHO part of the Joint WHO/FAO Food Standards Programme, for which the active arm is Codex Alimentarius and was interim Director for WHO Nutrition Department 2007-8.

2010-15
Professor and Director (DTU Food) at the Technical University of Denmark.

2015-20
Professor Food Science and Technology at the Nanyang Technological University in Singapore, JS is presently Chair of the Global Microbial Identifier initiative, focusing on the potential for new use of whole-genome DNA-sequencing techniques (www.globalmicrobialidentifier.org).

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Prof. Chia-Yang Chen
Professor and Director, Institute of Food Safety and Health
National Taiwan University

Screening of Chemical Contaminants in Food Using Ultra-high Performance Liquid Chromatography / Quadruple Time-of-flight Mass Spectrometry

Abstract

Wei-Ling Lin and Chia-Yang Chen*
Institute of Food Safety and Health, College of Public Health, National Taiwan University

This study screened organic chemical contaminants in food with ultra-high performance liquid chromatography/quadrupole time-of-flight mass spectrometry. Twenty-three food items were collected at three separate times from traditional markets and supermarkets in two cities in Taiwan, Changhua (May-October 2019) and Matsu (December 2019-April 2020). Homogenized samples were extracted with QuEChERS followed by PRiME HLB cleanup, then were analyzed at both positive and negative electrospray ionization in All Ions MS/MS mode; mass spectra were matched with five libraries for chemical identification. The empirical data (detection frequency and peak abundance) of identified chemicals were combined with their external information (exposure data, bioactivity, and acceptable daily intake) for prioritization using ToxPi software. A total of 188 and 175 compounds were identified in the food samples from Changhua and Matsu, respectively. Based on the ToxPi scores, 4-tert-octylphenol and plasticizers (dibutyl phthalate, bis(2-ethylhexyl) phthalate, di(2-ethylhexyl) adipate, dioctyl phthalate) were among the top 10 chemicals found in all food categories (leafy vegetables, grains/root crops, seafood, poultry/livestock). Empenthrin and hexylresorcinol were within the top five chemicals found in leafy vegetables and grains/root crops. The non-targeted screening elucidated chemical hazards from food ingestion, and the prioritized chemical list is valuable for further chemical quantification and health risk assessment.

Biography

Dr. Chia-Yang Chen obtained his Ph.D. degree in 2000 from the Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, USA, and received 21-month post-doctoral training at the Wadsworth Center, New York State Department of Health, USA. He has been a faculty member in the National Taiwan University (NTU) since 2002, and he is a professor and director in the Institute of Food Safety and Health, NTU. His expertise is in trace analysis of contaminants using various sample preparation techniques and mass spectrometry. His research also includes exposure assessment and human health risk assessment. Professor Chen has published more than 50 international refereed papers and three book chapters. He is a consultant of Taiwan EPA and TFDA. He has been a board member of research proposal review of Taiwan Ministry of Science and Technology for more than 14 years. He has served four years of presidency of Taiwan Association of Food Protection, and now he chairs the committee of academic development in the Society of Environmental Analysis, Taiwan.

Risk Management Strategies

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Moderator

Dr. Bernard Chang
Senior Project Fellow, Department of Applied Biology and Chemical Technology
The Hong Kong Polytechnic University

Biography

In his role as Project Manager and Senior Project Fellow at Food Safety Consortium at The Hong Kong Polytechnic University (PolyU), Dr. Bernard Chang cultivates relationships with multinational and local food companies, national food authorities and testing centres, and supranational organisations; bringing together collaborative resources and leveraging multi-disciplinary expertise to solve food safety problems.

Bernard received his PhD in Theoretical Chemistry from the University of Illinois at Urbana-Champaign and his MBA in New Venture from Queen's University.

Bernard has over 20 years' experience in the biotechnology, pharmaceutical and food industries, with positions in business development, marketing, and alliance management. Before joining PolyU, Bernard worked at the Cardiovascular and Metabolic Diseases group at Novartis Institutes for BioMedical Research, providing advice on discovery research directions based on data analytics and Bayesian modelling. Bernard also was with the Massachusetts General Hospital, commercialising inventions that remedy diseases related to the Central Nervous System.

Presentations and Speakers

Prof. Lee-Yan Sheen
Distinguished Professor, Institute of Food Science and Technology
National Taiwan University

Microbial Risk Assessment for Risk Management of *Staphylococcus aureus* in Ready-to-eat (RTE) Cooked Rice with Pork Floss (CRPF) in Taiwan

Abstract

Staphylococcus aureus is a major foodborne pathogen causing a high number of illnesses linked to the consumption of ready-to-eat (RTE) food products. In Taiwan, cooked rice with pork floss (CRPF) wrapped in dried seaweed is one of the most popular RTE foods susceptible to microbial contamination and temperature abuse during manufacturing, distribution, and storage. To access the associated risks to consumers we aimed to develop mathematical models to predict the growth of *S. aureus* in CRPF as affected by temperature throughout the supply chain. S. aureus was inoculated onto CRPF and stored at various temperatures to observe the growth. Growth curves were analyzed using USDA IPMP 2013 to develop growth models of *S. aureus*. Among the models evaluated, the combination of Huang primary and Huang square-root models was more suitable for describing the *S. aureus* growth than others. Moreover, we performed a risk assessment to assess the probabilities of illnesses caused by *S. aureus* in RTE CRPF. Results showed that the storage temperature and the initial contamination levels were the most important two factors contributing to the risk. The safe storage time for CRPF in spring, summer, autumn and winter seasons can be 18, 12, 16, and 34 hours, respectively.

Biography

Dr. Lee-Yan Sheen is a distinguished Professor at the Institute of Food Science and Technology, National Taiwan University (NTU). His research interests are food safety, dietary therapy, and functional food development with more than 37 publications in the recent five years. His researches combine the concept of Western dietary therapy and traditional Chinese dietary therapy to explore its function and its benefit for human health, value-added food products as well as preventive medicines for improving the quality of human life. Dr. Sheen has been held the 3rd Asia Pacific International Conference on Food Safety in 2013 to keep focusing on the health medicine-related applications and food safety area in Taiwan.

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Dr. Ruth Petran, CFS
Principal
Ruth Petran Consulting, LLC

Practical Application of Risk Assessment Outcomes in Manufacturing and Retail Settings Helps Ensure Food Safety

Abstract

In order to effectively manage food safety risks across the food supply chain, valid risk management strategies must be implemented. These rely on judging hazard versus risk, applying empirical and valid research information and translating this into practical approaches that can be reasonably implemented. These concepts will be explored using two examples leveraging the risk assessment concept, which can be used to judge where controls are needed and to what extent these need to be managed.

- The first example will focus on effective management of Listeria monocytogenes in manufacturing settings by considering the key outcomes from formal risk assessments and how to apply them.
- The second example will focus on effective management of norovirus, the top cause of foodborne illness in food service settings, by reviewing key traits associated with outbreaks as a potential forecast for the future.

The presentation will review basic risk identification traits about these two hazards and explore how these can be applied to the development of optimal control measures to reduce overall food safety risks.

Biography

Dr. Ruth Petran is a passionate yet practical food safety scientist, and Principal, Ruth Petran Consulting, LLC in suburban Minneapolis, Minnesota. Prior to starting her own business, Ruth held technical food safety and public health leadership roles at Ecolab, Pillsbury and General Mills. She is skilled at tactical application of technical food safety risk management strategies, spanning the global farm to fork supply chain.

Her prior roles have focused on managing safety and quality concerns of microbiologically sensitive foods and systems. She has led food safety assessments at food manufacturing facilities worldwide, focusing on applied HACCP systems and regulatory compliance.

Dr. Petran is a Certified Food Scientist and served two terms on the US National Advisory Committee for Microbiological Criteria for Foods. She is an Executive Board member of the International Association for Food Protection and a member of the Institute of Food Technologists. She chaired the Minnesota Food Safety and Defense Task Force.

Dr. Petran has a Bachelor's degree in Consumer Food Science from Cornell University and an MS in Food Science and a PhD in Public Health both from the University of Minnesota. Her thesis focused on leveraging data from health department inspections to improve food safety.

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Prof. Jeff Farber
Adjunct Professor, Department of Food Science, University of Guelph
Past President, IAFP

Current Approaches to Microbial Food Safety Control and Risk Management in Canada

Abstract

Canada currently has a comprehensive food safety system in place that protects the health of all Canadians. The system operates in a multi-jurisdictional context involving federal, provincial/territorial and municipal authorities. The federal regulatory agencies with responsibility for food are Health Canada, the Canadian Food Inspection Agency (CFIA) and the Public Health Agency of Canada. Agriculture and Agri-Food Canada also plays an important support role.

In terms of Health Canada, The Food and Drugs Act and Regulations applies to all food sold in Canada. Health Canada has adopted a decision-making framework that provides a consistent, and comprehensive means of identifying, assessing and managing risk. Examples of key files related to control of foodborne pathogens and risk management, i.e., the control of *Listeria monocytogenes* and an important document which helps to guide risk management practices during a foodborne outbreak, i.e., the weight-of-evidence document, will be discussed.

The other major piece of Canadian food legislation is the recently enacted Safe Food for Canadians Act and its regulations. The CFIA has also adopted a risk-based approach to enforcement, compliance and control processes. A short description of the CFIA's novel establishment-based risk assessment model for food establishments will be given.

The Public Health Agency of Canada is primarily responsible for the surveillance and monitoring of human illness. These enhanced surveillance activities provide a system for early detection and warning, and a basis for evaluating food safety control strategies. Examples of two important surveillance activities, i.e., FoodNet Canada and enhanced listeriosis surveillance, will also be addressed in this overview.

Biography

Dr. Farber is currently an Adjunct Professor in the Department of Food Science at the University of Guelph, in Guelph, Ontario. Dr. Farber is also President of an international consulting firm, which does food safety consulting with various organizations and countries.

Dr. Jeff Farber most recently was employed as a Full Professor in the Department of Food Science at the University of Guelph, in Guelph, Ontario, where he was Director of the Canadian Research Institute for Food Safety. Previous to that, he was the Director of the Bureau of Microbial Hazards in the Food Directorate of Health Canada, where he led a group of about 60 people working in various areas of microbial food safety, and was instrumental in advancing the development of policy approaches on emerging microbial food safety issues in Canada and at a global level.

Dr. Farber has over 180 publications, plus numerous Book Chapters and has edited 4 books. He was Associate Editor of the International Journal of Food Microbiology for many years and has been on a number of Journal Editorial Boards.

Dr. Farber is a Past-President of the IAFP, and Executive Director of the ICMSF. Dr. Farber also has extensive experience working at the international level.

Dr. Farber has received numerous personal and team awards, most recently in 2020, winning 3 awards from the International Association for Food Protection, and being nominated as a Fellow for The International Union of Food Science and Technology. In 2009, he won one of the highest awards presented to Federal Public Health Officials, the Prime Minister's Outstanding Achievement Award, for his work as the lead scientist for Health Canada on the deli-meat listeriosis outbreak.

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Dr. Anna Starobin
Corporate Scientist, Global QSR and Food Retail
Leader of Microbiology, Food Safety and Public Health
Ecolab

Food Safety Journey. "Are we there yet?"

Abstract
Food Safety concept existed for many years and with everything around us changing rapidly it continues to evolve. New diets, new microorganisms, new technologies, and social habits are only few examples influencing transformation of food science and food safety approaches will be covered in this talk.

Biography
Dr. Anna Starobin is a Corporate Scientist and a leader of microbiology, food safety and public Health for Ecolab's global QSR and FRS divisions. Her responsibilities cover food safety, environmental testing, equipment evaluation, outbreak prevention and recovery, regulatory product development and research done for ECOLAB quick service and food retail customers in the USA and internationally. With over 28 years of experience managing a microbiology laboratory, her team of microbiologists' supports customer requested food safety projects, such as developing food safety procedures, evaluation of the equipment design, testing products designed to reduce outbreak occurrences and providing tools for outbreak recovery.

Dr. Starobin is actively involved in industry food safety projects. She is an author of several publications, patents and multiple white papers. She gives food safety related talks covering topics such as cleaning and sanitation, equipment design, handcare, produce washing, environmental testing and outbreak prevention and recovery in the USA and internationally.

Before joining ECOLAB in 1992, Dr. Starobin worked in an epidemiological station in Russia, controlling and enforcing food safety for children and adolescent organizations. She also worked in a hospital setting as a clinical microbiologist with an emphasis on antibiotic resistance and hospital acquired infections.

Dr. Starobin is a member of several industry organizations, including IAFP, CFP, GFSI, FMI, NRA and ASTM. She chaired the CFP Produce washing committee in 2016-2018 and 2018-2020. In 2010-2012 she chaired CFP Interdisciplinary Foodborne Illness Training Committee and was actively involved in the work of the Handcare, Emergency Action Plan, Ice Machines and Issue Committees. She was a member of GFSI working group on Hygienic equipment and facility design. Dr. Starobin is a graduate from I.M. Sechenov First Moscow State Medical University with MD in disease prevention and epidemiology. She also is a certified food safety professional.

EU-China-Safe: Delivering an Effective, Resilient and Sustainable EU-China Food Safety Partnership

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Moderators

Prof. Wu Yongning

Chief Scientist, China National Center for Food Safety Risk Assessment
Coordinator, EU-China-Safe

Biography

Professor Yongning Wu is Chief Scientist of the China National Center for Food Safety Risk Assessment (CFSA), PI of Food Safety Research Unit of Chinese Academy of Medical Science (2019RU014), the Director of NHC Key Laboratory of Food Safety Risk Assessment, head of WHO Collaborating Center of Food Contamination Monitoring (China), member of WHO Technic Advisory Group for Food Safety, a fellow of International Academy of Food Science and Technology, Vice-President of Chinese Society of Toxicology, President of the Food Authenticity and Traceability Association of the China Institute of Food Science and Technology, Deputy Director of Public Health of Chinese Medical Association, Standing Member of Chinese Preventive Medicine Association. In 1983 Professor Wu graduated from Nanjing Medical College and, in 1997, received a Ph.D. in Nutrition and Food Safety from the Chinese Academy of Preventive Medicine. Professor Wu serves on numerous domestic and international food safety committees such as the FAO/WHO Joint Expert Committee on Food Additives (JECFA), USP Food Ingredient Expert Committee (FCC), Scientific Committee of Food Safety Commission of the State Council of PR China, Scientific Committee of Food Safety for Hong Kong Special Government of PR China, Chief Technology Officer of China National Food Safety Risk Assessment Committee. As the director of the food contaminant subcommittee of the China Reviewing Committee on National Food Safety Standards and the head of the Chinese delegation of Codex Committee on Contaminants in Food, he is involved in the drafting of food safety standards for food contaminants, chaired the draft working group on Codex maximum limit of inorganic arsenic in rice internationally and China National Standard. As chair of the Panel on Selecting List of Non-Food Ingredients Illegally Added in Food, and member of Food Ingredients International Adulterants Expert Panel, he received an award for Outstanding Contribution to USP Standard. Prof Wu is also a member of several journals, Editorial Advisory Board for food and environmental science, and preventive medicine and has published 300 SCI papers, with H index 49.

Prof. Christopher Elliott

Professor of Food Safety, Founder of the Institute for Global Food Security
Queen's University Belfast

Biography

Chris is currently Professor of Food Safety and founder of the Institute for Global Food Security at Queen's University Belfast. He served as Pro Vice Chancellor responsible for the Medical and Life Sciences Faculty between 2015 and 2018.

He has published more than 450 peer review articles, many of them relating to the detection and control of agriculture, food and environmental related contaminants. His main research interests are in the development of innovative techniques to provide early warning of toxin threats across complex food supply systems. Protecting the integrity of the food supply chain from fraud is also a key research topic and Chris led the independent review of Britain's food system following the 2013 horsemeat scandal. He currently co-ordinates a flagship Horizon2020 project involving 16 European and 17 Chinese partners on food safety and also co-ordinates a European Institute of Innovation and Technology flagship research project.

Over the years Chris has developed a high level network of collaborators across Europe, the United States, the Middle East and Asia. He is a visiting Professor at the China Agriculture University in Beijing and the Chinese Academy of Sciences and Thammasat University in Thailand. He is a recipient of a Winston Churchill Fellowship and is an elected Fellow of the Royal Society of Chemistry and Royal Society of Biology. Chris has received numerous prizes and awards for his work. In 2017 he was awarded the Royal Society of Chemistry Theophilus Redwood Prize and was also awarded an OBE by Her Majesty Queen Elizabeth II. He was elected a member of the Royal Irish Academy in 2020.

Presentations and Speakers

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Dr. Si Chen

Associate Researcher, Division of Risk Communication
China National Center for Food Safety Risk Assessment (CFSA)

How to Improve the Quality and Efficiency of Food Safety Risk Communication in the Era of Digital Media

Abstract

The explosion of new media has brought both huge challenges and great opportunities for those involved in food safety and nutrition related risk communication. The social media is allowing true two way communication in real time and permitting segmentation of audiences to permit targeted tailored communication. There have been great advances in risk assessment and risk management across many jurisdictions but the same science based progress has not been made with the third element of Risk Analysis -Risk Communication. Engaging with the public and understanding how they perceive risk and what influences behaviour requires another set of competencies than that held by pure food scientists. Culture and governances structure can influence communication strategies so approaches may not be completely transferable between jurisdictions.

The speaker will propose some innovative communication strategies, and draw from some of the output from the EU China Safe research program. The speaker will also highlight how communicators can capitalize on the great potential of smart media in their communication practice.

Biography

Dr Si Chen joined the Risk Communication Department at CFSA in 2012. She is mainly responsible for national consumer surveys in relation to food safety and nutrition and research on consumer psychology. The output of her work informs the development of targeted and precise communication strategies. She has had secondments to the Irish Food Safety Authority and the European Food Safety Authority. Dr Chen has completed more than ten national surveys on public food risk perception, and published more than 10 peer-reviewed journal articles and books. Her major interest is to develop effective risk communication strategies that meet the needs of consumers, through maximizing the conclusions of the academic research. She is particularly interested in using the digital media to engage with consumers for two way communication in both crisis situations and in peace time. She has an ongoing collaboration with the School of Public Health in University College Dublin, Ireland and worked with several other EU academic partners on the communication elements of EU China Safe project.

Prof. Ying Chen

Vice President
Chinese Academy of Inspection and Quarantine

Effective Identification of Food Species by Next Generation Sequencing (NGS)

Abstract

Food fraud is an emerging risk for the purpose of economic gain. As a form of food fraud, species substitution of food is related to the market operation, food security and safety, and even ethical issues related to religion. Therefore, species identification of food products is of paramount importance to avoid economic fraud. This report represents a next generation sequencing (NGS) approach to identify animal species in mixed food products. An NGS approach for the authenticity of food products containing multiple species was established with ability for simultaneously identified all major species and impurity species. A market survey in commercial food products indicated the presence of mislabeling of processed food and showed a great potential for the species identification of food the NGS approach in the near future.

Biography

Prof. Dr. Chen Ying, Chief expert, vice-president and chief engineer of Chinese Academy of Inspection and Quarantine. She is council member of Chinese Institute of Food Science and Technology (CIFST), and member of National Food Safety Standard Review Committee. Dr. Chen dedicated to research on properties and representations of food authenticity, detection and traceability of biological factors for quality safety. In recent years she has leaded and participated in more than 20 projects, including National Natural Science Foundation of China, National Key R&D Plan and EU Horizon 2020 Program. She has published over 200 papers, 6 monographs, and developed 11 national standards and 61 industrial standards, 33 authorized invention patents. She is the editorial board member of "Food Science" and "Journal of Food Safety and Quality" and "Journal of Agriculture and Food Chemistry".

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Dr. Di Wu
Newton International Fellow
The Institute for Global Food Security, Queen's University of Belfast

LC-MS Tools in the Campaign against Food Fraud in Infant Formula

Abstract
Constantly growing of globalization and expansion of international food supply chains have raised unprecedented challenges in the new millennium. The melamine scandal exploded in 2008, was a catastrophe to Chinese local dairy industry which aroused public awareness toward food integrity. The compound itself became a perfect candidate to cheat GB testing standard at the time for protein in infant formula via Kjeldahl method. At the meantime, new terms of adulterations were found by introducing cheap bovine caseins and plant sourced protein which might carry uncertain health risks for infants. Although a series of well-developed method specifically targeting melamine was established even at Ultra-trace levels, it's vulnerability against other N-rich and melamine-like compounds have placed every effort in jeopardy once again. The H2020 EU-China-Safe intergovernmental research program launched in 2017 aimed to deliver a harmonized food safety and authenticity global network. Being part of the program, our research has combined rapid LC-HRMS N-rich screening database with paralleled tryptic peptide measure by introducing stable isotope labeled signature peptide to minimize matrix effect of AUQA assay during ionization. We hope eventually we will be able to transform those methods into standards and implement at international level.

Biography
Dr. Wu received his PhD. in Cell Biology from Xiamen University, co-trained postdoctor of Tsinghua University and Yangtze Delta Region Institute of Tsinghua University, Zhejiang. He has recently joined IGFS team at Queen's University of Belfast (QUB) as Newton International Fellow of Royal Society. He was invited by U.K. institutes and German Federal Institute for Risk Assessment (BfR) as short-termed research fellow and guest scientist. His main research now focuses on implimentation of targeted and non-targeted fingerprinting tools in food integrity studies (Mainly food authenticity and food allergy) and method standardrization/transformation of chemical contaminants. He was involved in multiple national key R&D programs and international coorporation frameworks including NSFC and the 'H2020 EU-CHINA-SAFE Food Safety Intergovernmental Framework Partnership Program' of MOST and revision of national food safety GB standards. He is currently member of the Codex Alimentarius Commission standard revision group over Mycotoxins and U.S. Pharmacopial Convention's (USP) Dietary Protein Committee.

Prof. Christopher Elliott
Professor of Food Safety, Founder of the Institute for Global Food Security
Queen's University Belfast

EU-China-safe Delivering an Effective, Resilient and Sustainable EU-China Food Safety Partnership

Abstract
Professor Christopher Elliott, Queen's University Belfast, UK
Professor Yongning WU, China National Center for Food Safety Risk Assessment, Beijing, China

Background:
In both Europe and China, consumer trust in the food industry and regulatory authorities has been significantly damaged by a large number of accidental and deliberate food contamination/adulteration incidents. These safety, traceability, regulatory and fraud issues have greatly hampered trade between the EU and China and as food supply chains are increasingly complex they are highly vulnerable to safety and fraud threats.

The EU-China-Safe is a large scale (€11m) Horizon 2020 – Chinese Ministry of Science and Technology (MOST) funded project which will deliver a shared vision for food safety and authenticity and work towards "mutual recognition.

The work to date has focused on the development and implementation of a shared vision of best practice within the EU and China that will enhance food Safety, deter food fraud, restore consumer trust, deliver mutual recognition of data and standards and support the flow of agri-food trade between the two trading blocks to promote economic growth.

An overview of the project will be presented.

Biography
Chris is currently Professor of Food Safety and founder of the Institute for Global Food Security at Queen's University Belfast. He served as Pro Vice Chancellor responsible for the Medical and Life Sciences Faculty between 2015 and 2018.

He has published more than 450 peer review articles, many of them relating to the detection and control of agriculture, food and environmental related contaminants. His main research interests are in the development of innovative techniques to provide early warning of toxin threats across complex food supply systems. Protecting the integrity of the food supply chain from fraud is also a key research topic and Chris led the independent review of Britain's food system following the 2013 horsemeat scandal. He currently co-ordinates a flagship Horizon2020 project involving 16 European and 17 Chinese partners on food safety and also co-ordinates a European Institute of Innovation and Technology flagship research project.

Over the years Chris has developed a high level network of collaborators across Europe, the United States, the Middle East and Asia. He is a visiting Professor at the China Agriculture University in Beijing and the Chinese Academy of Sciences and Thammasat University in Thailand. He is a recipient of a Winston Churchill Fellowship and is an elected Fellow of the Royal Society of Chemistry and Royal Society of Biology. Chris has received numerous prizes and awards for his work. In 2017 he was awarded the Royal Society of Chemistry Theophilus Redwood Prize and was also awarded an OBE by Her Majesty Queen Elizabeth II. He was elected a member of the Royal Irish Academy in 2020.

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Dr. Petter Olsen
Senior Scientist
Nofima, Norwegian Institute of Fisheries and Food

Can Traceability Systems and Blockchain Technology Ensure Authenticity and Detect Food Fraud?

Abstract
A food product is authentic if there is a match between product characteristics and corresponding claims. Analytical methods focus on establishing what the characteristics are, but many important and value-adding claims relate to characteristics that cannot be analytically verified, like exact origin, eco-label, organic or religious status, or properties related to sustainability or ethics. To examine the veracity of these claims, it is necessary to examine recordings in the supply chain and see if they match up. If there is no record of a company receiving an ingredient, then the claims that they make that indicate that the ingredient is present cannot be true (input-output analysis). Similarly, if they are reported as receiving one ton of a particular ingredient, but their products would require ten tons of that ingredient, the claims that they make cannot all be true (mass-balance accounting). To check the veracity of claims like this, a chain-wide traceability system is needed, which can make it possible to identify inconsistencies. Additional security is added if the traceability system is based on blockchain technology; then we know the identity of anyone who entered data into the system, and we know that the data has not been tampered with.

Biography
Dr.philos in food traceability from University of Tromsoe, Norway, 2017. M.Sc. in software engineering, applied mathematics and operational research from University of Strathclyde, Glasgow, 1986. Has worked at Nofima since 1993, Senior Scientist at department for Industrial Economics. Works with applications of ICT in the food industry, especially related to information logistics, traceability, IoT, blockchain technology, authenticity, fraud, production management, simulation, sustainability and decision support systems. Serves as an adviser to FAO, EFSA, WWF, the EC, and several EU-funded projects on these subjects. Co-ordinator of the EU 5FP TraceFish project, the EU 7FP WhiteFish project, and several Nordic and national projects. WP leader in numerous national and international projects including EU 6FP TRACE, EU 7FP MareFrame and FoodIntegrity, and H2020 PrimeFish, ClimeFish, FarFish, Authent-Net, EU-China-Safe, and AquaVitae. Author or co-author of 5 European standards (CWAs), 2 ISO standards (ISO 12875 and 12877) and more than 25 peer-refereed scientific publications. https://orcid.org/0000-0001-9411-6271.

Prof. Saskia van Ruth
Professor, Food Authenticity
Wageningen University and Research

Food Fraud and the EUChinaSAFE Project

Abstract
Food fraud is a form of criminal behaviour, no matter the definition of crime, and may result in considerable loss to those involved. Food fraud deprives consumers from informed choices and it affects the nutritional and sensory properties of food products and the anticipated support of environmental and social responsibility of the food production process. Sometimes even the safety of the foods is compromised. In the EUChinaSAFE project, in which food safety and authenticity knowledge is shared between the EU and China, and vice versa, one work package is fully dedicated to food authentication methods. Methodology is developed, validated and transferred from east to west and from west to east. In this lecture some examples of technology development for spices in this project will be presented.

Biography
Saskia van Ruth is Professor of Food Authenticity & Integrity at Wageningen University and Professor of Integrity of Food Supply Networks at Queen's University in Belfast, Northern Ireland and deals with food integrity issues on a daily basis.

After having taken her PhD in food chemistry, she worked on flavour science in industry and the academic world for nine years. She was affiliated for seven years with University College Cork in Ireland. In 2005 she returned to the Netherlands and took up the position of head of the food authenticity and nutrients group at RIKILT Wageningen University and Research, where she still works part-time today. She was appointed professor in Wageningen in 2012 and in Belfast in 2018. Since 2016 she also holds an adjunct professorship appointment at University College Cork.

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Dr. Martin Danaher
Principal Research Officer
TEAGASC Food Research Center of Ireland

Determination of Eight Bound Nitrofuran Residues, using a Rapid Microwave-assisted Sample Preparation Approach with UHPLC-MS/MS Detection

Abstract

[1] Food Safety Department, Teagasc Food Research Centre, Ashtown, Dublin 15
[2] Institute of Global Food Safety, Queen's University Belfast, University Rd, Belfast, UK

Nitrofurans are a class of antibacterial agents that are banned from use in food producing animals on several continents, due to their undesirable toxicological properties. Methodology for analysing these banned compounds is standard in most countries, with analysis primarily focusing on four main compounds, detected as their marker residues, AOZ, AMOZ, AHD and SEM. Analysis of nitrofurans using the bound residue approach provides the most sensitive and selective detection, but it is time consuming and leads to longer sample turnaround times. The aim of this work was to extend the scope of analysis and develop a high throughput method to include four additional nitrofuran compounds, detected as their markers dinitro-salicylic acid hydrazine (DNSAH), hydroxybenzhydrazide (HBH), oxamic acid hydrazide (OAH) and aminoguanidine (AG). The analysis time was shortened from 4 days to 1.5 days by developing a rapid sample preparation approach, using a microwave-assisted derivatisation step and a modified QuEChERS-based extraction. The limits of quantification (LOQ) for all analytes ranged from ranged from 0.02 to 0.04 μg kg^{-1}, with the exception of semicarbazide and aminoguanidine (LOQ = 0.2 μg kg^{-1}).

Biography

Dr Martin Danaher is a Principal Research Officer based at the Teagasc Food Research Centre in Dublin, Ireland. He has over 20 years' experience in the field of analytical chemistry and specialises in the application of separation science in the area of food analysis. He is head of the national reference laboratory for certain veterinary drug and pesticide residues in foods of animal origin. He is also lead research scientist in the area chemical analysis at the Teagasc Dublin food research centre. His research work extends to other areas of food analysis including mycotoxins, plant toxins, biocides, carbohydrates, vitamins and minerals. He leads a team of approximately 20 scientists made up of PhD students, research scientists and technologists. Dr Danaher has coordinated or collaborated on over 30 research projects and published >100 peer reviewed papers and book chapters.

Food Safety at Food Service and Retail Settings

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Moderator

Dr. Ka-sing Leung
Adjunct Associate Professor, Department of Applied Biology and Chemical Technology
The Hong Kong Polytechnic University

Biography

Dr. Ka-sing Leung graduated from the University of Hong Kong. He worked as a chemistry professional in the Hong Kong Government for 25 years, during which he was Senior Chemist at Food and Environmental Hygiene Department, the Senior Chemist-in-charge of the Food Safety and Quality Group at the Government Laboratory.

Dr. Leung is now an Adjunct Associate Professor at the Department of Applied Biology and Chemical Technology cum Advisor of the Food Safety and Technology Research Centre, Hong Kong Polytechnic University. In addition, he is Advisor of Food Safety Department of the Municipal Affairs Bureau, Macau.

Dr. Leung is a Chartered Chemist and Fellow of the Royal Society of Chemistry as well as Certified Food Scientist of the International Food Science Certification Commission. He is also member of the Food Safety Technical Committee of Hong Kong Quality Assurance Agency. His expertise includes food science and risk analysis, quality and food safety management, testing and certification.

Presentations and Speakers

Dr. Audrey Kreske
Director, Global Food Safety
Restaurant Brands International

Food Safety & Behavior Change: What Happens When No One is Watching?

Abstract

With the improvement in foodborne illness outbreak detection, there has been an increased focus on measuring food safety compliance at the restaurant level. 3rd party restaurant assessment programs provide data on food safety compliance based on a specific criteria; when these auditors enter the kitchen, their presence is signaled by their appearance, introduction to management and clipboard/tablet for measuring compliance. These visits, while quite valuable for collecting globally calibrated data, trigger a significant change in Team Member behavior similar to when a teacher is watching over students; Team Members increase handwashing, clean and sanitize readily and take care to handle raw and ready to eat foods carefully. We developed an open-ended food safety behavioral observation visit, not to formally audit, but to provide a real-world view into food safety awareness from the Team Member's perspective. Food safety subject matter experts posed as manager's in training to observe procedures and learn from staff how to perform tasks outside of the training classroom. Results on compliance with operating procedures, risky handling behaviors, and how well training is retained by team members demonstrated there is a significant gap between what is happening when no one is watching and the 3rd party restaurant assessments.

Biography

Upon completing a Ph.D. in Food Science from North Carolina State University in 2009, Audrey conducted extension-based food safety research and developed risk-based food safety trainings for local food businesses and health departments. Audrey joined Burger King Corporation in 2013 as the Food Safety Manager managing food safety for the brand across the globe. Currently serving as the Restaurant Brands International Global Food Safety Director, Audrey leads the company Food Safety team in developing and enforcing food safety standards while assessing Brand risk from farm to fork across all three iconic brands – Burger King, Tim Hortons and Popeyes Louisiana Kitchen.

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Dr. Maxime X. Wang
Assistant Professor, School of Hotel and Tourism Management
The Hong Kong Polytechnic University

Improving the Effectiveness of Food Handlers' Food Hygiene Training: Application of Error Management Theory and Terror Management Theory

Abstract
Although foodborne illness outbreaks are partly due to food handlers' poor hygiene practices, the food hygiene training is far from being effective. Current research on food hygiene training are largely based on the Social Cognitive Theory (SCT), which highlights the critical role of trainee's self-efficacy in determining the training effectiveness. Therefore, the training program should be designed in such way that trainee's self-efficacy is enhanced. Accordingly, elements such as errors, failures, threats as well as risks that are considered to be detrimental for the self-efficacy, should be excluded in the training process. This study applies the principles of the Error Management Training (EMT) and Terror Management Theory (TMT) and argues that introducing errors and risks can improve the training effectiveness. EMT proposes that errors are important learning materials, and TMT proposes that people receiving the threat-oriented information tend to change their attitudes or behaviors in order to avoid risks. The current project aims to 1) examine the impact of a new food hygiene training that is characterized by the risk warning and error encouragement on food handlers' food hygiene knowledge and practices, and 2) compare the training effectiveness with the traditional food hygiene training approaches, largely based on SCT.

Biography
Dr Maxime X. Wang received his PhD in Hospitality Administration from the University of Houston, United States, in 2019. Before joining the School of Hotel and Tourism Management at the Hong Kong Polytechnic University as Assistant Professor, he worked at the University of Houston as a Research Associate in the Office of Faculty Engagement and Development, Research Assistant and Instructor in the Conrad N. Hilton College of Hotel and Restaurant Management. His research focuses on the error management, organizational culture, employee learning and training, leadership, employees' emotions, service failure and recovery.

Prof. Jonathan W.C. Wong, MH, JP
Hong Kong Organic Resource Centre
Professor and Head of Department, Department of Biology
Hong Kong Baptist University

Building Trust in Organic - Hong Kong Experience

Abstract
Nowadays, food safety is a concern of everyone due to the increase in human activities, and its impact on the environment and the quality of primary production. Organic food is getting more and more common in most advanced cities, like Hong Kong. Our survey demonstrated that nearly 64.5% of local adults have experience in buying organic and the most common purchase was green vegetables. Over 95.6% of the respondents indicated that health concern was the major reason in buying organic but at the same time 51.4% of those who did not buy organic expressed that they did not trust the organic sold in the market. Currently there is no organic labelling regulation being implemented in Hong Kong, which may explain the very confused market situation in Hong Kong. In the wet market in Hong Kong about 11% of the stalls were selling organic but only 35% of them were selling certified organic while other were selling self-claimed organic. Our pesticide survey on vegetables sold in local markets showed 83.9% local self-claimed organic vegetables contained pesticides residues, two of them even exceeded Hong Kong maximum residue levels (MRLs) and 67.7% exceeded EU MRLs. In the contrast, there was no local certified organic vegetables found containing pesticides residues. The market survey and the pesticides results reveal the confusion in the organic vegetable sales in the market and the protection of consumers' rights is low. It is recommended the Government should consider establishing regulation on organic labelling in Hong Kong to restore consumer confidence in buying organic.

Biography
Jonathan Wong is currently the Head and Professor of the Department of Biology at the Hong Kong Baptist University, and Honorary Professor of University of Queensland. He has been an Academician of the European Academy of Sciences and Arts since 2012, and currently the Director of the Institute of Bioresource and Agriculture, Sino-Forest Applied Research Centre for Pearl River Delta Environment. He is also the Executive Director of Earth Tech Consultancy Co. Ltd. providing environmental consultancy service. He is one of the founders of HKORC promoting organic farming in Hong Kong and has developed the first third party certification system of Hong Kong, currently providing certification for local and overseas organic farming and processing operations. Prof Wong has been working in the area of solid waste management with specialization in bioconversion of organic wastes for energy and biomass production using innovative composting and anaerobic digestion technology, and waste separation and recycling. Over the years, he has received over HK$180 millions of research funding and published over 500 SCI publication and conference proceedings with citation of > 14600 and H-index of 70. He had also edited 7 Books, 9 book chapters, 7 special issues for different journals and 11 research patents. Jonathan has been appointed as a member of a number of Government's advisory committees and was bestowed with Medal of Honor by the Government of Hong Kong Special Administrative Region in 2011 for his service and contribution to the Hong Kong environment, and appointed as Justice of Peace in 2013.

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Dr. Ka-sing Leung
Adjunct Associate Professor, Department of Applied Biology and Chemical Technology
The Hong Kong Polytechnic University

Food Hygiene Standard Certification System

Abstract
Chinese style catering establishments prepare and serve large varieties of food products. Problems in food hygiene may result in food poisoning outbreaks, with microbiological agents as the major culprit. The HACCP principles for controlling food safety hazards are not readily applicable for establishing effective food hygiene systems. A Food Hygiene Standard Certification System (FHSCS) has been developed targeting at the catering industry. Besides environmental hygiene and personal hygiene of staff, the Food Hygiene Standard FHS 001:2013 "Food hygiene systems – Requirements for catering establishments" emphasizes the importance of food process hygiene, from purchasing and receipt of food materials to processing and serving of food products to the consumers. Categorization of food products based on the basic processing steps and characteristics as well as serving conditions forms the basis for developing the food process hygiene practices. A catering establishment establishes, implements and maintains a food hygiene system based on FHS 001:2013 with practicable level of resource and management requirements, and then seeks certification by a certification body. The FHSCS also stipulates the requirements for a certification body that can be accredited by the accreditation authority. The catering establishment and the customers will be benefited, such as reducing health risk from food safety hazards and preventing food poisoning outbreaks, complying with relevant regulatory requirements, enhancing customer's confidence and catering establishment's image. This brings along an upgrade of the food safety standard of the catering industry.

Biography
Dr. Ka-sing Leung graduated from the University of Hong Kong. He worked as a chemistry professional in the Hong Kong Government for 25 years, during which he was Senior Chemist at Food and Environmental Hygiene Department, the Senior Chemist-in-charge of the Food Safety and Quality Group at the Government Laboratory.

Dr. Leung is now an Adjunct Associate Professor at the Department of Applied Biology and Chemical Technology cum Advisor of the Food Safety and Technology Research Centre, Hong Kong Polytechnic University. In addition, he is Advisor of Food Safety Department of the Municipal Affairs Bureau, Macau.

Dr. Leung is a Chartered Chemist and Fellow of the Royal Society of Chemistry as well as Certified Food Scientist of the International Food Science Certification Commission. He is also member of the Food Safety Technical Committee of Hong Kong Quality Assurance Agency. His expertise includes food science and risk analysis, quality and food safety management, testing and certification.

AI, Machine Learning & Big Data in Food Safety

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Moderator

Dr. Bernard Chang

Senior Project Fellow, Department of Applied Biology and Chemical Technology
The Hong Kong Polytechnic University

Biography

In his role as Project Manager and Senior Project Fellow at Food Safety Consortium at The Hong Kong Polytechnic University (PolyU), Dr. Bernard Chang cultivates relationships with multinational and local food companies, national food authorities and testing centres, and supranational organisations; bringing together collaborative resources and leveraging multi-disciplinary expertise to solve food safety problems.

Bernard received his PhD in Theoretical Chemistry from the University of Illinois at Urbana-Champaign and his MBA in New Venture from Queen's University.

Bernard has over 20 years' experience in the biotechnology, pharmaceutical and food industries, with positions in business development, marketing, and alliance management. Before joining PolyU, Bernard worked at the Cardiovascular and Metabolic Diseases group at Novartis Institutes for BioMedical Research, providing advice on discovery research directions based on data analytics and Bayesian modelling. Bernard also was with the Massachusetts General Hospital, commercialising inventions that remedy diseases related to the Central Nervous System.

Presentations and Speakers

Dr. Abigail Stevenson

Vice President
Mars Advanced Research Institute, Mars

AI and Science – Making the World's Food Safe

Abstract

The world's evolving food safety and food security risks require novel approaches in order to address them. Future focused, multidisciplinary collaboration combined with the power of data and Artificial Intelligence (AI) is enabling the development of new capabilities that are helping ensure that ingredients, processes, and, ultimately, food products are safe.

The Mars Advanced Research Institute (MARI) is working together with teams within the Mars network and collaborating with partners across the world to develop innovative platforms that combine practical knowledge of food safety with new and emerging technologies such as Whole Genome Sequencing and Deep Learning AI. These platforms, such as those aiming to address microbial contamination and mycotoxin risks within food supply chains, are transforming our approach from detect and destroy to predict and prevent.

Using the transformational technology of AI, it is possible to imagine a future where multiple data layers can be integrated and analyzed - from omics to processing parameters to consumer feedback – ultimately ensuring everyone has access to safe food.

Join this session to learn more about how MARI and Mars are leveraging scientific discoveries and AI to help ensure food safety and security for the world's people and pets.

Biography

Dr. Abigail (Abi) Stevenson is Vice President of MARI. In this role she leads the MARI team, responsible for connecting Mars and its segments with emerging areas of science and technology led in collaboration with a network of strategic partners to provoke long-term innovation breakthroughs and transformations that add value for Mars.

Prior to joining MARI, Abi has held several key roles within Mars. From 2017, Abigail was Director of the Mars Global Food Safety Center in Beijing, China, where she led a global team addressing significant food safety challenges facing global food supply chains. Abi also served as Director of Stakeholder Relations and Science Communications for the Mars Petcare business, where she led development of the Mars Petcare Academy Associate advocacy program alongside segment communications. Prior to this Abi was a member of the WALTHAM Petcare Science Institute leadership team, acting as Head of Science Communications.

Abi joined Mars in 1993 as a WALTHAM Research Scientist and obtained her PhD in pet nutrition and urinary tract health from University College London in 2002.

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Dr. James Yuan
Sr. Director – Data Science & Analytics
Global R&D, PepsiCo

Microbiological Shelf Life Prediction Using AI/ML

Abstract
Microbiological shelf-life studies are a critical step in product innovation for consumer packaged goods. This presentation will share how rules-based AI Expert System and Machine Learning methods are utilized to build a prediction model to predict the microbiological shelf-life of selected beverage products.

Biography
James is Senior Director – Data Science & Analytics. He is responsible for leading the design and application of analytics tools, best practices and methods to drive efficiency and effectiveness for PepsiCo Global R&D innovation.

James graduated with a BA in Food Sciences, Ph.D. in Food Sciences with minor in Computer Science concentrated in Artificial Intelligence.

Mr. Lie Chen
Staff Product Manager, AI Center, DAMO Academy
Alibaba

Visual Intelligence for Food Safety

Abstract
Inspection and process control play an important role in food safety to ensure the safety and quality of processed foods in production. However, manual inspection methods in the traditional manufacturing process are of low quality, low efficiency and high cost. By using deep learning technology, the DAMO Academy of Alibaba Group has developed an automatic defect inspection system, which breaks the bottleneck of traditional detection algorithm and achieves a detection efficiency far exceeding manual inspection. With the support of data annotation and model training tools, the Industrial Vision AI Technology utilizing deep learning has driven the business value in food processing.

Biography
Lie Chen, Staff Product Manager at Alibaba DAMO Academy, is responsible for the productization of AI technologies in industrial field including the applications in textiles, steel, food and beverages, etc. He has engaged in strategy and product planning in various business units of Huawei and Alibaba, and has substantial experience in technology industrialization.

Mr. Alex Lau
Solutions Architect, Cloud Platform
Oracle HK/TW

Intelligence Track and Trace for Food Supply Chain using Internet-of-Things and Blockchain

Abstract
Today's food supply chain produces multiple data points often times resulting in thousands of daily transactions that need to be validated and confirmed. IoT/blockchain technology offers greater transparency and single source of truth for participants using the supply chain network. They cut down on operational inefficiencies when using centralized databases and offer greater security and trust due to their decentralized nature and dispute resolution capabilities for transaction. With IoT/blockchain, customers can produce higher quality food products and facilitate faster shipments for cold chain.

This session will cover how Oracle's Intelligent Track and Trace IoT/blockchain application helps revolutionize current food supply chain processes.

Biography
Alex Lau has worked with enterprises on cloud computing, distributed systems and big data in banks, telcos, insurance, and government for over 20 years. He is a Solutions Architect of the Cloud Platform Team of Oracle HK/TW and focuses on those complicated projects using emerging technologies like Big Data, Blockchain, IoT, OCI IaaS/PaaS to address the needs of customers with referenceable and repeatable solution patterns. He helps set the IT strategy for Oracle HK/TW's enterprise customers and guide them in applying Oracle technologies to a broad range of business challenges.

Food Safety Training and Certification

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Moderator

Dr. Tracie Sheehan
VP Technical Services
Mérieux NutriSciences

Biography

Tracie Sheehan is currently leading Technical Services at Mérieux NutriSciences (Silliker) which provides our customers with auditing, consulting, training, and labeling services. Prior to this role she served as Chief Health, Quality & Sustainability Officer for ARYZTA for 7 years. She previously worked for the Sara Lee Corporation as Senior Vice President of Food Safety and Scientific Affairs for 8 years and Kellogg Company for 11 years.

Tracie is a founding member of the Board of Directors for the Food Allergy Research and Resource Program (FARRP) at the University of Nebraska. She is serving as Vice Chair of the Food Safety Assessment, Auditing and Inspection IAFP PDG Committee. She has previously chaired the Scientific Advisory Committee of the American Meat Institute. She served on the National Academy of Sciences Food and Nutrition Board, International Life Sciences Institute (ILSI) Allergy and Immunology Institute, and ILSI Food Toxicology and Safety Assessment Committee. She served on the Joint Institute for Food Safety and Applied Nutrition Advisory Council and the National Center for Food Safety and Toxicology Advisory Council. She received her Ph.D. in Analytical Chemistry from the University of South Carolina.

Presentations and Speakers

Dr. Hung Nguyen
Co-Leader, Animal and Human Health Program
Flagship Leader Food Safety, A4NH
International Livestock Research Institute

Food Safety Research and Training in Informal / Wet Markets in Southeast Asia

Abstract

Hung Nguyen-Viet[1], Fred Unger[1], Xuan Dang Sinh[2], Pham Duc Phuc[2], Pham Van Hung[4], Sothyra Tum[3], Rortana Chea[3], Delia Grace[1]
[1]International Livestock Research Institute, Vietnam and Kenya
[2]Hanoi University of Public Health, Vietnam
[3]National Animal Health and Production Research Institute, Cambodia
[3]Vietnam National University of Agriculture, Vietnam

Food-borne disease is a major public health issue in developing countries where most of the foods are sold in informal or wet markets with poor infrastructure and unhygienic conditions. The contamination of foods can occur along the food value chain. It is important to understand how and where food safety issues arise to present and mitigate food-borne diseases. Risk-based approach is a tool for managing food safety but is not commonly applied in developing countries because of limited capacity for application. In this paper, we will present the use of participatory risk assessment in research to quantify risks related to pork consumption, which was tailored to the context of developing countries. We developed interventions that were applied at slaughterhouse and traditional markers to improve knowledge and hygiene practices of food safety actors. These interventions included trainings, light investment in equipment and communication. We also developed risk assessment short courses and training curriculum and taught at universities and at the workshops. This helped strengthen the risk assessment capacity of students and lecturers but also other food safety actors at ministries and provincial animal health workers. The risk-based approach was aligned with national policies and risk communication strategy to improve food safety.

Biography

Dr. Hung Nguyen is the co-leader of Animal and Human Health Program and was the regional representative for East and Southeast Asia at the International Livestock Research Institute (ILRI). His current research focuses on the link between health and agriculture, food safety, and infectious and zoonotic diseases with an emphasis on the use of risk assessment for food safety management with an integrative approach (Ecohealth and One Health). He is the flagship leader of food safety of the CGIAR research program on Agriculture for Nutrition and Health A4NH. Prior to joining ILRI, he was a jointly appointed scientist between ILRI and Swiss Tropical and Public Health Institute (Swiss TPH). He co-founded and led the Center for Public Health and Ecosystem Research (CENPHER) at Hanoi University of Public Health (HUPH), Vietnam (2009-2013) where he developed a regional research portfolio on agri- and environmental health and coordinated the Ecohealth Field Building Leadership Initiative (FBLI) in Southeast Asia. Hung Nguyen has +15 years of experience working in developing countries, mainly in Southeast Asia (Vietnam, Cambodia, Thailand, Laos) and West Africa (Côte d'Ivoire). He holds a PhD in Life and Environmental Sciences.

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Prof. Jason Wan
Associate Director – Institute for Food Safety and Health
Professor of Food Science
Illinois Institute of Technology

US FSMA Food Safety Preventive Controls Principles and Training Programs

Abstract
The Preventive Controls for Human Food (PCHF) regulation is one of the seven rules published under the U.S. Food Safety Modernization Act (FSMA) legislation. The PCHF regulation focuses on the use of preventive controls principles for ensuring food safety and public health. The preventive controls principle incorporates not only the traditional process-related critical control points (CCPs) in the HACCP framework, but also measures for controlling hazards related to food allergens, sanitation, suppliers and others requiring a preventive control. The Food Safety Preventive Controls Alliance (FSPCA) is a public-private partnership created by the Institute for Food Safety and Health (IFSH) and a number of other partner institutions and universities, with funding and support from the U. S. Food and Drug Administration (FDA). FSPCA develops and delivers a standardized curriculum, which is recognized by FDA; successfully completing this course is one way to meet the requirements for a "preventive controls qualified individual". This presentation will provide an overview of the Food Safety Preventive Controls principle, impact of the FSMA regulations on food manufacturers, and standardized curriculum and training programs to assist companies comply with the new U.S. food safety preventive controls regulations.

Biography
Dr. Jason Wan is the currently Associate Director for the Institute for Food Safety and Health (IFSH), and Professor of the Department of Food Science and Nutrition, Illinois Institute of Technology (IIT), USA. In addition to his roles with IFSH and IIT, Dr. Wan serves on the Management Team of the Food Safety Preventive Controls Alliance (FSPCA), as well as on a number of subcommittees of the Alliance, including Editorial, Implementation, and International subcommittees. Dr. Wan's scientific expertise includes emerging food processing technologies (high pressure processing, pulsed electric field, cool plasma, ultrasound, pulsed light and microwave) for food safety applications, antimicrobials, molecular microbiology, and dairy processing. Dr. Wan served as a supervisor for numerous Ph.D. and numerous M.S. students, and is an author of over 200 scientific publications and invited conference presentations. Dr. Wan served as the Chair for the Institute of Food Technologists (IFT) Nonthermal Processing Division (NPD) (2016-2017), the President for the Chinese American Food Society (2017-2018), a member of the Nominations Advisory Committee for the International Union of Food Science and Technology (IUFoST), and a subcommittee member of the International Commission on Microbiological Specifications for Foods (ICMSF). Dr. Wan also served on the Editorial Board of Journal of Food Protection (2011-2014), and was a guest editor for Trends in Food Science and Technology, Innovative Food Science and Emerging Technologies, and Food Control journals.

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Dr. Tania A. Martinez
Regulatory Director - Vice President
Demos Global Group, Inc.

New Food Safety Certifications under the U.S. FSMA Regulation: A Perspective from a Certification Body and a Qualified Auditor

Abstract

FOOD SAFETY MODERNIZATION ACT FROM THE FDA IN THE US, requires that importers perform certain risk-based activities to verify that food imported into the United States has been produced in a manner that meets applicable U.S. safety standards. This rule is the product of a significant level of outreach by the FDA to industry, consumer groups, the agency's federal, state, local, tribal and international regulatory counterparts, academia and other stakeholders.

Even though importers have the flexibility in determining appropriate verification measures based on food and supplier risks, while acknowledging the greater risk to public health posed by the most serious hazards in foods, the new certifications offer the widest guarantee to the industries to proof that foreign companies complies with FSMA and their regulatory status.

One of the key elements is the food safety based on Preventive Controls, but the other no less important element is the compliance with the regulatory status, which can comprise regulations from several US Federal Agencies and also State regulations that impact overall the food and dietary supplement industries.

The presentation will include the main aspects of the regulation and how a foreign producer can achieve its compliance as well the importer a proper guarantee that is cover in the US Market.

Biography

Lead Chair of the International Working Group (Food Safety), for the FCSPA Alliance of the FDA; Lead Assessor for FSMA (FDA) "International Accreditation Services", USA.III. ToT (Trainer of Trainers) for Human Food for the FCSPA (FSMA), QUALIFIED FOOD SAFETY AUDITOR (FSMA- FDA), TRAINER OF TRAINER FOR FISH AND SEAFOOD HACCP (ALLIANCE RECOGNIZED BY THE FDA), TRAINER OF TRAINER FOR INTERNATIONAL HACCP ALLIANCE (Meat and poultry products), PSA LEAD TRAINER FOR THE PRODUCE SAFEFY RULE (PRODUCE SAFETY ALLIANCE/ FSMA), LEAD INSTRUCTOR (SPROUT ALLIANCE) (FDA), LEAD INSTRUCTOR (FSVP/FDA), LEAD INSTRUCTOR (ANIMAL FOOD) FCSPA, TTT for Sanitation Operator (GMA); TTT for GMP's (GMA), IHT Global Gap, Co-Editor of the Cereals Magazine FDA, USA, Global Gap: Head of Trainers, VICE PRESIDENT OF DEMOS GLOBAL GROUP, SL: (international regulatory Company with offices in Europe and the US) Milan, Italy, Madrid, Spain and Miami, Florida (USA) and certification body for the FSMA FDA certifications. Attorney at law in Spain and the State of Florida (USA). Product Regulatory Compliance Expert.

Specialist in regulatory legal matters in the areas of Food Safety and Preventive Control for Food, fish, seafood and fishery products, Dietary Supplements Products. PhD in Food Safety Principles and Regulatory Compliance, with special focus in all regulatory matters applicable for FDA and USDA regulated products in the US. 30 years of experience in Good Manufacturer Practices Manual, food, fish, seafood and fishery products and dietary supplement product safety, ingredients, import's regulations to the US, Ingredients, additives and food contact substances. Hazard analysis for specific industries such as: fish, seafood, meat, products including preventive controls, validation practices, monitoring and verification activities.

Prof. Purnendu Vasavada
Professor Emeritus of Food Science, University of Wisconsin–River Falls
Fellow - ASM, IFT, IAFP
Principal, PCV & Associates, LLC.

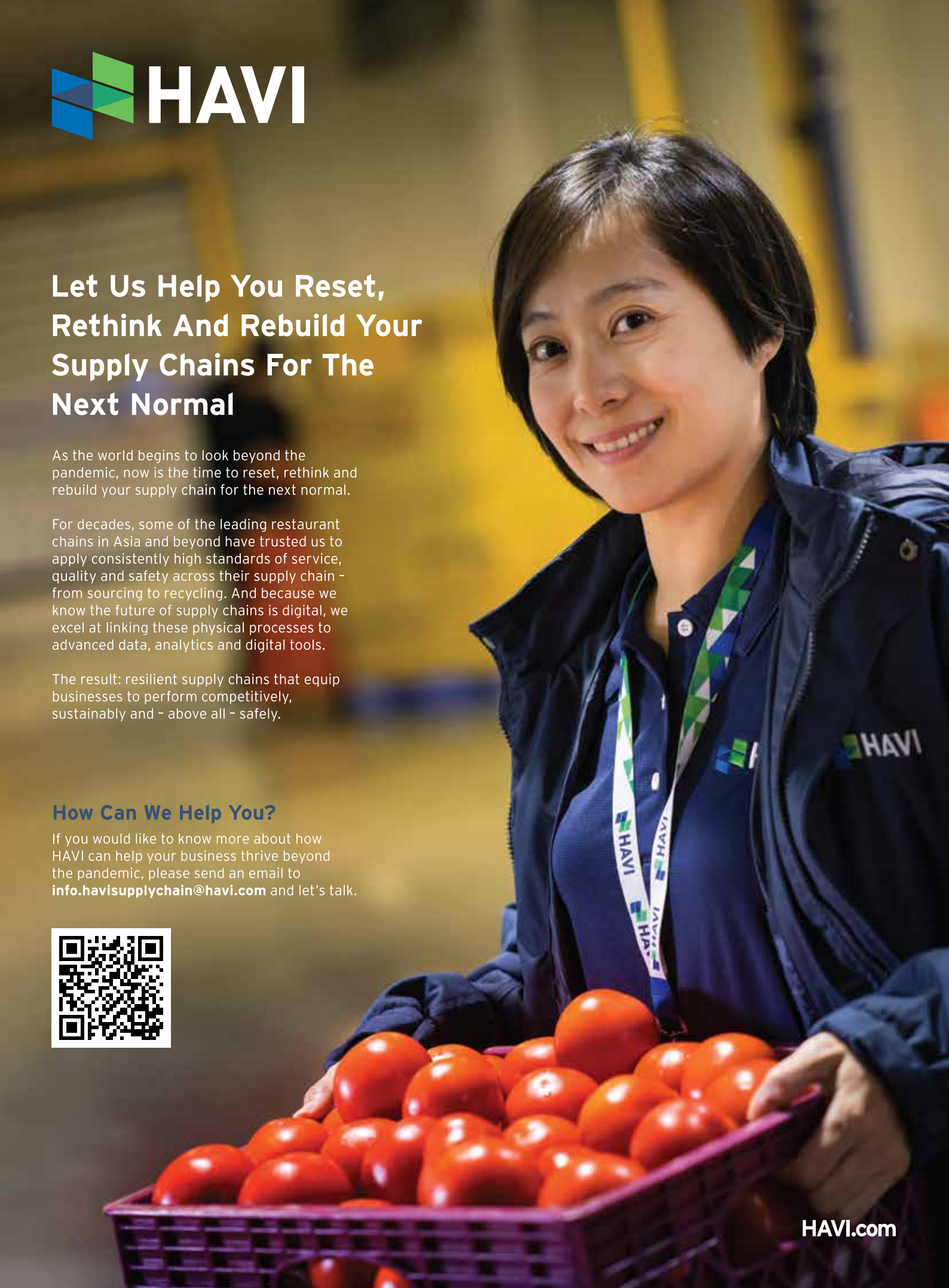
Intentional Adulteration (IA), Food Defense, and FSMA Compliance

Abstract

Food contamination and food adulteration is not new to food industry. Intentional contamination of the food supply has the potential for devastating, disastrous and far-reaching effects, including loss of consumer confidence in food industry and the government, and real and potentially catastrophic threat to society. The vulnerability of food as a potential target of terrorism and means to obtain some ideological gains or cause public harm is well recognized. The food and agriculture sector has been identified as one of 17 critical infrastructures by the U.S. government. The food industry's routine food safety measures are not designed to protect against high-impact deliberate contamination and regulations such as the Food Safety Modernization Act (FSMA) requires food processing facilities to address food defense issues. The FSMA final rule, "Mitigation Strategies to Protect Food Against Intentional Adulteration" (IA rule) requires food processing facilities to develop a written Food Defense Plan, aimed at preventing intentional adulteration from acts intended to cause wide-scale harm to public health, including acts of terrorism targeting the food supply. This presentation is designed to provide a brief discussion of evolving terminology on food fraud, food safety and food defense, provide overview of the IA rule requirements, and the standardized training developed by the Food Safety Preventive Controls Alliance (FSPCA) to assist companies in implementing the IA rule.

Biography

Dr. Purnendu Vasavada is a Professor Emeritus of Food Science, University of Wisconsin-River Falls and Principal of the PCV & Associates, LLC. He is recognized internationally for his teaching, applied research, and innovative training programs in Food Safety and Microbiology and Rapid methods and Automation in Food Microbiology. Previously, Dr. Vasavada served as a FDA-ORISE Fellow (2011–2013) and helped founding of the Food Safety Preventive Controls Alliance (FSPCA) and development of the FSPCA standardized training course to support implementation of the Food Safety Preventive Controls for Human Food regulation.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Consumer Communication, Expectations and Insights on Food Safety

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Moderator

Mr. Thanh Nguyen

Vice President - Quality, Health, Safety & Environment, APMEA
Kerry Group

Biography

Thanh is currently the Vice President for QHSE for Kerry APMEA region, based in Thailand, Thanh leads the QHSE function across Kerry's 25 facilities. Kerry's moto is "Safety First, Quality Always" and forms the basis for Kerry's safety and quality culture.

Prior to joining Kerry, Thanh lead Keystone Foods APMEA region for Food Safety and Innovation. In that role, Thanh lead the development of Keystone Foods vision, mission and core values for the global enterprise while being based in Thailand.

Thanh has extensive international experience in the FMCG industry and held various regional & global roles in China, USA and Canada for companies such as Wrigley's-Mars & Campbell Soup Canada.

A Vietnamese born Candian, Thanh holds a MSc. Degree in Food Science and an H. BSc. in Biology.

Presentations and Speakers

Dr. Andrew Roberts

Risk Communication and Trust Consultant
Food Industry Asia

Meeting Food Risk Communication Challenges from the Asia-Pacific Perspective

Abstract

The myriad of challenges facing food risk communicators in Asia include the wide range of food risks consumer face, the diversity of audiences, unique cultural and social contexts and new communication processes, which are continually evolving. There is a need to understand more about what consumers, country-to-country, actually need in terms of risk and benefit information and where they prefer to get this information and from whom. Trust in sources is paramount, but not just in consumer attitudes towards manufacturers, farmers, retailers and regulators. Trust has to reflect consumer intentions and behaviour.

Without listening to concerns and responding to needs, aligning around audience values, interests and similarities, risk communication campaigns tend to revert to linear, top-down knowledge and awareness building exercises. This "deficit model" of risk communication is limited in effectiveness and may default to crisis management when risks have already been realised. This talk will examine the pressing challenges to food risk communication in Asia and discuss best practices and related perspectives from other social sciences that may assist in addressing challenges in food safety, consumer acceptance of novel foods and behaviour change in diet and nutrition.

Biography

Dr Andrew Roberts is risk communication and trust consultant for Food Industry Asia (FIA) and author of the (2019) FIA Food Risk Communication Toolkit and FIA "FRC in Action" series. He is co-founder and partner at Reciprocom, a company dedicated towards deploying behavioural strategies to enhance the quality of life in Asia-Pacific. The firm uses evidence-based approaches in risk communication, trust optimisation, cognitive psychology/decision sciences, culture & values and asymmetrical intentions (behavioural economics). Since 2012, Andrew worked as executive in gene editing firms in agriculture and regenerative medicine as managing director for Asia-Pacific leading projects in novel traits/disease resistance, disease modelling and bioengineering (liver/kidney/cornea). Andrew also holds a position as Research Fellow at Meiji University centre for bioengineering, Kawasaki, Japan.

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Mr. Julian Sin
Senior Manager
GS1 Hong Kong

Empowering Consumer Trust: Food Safety Driven by Data Intelligence

Abstract
Food Safety is a topic that is top-of-mind for consumers, especially under the "New Normal". Businesses are now leveraging "Smart Manufacturing and Smart Operation" to improve food safety and meet consumer demand.

In APFSIC's upcoming virtual conference, Julian Sin, Senior Manager of Industry Engagement of GS1 HK will share how food manufacturers and companies can leverage the 3 key elements of "Smart Manufacturing and Smart Operation" – global standards + technology + IoT to enhance food traceability, visibility and data interoperability along the supply chain, enabling businesses to take preventive measures to ensure food safety.

Biography
Julian Sin joined GS1 Hong Kong in 2018 as Senior Manager in the industry engagement department. He is responsible for Healthcare & IoT sectors. Julian's main goal is to assist industry stakeholders to further adopt GS1 global standards, so as to achieve solution improvements and application enhancements by employing global best practices.

Julian graduated from McMaster University in Canada with a degree in Electrical Engineering, and started his career in the engineering field. He worked in UL Canada as a project engineer, examining industrial devices according to global standards. He designed test plans and provided engineering consultancy services to ensure product compliance and safety.

Much interest was developed in business and solution development since, and Julian decided to move back to Hong Kong. He has over 18 years of business development experience, and has a long history of successful project references in world-known Engineering and IT companies including UL Canada, Singapore Technologies Electronics, and Atos. Cases led by Julian include C3 (Command, Control, and Communications) projects for public safety forces, Smart Recognition and Control Projects for Transportation and Logistics industries, and many IoT-enabled projects in different applications.

With the extensive experience and exposure with Smart/IoT technologies and applications, Julian offers comprehensive knowledge in this field, in both technical and business senses.

Ms. Ruby O
Director of Environmental, Social and Governance
Wynn Macau | Wynn Palace

Food Sustainability at a Crossroad: From Marketing to Mattering

Abstract
Food Safety has transformed from greater honesty and transparency, to greater impact on local and global challenges we collectively face and more responsible practices of natural resources, social justice and environment.

There are growing numbers of consumer holding companies as accountable as governments for taking care of the planet and society as a whole. Yet companys are at the centre of their dilemma struggling to quantify the invisable value of sustainability, and to track the market performance advantages on their business approaches on sustainability.

It is crurtical to connect corporate sustainability efforts to the expectations and priorities of their consumers. Better engage the consumer in the companys' sustainability stories, and together deliver a better food future for all.

Biography
Ms. Ruby O is the Director of Environmental, Social and Governance (ESG) at Wynn Macau and Wynn Palace. She drives the adoption of environmental friendly and socially responsible operation practices. She advocates the importance of reducing the stress of food production has on social and natural resources while ensure food safety and quality matters.

Ruby was the Executive Director of Food Safety of Melco Resorts & Entertainment Ltd.. She has been projected plan, established and implemented the food safety management system for multiple integrated resort properties, with over 80 F&B outlets & bars, over 2000 guest rooms, banquet and conference venues and multiple 24/7 staff dining facilities that cater over thousand employee. Ruby lead the organization to be the first organization achieved HACCP Certification without consultancy in 2011 and sets the food safety benchmark for Macau hospitality industry.

Ruby was the Quality Manager at Servair, the world top three airline catering company. Prior to that, she was responsible for HACCP Plan in the largest red meat and poultry producer in Western Canada, which supplies burger patties, cooked meat, fried chicken and pasta sauces to the top multinational foodservice chains such as Burger King, Wendy's and KFC, etc.

Ruby is Global MBA graduate of Manchester University, UK and a Bachelor of Science degree holder in food science from University of British Columbia, Canada. She is CIEH (Chartered Institute of Environmental Health, UK) register trainer, instructor of CFSP (Certified Food Safety Professional, US), IRCA certified HACCP and ISO 22000 lead auditor.

Ruby actively engages in the community in promoting food safety issue and sustainability matters with authorities and NGOs.

Produce Food Safety

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Moderator

Dr. Elmé Coetzer-Boersma

Managing Director
GLOBALG.A.P

Biography

Elmé has been working in the food safety industry for the last 20 years, including conducting food safety audits, offering training and setting and maintaining standards. She enjoys working with all the GLOBALG.A.P. stakeholders to develop fit for purpose standards and products such as localg.a.p. for local markets allowing market access to all producers. In addition, Elmé is a member of the Global Food Safety Initiative Stakeholder Advisory Forum, representing the interests of primary production certification program owners.

Presentations and Speakers

Dr. Tim Jackson

Vice President Food Safety, Regulatory and Social Compliance
Driscoll's of the Americas

On-farm Strategies to Prevent Contamination of Produce

Abstract

Many of the factors that impact the safety of produce are related to the growing and harvesting environment. Growers must manage a variety of factors and control measures to ensure the safety of produce, including environmental factors, hygienic design and cleaning and sanitation of equipment, hygiene of field workers, microbiological and chemical status of water, water treatment, development and management of soil amendments and animal intrusion. While these factors and controls are not new, systematic approaches to their management can add certainty to their management and limit the variability of the outcome. Biodiversity requirements for organic operations need to be met in balance with food safety controls. Several management approaches are discussed, including validation and verification of treatment systems, hygienic design of field equipment, hand washing equipment and approaches to integrated pest management.

Biography

Tim provides leadership within Driscoll's to protect and enhance our brand with focus on food safety, organic integrity, social compliance, worker safety and regulatory compliance. He and his team operate primarily through the execution networks they support across Driscoll's of the Americas and through connections with Global Support Functions that have responsibility in these areas.

Tim has been with Driscoll's since July of 2017. Prior to joining Driscoll's, Tim was the Director of Food Safety for Nestlé US and Nestlé Canada, with responsibility for thermal processing and food safety programs in hygiene, microbiology, allergens and chemical contaminants.

From 2015 to 2020 Tim also served on the Executive Board of the International Association for Food Protection.

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Mr. Taymour Shukri
QA & HSE Director MENA
Del Monte Foods (U.A.E) FZE

Food Safety Risk Management Continuous Improvements – For Fresh Cut Operations

Abstract
At Del Monte we believe in continuous improvement especially when it comes to food safety & quality. Our food safety risk management techniques involve a proactive approach integrating technology to monitor and control all critical steps in the supply chain from the farm level to our fresh cut operations and finally to the customers stores.

The presentation will be about hazard risk management best practices followed at Del Montes' facilities in MENA to include hygienic zones separation/ access control, swabs mapping, sanitation controls, & other types of methods in eliminating the possibilities of cross – contamination.

Utilizing the available technology, the management at Del Monte are able to take better decisions at a quicker rate reducing the chances of food safety risks.

Biography
Taymour Shukri is the Regional Director of Quality Assurance at Del Monte overlooking food safety & quality at the operations located in the Middle East & North Africa.

Taymour obtained his BSc degree in Environmental Planning from the University of Wisconsin in the U.S.A. back in 2001. He completed his MBA degree in International Business in 2006 from the University of Birmingham in the UK.

He has over 19 years of experience in various food sectors to include Fresh Produce, Fresh Cut Facilities, Juice Industry, Poultry Goods, & Canned Food. He has improved food safety, quality, and operational efficiency at different levels of the organization. His skills include Food Safety Risk Management, Food Safety & Quality Audits, Total Quality Management & Control, Project Management, Product Development, Training & Development, Quality Supply Chain Management, & Trouble Shooting.

He is a registered FSSC22000 (Food Safety System Certification) Lead Auditor at the International Register of Certificated Auditors (IRCA).

Mr. Pham Viet Anh
Technical Key Account Manager Vietnam
GLOBALG.A.P.

Challenges & Opportunities to Implement Fresh Produce Food Safety Standards in Asia

Abstract
The agricultural production provides opportunities for export, poverty alleviation and rural development. Therefore, many Asian countries is increasing their agricultural production and exports. However, in order to successfully increase agricultural production and exports, certain challenges need to be addressed. These include tackling some inherent risks related to increasing agricultural production, such as food safety and environmental impacts (due to inappropriate use of pesticides and extending agricultural production to new sites) and threats to workers' occupational health and safety, etc. There is also a need to assist producers, both in small and large-scale growers, in enhancing their ability to participate in agricultural production value chains. Such supports include increasing ability to access new markets, easy to connect with partners in the supply chain, reduction of production cost, increased regulatory compliance by destination and production countries, etc.

What is all the fuzz about certification? How can certification protect my company and even increase my business? Is certification feasible for my organization? And affordable? How does food safety certification link with the future of business?

Biography
Pham Viet Anh obtained a master degree in Bergen University, Norway in fisheries biology and management. He has also completed his PhD studies about applied ecology and environmental biology at Ghent University, Belgium.

He worked for Research Institute for Marine Fisheries on conducting stock assessment models on legal and policy reforms for fisheries management. After that, he was promoted to work for Ministry of Agriculture and Rural Development, Viet Nam. He supported to implement a compulsory certification of Vietnamese Government to prevent and eliminate illegal, unregulated and unreported fishing.

Now, he is working at GLOBALG.A.P. as a Technical Key Account Manager. GLOBALG.A.P. is a private standard to ensure agricultural producers comply with criteria for food safety, sustainability, worker and animal welfare, responsible use of water, etc. Here, his main task is to provide technical support for growers, certification bodies, and other stakeholders seeking to be certified by GLOBALG.A.P.

Emerging Pathogens in Foods & their Control – Global & APAC

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Moderator

Dr. Alvin Lee
Director, Center for Processing Innovation
Associate Professor of Food Science and Nutrition, Institute for Food Safety and Health
Illinois Institute of Technology

Biography

Dr. Alvin Lee is a microbiologist and virologist with more than 20 years research experience with a doctorate from the Royal Melbourne Institute of Technology in Australia. He currently leads IFSH Center for Processing Innovation and co-leads the joint IFSH/FDA Microbiology Research Platform on food safety and defense related projects. He is a member of the Executive Board of NoroCORE, a USDA-NIFA Food Virology Collaborative based at North Carolina State University, and leads the Prevention and Control CORE. Current research support includes funding from USDA, US FDA and various industry contracts that evaluate and validate preventive controls for bacterial and viral pathogens. His research focuses on various food processing technologies include high pressure processing, pulsed light, high powered ultrasound, gaseous technology and legacy thermal technologies to inactivate pathogens.

Dr. Lee is a scientific reviewer on a number of scientific journals and publications and a Lead Instructor for Food Safety Preventive Controls for Human Foods. He teaches food microbiology within the Department of Food Science and Nutrition and has mentored more than 30 graduate students and post-doctoral fellows. He is a current active member of the International Association for Food Protection and the Institute of Food Technologists.

Presentations and Speakers

Dr. Michelle Qiu Carter
Research Microbiologist
U.S. Department of Agriculture

Enhanced Formation of Persister Variants in Shiga Toxin-producing *Escherichia coli* under Conditions Relevant to Produce Production

Abstract

Shiga toxin-producing *Escherichia coli* (STEC) include a diverse group of food-borne pathogens that can cause hemorrhagic colitis and hemolytic uremic syndrome. Persistence of STEC is a major problem in fresh produce production environments, where pathogen cells can survive for prolonged periods of time and are able in evading killing by antimicrobial wash. Diverse mechanisms are known contributing to bacterial persistence including formation of persister cells, which are known having high tolerance to antibiotics and other stresses. Persister cells of enteric pathogens may represent the subpopulations capable of surviving in harsh environments and causing human infections. We examined the persister subpopulations of *E. coli* O157:H7 under various conditions relevant to fresh produce production and observed enhanced formation of persister subpopulation on lettuce leaves, in spinach leaf wash water, and in field water. The results indicate that STEC persister cells are common. Unlike Viable But Non-Culturable cells, formation of persister variants is induced by a metabolic switch. A better understanding of the physiology of persister cells and relevant conditions that trigger their formation would provide critical information on molecular cues that can break dormancy and aid in development of effective control strategies for elimination of persisters on produce and in the produce production environments.

Biography

Dr. Carter earned her Ph.D. in Microbiology from Michigan State University in 2004, with a focus on Microbial Ecology under the mentorship of Dr. James Tiedje. She conducted her postdoctoral training in Dr. Stephen Lory's laboratory at Harvard Medical School from 2005-2009, studying the genome and virulence evolution of the opportunistic human pathogen *Pseudomonas aeruginosa*. Since 2009, Dr. Carter has served as a Research Microbiologist with the United States Department of Agriculture (USDA), Agricultural Research Service (ARS), in Albany, California. Her research at the USDA has focused on the ecology and evolution of enteric pathogens including Shiga toxin-producing *Escherichia coli* in produce production environments as well as the risk factors of produce contamination in both pre- and postharvest environments. Currently Dr. Carter serves as an Associate Editor for the journal BMC Microbiology, and an editorial board member for journals Applied Environmental Microbiology and Foodborne Pathogens and Disease.

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Assoc. Prof. Dr. Timothy Barkham
Tan Tock Seng Hospital, Singapore
National University of Singapore

Regional Echoes of a Foodborne Outbreak of Invasive Sepsis with *Streptococcus agalactiae* ST283

Abstract
In 2015 Singapore experienced an outbreak of invasive sepsis due to *Streptococcus agalactiae*. Investigations showed it was a clonal outbreak due to sequence type (ST)283, acquired from consuming raw river fish. We hypothesised there was a regional problem, and set up multinational One Health collaborations to investigate the epidemiology of S. agalactiae ST283 across Southeast Asia. Data show that although ST283 is vanishingly rare outside SEA, it has been an unrecognised cause of invasive infection in humans and tilapia across SE Asia for decades, and has recently spread to tilapia farms in Brazil.

Biography
Dr Barkham studied medicine at St. Thomas' Hospital, London, where he then specialised as a Clinical Microbiologist. He worked at the Hammersmith Hospitals before moving, in 1999, to Tan Tock Seng Hospital, Singapore, where he enjoys a mix of clinical medicine, research, and outbreak investigation. He has a teaching appointment at the National University of Singapore, and has joint projects with the National Environment Agency, and the Singapore Food Agency.

Prof. Dr. Ruth Zadoks
Sydney School of Veterinary Science, Faculty of Science, University of Sydney, Australia
Marie Bashir Institute, University of Sydney; and University of Glasgow

Is Aquaculture the Problem or the Solution for Food Security?

Abstract
Globally, aquaculture products are the main source of animal protein in the human diet, and the feed conversion efficiency and spatial footprint of aquaculture make it an environmentally friendly industry compared to terrestrial animal production. Intensification of aquaculture also creates new problems, as illustrated by the recent emergence of foodborne *Streptococcus agalactiae* associated with consumption of raw fish in Southeast Asia. Human effluent is both a source of nutrients and a source of biological and chemical contaminants that affect the health of aquaculture species and the safety of seafood. To provide food security, which includes food safety, we need to understand and manage the transmission of pathogens and toxicants between people and aquaculture species.

Biography
Dr Zadoks is a veterinarian who specialized in molecular epidemiology of infectious diseases, especially bacterial diseases affecting multiple host species, including humans and animals. She worked in The Netherlands, the USA, and the UK before moving to Australia in 2019. Her work on group B *Streptococcus* covers a wide range of host species (peopl, cattle, fish, frogs, camels, sea mammals and more) across may continents, and is closely linked to her interests in food security, antimicrobial resistance and One Health.

DISH Global Centre for Food Safety and Quality

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Moderator

Prof. Terence Lok-ting Lau

Interim Associate Vice President (Innovation and Technology Development), PolyU
Convener, Food Safety Consortium
Founding Chairman, DISH

Biography

Prof. Terence Lau is the Interim Associate Vice President (Innovation and Technology Development) of The Hong Kong Polytechnic University (PolyU) and an Adjunct Professor at PolyU's Department of Applied Biology and Chemical Technology. He is the Convener of the Food Safety Consortium - IAFP's Hong Kong Affiliate, and an Observer at the United Nations FAO/WHO Codex Alimentarius Commission. Terence is the Founding Chair and Board Member of the DISH Global Centre for Food Safety and Quality.

Terence has dedicated over 20 years in technology ventures and in the development and commercialization of innovative technologies especially in genetic testing and molecular diagnostics. He directed the first laboratory in Asia to obtain ISO 17025 accreditation for qualitative and quantitative genetically modified organism (GMO) analysis in the early 2000s and has developed over a hundred products that are available globally. He led the development of molecular avian influenza virus (AIV) detection products (including subtype H5) which were the first molecular AIV test kits to receive regulatory approval in Japan. At PolyU, he oversees innovation and technology strategic initiatives, promotion of high-impact research and collaborations, management of PolyU's intellectual properties, and their translation and application.

Terence actively contributes his knowledge and experience to the industry and government. He is members of the Expert Committee on Antimicrobial Resistance and the Enterprise Support Scheme and was a member of the Small and Medium Enterprise Committee, the Small Enterprise Research Assistant Programme, the GMO (Control of Release) Expert Group of the HKSAR Government and many others. He was also an Advisor of the Infectious Disease Centre of Peking University, an Adjunct Investigator of the Jilin Academy of Agricultural Science, and a Senior Advisor to the United Nations Office for Project Services. He is currently a committee member of the National Committee on Biometrology of China.

Terence has co-authored a number of peer-reviewed scientific articles including those published in *Lancet* and *New England Journal of Medicine*. He is the co-inventor of over 60 patents and a co-developer of 5 Chinese National Standards, and a recipient of Beijing Municipal Technology Award and Chinese Medical and Technological Award. He received his B.Sc.(Hons) in Animal and Plant Biotechnology from The University of Hong Kong, M.Phil. in Biology from The Hong Kong University of Science and Technology and Ph.D. in Physiology from Peking University.

Presentations and Speakers

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Prof. Håkan Jönsson

Associate Professor, Department of Food Technology, Engineering and Nutrition, Lund University
Chairman, DISH

DISH – a Strong Partnership for Current and Future Challenges

Abstract

Food safety and quality has been at the core of human technology from the dawn of mankind. In present time, both the challenges and technologies are changing at light speed. Increasing population, water shortages, food waste, frauds and the long term environmental sustainability are but a few of the current challenges. At the same time, the technological development in the biotech and ICT sectors create new opportunities for developing safe, nutritious and sustainable food for future generations. Both the challenges and opportunities are complex and calls for collaborations across disciplinary and geographical borders. DISH – Global Centre for Food Safety and Quality, is a joint effort by academic partners in Denmark, Italy, Sweden and Hong Kong, to initiate and engage in food safety and quality related scientific and R&D projects to address imminent industry and social needs and facilitate collaboration and networking in both education and research. The presentation will give a background to the establishment of DISH and point out some directions for future activities. Special attention will be given to the potential to facilitate innovations in food safety and quality by an integrated approach, where science, technology, society and users are all seen as parts of an innovation network. By acknowledging the social dimensions of food safety and quality, new and innovative solutions can be brought to the food shelves in a near future.

Biography

Håkan Jönsson is elected chairman of DISH from Jan 1 2021. As associate professor in European Ethnology and senior lecturer in Food technology and nutrition at Lund University, Sweden, he has been working in a number of inter disciplinary research projects and education programs. His research profile is food, culture and consumption, involving both public and private actors outside academia. He has been Involved in several applied projects encompassing food concept development, regional foresight and culinary tourism. Currently he is coordinating Lund University's participation in the EIT Master of Food System program (MsC) and the Horizon 2020 project NextFOOD- Educating the next generation of professionals in the agrifood system. He is appointed Co chair of the European working group for Ethnological food research.

Prof. Rene S. Hendriksen

Head of Research Group, Division for Global Surveillance, Research Group for Global Capacity Building
National Food Institute, Technical University of Denmark

EQASIA: Improving the Quality of Bacteriology Diagnostics for AMR in the Asia Region

Abstract

Prof. Rene Hendriksen will present the EQASIA project, funded by the Fleming Fund. The overall aim of the EQASIA project is to improve the quality of bacteriology diagnostics for AMR in the Asian region. This will be done in two phases. The first phase is to map the coverage, availability and uptake of EQA programs across One Health (OH) sectors. The second phase is to strengthen the external quality assurance for AMR in Asia through a 'one-shop' EQA program. Prof. Hendriksen will share insight on the development of such a program and why partnering between national funding opportunities and supra-national organizations can achieve success and sustainability.

Biography

Dr. Rene S. Hendriksen is a professor at the Technical University of Denmark, National Food Institute, Division of Global Surveillance, and head the Research group of Global Capacity Building. He acts as director and co-director of the reference centres; World Health Organization Collaborating Centre (WHO CC) for Antimicrobial Resistance and Genomics, Food and Agriculture Organization Reference Center for Antimicrobial Resistance and the European Union Reference Laboratory in Antimicrobial Resistance (EURL AR), respectively.

He provides advisory service to the European Commission, European Food Safety Authority, WHO Global Antimicrobial Resistance Surveillance System, Food and Agriculture Organization of the United Nations in the area of antimicrobial resistance and whole genome sequencing. His focus is implementation of research to strengthen the ability and increase the quality of the global monitoring of antimicrobial resistance including establishing external quality assurance schemes. In addition, his research also focuses on global epidemiology, surveillance, antimicrobial resistance, and genomics of mainly food and waterborne pathogens. He is author of > 100 peer-reviewed published and accepted articles in international refereed journals conducted in collaboration with >500 scientists in >100 countries.

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Prof. Francesco Capozzi
Full Professor, Department of Agricultural and Food Sciences
Head of Interdepartmental Centre for Industrial Agrofood Research
University of Bologna

Foodomics and One Health

Abstract
Food safety is a global issue of extraordinary social, economic and health importance that consists in the prevention of health problems caused by harmful diets or contaminated food. Our growing interdependence with animals and their products is the most critical risk factor for our health and well-being in relation to infectious diseases. One strategy to better understand and address the contemporary health problems created by the convergence of the human, animal and environmental domains is the concept of "One Health". Undoubtedly, the success of the "One Health" strategy passes through the evolution from a reductionist approach to food towards the observation of food "as a whole". In this direction, foodomics, adapting the holistic visions of metabolomics research, combines food science and nutritional research, passing through the exposome impact, thus going beyond food analysis. Continued advances in instrumental sensitivity and electronic stability, along with the rapid growth of new and powerful algorithms for multivariate data analysis, facilitate the use of nuclear magnetic resonance (NMR) spectroscopy as a competitive and complementary analytical platform for observation of the holistic food metabolome. Nowadays, NMR spectroscopy is a powerful platform serving modern food scientists, with diverse applications related to food safety, traceability and authenticity. NMR-based foodomics, in fact, provides molecular profiles and fingerprints as a source of digitizable data that perfectly adapt to molecular blockchains in a modern vision of traceability and authenticity systems.

Biography
Francesco Capozzi is Professor of Chemistry and Head of the Interdepartmental Centre for Industrial Agro-Food Research (CIRI-AGRO) by Alma Mater Studiorum University of Bologna. He is the cofounder of the Foodomics approach, aiming at the optimization of human health and well-being, as measured by robust patterns of chemical biomarkers. His main expertise is the definition of molecular and supra-molecular descriptors of biological systems, applied to food, cells, vegetable, animals and human subjects. His research activity aims at assessing the metabolic status of individuals, by looking at the presence of predictive biomarkers of specific conditions. Moreover, since food intake is relevant to explain the nexus between exposome and health, he is developing methods, based on spectroscopic molecular profiles, classifying and characterising the origin and transformation of food products.

New Intervention Technologies

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Moderator

Ms. Karen Jiang
Assistant Director, Innovation and Technology Development Office
The Hong Kong Polytechnic University

Biography

Ms. Jiang Ying received her bachelor of engineering (biomedical engineering) from the Southeast University and M.Phil (biochemistry) from the University of Hong Kong. She also has dual master degrees from Fudan University (public administration) and the George Washington University (international studies).

Ms. Jiang has been the Assistant Director at Innovation and Technology Development Office of the Hong Kong Polytechnic University since 2014. Before joining PolyU she worked as the senior advisor in the Finnish government organization for around 9 years, and was also the key member in several Finland – China bilateral programs & strategic cooperation initiatives. She works collaboratively with university, government and industry partners, with rich experience in international collaboration, science and technology program management, and directs the operation of an executive team for technology development and knowledge transfer.

Presentations and Speakers

Mr. Deon Mahoney
Head of Food Safety
Produce Marketing Association Australia-New Zealand Limited (PMA A-NZ)

High Pressure Processing: Implementation for Milk

Abstract

Novel and alternative processing techniques such as high pressure processing (HPP) and pulsed electric field technology have been extensively researched by the food industry with the objective of economically and efficiently processing high quality foods.

HPP entails exposure of food to pressures between 100 and 1,000 megapascals (MPa) to destroy vegetative microbial cells and enzymes. The process increases product shelf-life, while maintaining the colour, taste, freshness, and texture of the original food. It has been widely used to process and preserve fruit juices, guacamole, seafood, and ready-to-eat foods.

It is also increasingly being positioned as a viable alternative to the use of heat in the processing of milk and milk products. Stringent food regulations often hamper innovation, and in the case of dairy products equivalence with pasteurisation is an important benchmark impacting approval. A further issue is the risk presented by spore formers that survive the process, especially in products with an extended shelf-life.

The paper will explore the challenges of assuring the safety of dairy products using HPP.

Biography

Deon Mahoney is Head of food safety at PMA A-NZ, providing advice, technical support, and guidance addressing food safety for the fresh produce industry.

Deon has wide-ranging, long-term experience in food safety. He has post graduate qualifications from the University of Sydney, and over his career he has undertaken many roles including: training and education, microbiological risk assessment, risk communication, food policy development, development and enforcement of food legislation, and establishing quality assurance programs.

Deon has previously worked for the World Health Organization and the Food and Agriculture Organization, as well as with Food Standards Australia New Zealand, and Dairy Food Safety Victoria. During his career he has worked in over 25 countries.

Deon is a fellow of Australia Institute of Food Science and Technology and a non-executive Director on the AIFST Board and the Fresh Produce Safety Centre Board.

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Dr. Alice Ho
Senior Technical Manager
Nano and Advanced Materials Institute Ltd

Nanocomposite and Natural Materials for Gas Barrier and Food Packaging

Abstract
Authors: Ka Yee HO, Wai Man Peter LEE

Hong Kong is a highly urbanized city that landfill space is very limited. According to the report of "Monitoring of Solid Waste in Hong Kong 2018" published by the Environmental Protection Department, the average daily quantity of food wastes and plastics wastes related to dining wares disposed of at landfills was 3,565 tonnes and 210 tonnes respectively. Commonly used plastic materials in food packaging are polyethylene terephthalate (PET), polyethylene (PE), polyvinyl chloride (PVC), polypropylene (PP), polystyrene (PS). Oxygen can promote the growth of microorganism on food and oxidize the oil and fat inside food to produce unpleasant, noxious flavors or even destroy nutrients in food. Therefore, the Nano and Advanced Materials Institute Limited (NAMI) is developing a nanocomposite oxygen barrier materials to be applied on common plastic food packaging materials and ultimately on biodegradable paper or seaweed based materials in order to preserve food for longer period of time and reduce the amount of food wastes and plastic wastes. The developed oxygen barrier material can reduce the oxygen transmission rate on PET film by more than 80%. The developed oxygen barrier material with a thickness of less than 3 micron does not have a significant effect on the opacity of the PET film.

Biography
Dr. Ho is the senior technical manager of Nano and Advanced Materials Institute Limited (NAMI). Her publications have been cited in international journals and book chapters for more than 450 times. She has been engaging in the R&D activities in the environmental, chemical, OEM, ODM and OBM manufacturing industries. She is the co-inventor of many granted and pending patents related to the development of catalysts and material compositions, waste recycling and nanobubble technology. She has more than 15 years' experience in new product development, manufacturing and project management. Currently, she is carrying out research projects related to solid waste recycling, nanobubble technology, green biodegradable materials and nanocomposite materials.

Ms. Kathleen Wybourn
Director, Food & Beverage, Digital Assurance and Supply Chain Services
DNV GL - Business Assurance, North America

The Digital Transformation to Remote Auditing

Abstract
Remote auditing is one of the most visible and fastest-growing business tools in the COVID-era global economy. It's the assurance industry's version of social distancing and provides a tech-based way to minimize human contact, reduce auditing costs, and ensure compliance.

Simply stated, remote auditing – done correctly – is secure, simple and smart. While it's not rocket science, there are best practices that should be observed in order to gain maximum advantage.

In a broader context, remote auditing is part of a larger digital transformation within food safety, and the global supply chain more broadly.

Ultimately, the best approach for successful remote auditing is to keep it simple. Things like smart glasses and virtual reality sound great, but they're not very practical, especially considering that many food and beverage sites are in remote rural locations lacking resources and may not have the tech savvy to use fancy high-tech devices.

Working with major brands throughout the food ecosystem we are seeing exactly what works and what doesn't. Some companies embrace remote auditing although some companies still like to have in-person auditors, which often leads to what we call a "hybrid" approach; this combines tech-based virtual inspection with limited in-person visits. For now, there is varying degrees of implementation while we continue to test and refine the technologies – and business processes – that will ultimately define the future of food safety auditing.

Biography
With experience in Food Safety Certification, Sustainable Supply Chain management, Digital transformation and Food & Beverage manufacturing, Ms. Wybourn holds the position as Director Food & Beverage, Digital Assurance and Supply Chain at DNV GL- Business Assurance, North America.

Ms. Wybourn began her career at the NutraSweet Division of Monsanto where she held various managerial positions including; quality control, microbiology and chemistry, operations and supplier management. From food manufacturing Kathleen moved to food safety auditing as the Director of Operations at the Grocery Manufacturing Association, heading the GMA-SAFE auditing program. Since 2008 Kathleen has headed the Food & Beverage business for DNV GL in North America. In 2020 Kathleen expanded her role to lead the Digital Assurance and Supply Chain business. Kathleen has served on many GFSI Technical Working groups, authored numerous articles on Food Safety and participated in University Studies on Food Safety in North America.

Kathleen has a Bachelor of Science degree from Northern Illinois University a Master's degree in Business Administration from Loyola University of Chicago, and Certificate in Leading Digital Transformation from INSEAD University, Fountainebleau, France.

Food Fraud and Authentication

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Moderator

Ms. Nelly Lam

Senior Manager, Food Safety Consortium
Innovation and Technology Development Office, The Hong Kong Polytechnic University

Biography

Nelly Lam is a Senior Manager at the Innovation and Technology Development Office of The Hong Kong Polytechnic University, where she promotes multidisciplinary technology development and collaborative research especially in food safety and life sciences. She manages collaborative platforms and projects including the Food Safety Consortium and the DISH Global Centre for Food Safety and Quality, and fosters stakeholder engagements globally among the academia, research institutes, industry, government, supranational bodies and relevant organizations. Prior to joining PolyU she was the Corporate Development and Administration Manager of a biotechnology company with extensive experience in governance, quality system, intellectual properties, regulatory affairs and administration. She was also engaged in the establishment and operation of a biotechnology association where she executed projects and marketing initiatives to promote Hong Kong's biotechnology industry.

Nelly received her B.S. in Biochemistry from the University of California, Los Angeles, and M.Sc. in Professional Accounting and Corporate Governance from the City University of Hong Kong. She is a Chartered Secretary and a Chartered Governance Professional of The Chartered Governance Institute.

Presentations and Speakers

Dr. Roy Fenoff

Assistant Professor
The Citadel and Michigan State University's Food Fraud Initiative

Food Fraud Prevention – Perception and Awareness of Food Document Fraud among Food Industry Representatives

Abstract

Food fraud is a global scourge that can have devastating economic effects on society and poses considerable risks to public health and safety. Prevention is a key focus in alleviating this problem and systematic efforts are needed to identify risks and reduce opportunities for fraud. Recently, food companies have been required to incorporate a food fraud prevention program in their overall food safety management system and conduct a Food Fraud Vulnerability Assessment (FFVA) to meet Global Food Safety Initiative (GFSI) compliance deadlines. As a result, food fraud prevention strategies are being implemented by companies and countries around the world. This presentation will provide a "global" update on food fraud prevention and describe how to complete an initial company-, country-, or region-level FFVA. The presentation will conclude with a brief overview of the Food Fraud Prevention Cycle (FFPC) and how it can be used to support a Food Fraud Prevention Strategy.

Biography

Roy Fenoff, is an Assistant Professor in the Department of Criminal Justice at The Military College of South Carolina (The Citadel). He is also a Forensic Document Examiner and an expert in forgery detection. Dr. Fenoff offers training and conducts forensic examinations for individuals, law enforcement, and law firms throughout the United States and abroad. Before joining the Citadel in 2015, Dr. Fenoff spent 6-years with the Center for Anti-Counterfeiting and Product Protection at Michigan State University. He earned a B.S. in Entomology and a B.A. in Criminal Justice from the University of Georgia in 2004, an M.S. in Entomology from the University of Wyoming in 2007, and a Ph.D. in Criminal Justice from Michigan State University in 2015. Dr. Fenoff specializes in food fraud, forgery and document fraud, and crime prevention. Dr. Fenoff is a published author who has presented his work at a variety of criminal justice and food safety conferences. In addition to his current position at The Citadel, Dr. Fenoff is a research collaborator with Michigan State University's Food Fraud Initiative.

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Dr. Zhongping Yao
Associate Professor, Department of Applied Biology and Chemical Technology
The Hong Kong Polytechnic University

Solving the Problems for Authentication of Edible Oils and Quantitation of Blended Oils

Abstract
Counterfeit and adulteration of edible oils have been frequently reported. However, there is no versatile strategy for rapid authentication of edible oils and quantitative determination of compositions of blended oils. To solve these problems, we have developed a simple protocol for rapid analysis of edible oils by matrix-assisted laser desorption/ionization mass spectrometry (MALDI-MS), and established a corresponding spectral library containing spectra of various edible oils. Rapid authentication of edible oils and screening of gutter oils can be achieved by MALDI-MS analysis of the oils samples and comparison of the acquired spectra with those in the spectral library. Moreover, we have employed partial least squares regression to establish multivariate models for quantitative analysis of blended oils based on their acquired MALDI-MS spectra. This method has been demonstrated to be able to allow simultaneous quantitation of multiple compositions in the blended oils, and has been successfully applied for analysis of various blended oils, including binary, ternary and quaternary blended oils, and commercial blended oil products.

Biography
Dr. Zhongping Yao received his BSc degree and MSc degree both from Fudan University, and PhD degree from The Hong Kong University of Science and Technology (with Prof. Terence See-Ming Wan and Prof. Chun-Tao Che). He underwent postdoctoral training with Prof. Catherine Fenselau at University of Maryland, and with Prof. Carol Robinson FRS at University of Cambridge. Dr. Yao was a faculty member at Sun Yat-sen University and University of Ulster, and is currently an associate professor in Department of Applied Biology and Chemical Technology, The Hong Kong Polytechnic University. Dr. Yao's research involves developing and applying mass spectrometry-based approaches to address fundamental and applied problems in chemistry, biology, food safety, etc. He is the president of The Hong Kong Society of Mass Spectrometry, associate director of the State Key Laboratory of Chinese Medicine and Molecular Pharmacology (Incubation) in Shenzhen, and editorial board members of several international journals.

Dr. Mario Gadanho
Senior R&D Scientist
Thermo Fisher Scientific

Food Authenticity Testing using Next Generation Sequencing

Abstract
DNA sequencing is scientifically considered the gold standard method for species delimitation. DNA sequencing is mandatory for taxonomic description of new species and is part of all officially accepted list of taxa. Therefore this approach is already considered the most suitable for species identification in food products due to the universal use of DNA sequence analysis and the availability of sequence databases for meat sources, fish and plants that have been rapidly expanded during the last decade. In the food fraud topic, one of the most general events is the substitution of one species by another one, usually of lower economic value. Next Generation Sequencing (NGS) methods have been used in recent years to detect these cases. NGS enables us to identify species in almost any kind of food products containing DNA regardless of the presence of single or multiple species in a single food. Like the classical metagenomics analysis for microbe profiling, the same strategy can be used to obtain a profile of meat, fish or plant content ID to assess the authenticity of the food product. This presentation will cover how NGS can be used to ensure the authenticity of ingredients used in a food product.

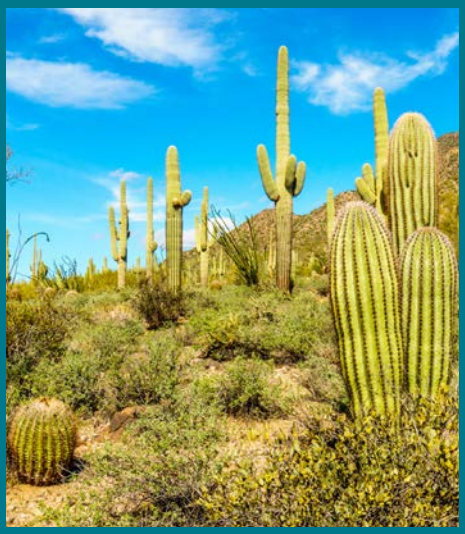
This presentation will cover how NGS can be used to ensure the authenticity of ingredients used in a food product. The different steps of the NGS analysis to be done will be covered, including:
1. What genes are more suitable to be used for meat, fish and plant identification (includes nuclear genes and plastid genes)
2. Amplicon length appropriate for highly processed food
3. DNA sequence quality assessment
4. DNA sequence database construction for identification

Biography
Present role:
From 2019 - R&D Sr Staff Scientist at Thermo Fisher Scientific focused on NGS applications for Food Protection.

Previous roles:
2016-2019 - Global Food molecular business development manager at SGS Molecular
2004 – 2016 - Founder of Biopremier SA, a start-up company focused on DNA-based methods for food analysis and pioneer on the introduction of NGS in the food sector for routine analysis in the food fraud and protection areas.

General description:
Actively involved as an expert in the standardization of molecular biology methods at AFNOR, CEN and ISO mainly on the topic of food authenticity, traceability and safety. During the last 13 years strong relationship establishments with some of the largest global players in the food industry including some of the main global retailers, food industrials and Governmental and Regulatory entities worldwide.

Education:
PhD in Molecular Biology and Microbiology, New University of Lisbon.



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