Keynote Forum
September 06, 2018

Food Safety 2018





International Conference on

Food safety and Hygiene

September 06-08, 2018 | Edinburgh, Scotland

allied academies

Claude Billeaud, Food Safety 2018, Volume 2
DOI: 10.4066/2591-796X-C1-001

International Conference on

Food safety and Hygiene

September 06-08, 2018 | Edinburgh, Scotland

Claude Billeaud

Medical University of Bordeaux, France

An innovative process based on high hydrostatic pressure to ensure the microbial safety of human milk while preserving the biological activity of its main components

The main process used to pasteurize human milk is the low-temperature, long-time holder method and the recently investigated, high-temperature, short-time method). Both processes lead to an appropriate inactivation of vegetative forms but are completely ineffective versus the bacterial spores.

Objective: Find a method accomplish two main objectives - inactivation of all pathogens, including spores, and preservation of the activity of milk components.

Design/Methods: Recently, a novel approach of the High Hydrostatic Pressure processes have been developed by HPBioTECH. We compared the effect of Human Milk treatment on the same samples (raw human milk, Holder and our novel High Hydrostatic Pressure) on vegetatives and spores forms of pathogens and on bioactives components (i.e. Lipase activity, Immunes proteins)

Results: a) Pathogens destructions. Two main microbial strains have been selected: *Staphylococcus aureus* (as reference for the vegetative forms) and *Bacillus cereus* (as reference for the spores). This research led process adapted to the a) microbial decontamination of 6 log., either for *Staphylococcus aureus* or *Bacillus cereus*, b) Human Milk bioactive components: the main components of human milk is preserved. Activity of the lipase after this treatment (close to 80%) and that of several additional components (α-lactalbumin: 96-99% Casein: 98-100%, Lysozyme: 95-100%; lactoferrin: 93-97%; IgA: 63-64%)

Conclusions: This novel high Hydrostatic process generate microbiologically safe human milk could potentially result in important benefits for preterm infants: (i) improved assimilation of human milk, leading to daily weight and (ii) improved resistance to infections(iii) to avoid discarding 10% of contaminated by *Bacillus Cereus* human milk collected.

Speaker Biography

Claude Billeaud received his MD degree from the Medical University of Bordeaux (France) in 1979 after a graduation in human cytogenetics (1976). He then studied pediatrics and has been the Clinical Assistant Director of Bordeaux University in the departments of Pediatrics, Neonatology and Intensive Care since 1983. He currently serves as a pediatrician in the neonatal unit at the Children's Hospital of Bordeaux, as a scientific manager of Bordeaux-Marmande human milk bank, as a lecturer and head of research in neonatal nutrition at the Medical University of Bordeaux. His particular interest in research led him to graduate in Biology and Health (1988, Bordeaux), be awarded a master in statistics applied to clinical research (1991, Montreal) and complete a PhD in nutrition and food science (2000, Bordeaux). Along his career he has often been invited as a guest professor specialized in nutrition and neonatology in various universities abroad (Montreal, Corrientes in Argentina). Over the last 35 years, he has been an active member of different scientific organizations, either French, European or American, specialized in perinatal medicine (neonatology, pediatrics and nutrition). In this instance, he has served as the President of the Association for Pediatric Education in Europe (A.P.E.E) since 2008. He has also been very involved in the French human milk banking association (ADLF) for more than 10 years, sharing his academic knowledge focused in nutrition and his long clinical experience in neonatology. He is currently carrying out several researches on the composition of human milk. As an expert in nutrition and perinatal medicine, he is also the author and co-author of numerous scientific publications.

e: cbilleaud@me.com

Notes:

allied academies

Ólafur Oddgeirsson, Food Safety 2018, Volume 2
DOI: 10.4066/2591-796X-C1-001

International Conference on

Food safety and Hygiene

September 06-08, 2018 | Edinburgh, Scotland

Ólafur Oddgeirsson

Food Control Consultants, ltd., Scotland

Enhanced risk based live animal and meat inspection

Most foodborne risks are associated with food of animal origin such as meat, milk, fish, eggs and honey. The majority are biological risks such as zoonosis and antimicrobial resistance, however chemical risks in the form of residues of veterinary medicinal products, pesticides and environmental chemicals are increasingly important. The origin of the latter can be traced in most cases to activities related to the livestock itself or its feed while the farming methods and animal health condition on the farms have a major impact on the former. Rules on food safety in Europe and around the world are based on controls along the food chain and in case of meat the main control points applied are live animal and meat inspection. These rules have remained the similar for more than hundred years and although having major impact on food safety when introduced they do not capture the food safety hazards prevalent today, such as various bacterial intestinal diseases, antimicrobial resistance and residues. An enhanced and reformed live animal and meat inspection is proposed linked to a modern animal identification and movement control system. This proposal includes increased sampling during slaughter to verify the presence of biological and/ or chemical risk as well as establishing a data depository accessible to farmers, their veterinary surgeons, official veterinarian at the slaughterhouse as well as the competent authority and other stakeholders as appropriate. The impact and benefit of the system proposed will increase over time based on historical data and experience gained.

Speaker Biography

Ólafur Oddgeirsson is the managing director of Food Control Consultants ltd (FCC). He has graduated from the Veterinary University in Hannover, Germany in 1977 and finished post graduate training in 1980 from the same university on food safety topics. He has worked as a director of a dairy laboratory for ten years; then being a senior veterinary officer at the EFTA Surveillance Authority for seven years responsible for checking the implementation and application of the EU veterinary legislation in present and former EFTA states. Since 1999 he has worked as an international consultant, i.a. extensively for the TAIEX office of DG Enlargement in Brussels (now DG NEAR) providing assessments of veterinary systems in Candidate Countries, both official supervision and industry controls and later on numerous international food safety development projects. Dr. Oddgeirsson has carried out numerous assessments of food establishments, in particular processing fish, but also meat and milk and frequently delivered lectures on public health, animal health and zoonotic diseases. During his work he has gained an international recognition for his knowledge of EU legislation and SPS standards on animal health and food safety.

e: olafur@food-control.com

allied academies

Rong Murphy, Food Safety 2018, Volume 2
DOI: 10.4066/2591-796X-C1-001

International Conference on

Food safety and Hygiene

September 06-08, 2018 | Edinburgh, Scotland

Rong Murphy

Maple Leaf Farms, Inc., USA

Impact of food trends on food safety to food manufacturing organizations

There is an insatiable consumer-appetite for organic, all natural, non-GMO, antibiotic free, and gluten free foods, with productions in that market segment estimated to grow by as much as 16% annually through 2020. With more food startup companies claiming organic, all natural, non-GMO, antibiotic free, and/or gluten free and major food companies pivoting to offer new products in those categories, the compositions of our foods are shifting. With this market shift, artificial preservatives, colors and dyes as well as those food ingredients that are perceived as consumer-unfriendly are being eliminated from both human and animal foods. How does this shift in food trends impact our food supply? How does this market shift modify the shelf life of our food products? And, how does this shift affect food manufacturing organizations? Food researchers and industries are hard at work to validate the food safety of these new trendy products. As new food products enter the marketplace, food manufactures will need to avoid costly recalls and potential consumer health issues by verifying food safety of products on the frontend. As foods approach being in productions, food manufactures face more considerations about costs, quality control, and record-keeping. From sourcing to packaging and to tracking, food ingredients and finished goods come from all over the world. Collaborations among supply chain partners and full integrations throughout networks of suppliers and customers are critical elements. Food companies that have fully integrated supply chain and customer networks are more liked to succeed, with access to the same information, working towards shared missions to deliver results, and being ahead of their competitors. Connected supplier and customer networks will allow food companies to be agile when faced with issues, responsive to recalls, and to be flexible and efficient.

Speaker Biography

Rong Murphy is the Vice President of Quality Assurance and Food Safety at Maple Leaf Farms, Inc., an America's leading producer of premium quality duck products. Previously, she served as the Vice President of Food Safety for McDonald's (China). She also served in various capacities to PepsiCo, Cargill, and Campbell Soup Company. She started her food professional career as a faculty at the University of Arkansas. She is a registered and licensed Professional Engineer. She received a Ph.D. degree in chemical engineering and three M.S. degrees in chemical engineering, food science, and microbiology, respectively.

e: rongmurph@yahoo.com

Balunkeswar Nayak, Food Safety 2018, Volume 2
DOI: 10.4066/2591-796X-C1-001

Balunkeswar Nayak

University of Maine, USA

Understanding food processing on the safety and quality aspects of future foods

While feeding 9 billion people by 2050 is a challenge considering the existing production and technologies, developing nutrition-rich and healthy foods for future is a bigger challenge. With the advancement of science, whereas some food scientists and engineers are exploring food structures at micro/nano-scale to better understand the functionality of molecules, some are investigating the use of 3D printing for formulating and smooth delivery of nutrients in future foods for extreme conditions such as in space. It is extremely important to understand the structures of land and aquatic food materials for their functionality during the food production and processing conditions to prepare future foods, a task needs to be taken up as a future food team. This presentation will highlight linkages between the food structures, structure-function relationship, conditions for stability and specific areas to address for future foods.

Speaker Biography

Balunkeswar Nayak is an Associate Professor in the School of Food & Agriculture, University of Maine, Orono, United States. He received his Ph.D. in Food Engineering from Washington State University, Pullman, WA. He has more than 16 years of experience on the thermal and non-thermal processing and nanotechnology on the safety, quality and functionality of health benefitting compounds in fruits, vegetables and grains. He has published his research in many reputed journals and is a scientific editor for the Journal of Food Processing and Technology and Trends in Post-harvest Technology. He has served in many scientic committees of IFT and ASABE.

e: balunkeswar.nayak@maine.edu

Notes:

Keynote Forum
September 07, 2018

Food Safety 2018





International Conference on

Food safety and Hygiene

September 06-08, 2018 | Edinburgh, Scotland

allied academies

Anita Eves, Food Safety 2018, Volume 2
DOI: 10.4066/2591-796X-C1-001

International Conference on

Food safety and Hygiene

September 06-08, 2018 | Edinburgh, Scotland

Anita Eves

University of Surrey, UK

The relative proportion of foodborne disease associated with food preparation or handling practices in the home

The home is recognised as a point in the food chain where risks of consumers contracting foodborne disease can be minimised through the application of good hygiene practices. This study aimed to estimate the proportion of UK foodborne disease attributable to foods prepared in the home in order to focus further research, interventions and food safety messages. A systematic review of academic and grey literature (from 1990, English language and from countries with similar dietary practices to England and Wales) was undertaken using search terms and inclusion criteria agreed in an 'expert workshop'. Of the 278 academic articles evaluated, 71 were included, supplemented with 21 items from the grey literature. Results show a complicated picture for attribution of incidence to setting, although most studies suggest the highest proportion of foodborne illness to derive from commercial food service settings. The review also investigated domestic hygiene and food preparation practices to identify risk factors linked to illness. Only case reports (which are rare) directly link to episodes of illness; in such cases, behaviours maybe implicated. Case control studies, whilst linked to illness, do not confirm the actual cause, only risk factors. Microbiological investigations of kitchen sites identified widespread contamination by pathogens. Observation studies highlighted many contraventions in hygiene practice, largely inadequate hand washing, inadequate sanitation of boards/knives and poor temperature control. Using findings from the systematic review, the potential links between food activities to the point of consumption have been summarised in a series of generic and pathogen specific theoretical framework diagrams.

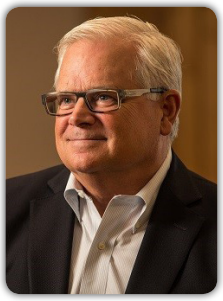
Speaker Biography

Anita Eves has taught and researched at the University of Surrey for 25 years and has published extensively. Her research interests lie in consumer behaviour, both in relation to food choice (where the focus has often been around healthy choices) and also the behaviours of those handling food (in both domestic and foodservice settings). She is a founding member of the University's Food, Consumer Behaviour and Health Research Group (a multidisciplinary group comprising representatives from the health and social sciences). Her work in the area of food safety has included investigations of food safety training (and its effectiveness) amongst food handlers in the food service sector, food hygiene training more generally in the food sector, teaching of food safety practices in schools and systematic reviews of the literature to establish incidence and causes of food poisoning (related to food poisoning arising in the home and Listeria monocytogenes in foodservice settings). Much of her work has been funded by the Food Standards Agency (FSA), and as such has contributed to policy and the FSA research agenda.

e: a.eves@surrey.ac.uk

Notes:

William D Marler, Food Safety 2018, Volume 2
DOI: 10.4066/2591-796X-C1-001



William D Marler

Marler Clark The Food Safety Law Firm, USA

25-year overview of some of the largest food safety lawsuits in the United States

A 25-year overview of some of the largest food safety lawsuits in the United States. Hear about how the outbreaks began and the impacts on the victims and the companies. Learn what companies and the government have over-time done to prevent outbreaks in the United States and the impact around the world.

Speaker Biography

William D Marler accomplished attorney and national expert in food safety, William (Bill) Marler has become the most prominent foodborne illness lawyer in America and a major force in food policy in the U.S. and around the world. Marler Clark, The Food Safety Law Firm, has represented thousands of individuals in claims against food companies whose contaminated products have caused life altering injury and even death.

e: bmarler@marlerclark.com

Notes:

allied academies

Dong Li, Food Safety 2018, Volume 2
DOI: 10.4066/2591-796X-C1-001

International Conference on

Food safety and Hygiene

September 06-08, 2018 | Edinburgh, Scotland

Dong Li

University of Liverpool, UK

Food safety management in global supply chains: Case study from exporters' perspectives

A food safety management system (FSMS) is a regulatory requirement for every firm in the global food chains (CAC, 2009). The success of FSMS in preventing foodborne hazards depend on its correct implementation and application (Fotopoulos, Kafetzopoulos and Psomas, 2009). The implementation of FSMS is not always successful due to the complexity of food business operations in supply chains. It is crucial to identify critical factor (CF) that influence the overall success and contributes to the performance of the FSMS (Oakland (2012; Kafetzopoulos and Gotzamani, 2014), in order to guarantee the food safety. While studies on CFs have been reported in the literature, it still lacks in efforts in a sense confirming the impact of the key factors on successful FSMS implementation. Case studies have been carried out in our research. CFs have been identified and categorised into three levels: organisation, market, governance. Selected Asian exporters in the global fishery industry have been interviewed. Data has been analysed to justify the findings. Our analysis suggests that factors at the three levels, such as human resource, management responsibility, facility, working environment and financial abilities, supply chain relationship, external supports and food safety governance critically impact on FSMS implementation. In the global supply chain context, supply chain relationships play a crucial role in the FAMS performance. Further studies on the impact of the key relationship elements on the FSMS performance categorise the selected cases into different clusters. The difference in the FSMS performance of these clusters provides clear evidence of different impacts of the key supply chain relationship elements. The research contributes both to the literature and business practice. The research enhances understanding of impacts of CFs and supply chain relationships on FSMS performance and overall business performance. This will practically contribute to businesses in adopting improvement strategies with limited resource and informing relevant stakeholders to set up policies in supporting and collaborating with the firms.

Speaker Biography

Dong Li has been awarded his PhD by the University of Nottingham, UK. He is Reader in Operations and Supply Chain Management at the University of Liverpool, UK. His research is mainly in food supply chain management. He has intensively published and guest editing in reputed international journals. He has been primary grant holder for EC and UK funded research projects and is currently leading an over €1M EC H2020 project on food security research.

e: dongli@liverpool.ac.uk

Notes: