Joint FAO/WHO Expert Meeting on microbiological risk assessment of *Listeria monocytogenes* in foods

*FAO HQ, Rome, Italy, 24 – 28 October 2022*

**Experts participating in the meeting**

*Published on 7 October 2022*

**Background information**

In response to the request from Codex for scientific advice, FAO and WHO has undertaken the risk assessment on *L. monocytogenes* in several foods since 1999. The 2004 FAO/WHO risk assessment on *L. monocytogenes* (MRA4 and MRA5)\(^1\)\(^2\) provided scientific insight into the risk characterization of *L. monocytogenes* contamination in food and the seriousness of listeriosis for susceptible populations. These risk assessment documents covered a cross-section of RTE foods (pasteurized milk, ice cream, cold-smoked fish and fermented meats) linked to invasive listeriosis. Since the publication of these documents, outbreaks of listeriosis continue to occur across the globe associated with previously reported foods, but also with many previously unreported food vehicles, including fresh and minimally processed fruits and vegetables. In 2020, a virtual meeting of the Joint FAO/WHO Expert Meeting on Microbiological Risk Assessment (JEMRA) of *L. monocytogenes* in RTE Food: Attribution, Characterization and Monitoring was held to review recent data on *L. monocytogenes* and determine the need to modify, update, or develop new risk assessment models and tools for this pathogen.\(^3\) The expert group recommended to extend future risk assessments to diverse commodity sub-groups and to consider a farm-to-fork risk assessment. The expert group also recommended that future risk assessments should review groupings of susceptible populations based on physiological risks and other socio-economic factors. In conclusion, the expert group identified several critical gaps in the current FAO/WHO risk assessment model and collectively agreed that updating the model would be valuable for informing risk analysis strategies, including in low- and middle-income countries (LMICs).

---

1 MRA4: [https://www.who.int/publications/i/item/9241562617](https://www.who.int/publications/i/item/9241562617)
2 MRA5: [https://www.who.int/publications/i/item/9241562625](https://www.who.int/publications/i/item/9241562625)
The summary of the 2020 expert meeting was reported to the 52nd session of the Codex Committee on Food Hygiene (CCFH52) in March 2022, and the proposal that JEMRA undertake a full farm to table risk assessment on *L. monocytogenes* in foods was supported by the members of CCFH52.4, 5 Thus, FAO and WHO have decided to hold an expert meeting to develop a full farm to table risk assessment for *Listeria monocytogenes* in foods. This expert meeting will inform a possible future revision of the *Guidelines on the Application of General Principles of Food Hygiene to the Control of Listeria monocytogenes in Foods* (CXG 61-2007).6

**Scope and Objectives of the Meeting**

The purpose of the meeting is to develop a full farm to table risk assessment for *Listeria monocytogenes* in foods.

The assessment will include the following types of food, but not be limited to:

- Leafy greens
- Cantaloupe/rock melon
- Frozen vegetables (for example peas, corn)
- RTE seafood that allows for the growth of *L. monocytogenes*, for example gravad (sugar-salt marinated) salmon/halibut.

**List of experts**

The following list of experts is proposed for this meeting. Please find below their bio-sketches. If you have any comments, please contact us at jemra@fao.org and jemra@who.int no later than 21 October 2022.

---


5 The report of CCFH52: https://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252F CX-712-S2%252Fh52_R22_FHe.pdf

Dr Hamzah Alqadiri

Dr Hamzah Alqadiri is a full professor of food microbiology, University of Jordan, School of Agriculture (2006-Present). Additionally, Dr Alqadiri is a visiting scholar (2007-2018) at Washington State University, USA. He obtained his PhD degree in Food Science (Food Microbiology) in 2005 from Washington State University, USA; MSc degree in Food Microbiology and B.Sc. degree in Nutrition and Food Science from University of Jordan. Dr Alqadiri has an intensive academic, research, technical and consultation experience (more than 20 years, national and international scale) in the fields of food and water microbiology, food safety and hygiene, and food quality control. Major emphasis is to improve food safety and shelf life of food commodities through conducting applicable strategies to control foodborne pathogens. Monitoring safety of food products (microbiological and chemical aspects) is one of the core targets that most of his publications (more than forty manuscripts in peer-reviewed journals) are focusing on to minimize foodborne health threats and to achieve a better life and healthful environment for humans, animals and plants. Detection and identification of pathogens in food, water, and agricultural environment using novel techniques such as FT-IR, Real-Time PCR, microbial culturing and physiology is one of his research scopes as well.

Dr Sukhadeo B Barbuddhe

Dr Sukhadeo B Barbuddhe has been working on Listeria monocytogenes since last two decades. Contributed significantly to the epidemiology and genomic landscape of L. monocytogenes in the Indian subcontinent and public health microbiology of various zoonotic and foodborne infections. The major achievements include discovery of a novel species of Listeria, L. goaensis, indigenous to the subcontinent and a predominant, stable and widespread epidemic clone of L. monocytogenes serotype 4b in the Indian subcontinent. Developed DNA and synthetic peptide based (latex agglutination test and ELISA) assays for listeriosis, protocols for molecular subtyping, a national repository of Listeria strains in India and Indian Listeria Culture Database. Established “Centre of Excellence” on Molecular epidemiology of L. monocytogenes. Contributed to the WGS of Listeria spp isolated from India. He had been the Member of the International Advisory /Scientific Committees for XVI, XVII, XVIII, XIX and XX International Symposia on Problems of Listeriosis (ISOPOL) held in USA (2007), Portugal (2010), India (2013), 2016 (France) and 2019 (Canada). Organized ISOPOL XVIII in Goa, India, September 19-22, 2013 as Convener and Secretary, Scientific Committee. Currently, he is leading research on pan India surveillance of Listeria in foods of animal origin.

Dr ir Heidy den Besten

Dr ir Heidy den Besten obtained a BSc in Food Technology and a BSc in Mathematics and completed her MSc Food Technology cum laude specialising in Food Safety at Wageningen University. Before starting as Assistant Professor at the Laboratory of Food Microbiology of Wageningen University she completed her PhD project entitled "Quantification of Bacillus cereus stress responses". Since 2016 she is Associate professor and her research activities focus on pathogen ecology interlinking functional genomics and prediction of microbial behaviour. She acts as editorial board member of Food Research International, International Journal of Food Microbiology and Journal of Food Protection. She is member of the Program Committee of the International Association of Food Protection, an expert group member of the ILSI task force Microbiological Food Safety and an international member of the PhD board of the University of Turin. Also, she is teaching within the MSc and BSc Food Microbiology programmes of Wageningen University and coordinates a BSc Food Microbiology course in Wageningen and in Singapore.
**Dr Qingli Dong**

Dr Qingli Dong is a professor and doctoral supervisor of the University of Shanghai for Science and Technology (USST), P. R. China, and he received his M.E. and PhD on food science and engineering at 2004 and 2007, respectively. Afterwards Dr Dong worked as a post-doctoral fellow in USST during 2007-2009. Dr Dong worked as a visiting scholar at the Institute of Food Research (IFR), UK, supported by the Chinese Scholarship Council (CSC) during 2013-2014. His research is focus on predictive food microbiology and quantitative microbiological risk assessment (QMRA), mainly supported by the Natural Science Foundation of China (NSFC) and China National Center For Food Safety Risk Assessment (CFSA). Dr Dong is a member of the 2nd National Food Safety Risk Assessment Commission by the National Health Commission (NHC) of China since 2019, and he joined the FAO/WHO JEMRA Expert Meeting on *Listeria monocytogenes* in Ready-to-Eat (RTE) Food: Attribution, Characterization and Monitoring in 2020. Dr Dong has published over 200 academic papers in some international or Chinese journals of food science, and reviewed over 1200 manuscripts for some journals as a peer reviewer. Dr Dong has sponsored and (co)hosted a MicroRisk Workshop in 2014.

**Dr Laurent Guillier**

Dr Laurent Guillier is a food microbiologist, specializing in mathematical modelling and eco-physiology of foodborne pathogens. He is currently employed as a project leader at Risk Assessment Department in ANSES (French Agency for Food, Environmental and Occupational Health & Safety). His research interest is to understand the causes of foodborne diseases and what can be done to reduce the disease burden. He has written over 100 scientific papers and book chapters, with particular emphasis on microbial genomics, quantitative microbial risk assessment, predictive microbiology and source attribution. Much of his work has involved modelling of *L. monocytogenes*.

He also participated or coordinated more than 70 scientific opinions provided by the French Agency of Food Safety (ANSES) and participated to several expert groups at international level (EFSA and FAO/WHO).

**Dr Claudia Guldimann**

Dr Claudia Guldimann is a full professor for Food Safety and Analytics at the LMU Munich, Germany. A veterinarian by training, Dr Guldimann’s interest in neurolisteriosis shifted to a focus on food safety since her PostDoc role at the Food Safety Lab at Cornell University, USA. She has worked extensively on the interactions of *L. monocytogenes* with the host, the food matrix and the environment. Her current research uses *L. monocytogenes* and *Salmonella enterica* as model organisms to address molecular mechanisms that govern the resilience of bacteria under stress, potential interventions in those pathways, the role of the microbiome in the production environment, and the investigation of naturally occurring antimicrobials. In 2021 she was awarded the “Heinrich Stockmeyer Research Award” for her habilitation. Prof Guldimann also takes a leadership role in the RIBMINS COST Action on risk-based meat inspection that works on the modernization of meat inspection systems in Europe. Guldimann has 13 years of research experience and has published 36 peer reviewed articles with a h-index of 16.

She specializes in the detection and characterization of pathogens from food animal sources and their antimicrobial resistance. She has extensive research programs in pathogens of human and animal health; she has published more than 120 research articles, book chapters and reviews, and has received in excess of 6 million dollars in federal, state and commodity funds for her research program.
Dr Jovana Kovacevic

Dr Jovana Kovacevic is an Associate Professor and Food Safety Extension Specialist at the Oregon State University’s Food Innovation Center (FIC) in Portland. She has over 15 years of research and work experience in the food safety and food microbiology, coming from academia, government, and food industry. In her current role, Dr Kovacevic directs the food safety program at the FIC and the USDA-funded Western Regional Center to Enhance Food Safety. Her research uses molecular methods and whole genome sequencing to trace, better understand and prevent contamination events in the food chain, with particular focus on *Listeria monocytogenes*. Her research interests also include sanitizer and antimicrobial resistance in the food chain, pathogen stress survival and biofilms, and understanding and prevention of food contamination. Through her work with the Western Regional Center, Dr Kovacevic supports the Western U.S. region in Food Safety Modernization Act-related food safety training, education and outreach activities. Prior to joining OSU, Dr Kovacevic worked as a lecturer at the University of British Columbia, a food safety consultant with the British Columbia Ministry of Health, and a Food Safety Scientist at the British Columbia Centre for Disease Control, in Canada.

Dr Alejandra A. Latorre

Dr Alejandra A. Latorre is a Doctor of Veterinary Medicine and Master of Science from the University of Concepción, Chile. Dr Latorre got her PhD at Cornell University, United States, where she specialized in Animal Science, Food Science, and Epidemiology.

During her PhD at Cornell, she studied the molecular epidemiology of *Listeria monocytogenes* on dairy farms, and the role of biofilms as source for bulk tank milk contamination. In addition, Dr Latorre contributed to the understanding of the persistence of *Listeria* within dairy operations and worked on qualitative risk assessment of Listeriosis due to consumption of raw milk on farms, and from retail sources.

Currently, Dr Latorre is an Associate Professor and the responsible of the Veterinary Public Health field at the College of Veterinary Sciences in the University of Concepción, where she is the chair of the Milk and Dairy Safety Laboratory and also works as a consultant for both dairy operations and the dairy industry.

Dr Latorre is actively conducting research on milk microbiology, sources of milk contamination and on-farm biofilms, factors affecting the quality of milk for human consumption, as well as research on the epidemiology and dynamics of milk-borne pathogens of relevance for public health.

Dr Yumiko Okada

Dr Yumiko Okada is the chief of the 3rd section of Division of Biomedical Food Research in National Institute of Health Sciences (NIHS), Japan. After studying microbiology of foodborne pathogens, she graduated Tokyo University of Agriculture and Technology at 1991. She started working as a researcher at Department of Veterinary Public Health in National Institute of Public Health, and studied of the development of rapid detection methods of foodborne pathogens and mechanisms of tolerance against osmotic stress in *L. monocytogenes*. From 2014, she became a senior researcher in NIHS. She obtained her Ph.D. degree by the thesis “Studies on the osmotolerance in *Listeria monocytogenes*” from Gifu University in 2007. She has researched the prevalence of *L. monocytogenes* in RTE foods in Japan, the antimicrobial susceptibility and molecular epidemiology of isolates, growth at refrigerating temperature.

She also actively involved in the development of Japanese standard methods for detection of pathogens in foods, and contributed to the determination of the food safety criteria for *L. monocytogenes* in natural cheeses and non-cooked meat products, and for *Enterobacteriaceae* in
beef for raw consumption. She is a member of ISO/TC34/SC9 from 2016. She has joined to WG32 for *L. monocytogenes* and *Listeria* spp. in SC9 in 2022.

**Dr Taran Skjerdal**

Dr Taran Skjerdal is a senior researcher in food safety at the Norwegian Veterinary Institute. The mandate of the position is to give research-based support to competent food authorities and carrying out independent research projects. Outbreak investigation and advice to industry and the public is a part of the work. Main current research activities with relevance to the topic for the assessment are related to the growth of *Listeria monocytogenes* in foods, including complex foods and development of predictive models for implementation in user-friendly tools for risk assessments, development of sensitive analytical methods for *Listeria monocytogenes*, and implementation of WGS in a way that gains as much information as possible without compromising sensitivity and confidentiality of sequences and metadata.

She leads the reference functions for *Listeria monocytogenes* and Coagulase Positive Staphylococci in foods in Norway. She has participated in the working groups with EURL-ANSES about the guideline documents for shelf-life studies and risk assessment studies of *Listeria* in ready-to-eat foods.

She leads the group that works with biological hazards in VKM (the Norwegian Scientific Committee for Food and Environment), and has participated in working groups on date marking and related food information.

**Dr Matthew Stasiewicz**

Matthew Stasiewicz is an Associate Professor of Applied Food Safety in the Department of Food Science and Human Nutrition at the University of Illinois at Urbana-Champaign. His work focuses applying engineering and data analytic approaches to advance food safety microbiology.

He went to Michigan State University for undergraduate study, earning both a B.S. in Biosystems Engineering, focusing on food process engineering, and a B.A. in Philosophy, focusing on ethics. He then studied at Cornell, receiving an M.S. and Ph.D. in food microbiology, working on risk analysis in microbial food safety. One long-standing research thrust is the identification and management of persistent *Listeria monocytogenes* in food environments using modern DNA sequencing and improved data analysis techniques. His lab also works on international teams to develop appropriate technology to manage mycotoxins in maize, with his contribution being single-kernel identification and sorting using relatively simple hardware. The lab has projects using simulation and risk assessment to improve sampling and testing for foodborne pathogens in large-scale food productions environments.

**Dr Paula Teixeira**

Graduate of Escola Superior de Biotecnologia (ESB) of the Universidade Católica Portuguesa (UCP) with a B.Sc. in Food Engineering (1990) and a PhD in Biotechnology (1995). Paula Teixeira is Associate Professor with Aggregation in Food Microbiology at ESB-UCP and lead of the CBQF research group Food & Nutrition. Paula Teixeira has participated in and led a large number of national and international research projects in the area of Food Microbiology/Food Safety and is actually coordinating a national funded project addressing *Listeria* persistence.

She has been author/co-author of several book chapters, more than 200 original articles, and given many more public presentations. She is among the most cited top scientists at the top 2% of her area (list compiled by Stanford University). She has been Associate Editor of Frontiers in Food Microbiology, Editor of International Journal of Food Microbiology and Member of the Editorial Board of International Journal of Food Microbiology, Food Microbiology, Journal of Food Protection and Foods.
The global objective of her research group is to contribute to an improved knowledge on foodborne pathogens, with special focus on *L. monocytogenes*, using a 'One Health' approach.

**Disclaimer**

In order to enhance their management of Conflicts of Interest as well as strengthen public trust and transparency in connection with FAO/WHO meetings involving the provision of technical/normative advice, the names and brief biographies of individuals (“Published Information”) being considered for participation in such meetings are disclosed for public notice and comment.

The Published Information is provided by the experts themselves and is the sole responsibility of the individuals concerned. FAO/WHO are not responsible for the accuracy, veracity and completeness of the Published Information provided. Furthermore, in no event will FAO/WHO be responsible or liable for damages in relation to the use of, and reliance upon, the Published Information.

The comments received by FAO/WHO through the public notice and comment process are treated confidentially and their receipt will be acknowledged through a generic email notification to the sender. Comments and perceptions brought to the knowledge of FAO/WHO through this process are an integral component of FAO/WHO’s conflict of interest assessment policy and are carefully reviewed. FAO/WHO reserve the right to discuss information received through this process with the relevant expert with no attribution to the provider of such information. Upon review and assessment of the information received through this process, FAO/WHO, in their sole discretion, may take appropriate management action in accordance with their policies.

The participation of an expert in a FAO/WHO meeting does not imply that they are endorsed or recommended by the FAO/WHO nor does it create a binding relationship between the expert and FAO/WHO.

The list of participating experts, a summary of relevant interests disclosed by such experts, and any appropriate mitigation measures taken by FAO/WHO relating to the management of conflicts of interests, will be reported publically in accordance with FAO/WHO practice.