MODELLING AND RISK ANALYSIS PDG

Attendees: Abdullatif Tay (Chair), Hiroki Abe, Grace Akumu, Saleh Almayman, Nate Anderson, Saif Arabi, James Arbogast, Alphajou Bah, III, "Bala" Balamurugan, John Bassett, Karin Beekmann-Metselaar, Peter Ben Embarek, Roberto Canchola, Austin Cary, Chrysanthi Champidou, Yuhuan Chen, Mario Cobo, Kim Cook, Darrell Donahue, Natoavina Faliarizao, Yuan Fang, Andrew Farnum, Tamara Ford, Sid Fuller, Jingwen Gao, Ariel Garsow, Jaber Ghorbani, Angélica Godínez Oviedo, Carly Gomez, Leon Gorris, Sanjay Gummalla, Arie Havelaar, Montserrat Hernández Iturriaga, Ian Hildebrandt, Hiroya Hoshino, Keith Ito, Vijay Juneja, YeonJin Jung, Harsimran Kaur Kapoor, Masaki Kato, Janell Kause, Ian Klug, Shige Koseki, Barbara Kowalcyk, Kento Koyama, Kunihiro Kubota, Devin LaPolt, David Legan, Huanli Liu, Mark Loh, Mark Mammel, Bradley Marks, Ellen Mendez, Rodrigo Mendoza, Naim Montazeri, Amit Morey, Kasey Nelson, Trevor Phister, Alda Pires, Monica Ponder, Jane Pouzou, Mavra Qamar, Narindra Randriamiarintsoa, Amber Richards, Catherine Rolfe, Robert Salter, Arlette Shazer, Subash Shrestha, Amy Siceloff, Shyam Singh, Panos Skandamis, Matthew Stasiewicz, Sriya Sunil, Gry Terrell, Zeynal Topalcengiz, Theocharia Tsagkaropoulou, Rozita Vaskoska, Ashwini Wagh, Surabhi Wason, Michael Weber, Ava Weyrich, Eric Wilhelmsen, Ph.D., Stephanie Windschitl, Felicia Wu, Marcel Zwietering.

Number of Attendees: 84.

Minutes Recording Secretary: Grace Akumu-Student PDG Liaison.

Meeting Called to Order: Dr. Abdullatif Tay called the meeting to order at 8.30 am Pacific Time on Sunday, July 14, 2024.

Dr. Tay read the Antitrust Policy, emphasizing that PDG members are to adhere to guidelines prohibiting discussions on trade secrets, price fixing, and related topics.

Old Business: Leadership Changes: Dr. Abdullatif Tay took over as PDG chair from Dr. Santillana Farakos. It was communicated that Dr. Heidy den Besten was the Vice Chair elect for the PDG. PDG name Change: The PDG name was changed from "Microbial Modelling and Risk Analysis PDG" to "Modelling and Risk Analysis PDG" following a 2023 PDG meeting consensus and a subsequent member consensus survey. This Board approved this change. 2023 Meeting Minutes: Dr. Tay moved a motion to adopt the 2023 PDG meeting minutes published on the IAFP website. The motion was seconded and approved. Achievements: The PDG was highlighted in *Food Protection Trends*. Dr. Tay reported a 67% acceptance rate for PDG sponsored proposals (symposia, roundtables, workshops, webinars) submitted to IAFP. No issues related to old business were raised by attendees.

Welcome and Agenda: Dr. Tay opened the meeting with a welcome message and provided an overview of the meeting agenda.

New Business: Vice Chair Elect Recommendation: The PDG will recommend Dr. Heidy den Besten as Vice Chair Elect to the Board for approval. Mission Statement Update: a suggestion to remove "microbial" from the mission statement was made. Members were invited to provide input before the proposed change is submitted for Board approval. Submission Deadlines: Dr. Tay emphasized the October 1, 2024, deadline for proposals for the next IAFP meeting (2025 Cleveland). He highlighted the importance of webinars for improving submission success rates. Journal Opportunity: Dr. Tay mentioned a special issue in the *Journal of Food Protection* (*JFP*) on "Advancements of Machine Learning and Artificial Intelligence in Food Safety." He encouraged the members to take advantage of the opportunity.

Updates from outside the MRA PDG: ICPMF: Shige Koseki, Secretary of ICPMF, provided updates on new Board members and a new representative. He mentioned the upcoming ICPMF 13 conference, their active website, and available resources such as a GitHub repository, free tutorial cycles, and work on a general repository (Zenodo). Dr. Arie Havelaar from the University of Florida updated attendees on the Welcome Committee's activities starting at the 2024 IAFP Annual Meeting. He also mentioned a course on Quantitative

Microbial Risk Assessment, now open to remote instruction for other universities and industry, at a reduced rate of $400 for students.

Student PDG Updates: Grace Akumu, a PhD student from Texas Tech University, presented updates on the student PDG's 2023-24 activities and opportunities for members to support the student PDG.

Student Awards: Dr. Santillana Farakos presented student abstract awards to the first and second-place winners and certificates were given.

Guest Speaker: Dr. Moez Sanaa, Unit Head, SSA (Standards and Scientific Advice on Food and Nutrition), at WHO's Department of Food Safety and Nutrition (NFS), gave a talk on "Risk Assessment Update from WHO." He discussed the importance of food safety and nutrition for development and SDG. He also discussed the food systems approach and its role in addressing the food safety and nutrition issue, strategic priorities of the NFS, and their upcoming initiatives, including new WHO guidelines and risk-benefit tools such as the dose response models e.g., for *Listeria monocytogenes*, *Salmonella* and *Campylobacter* and QMRA models.

Future proposals for proposals for symposia, round tables, webinars and workshops (Group Session): An extensive discussion on proposals for 2025 Annual Meeting were conducted by dividing the members into 4 groups by category: predictive modeling, risk assessment, risk management and risk communication. The groups discussed future topics for 1 hour and the facilitator for each of the groups presented the summary of the discussion and potential ideas. These are captured in the addendum.

Addendum: Future proposals

Predictive Modelling – How does the industry use predictive modelling? How to use data in applications? – Tie in supply chain disruptions in predictive models (*Salmonella* and Spoilage), Using modeling to predict runtime, Predictive modeling tied to shelf life prediction – new products without real shelf life testing, Integrating data for shelf life and sanitation, Microbial data from all sources tied into a micro model, Impact of existing buffer microbiome due to temperature abuse on spoilage, and tools to fit models (websites to fit models) i.e., shelf life, manufacturing, supply chain. Consider data inputs, model types (include log-time of microbes, challenge studies, matrix based and temperature stress) and model implementation and adaptation.

Risk Management – Symposia (Residual Risk and Relative Scenarios – principle, leafy greens application and decision making), Roundtable (SPC in Risk Management, multicriteria decision making-science areas, hazards and risks/benefits).

Risk Communication: How do you communicate – use all the existing tools to effectively communicate to decision makers like government? (symposium – virus and risk communication), potential of development of a consolidated database for ease of access of data scripts for development of effective models - even in *JFP*.

Risk Assessment: Symposia (AMR Assessment, Genetic Information (Risk Assessment – NACMCF), risk optimization models, standard setting for microbial and chemical risk assessment criteria – link with Law PDG, pros and cons: expert elicitation (to make use of data sources – big data), site-specific information (generic to specific models).

Any other businesses: Dr. Panos suggested that we need to reactivate webinars or the virtual software fairs - predictive modeling tools over a series of webinars.

Recommendations to the Executive Board:

1. Discuss the possibility of removing "microbial" from the MRA PDG mission of the MMRA PDG.

2. Recommend Dr. Heidy den Besten as Vice Chair to the Board for approval.

Next Meeting Date: July 27, 2025, Cleveland, Ohio.

Meeting Adjourned: 10:01 p.m., Pacific Time, July 14, 2024.

Chairperson Name: Abdullatif Tay