

## Special Issue

# Meta-Analysis, Predictive Microbiology and New Technologies in “Intelligent” Food Risk Assessment

### Message from the Guest Editors

Risk assessment of foodborne pathogens is moving towards a proactive, data-integrated ecosystem supported by reuse of data and knowledge, AI and Machine Learning (ML), genetic precision, and real-time IoT-enabled monitoring. The integration of pathogen occurrence and behaviour data through meta-analysis and predictive microbiology supports the development of accurate quantitative microbial risk assessment (QMRA) models, further strengthened by technologies such as WGS, AI, ML and IoT. These approaches enable strain-level tracking, high-dimensional data analysis, real-time cold-chain monitoring, and early warning systems. The Special Issue welcomes reviews and original research on QMRA models integrating meta-analysis and predictive microbiology, AI/ML for multisectoral data and emerging risk identification, WGS and metagenomics for linking pathogens to virulence and antimicrobial resistance, and IoT- and Blockchain-based cold-chain data. It also targets One Health-based intelligent risk assessment models addressing environmental stressors, antimicrobial resistance, and sectoral data silos.

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### Deadline for manuscript submissions

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## Applied Microbiology

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*Applied Microbiology* (ISSN 2673-8007) is a peer-reviewed open access journal that provides an advanced forum for the international community to report and discuss established and emerging applications for microorganisms and their associated technologies. Research articles, reviews, and other publications are released online immediately after acceptance to provide timely unlimited free access to the scientific community and the general public. We would be pleased to welcome you as one of our authors.

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### Editor-in-Chief

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