

9th International Conference on **Food Safety and Health**

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Advances in Foodborne Pathogen Detection for Enhanced Food Safety**Rebecca Collins**

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Foodborne pathogens continue to pose significant challenges to global public health and the food industry. This presentation highlights recent advances in rapid pathogen detection technologies, including molecular diagnostics, biosensors, next-generation sequencing, and real-time PCR for identifying bacterial, viral, and fungal contaminants in food products. The role of these technologies in improving food quality and reducing outbreak risks will be discussed.

The session will also explore integrated food safety monitoring systems, digital surveillance tools, and laboratory innovations that strengthen quality assurance across the food supply chain. Practical applications of these technologies in regulatory compliance, outbreak investigation, and preventive food safety management will be presented.

The presentation will further discuss future trends in food microbiology research, emphasizing multidisciplinary collaboration between researchers, regulatory authorities, and the food industry. These collaborative efforts are expected to strengthen food safety surveillance systems and improve public confidence in the global food supply.

Biography

Dr. Rebecca Collins is an Associate Professor of Food Microbiology at the Northbridge Institute of Food Sciences, United Kingdom. Her research focuses on foodborne pathogens, microbial food safety, molecular diagnostics, food quality assurance, and risk assessment. She has collaborated with national food safety agencies and industry partners to develop innovative approaches for food contamination monitoring.