

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

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Artificial Intelligence and Smart Technologies in Food Quality Assurance**Ethan Brooks**

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Artificial intelligence and smart sensing technologies are transforming food quality assurance by enabling rapid inspection, contamination detection, and predictive quality management. This presentation explores machine learning applications, computer vision systems, Internet of Things (IoT) sensors, and automated quality control technologies that improve food safety across production and distribution networks.

In addition, the presentation will discuss the integration of digital monitoring systems, predictive analytics, and smart manufacturing practices for reducing food waste, improving traceability, and ensuring regulatory compliance. Case studies demonstrating successful implementation of AI-driven food safety solutions in industrial settings will also be presented.

Additionally, the presentation will examine future opportunities for integrating artificial intelligence with blockchain technology and real-time monitoring systems to strengthen food traceability and transparency. These innovations have the potential to improve consumer trust while supporting sustainable and efficient food production practices.

Biography

Dr. Ethan Brooks is an Associate Professor in the Department of Food Engineering and Digital Innovation at the Western Institute of Technology, Canada. His research focuses on artificial intelligence in food systems, smart food manufacturing, quality assurance, food engineering, and digital technologies for food safety. He collaborates with academic institutions and the food industry to develop innovative solutions for modern food production.