Comprehensive Report on Attending the Dubai International Food Safety Conference 2025

Geographical origin classification of Oolong teas using color analysis and chemometric methods

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1. Introduction

The Dubai International Food Safety Conference (DIFSC) 2025, held in Dubai, UAE, from 17 to 19 November, served as one of the most prestigious global platforms for food safety professionals, researchers, industry decision-makers, and regulatory authorities. The conference focused on strengthening international food safety systems, implementing advanced analytical technologies, and promoting knowledge exchange between nations. Participation in this event provided invaluable exposure to global trends, innovative solutions, and multidisciplinary discussions shaping the future of food safety.

2. Purpose of Attendance

My primary objectives in attending DIFSC 2025 were to present my PhD research as an invited speaker and strengthen my international academic visibility. I aimed to gain deeper insights into emerging technologies in food analysis, risk assessment, and global regulatory frameworks that are shaping modern food safety systems. In addition, the conference provided an excellent opportunity to network with global experts and explore potential collaborations for future research projects and academic exchanges. Attending the event also helped me broaden my understanding of food safety challenges from industrial, regulatory, and scientific perspectives. Importantly, as the only participant representing Taiwan and NPUST, I sought to highlight the strength of Taiwanese research in food safety and contribute to international scientific dialogue.

3. Detailed Academic Contributions and Learning Outcomes of DIFSC 2025

3.1. Oral Presentation as a Speaker

I had the honor of delivering a 20-minute technical presentation titled “Geographical Origin Classification of Oolong Teas Using Color Analysis and Chemometric Methods.” In this presentation, I highlighted the critical role of geographical authentication in the tea industry and explained the methodology used to prepare oolong tea samples by converting them into powdered form to ensure uniform and objective color evaluation. I discussed the application of *L*, a**, b* color space parameters and demonstrated how these measurements can effectively capture subtle variations influenced by processing conditions, roasting intensity, and regional environmental factors. Furthermore, I presented the use of multivariate statistical and chemometric tools such as PCA, MANOVA, and Discriminant Analysis (DA) to differentiate teas from Taiwan, China, Vietnam, and Indonesia. I emphasized the practical relevance of these analytical approaches in preventing tea adulteration, supporting quality control, and strengthening traceability systems. The audience responded very positively to the presentation, particularly appreciating the innovative integration of color science with chemometric modeling for origin-based classification. This opportunity significantly enhanced my academic visibility and reinforced the significance of my research contributions within the global food science community.

3.2.Representation of Taiwan

I was the sole participant from Taiwan, which allowed me to highlight Taiwan’s advancements in tea research and food chemistry. Several attendees expressed interest in Taiwanese oolong teas and the scientific approaches used by researchers in Taiwan. Representing Taiwan on an international platform increased the visibility of our research community and opened discussions about collaborative studies on tea quality, authentication, and value-added processing.

3.3 Key Sessions Attended and Knowledge Gained

Throughout the conference, I attended multiple expert-led sessions covering:

- Global Harmonization of Food Safety Regulations

- Risk-Based Food Inspection Models Implemented in the UAE

- Food Fraud Detection, Authentication Technologies, and Blockchain Traceability

- AI Applications for Predictive Hazard Detection and Smart Surveillance

- Microbiological Risk Assessment and Rapid Testing Technologies

- Innovations in Food Packaging and Shelf-Life Enhancement

- Chemical Contaminants, Additives, and Safety Monitoring Frameworks

These sessions deepened my understanding of how regulatory systems integrate scientific evidence to ensure food protection. I gained insights into the latest advancements in analytical technologies, many of which complement my research expertise.

3.3. Networking and International Collaborative Opportunities

The conference offered excellent networking opportunities. I interacted with researchers, regulatory officials, and professionals from: UAE, India, Europe, Southeast Asia, Canada, Africa, and the Middle East.

The discussions during the conference covered a wide range of topics, including the application of machine learning for food authenticity and safety, advanced analytical techniques for detecting chemical hazards, and current trends in sensory and consumer preference research. I also explored postdoctoral opportunities in food chemistry and food safety, along with possibilities for joint publications and collaborative grant proposals with international researchers. These meaningful interactions broadened my global academic perspective and strengthened the foundation for potential future collaborations.

3.4. Practical Knowledge and Industrial Applications

The conference also showcased several real-world applications of food safety practices, including Dubai Municipality's advanced inspection and monitoring system, industry-based case studies on contamination prevention, the integration of digital traceability technologies across large food supply chains, and the use of innovative packaging materials designed to minimize oxidation and inhibit microbial growth. These practical insights effectively bridged the gap between academic research and real world regulatory and industrial requirements, making them especially relevant to my expertise in food chemistry, antioxidant analysis, sensory evaluation, and chemometric modeling.

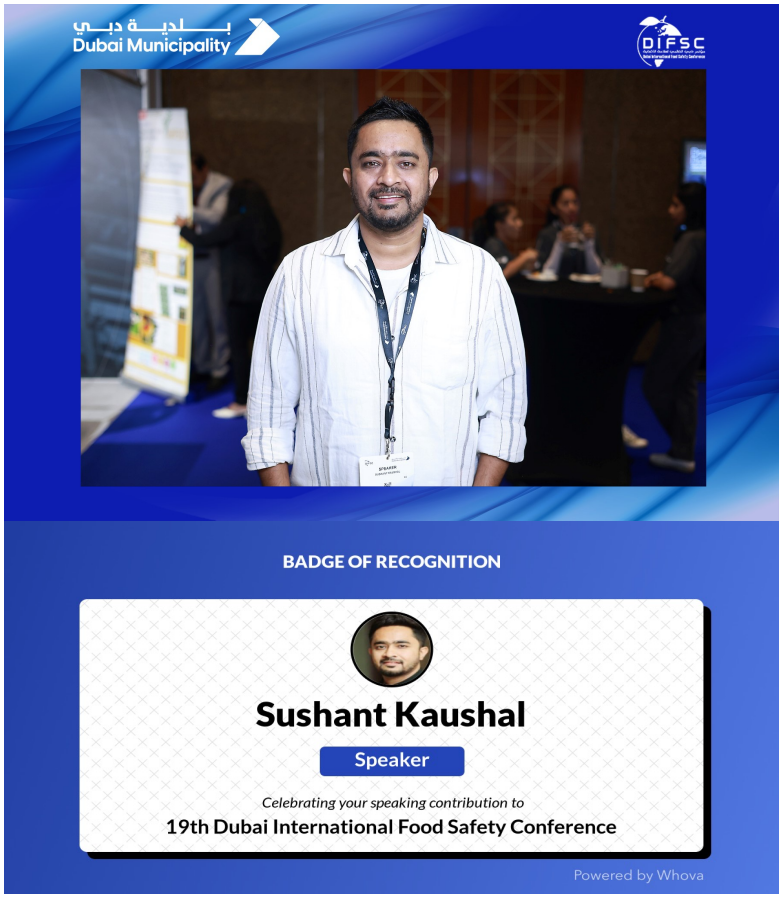
4. Acknowledgment

I express my heartfelt gratitude to my supervisor, Prof. Ho-Hsien Chen, for their continuous support, guidance, and encouragement. I also thank NPUST for facilitating and supporting my participation in this prestigious global event. Their mentorship and institutional support have been instrumental in shaping my academic journey.

5. Conclusion

Attending the Dubai International Food Safety Conference 2025 was an enriching, inspiring, and career enhancing experience. Presenting my research as an international speaker elevated my academic presence and helped me connect with global experts. The knowledge gained from analytical advancements to regulatory frameworks will significantly strengthen my ongoing research on tea authentication, chemometrics, and food quality analysis. The conference enhanced my global perspective, improved my technical expertise, and provided strong motivation to pursue advanced research and postdoctoral opportunities in the field of food chemistry and food safety.

Conference Highlights

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