Special Issue

Non-Destructive Testing and Evaluation in Food Engineering

Message from the Guest Editors

Demand for safer, higher-quality, and more sustainable food production is driving innovation in non-destructive testing (NDT) for food engineering. This Special Issue explores the latest advancements in NDT applications for enhancing food quality control, reducing waste, and improving efficiency. NDT methods, such as hyperspectral imaging, ultrasound, X-ray, nuclear magnetic resonance (NMR), near-infrared spectroscopy (NIRS) and dielectric spectroscopy, offer rapid, non-invasive analysis of food composition, texture, moisture, and contaminants. The integration of artificial intelligence (AI) and machine learning further enhances these technologies, allowing automated and data-driven analysis for the food industry. This Special Issue welcomes contributions on novel NDT techniques, including the following:

- Advanced imaging and spectroscopy for food quality assessment;
- AI-enhanced NDT for classification and safety monitoring;
- Ultrasonic and electromagnetic methods in food processing;
- Non-invasive detection of contaminants and adulterants;
- Smart food manufacturing and packaging applications.

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Deadline for manuscript submissions

30 December 2025

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Message from the Editor-in-Chief

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