Special Issue

Infrared Spectroscopy and Hyperspectral Imaging for Detecting Food Contaminants and Residues

Message from the Guest Editors

Infrared spectroscopy (IR) and hyperspectral imaging (HIS) have emerged as powerful non-destructive techniques for spotting food contaminants and residues. As food safety receives more attention for researchers, these new technologies can act as efficient monitoring tools for food quality and the detection of toxic substances. Most traditional detection methods are time-consuming and rely on high-rate consumables whereas IR and HSI allow for real-time, in situ detection, thus being valuable in food safety assessments.

These are based on the interplay between light and the food matrix to sense and measure the chemical constituents present. IR considers infrared absorption by food components, while HSI captures spectral information using a larger number of wavelengths, enhancing the detection of small variations in food composition.But there are still barriers to applying these technologies on a larger scale. Variability in food composition, calibration needs, and complexity in data processing must be addressed to promote consistent application. However, with ongoing research progress, IR and HSI will become indispensable tools to ensure food quality and safety.

Guest Editors

Dr. Marcus Vinicius da Silva Ferreira

Department of Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign, Urbana, IL, USA

Dr. Md Wadud Ahmed

Department of Agricultural and Biological Engineering, University of Illinois at Urbana-Champaign, Urbana, IL 61801, USA

Deadline for manuscript submissions

30 September 2025

Foods

an Open Access Journal by MDPI

Impact Factor 5.1
CiteScore 8.7
Indexed in PubMed

mdpi.com/si/235965

Foods
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
foods@mdpi.com

mdpi.com/journal/foods

Foods

an Open Access Journal by MDPI

Impact Factor 5.1
CiteScore 8.7
Indexed in PubMed

mdpi.com/journal/foods

About the Journal

Message from the Editor-in-Chief

Foods (ISSN 2304-8158) is an open access and peer reviewed scientific journal that publishes original articles, critical reviews, case reports, and short communications on food science. Articles are released monthly online, with unlimited free access. Currently, Foods has been indexed by the Science Citation Index Expanded (SCIE - Web of Science), PubMed, and Scopus. Our aim is to encourage scientists, researchers, and other food professionals to publish their experimental and theoretical results as much detail as possible. We therefore invite you to be one of our authors, and in doing so share your important research findings with the global food science community.

Editor-in-Chief

Prof. Dr. Arun K. Bhunia
1. Department of Food Science, Purdue University, West Lafayette, IN 47907, USA
2. Department of Comparative Pathobiology, Purdue University, West Lafayette, IN 47907, USA

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, FSTA, AGRIS, PubAg, and other databases.

Journal Rank:

JCR - Q1 (Food Science and Technology) / CiteScore - Q1 (Health Professions (miscellaneous))

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).