Special Issue

Application of Gas and Liquid Chromatography-Mass Spectrometry Technologies in Food Analysis

Message from the Guest Editors

Chromatography, whether gas (GC) or liquid (LC), coupled to mass spectrometry (MS) is a high-throughput technique essential for the detailed analysis of food matrices. The versatility and proficiency of these techniques making them the first choice for composition analysis of foods and related matrices as well as their by-products. GC-MS excels at separating and identifying volatile and semi-volatile compounds, making it ideal for flavour and aroma profiling, including off-flavour monitoring and adulteration, detecting pesticide residues, and analysing fatty acid compositions. LC is proficient in analysing non-volatile, polar, and thermally labile compounds including vitamins, amino acids, sugars, mycotoxins, and flavonoids. MS provides unmatched sensitivity and specificity by identifying compounds based on their mass-to-charge ratio. These tools are central to ensuring food quality and safety, enabling precise monitoring of composition, contaminants, and authenticity. The integration of advanced food technology and data analytics enhances traceability, real-time monitoring, and innovation across the food supply chain.

Guest Editors

Dr. Clara Cecília Santana Sousa

Laboratório Associado, Escola Superior de Biotecnologia, Centro de Biotecnologia e Química Fina, Universidade Católica Portuguesa, CBQF, Rua Diogo Botelho 1327, 4169-005 Porto, Portugal

Dr. Teresa R.S. Brandão

Laboratório Associado, Escola Superior de Biotecnologia, Centro de Biotecnologia e Química Fina, Universidade Católica Portuguesa, CBQF, Porto, Portugal

Deadline for manuscript submissions

10 April 2026

Foods

an Open Access Journal by MDPI

Impact Factor 5.1
CiteScore 8.7
Indexed in PubMed

mdpi.com/si/254234

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).