

PREFACE

The proceedings of the 5th International Conference on Food Science and Engineering (ICFSE) 2025, with the theme "Shaping the Future of Sustainable Food Systems Through Innovation in Food Science and Engineering," are presented with great pleasure. In order to address food technology and engineering, this conference acts as an interdisciplinary forum that unites researchers, academics, practitioners, and policymakers.

Sustainable food issues are a key agenda within the Sustainable Development Goals (SDGs), particularly regarding achieving food security, improving nutrition, and supporting sustainable agriculture. Therefore, the role of food science and technology is critical, both in developing innovative production, enhancing food safety, and minimizing the environmental impact of global food systems. Through this forum, we hope to identify creative solutions that are not only based on academic research but are also implementable in policies and practical applications. The scope of the 5th ICFSE 2025 covers a wide range of critical topics, including:

- Physical modification of foods
- Food chemistry and analysis
- Instrumental techniques for food analysis
- Food microstructure development and characterization
- Food properties, including thermal, chemical, and mechanical properties
- Rapid detection of food contamination
- Macronutrient, micronutrient, and functional properties
- Chemistry of food additives and preservatives
- Food processing and engineering
- Food packaging
- Sustainable food production
- Food waste utilization
- Mathematical modeling and software development for food processing purposes
- Application of artificial intelligence in food engineering
- Food supply chain management system

- Food nutrigenomics for health

Out of the 88 abstracts submitted for the 5th ICFSE 2025, 32 articles were submitted for peer assessment. Following a careful and constructive examination by expert reviewers, 29 articles were approved for publication in these proceedings. The chosen papers reflect a range of viewpoints and make significant contributions to the advancement of climate resilience, sustainability, and innovation research and policy discourse. We would like to offer our sincere appreciation to all authors for their contributions and commitment to academic achievement.

We also express our sincere gratitude to the reviewers for their meticulous assessments and perceptive comments, which guaranteed the quality of the papers that were published. For their commitment and diligence in making this conference and its proceedings possible, we are equally appreciative of the technical team and organizing committee.