Special Issue

Use of Sensors and Chemical Analysis for Food Safety and Quality

Message from the Guest Editors

Sensors and chemical analysis methods offer several advantages for food safety and quality assessment: they enable rapid detection, providing quick results compared to traditional methods; demonstrate versatility in detecting a wide range of chemical substances and microorganisms; offer high sensitivity for identifying even trace amounts of contaminants; allow real-time monitoring for the continuous assessment of food quality parameters; and provide portability, with some sensors designed for on-site, immediate testing. Chemical analysis techniques are widely used for detecting nutrients, contaminants, and additives in food products. Sensors, such as metal oxide sensors, surface acoustic wave sensors, and electrochemical sensors, are capable of detecting gases that indicate food spoilage or contamination. Advances in these technologies are driving the development of more reliable, efficient, and cost-effective tools, fostering their integration into smart food packaging and automated quality control systems, thereby enhancing food safety and reducing waste.

Guest Editors

Dr. Hamed Karami
Institute for Bioengineering of Catalonia-IBEC, Barcelona, Spain
Dr. Sara Erasmus
Food Quality and Design, Wageningen University & Research, Wageningen, The Netherlands

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

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Sensors is a leading journal devoted to fast publication of the latest achievements of technological developments and scientific research in the huge area of physical, chemical and biochemical sensors, including remote sensing and sensor networks. Both experimental and theoretical papers are published, including all aspects of sensor design, technology, proof of concept and application. Sensors organizes Special Issues devoted to specific sensing areas and applications each year.

Editor-in-Chief

Prof. Dr. Vittorio M. N. Passaro
Department of Electrical and Information Engineering, Politecnico di Bari, Via Orabona 4, 70126 Bari, Italy

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