Special Issue

Applications of Hyperspectral Imaging and Chemometrics in Food Analysis

Message from the Guest Editors

In recent years, the combination of hyperspectral imaging and chemometrics has emerged as a powerful analytical approach that profoundly enhances food analysis. Hyperspectral imaging offers a non-destructive means of capturing detailed spatial and spectral information, providing comprehensive chemical and physical signatures of food products. The resulting rich dataset includes hundreds of contiguous wavelengths, enabling precise assessment of food quality, safety and authenticity. However, the complexity and high dimensionality of hyperspectral data present significant challenges in extracting meaningful information without advanced statistical and multivariate analysis techniques. Here, chemometrics plays a crucial role by enabling data preprocessing, feature extraction, pattern recognition and predictive modeling, transforming raw spectral data into actionable insights.

This Special Issue aims to bring together innovative research that exploits this synergy to develop robust methodologies for food quality evaluation, fraud detection, authentication and characterization.

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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