# Special Issue

# AI-Driven Methods for Chemometric Spectroscopy: Algorithms and Applications

## Message from the Guest Editors

The integration of artificial intelligence (AI) and big data analytics with spectroscopic sensing has opened up new frontiers in chemical and material analysis. Traditional chemometric approaches often face limitations when dealing with high-dimensional, nonlinear, and noisy spectral data. Emerging AI-driven methods, including deep learning, transfer learning, and interpretable machine learning, offer powerful tools for extracting meaningful patterns, enhancing model robustness, and enabling real-time decision-making in complex sensing environments. This Special Issue invites original research and review articles focused on the development and application of intelligent algorithms for chemometric spectroscopy. Topics of interest include AI-based spectral preprocessing, regression and classification models, feature extraction, anomaly detection, and data fusion from multi-modal or multi-sensor platforms. We particularly welcome contributions demonstrating real-world applications. By bridging AI and spectroscopic chemometrics, this Special Issue will provide a forum for advancing next-generation intelligent sensing technologies and data-driven analytical frameworks.

## Guest Editors


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## Deadline for manuscript submissions

27 July 2026


# Sensors

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Impact Factor 3.5
CiteScore 9.4
Indexed in PubMed

mdpi.com/si/255439

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## Message from the Editor-in-Chief

*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.

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