Special Issue

Advances in Hyperspectral Data Analysis for Vegetation and Soil Monitoring

Message from the Guest Editor

Hyperspectral remote sensing can capture detailed spectral information across contiguous bands, this capability enables the precise identification of biochemical and biophysical properties in vegetation and soil. Recent advancements in data acquisition platforms (UAVs, airborne sensors and satellite constellations) and in new data mining technologies such as deep learning provide opportunities for the efficient processing of large amounts of hyperspectral images. These tools enable automated feature extraction, classification, and anomaly detection with unprecedented accuracy, even in heterogeneous landscapes. Additionally, the fusion of hyperspectral data with complementary sources (such as LiDAR, multispectral imagery, or IoT-based ground sensors) promises to improve model interpretability and decision-making. However, challenges still remain, such as hyperspectral data dimensionality reduction, complex interactions between vegetation and soil, and model universality and robustness. This Special Issue welcomes high-quality original research articles and reviews that explore recent advancements in hyperspectral remote sensing for vegetation and soil monitoring.

Guest Editor

Prof. Dr. Lifu Zhang

Institutional information: Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing 100094, China

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

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Message from the Editor-in-Chief

Remote Sensing is now a prominent international journal of repute in the world of remote sensing and spatial sciences, as a pioneer and pathfinder in open access format. It has highly accomplished global remote sensing scientists on the editorial board and a dedicated team of associate editors. The journal emphasizes quality and novelty and has a rigorous peer-review process. It is now one of the top remote sensing journals with a significant Impact Factor, and a goal to become the best journal in remote sensing in the coming years. I strongly recommend *Remote Sensing* for your best research publications for a fast dissemination of your research.

Editor-in-Chief

Dr. Prasad S. Thenkabail
Senior Scientist (ST), U. S. Geological Survey (USGS), USGS Western Geographic Science Center (WGSC), 2255, N. Gemini Dr., Flagstaff, AZ 86001, USA

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