



CALL FOR PAPERS
IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing
Special Issue on
“Hyperspectral Remote Sensing for Global Agriculture Management”

The sensor technology in the hyperspectral model captures the internal and external physical structure of crops from the earth in spectral view using electromagnetic radiation and foliage. The captured images visualize detailed reports about the drought stress, plant pathogens, moisture content, and soil salinity needed for crop development. Photochemical reflectance index measured from hyperspectral imaging provides insights about the presence of photosynthetic efficiency that provides crop output in more extensive agricultural lands and yields data for food production estimations. This technology helps farmers make an informed decision about the usage of herbicide to a localized region of the field for weed eradication that acts a great deal in saving time and money. Extensive tracking of hyperspectral images would detect water and nitrogen deficiency in the crop, which is essential for preventing plants from chlorosis attacks and stressed vegetation. The common challenge that farmers experience in using this technology is data handling and space complexity as voluminous data is captured for prediction. This sensor tends to be noisier than other autonomous sensors as it uses numerous narrow bands providing image descriptions. From a future perspective, this technology would be used in spay for the agricultural sector to provide accurate multidimensional crop analysis with adequate cost-saving and data needed to improve the production system. This special issue enumerates the role of hyperspectral remote sensing technology for effective crop production and its future advancement for directing the agricultural sector to contribute to the global world crisis. We welcome scholars and practitioners of this platform to emphasize more on this topic and present submissions that fall within this scope of hyperspectral remote sensing and its features to help farmers inefficient monitoring of cultivation field needed to increase productivity in farms.

The broad topics include (but are not limited to):

- Precision farming to optimize productivity in farms using remote sensing
- Advances in the development of remote sensing technology for agricultural applications
- Achieving sustainability in global agriculture in the age of remote sensing
- Accurate farm prediction using hyperspectral remote sensing
- Autonomous sensors and their role in crop development.
- Challenges in adopting hyperspectral sensors for small farmlands
- Role of spectral images in defining crop distributions.
- Importance of capturing plant stress for crop protection
- Interactive visualization and analysis of data using image spectrometer
- Non-destructive techniques for assessing crop growth and nutrient status using remote sensing techniques
- Role of spectral imaging for vegetation identification and crop characteristics

Schedule

Dec. 1, 2022: Submission system opening

May. 31, 2023: Submission system closing

Format

All submissions will be peer reviewed according to the IEEE Geoscience and Remote Sensing Society guidelines. Submitted articles should not have been published or be under review elsewhere. Submit your manuscript on <http://mc.manuscriptcentral.com/jstars>, using the Manuscript Central interface and select the “**Hyperspectral Remote Sensing For Global Agriculture Management**” special issue manuscript type. Prospective authors should consult the site <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9082768> for guidelines and information on paper submission. All submissions must be formatted using the IEEE standard format (double column, single spaced). Please visit http://www.ieee.org/publications_standards/publications/authors/author_templates.html to download a template for transactions. Please note that as of Jan. 1, 2020, IEEE J-STARS has become a fully open-access journal charging a flat publication fee \$1,250 per paper.

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