"Hyperspectral Hyperion Images and Spectral Libraries of Agricultural Crops" is the theme of this month's special issue. Global Image on the cover page shows the location of ~ 64,000 Hyperion sensor (onboard Earth Observing-1 or EO-1; http://eo1.usgs.gov/ satellite) acquired images during years 2000-2013. Each image is 7.5 km by 180 km, 242 bands, and 10 nm narrow bandwidth acquiring data in 400-2500 nm spectral range. Images are freely available at: http://earthexplorer.usgs.gov/ Cover page also shows a sample Hyperion image data cubes for an area within the Krishna river basin, India. Typical crop spectra derived from Hyperion images for some of the leading world crops, at certain phenological growth stages, are depicted in bottom left. Hyperspectral signatures of crops shown with photos in the background are gathered using a hand-held spectroradiometer. For details read the Highlight article in this issue.

Cover page credits: Dr. Prasad S. Thenkabail, U.S. Geological Survey (USGS), Dr. Murali Krishna Gumma, International Center for Research in the Semi-arid Tropics (ICRISAT), Dr. Pardhasaradhi Teluguntla, U.S. Geological Survey (USGS) and Bay Area Environmental Research Institute (BAERI), and Mr. Irshad A. Mohammed, ICRISAT. Contact: pthenkabail@usgs.gov or thenkabail@gmail.com.

HIGHLIGHT ARTICLE

697 Hyperspectral Remote Sensing of Vegetation and Agricultural Crops
Prasad S. Thenkabail, Murali Krishna Gumma, Pardhasaradhi Teluguntla, and *Irshad A. Mohammed*

INTERVIEW
710 John All

SPECIAL ISSUE FOREWORD
721 Research Advances in Hyperspectral Remote Sensing
Prasad S. Thenkabail

PEER-REVIEWED ARTICLES

725 Improved Capability in Stone Pine Forest Mapping and Management in Lebanon Using Hyperspectral CHRIS-Proba Data Relative to Landsat ETM+

Mohamad Awad, Ihab Jomaa, and *Fatima Arab*

An effective, low cost, and fast method for monitoring the changes in the forest cover, detecting diseases in forests, and mapping different forest species.

733 Combining Hyperspectral and Lidar Data for Vegetation Mapping in the Florida Everglades

Caiyun Zhang

A synergy of hyperspectral and LiDAR systems for automated vegetation mapping in a complex wetland Florida Everglades.

745 Hyperspectral Optical, Thermal, and Microwave L-Band Observations For Soil Moisture Retrieval at Very High Spatial Resolution

Nilda Sánchez, Maria Piles, José Martínez-Fernández, Mercè Vall-llossera, Luca Pipia, Adriano Camps, Albert Aguasca, Fernando Pérez-Aragüés, and *Carlos M. Herrero-Jiménez*

The potential of merging optical and thermal hyperspectral airborne data with microwave observations for estimating surface soil moisture at very high spatial resolution.

757 Biomass Modeling of Four Leading World Crops Using Hyperspectral Narrowbands in Support of HyspIRI Mission   **NOTE: This paper is open-access and free for all readers**

Michael Marshall and *Prasad Thenkabail*

Ground-based spectroradiometric and aboveground fresh biomass data for four major world crops studied in the Central Valley of California to identify hyperspectral narrowbands sensitive to biomass using empirically-based modeling techniques.

773 Hyperspectral Data Dimensionality Reduction and the Impact of Multi-seasonal Hyperion EO-1 Imagery on Classification Accuracies of Tropical Forest Species

Manjit Saini, Binal Christian, Nikita Joshi, Dhaval Vyas, Prashanth Marpu, and *Krishnayya Nadiminti*

EO-1 Hyperion data was used to classify three distinct forest species during 3 seasons (monsoon, winter, summer) and the best classification accuracies were achieved using kernel principal component analysis through maximum likelihood classifier (kPCA-ML) for the monsoon season with overall accuracies of 83 to 100 percent for single species, 74 to 81 percent for two species, and 72 percent for three species respectively.

785 Automated Hyperspectral Vegetation Index Retrieval from Multiple Correlation Matrices with HyperCor

Helge Aasen, Martin Leon Gnyp, Yuxin Miao, and *Georg Bareth*

Introducing the software HyperCor for automated preprocessing and calculation of correlation matrices from hyperspectral field spectrometry and the multi-correlation matrix strategy for the retrieval of hyperspectral vegetation indices to estimate rice biomass in the tillering, stem elongation, heading, and across all growth stages.

797 Automated Class Labeling Of Classified Landsat Tm Imagery Using a Hyperion-Generated Hyperspectral Library

Ilia Parshakov, Craig Coburn, and *Karl Staenz*

A new method for the automatic labeling of classified imagery using Z-Score distance is for class label assignment of Landsat-5 TM imagery using Hyperion hyperspectral data.