

Remote Sensing for Agriculture, Ecosystems, and Hydrology

Tuesday - Thursday 12 - 14 September 2017

Important Dates

[SHOW](#) | [HIDE](#)**Abstract Due:**

13 March 2017

Late submissions will be considered. Please submit your abstract online as soon as possible.

Author Notification:

26 May 2017

Manuscript Due Date:

14 August 2017

Conference Committee

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MONDAY 11 SEPTEMBER

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Session PL: Remote Sensing and Security + Defence Joint Plenary Session

Monday 11 September 2017

4:00 PM - 4:20 PM

16:00 to 16:15

Welcome Address and Introductory Remarks

16:15 to 17:00

Optoelectronics developments in Poland for defense and security**Col. Krzysztof Kopczynski**, Military Univ. of Technology, Poland

17:00 to 17:45

Remote sensing in food security**Molly E. Brown**, Univ. of Maryland, United States

17:45 to 18:30

Next decade in infrared detectors**A. Rogalski**, Institute of Applied Physics, Military University of Technology, Poland**Remote sensing in food security**

Paper 10421-100

Author(s):

TUESDAY 12 SEPTEMBER

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Opening Remarks

Tuesday 12 September 2017

8:50 AM - 9:00 AM

Session 1: Surface and Groundwater Hydrology I

Tuesday 12 September 2017

9:00 AM - 10:00 AM

**Automated flood extent identification using WorldView imagery for the insurance industry**

Paper 10421-1

Author(s):

Flood monitoring technique based on RGB composite imagery using MODIS data

Paper 10421-2

Author(s):

Calibration and validation of a semi-distributed hydrological model in the Amur River Basin using remote sensing data

Paper 10421-3

Author(s):

Session 2: Surface and Groundwater Hydrology II

Tuesday 12 September 2017

10:30 AM - 11:50 AM

Possibilities of water quality monitoring with the use of different remote sensed data sources (Conference Presentation)

Paper 10421-4

Author(s):

Multisensor satellite data for water quality analysis and water pollution risk assessment: decision making under deep uncertainty with fuzzy algorithm in framework of multimodel approach

Paper 10421-5

Author(s):

Modelling spatial and temporal variability of hydrologic impacts under climate changes over the Nenjiang River Basin, China

Paper 10421-6

Author(s):

Remote sensing and GIS technology based surface and ground water mapping

(Canceled)

Paper 10421-7

Author(s):

Session 3: Hydrology and Precipitation

Tuesday 12 September 2017

1:20 PM - 3:00 PM

Validation of a global satellite rainfall product for real time monitoring of meteorological extremes

Paper 10421-8

Author(s):

Evaluation of future precipitation changes in the Zagros Karst Regions using CMIP5 data (case study: Kermanshah, Iran)

(Canceled)

Paper 10421-9

Author(s):

Assessment of TRMM 3B43 product for drought monitoring in Singapore

Paper 10421-11

Author(s):

Evaluation of TRMM 3B42V7 product on extreme precipitation measurements over peninsular Malaysia

Paper 10421-12

Author(s):

Session 4: Evapotranspiration and LST

Tuesday 12 September 2017

3:30 PM - 5:50 PM

Continuous monitoring of evapotranspiration (ET) overview of LSA-SAF evapotranspiration products

Paper 10421-13

Author(s):



Surface temperature estimated with Landsat 8 images and geostatistical tools in the northwestern São Paulo state

Paper 10421-14

Author(s):

Assessing actual evapotranspiration via surface energy balance aiming to optimize water and energy consumption in large scale pressurized irrigation systems

Paper 10421-15

Author(s):

A random forest and superpixels approach to sharpen thermal infrared satellite imagery

Paper 10421-16

Author(s):

Low-cost photonic sensors for carbon dioxide exchange rate measurement

Paper 10421-17

Author(s):

Determination of the actual evapotranspiration by using remote sensing methods

Paper 10421-18

Author(s):

**Session PS:
Posters--Tuesday**

Tuesday 12 September 2017

5:45 PM - 7:30 PM

Conference attendees are invited to attend the Remote Sensing and Security+Defence poster session held on Tuesday 17:45 to 19:30. Posters will be on display after 13:00 hrs on Monday in the Universal Foyer. Authors of poster papers will be present to answer questions concerning their papers during the Tuesday Poster Session. Come view the posters, enjoy light refreshments, ask questions, and network with colleagues in your field. Attendees are required to wear their conference registration badges to the poster sessions. Poster authors, view poster presentation guidelines and set-up instructions at <http://spie.org/x32234.xml>.

Water indicators based on SPOT 6 satellite images in irrigated area at the Paracatu River Basin, Brazil

Paper 10421-58

Author(s):

Estimation of flood discharge using satellite-derived rainfall in abroad watershed

Paper 10421-59

Author(s):

Correction of satellite rainfall estimates by considering the spatial information of gauge-measured rainfall data

Paper 10421-60

Author(s):

Detection of a reservoir water level using shape similarity metrics

Paper 10421-61

Author(s):

Study the impact of rainfall on the United Arab Emirates dams using remote sensing and image processing techniques

Paper 10421-62

Author(s):

Monitoring total nitrogen content in soil of cultivated land based on hyperspectral technology

Paper 10421-63

Author(s):

Remote sensing of soil organic matter of farmland with hyperspectral image

Paper 10421-65

Author(s):

Multitemporal WorldView satellites imagery for mapping chestnut trees

Paper 10421-67

Author(s):

Evaluation of forest fires in Portugal Mainland during 2016 summer considering different satellite datasets

Paper 10421-68

Author(s):

Carpathian mountain forest vegetation and its responses to climate stressors

Paper 10421-69

Author(s):

Comparison of different discriminant functions for mangrove species analysis in Matang Mangrove Forest Reserve (MMFR), Perak based on statistical approach

Paper 10421-70

Author(s):



Competition between agricultural, urban, and sand-mining areas at the Paraíba do Sul basin in southeastern Brazil

Paper 10421-73

Author(s):

Systematic evaluation of CNN on land cover classification from remotely sensed images**(Canceled)**

Paper 10421-75

Author(s):

The fusion of satellite and UAV data: simulation of high spatial resolution band

Paper 10421-76

Author(s):

Unmanned Aerial Vehicle (UAV) data analysis for fertilization dose assessment

Paper 10421-78

Author(s):

Land products validation of Sentinel-2, Proba-V, and Sentinel-3 missions for agriculture and grasslands areas: comparison to Copernicus biophysical parameters

Paper 10421-80

Author(s):

Changes in ecosystem service values in Zhoushan Island using remote sensing time series data

Paper 10421-81

Author(s):

Combining optical remote sensing data with in-situ measurements in order to estimate vegetation parameters on agricultural fields and corresponding uncertainties

Paper 10421-84

Author(s):

Fusion of radar and optical data for mapping and monitoring of water bodies

Paper 10421-86

Author(s):

Evaluation of crop development stages with TerraSAR-X backscatter signatures (2010-12) by using Growing Degree Days

Paper 10421-87

Author(s):

Contribution of the new satellites (Sentinel-1, Sentinel-2 and SPOT-6) to the coastal vegetation monitoring in the Pays de Brest (France)

Paper 10421-89

Author(s):

Monitoring crop leaf area index and biomass using a combination of synthetic aperture radar and optical sensors

Paper 10421-90

Author(s):

WEDNESDAY 13 SEPTEMBER[Show All Abstracts](#)

**Session 5:
Vegetation Monitoring I**

Wednesday 13 September 2017

9:10 AM - 10:30 AM

Spectral response of healthy and damaged leaves of tropical seagrass *Enhalus acoroides*, *Thalassia hemprichii*, and *Cymodocea rotundata*

Paper 10421-20

Author(s):

A new comprehensive index for drought monitoring with TM data

Paper 10421-22

Author(s):

Mapping of invasive species (*arenga obtusifolia*) in javan rhinos habitat, Ujung Kulon, Indonesia, based on Landsat-8 image analysis and GIS**(Canceled)**

Paper 10421-23

Author(s):

**Session 6:
Vegetation Monitoring II**

Wednesday 13 September 2017

11:00 AM - 12:00 PM

Spectro-spatial relationship between UAV derived high resolution DEM and SWIR hyperspectral data: application to an ombrotrophic peatland

Paper 10421-25

Author(s):

Session 7: Soil Monitoring

Wednesday 13 September 2017

1:40 PM - 3:00 PM

Directional optical transmission through a sand layer: a preliminary laboratory experiment

Paper 10421-30

Author(s):

Light transmission through a sand layer: modeling changes due to illumination direction

Paper 10421-31

Author(s):

Elevation effect on TVDI-based soil moisture retrieval algorithm using MODIS LST and NDVI products

Paper 10421-32

Author(s):

Modeling soil organic matter (SOM) from satellite data using VISNIR-SWIR spectroscopy and PLS regression with step-down variable selection algorithm: case study of Campos Amazonicos National Park savanna enclave, Brazil

Paper 10421-64

Author(s):

Session 8: Forestry

Wednesday 13 September 2017

3:30 PM - 5:10 PM

Mapping forest disturbance and recovery for forest dynamics over large areas using Landsat time-series remote sensing

Paper 10421-35

Author(s):

Comparison of leaf-on and leaf-off ALS data for mapping riparian tree species

Paper 10421-36

Author(s):

Determination of the ecological connectivity between landscape patches obtained using the knowledge engineer (expert) classification technique

Paper 10421-39

Author(s):

THURSDAY 14 SEPTEMBER

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Session 9: Evapotranspiration and Irrigation

Thursday 14 September 2017

8:40 AM - 10:00 AM

Climate variability and drought over East Africa on time scale of decades

Paper 10421-91

Author(s):

Water and vegetation indices by using MODIS products for eucalyptus, pasture, and natural ecosystems in the eastern São Paulo state, Southeast Brazil

Paper 10421-42

Author(s):

Satellite-based estimates of water productivity for center pivot systems in Nebraska

Paper 10421-43

Author(s):



**A speech recognition based intelligent, automated and wireless farming system
(Canceled)**

Paper 10421-44
Author(s):

Session 10: Vegetation Monitoring in Agriculture I

Thursday 14 September 2017
10:30 AM - 11:30 AM

Temporal analysis of vegetation indices related to biophysical parameters using Sentinel-2A images to estimate maize production

Paper 10421-83
Author(s):

**Mapping integrated crop-livestock systems in Brazilian agricultural frontier
(Canceled)**

Paper 10421-46
Author(s):

Pilot utilization plan for satellite data-based service for agriculture in Poland

Paper 10421-47
Author(s):

Session 11: Vegetation Monitoring in Agriculture II

Thursday 14 September 2017
1:00 PM - 3:00 PM

Estimation of winter wheat canopy nitrogen density at different growth stages based on Multi-LUT approach

Paper 10421-49
Author(s):

Applications of Sentinel-2 data for agriculture and forest monitoring using the absolute difference (ZABUD) index derived from the AgroEye software (ESA)

Paper 10421-50
Author(s):

Evaluation and cross-comparison of vegetation indices for crop monitoring from sentinel-2 and worldview-2 images

Paper 10421-79
Author(s):

**Mapping crop cycles and crop land classification in Nepal using MODIS-NDVI and landsat time series
(Canceled)**

Paper 10421-52
Author(s):

Mapping agroecosystem zone using remote sensing for food security analysis in Bantul district Daerah Istimewa Yogyakarta

Paper 10421-53
Author(s):

Estimation of leaf water contents from mid- and thermal infrared spectra by coupling genetic algorithm and partial least squares regression

Paper 10421-54
Author(s):

Session JS: Joint Session: Radar

Thursday 14 September 2017
3:30 PM - 4:50 PM

Conference 10421, Remote Sensing for Agriculture, Ecosystems, and Hydrology, and Conference 10426, Active and Passive Microwave Remote Sensing for Environmental Monitoring, Joint Session

Application of Sentinel-1 VH and VV and Sentinel-2 for soil moisture studies

Paper 10426-13
Author(s):



Application of multifrequency SAR data and neural networks for Mediterranean forests characterization

Paper 10426-14
Author(s):

Applying a particle filtering technique for canola crop growth stage estimation in Canada

Paper 10421-55

Author(s):

Object-based land cover classification based on fusion of multifrequency SAR data and THAICHOTE optical imagery

Paper 10421-56

Author(s):

