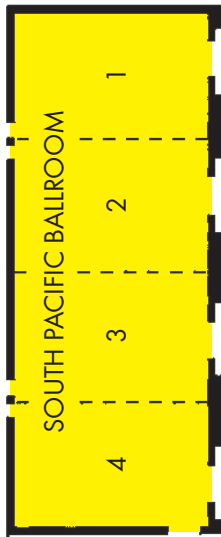
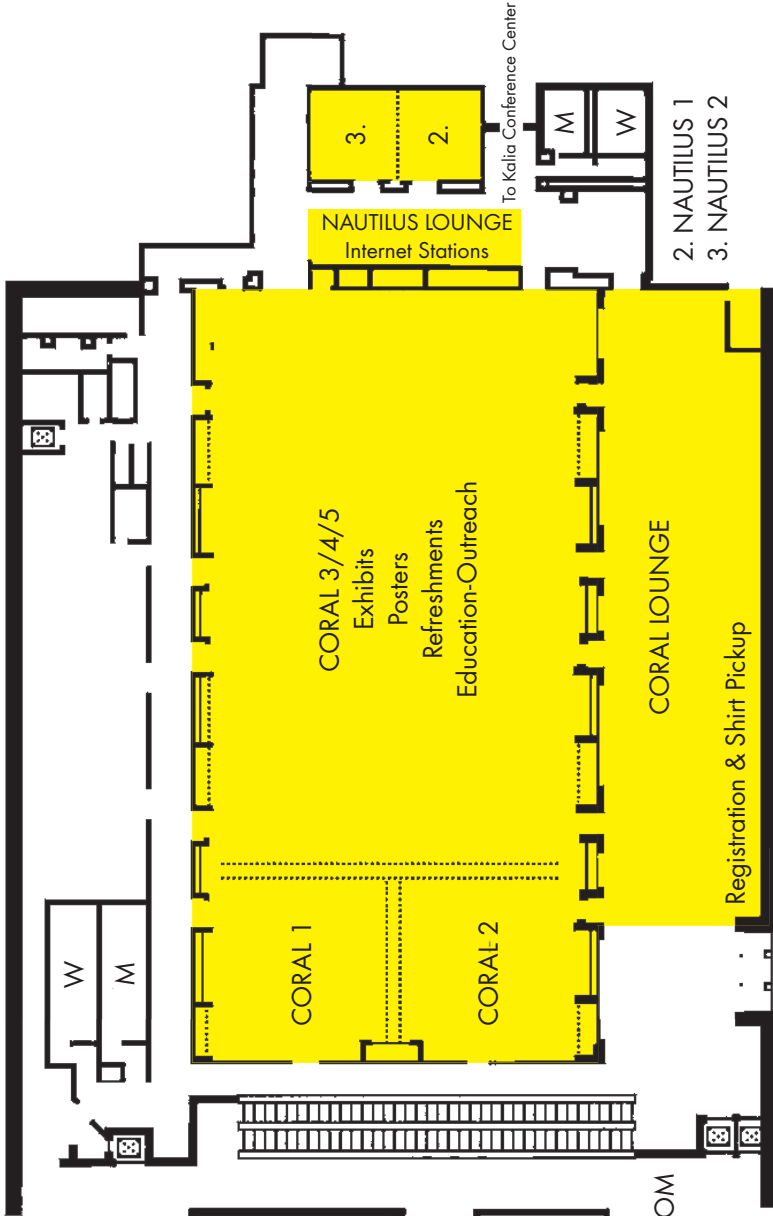


Contents

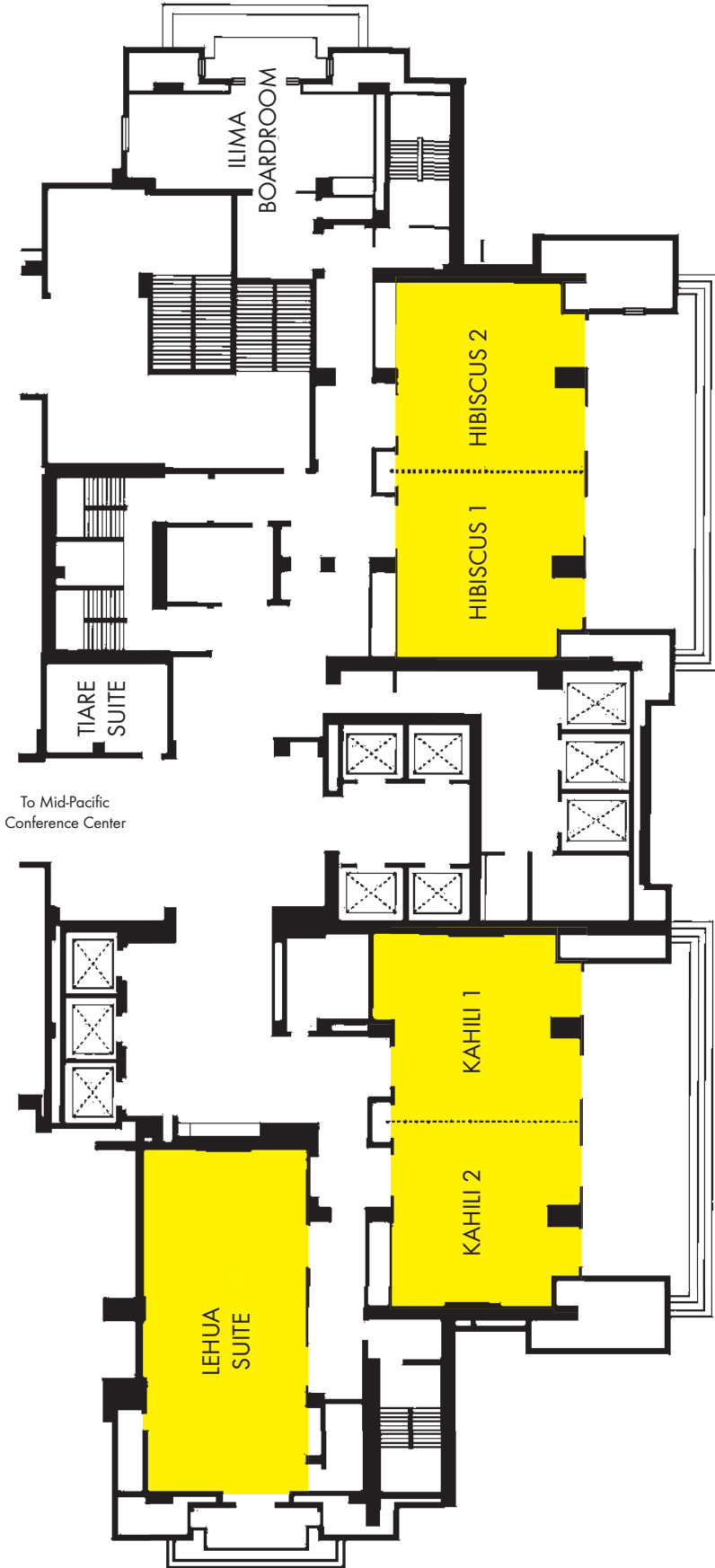
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Mid-Pacific Conference Center



1. SOUTH PACIFIC BOARD ROOM

Kalia Conference Center



Hilton Hawaiian Village Area Map

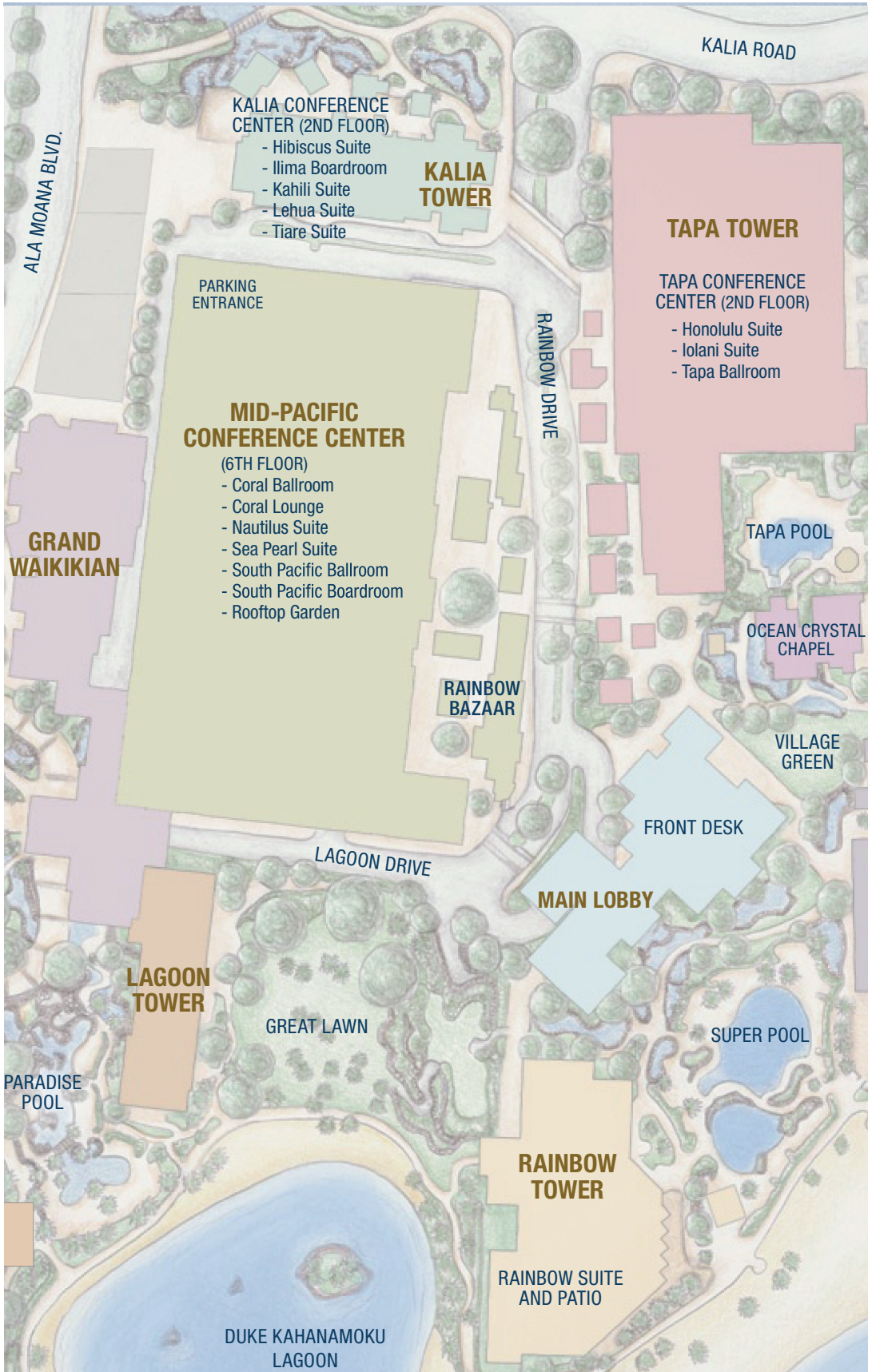
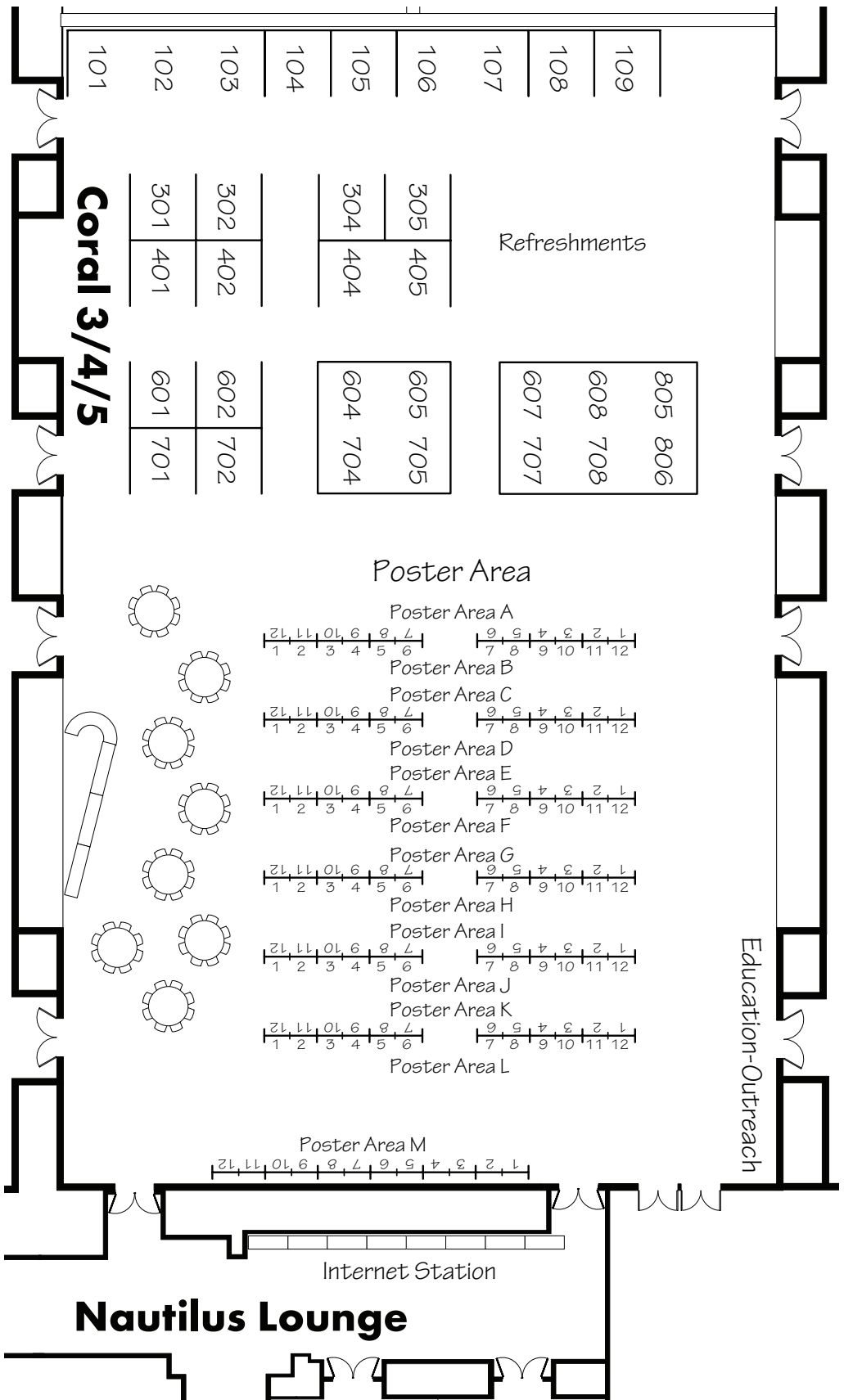


Exhibit and Poster Area Floorplan



Sunday, July 25

| | Sea Pearl Suite 1 (Mid-Pacific C.C.) | Sea Pearl Suite 2 (Mid-Pacific C.C.) | Sea Pearl Suite 3 (Mid-Pacific C.C.) | Sea Pearl Suite 4 (Mid-Pacific C.C.) | Sea Pearl Suite 5 (Mid-Pacific C.C.) | South Pacific 1 (Mid-Pacific C.C.) | South Pacific 2 (Mid-Pacific C.C.) | South Pacific 3 (Mid-Pacific C.C.) | Nautilus 1 (Mid-Pacific C.C.) | Nautilus 2 (Mid-Pacific C.C.) |
|---------------|--|---|--|--|--|---|---|---|---|---|
| 08:30 - 17:30 | FD-1 Spectral Unmixing of Hyperspectral Data | FD-2 Advanced Classification Techniques for Remote Sensing | FD-3 SAR Polarimetry: Basics, Processing Techniques and Application | FD-4 Understanding and Interpretation of High Resolution SAR Images | HD-1 Use of Open Geospatial Consortium (OGC) Standards in the Geosciences | HD-4 SAR, InSAR, and TimeSAR: Radar Imaging in 2, 3, and 4 Dimensions | HD-2 Pragmatic Remote Sensing: A Hands-on Approach to Processing | HD-3 NP OESS User's Workshop | | |
| 08:30 - 12:30 | | | | | | | | | | |
| 12:30 - 13:30 | Lunch Break | | | | | | | | | |
| 13:30 - 17:30 | | | | | | HD-8 From Interferometry to Multi-Dimensional SAR Imaging: Theory and Applications | HD-7 Lidar for Terrain and Vegetation Mapping | HD-5 Tools and Methods for the Registration and Fusion of Remotely Sensed Data | ISIS Hyperspectral Working Group Workshop | GEOS Workshop XXXVII - Data Quality and Radio Spectrum Allocation Impact on Earth Observation |
| 08:30 - 18:30 | | | | | | | | | | |
| 18:00 - 21:00 | Welcome Reception - ALOHA and Welcome to IGARSS 30th Anniversary | | | | | | | | | |
| | Hilton Hawaiian Village Great Lawn | | | | | | | | | |

Monday, July 26

| Opening and Plenary Sessions | | Tapa Ballroom, Tapa Tower | | | | | | | | | |
|------------------------------|--|--|--|--|--|--|---|---|---|---|--|
| 09:00 - 12:30 | Lunch Break | | | | | | | | | | |
| 12:30 - 13:35 | | | | | | | | | | | |
| 13:35 - 15:15 | | Sea Pearl 1/2/3 (Mid-Pacific C.C.) M03.L01 Applications: Coastal and Wetlands I | Sea Pearl 4/5/6 (Mid-Pacific C.C.) M03.L02 High Resolution Interferometry and Tomographic SAR Imaging I | Hibiscus (Kalia C.C.) M03.L03 Ionospheric Effects in SAR, PolSAR, and InSAR I | Kahili (Kalia C.C.) M03.L04 Data Mining and Machine Learning for Remote Sensing I | South Pacific 3 (Mid-Pacific C.C.) M03.L05 Forest Biomass I | South Pacific 4 (Mid-Pacific C.C.) M03.L06 Hyperspectral Data Classification | Nautilus (Mid-Pacific C.C.) M03.L07 Education and Remote Sensing | South Pacific 1/2 (Mid-Pacific C.C.) M03.L08 TRMM and GPM Precipitation Missions I | Coral 1 (Mid-Pacific C.C.) M03.L09 New Concepts in SAR | Coral 2 (Mid-Pacific C.C.) M03.L10 Next Generation US Operational Environmental Satellite Systems I |
| 13:35 - 15:15 | Forum: The Past and Future of Global Observing | Lehua Suite | | | | | | | | | |
| 15:15 - 15:40 | Break | | | | | | | | | | |
| 15:40 - 17:20 | | M04.L01 Applications: Coastal and Wetlands II | M04.L02 High Resolution Interferometry and Tomographic SAR Imaging II | M04.L03 Ionospheric Effects in SAR, PolSAR, and InSAR II | M04.L04 Data Mining and Machine Learning for Remote Sensing II | M04.L05 Forest Biomass II | M04.L06 Hyperspectral Data Analysis | M04.L07 Global Earth Observation System of Systems (GEOS) | M04.L08 CloudSat, MODIS, AIRS | M04.L09 Technical Innovation in SAR | M04.L10 Next Generation US Operational Environmental Satellite Systems II |

Tuesday, July 27

| | Sea Pearl 1/2/3 (Mid-Pacific C.C.) | Sea Pearl 4/5/6 (Mid-Pacific C.C.) | Hibiscus (Kalia C.C.) | Kahili (Kalia C.C.) | South Pacific 3 (Mid-Pacific C.C.) | South Pacific 4 (Mid-Pacific C.C.) | Nautlius (Mid-Pacific C.C.) | South Pacific 1/2 (Mid-Pacific C.C.) | Coral 1 (Mid-Pacific C.C.) | Coral 2 (Mid-Pacific C.C.) |
|---------------|---|---|---|---|--|--|---|---|--|--|
| 08:20 - 10:00 | TU1.L01 Geology and Solid Earth | TU1.L02 Spatiotemporal Pattern Discovery and Data Mining | TU1.L03 Advanced SAR Concepts and Missions I | TU1.L04 Geophysical Information Retrieval | TU1.L05 Remote Sensing of Soil Moisture: Algorithms and Validation I | TU1.L06 SAR Image Analysis I | TU1.L07 Next Generation Data Systems for Climate Record Continuity I | TU1.L08 NWP and Data Assimilation | TU1.L09 SAR Polarimetry: Theory and Applications I | TU1.L10 From Science to Applications: Exploitation of EO Missions |
| 10:00 - 10:25 | Break | | | | | | | | | |
| 10:25 - 12:05 | TU2.L01 Volcano and Volcanic Hazard Monitoring | TU2.L02 Ocean Surface Salinity and Temperature | TU2.L03 Advanced SAR Concepts and Missions II | TU2.L04 Inversion of Underground or Wireless Sensor Data | TU2.L05 Remote Sensing of Soil Moisture: Algorithms and Validation II | TU2.L06 SAR Image Analysis II | TU2.L07 Next Generation Data Systems for Climate Record Continuity II | TU2.L08 Atmospheric Profiling | TU2.L09 SAR Polarimetry: Theory and Applications II | TU2.L10 Applications Bridging the Period Between EOS and The Decadal Survey Eras |
| 12:05 - 13:35 | Young Professionals' Lunch | | | | | | | | | |
| 12:05 - 13:35 | Lunch Break | | | | | | | | | |
| 13:35 - 15:15 | TU3.L01 Earthquakes, Volcanoes and Remote Sensing | TU3.L02 Satellite Altimetry Past, Present and Future I | TU3.L03 LAI, Reflectance, and Fluorescence | TU3.L04 KOMPSAT-5 SAR Mission I | TU3.L05 Combined Active and Passive Soil Moisture Retrieval | TU3.L06 Kernel methods and Manifold Learning | TU3.L07 EOS Terra Contributions to Earth Science – The First 10 Years I | TU3.L08 TRMM and GPM Precipitation Missions II | TU3.L09 Advanced Methods for Polarimetric Information Extraction I | TU3.L10 Microwave Scatterometry, Radiometry and Ocean Applications (Honoring Dr. W. Linwood Jones) I |
| 15:15 - 15:40 | Break | | | | | | | | | |
| 15:40 - 17:20 | TU4.L01 Earthquakes and Remote Sensing | TU4.L02 Satellite Altimetry Past, Present and Future II | TU4.L03 Microwave Sensing of Forests | TU4.L04 KOMPSAT-5 SAR Mission II | TU4.L05 Radar Signature of Soil Moisture and Freeze/ Thaw | TU4.L06 Hyperspectral Unmixing | TU4.L07 EOS Terra Contributions to Earth Science – The First 10 Years II | TU4.L08 TRMM and GPM Precipitation Missions III | TU4.L09 Advanced Methods for Polarimetric Information Extraction II | TU4.L10 Microwave Scatterometry, Radiometry and Ocean Applications (Honoring Dr. W. Linwood Jones) II |
| 19:00 - 22:00 | Strolling Luau at the Sheraton Waikiki | | | | | | | | | |
| | Sheraton Waikiki, Helumoo Playground (Short Walk) | | | | | | | | | |

Tuesday, July 27, Poster Sessions (Coral 3/4/5, Mid-Pacific C.C.)

| | Poster Area A | Poster Area B | Poster Area C | Poster Area D | Poster Area E | Poster Area F | Poster Area G | Poster Area H | Poster Area I | Poster Area J | Poster Area K | Poster Area L | Poster Area M |
|----------------------|---|--|---|--|---|---|--|---|---|--|--|---|---|
| 09:40 - 10:45 | TUP1.PA Land Cover Change Detection Techniques | TUP1.PB Land Cover Change: Vegetation | TUP1.PC Wetlands and Inland Waters Poster I | TUP1.PD Applications: Coastal and Wetlands Poster I | TUP1.PE Roads, Buildings and Urban Areas | TUP1.PF Data Fusion: Pan-sharpening and Decision Fusion | TUP1.PG Monitoring of the Environment and Natural Hazards | TUP1.PH Microwave Radiometer Technology and Instrumentation Poster | TUP1.PI Microwave Radiometer Calibration and Advanced Instrument Design | TUP1.PJ Remote Sensing Data and Policy Decisions Poster | TUP1.PK Remote Sensing from UAV and Airborne Platforms | TUP1.PL Biology and Altimetry | TUP1.PM Lidar Technology |
| 14:55 - 16:00 | TUP2.PA Land Cover Change, Ecosystems and Climate | TUP2.PB Land Cover Change and Urban Regions | TUP2.PC Wetlands and Inland Waters Poster II | TUP2.PD Applications: Coastal and Wetlands Poster II | TUP2.PE Hyperspectral Data: Unmixing & visualization | TUP2.PF Registration | TUP2.PG Data Assimilation and Inversion I | TUP2.PH IR Atmospheric Sounding and Calibration | TUP2.PI Active Microwave | TUP2.PJ Education and Remote Sensing Posters | TUP2.PK Aerosols and Atmospheric Chemistry I | TUP2.PL Ocean Surface Temperature | TUP2.PM Lidar Processing and Analysis |

Wednesday, July 28

| | Sea Pearl 1/2/3 (Mid-Pacific C.C.) | Sea Pearl 4/5/6 (Mid-Pacific C.C.) | Hibiscus (Malia C.C.) | Kahili (Malia C.C.) | South Pacific 3 (Mid-Pacific C.C.) | South Pacific 4 (Mid-Pacific C.C.) | Nautlius (Mid-Pacific C.C.) | South Pacific 1/2 (Mid-Pacific C.C.) | Coral 1 (Mid-Pacific C.C.) | Coral 2 (Mid-Pacific C.C.) |
|---------------|---|--|--|---|---|--|---|---|--|---|
| 08:20 - 10:00 | WE1.L01 Remote Sensing of Human Settlements I | WE1.L02 The Global Change Observation Mission (GCOM) I | WE1.L03 Wetlands and Inland Waters | WE1.L04 Student Contest I | WE1.L05 Remote Sensing for Tropical Deforestation and Degradation: A Global Challenge with Local Impact I | WE1.L06 Classification Techniques | WE1.L07 Data Management and Systems | WE1.L08 Aerosols | WE1.L09 The Destiny of DESDynI – Science and Applications Fusing L-band SAR and Lidar in the Next Decade I | WE1.L10 Realizing the Applications Benefits from NASA's Pathfinding EOS Missions – the 1st Generation I |
| 10:00 - 10:25 | Break | | | | | | | | | |
| 10:25 - 12:05 | WE2.L01 Remote Sensing of Human Settlements II | WE2.L02 The Global Change Observation Mission (GCOM) II | WE2.L03 Agroecosystems | WE2.L04 Student Contest II | WE2.L05 Remote Sensing for Tropical Deforestation and Degradation: A Global Challenge with Local Impact II | WE2.L06 Classification and Clustering | WE2.L07 Remote Sensing Data and Policy Decisions | WE2.L08 Clouds and Precipitation | WE2.L09 The Destiny of DESDynI – Science and Applications Fusing L-band SAR and Lidar in the Next Decade II | WE2.L10 Realizing the Applications Benefits from NASA's Pathfinding EOS Missions – the 1st Generation II |
| 12:05 - 13:35 | Technical Committee and Chapter Chairs Luncheon | | | | | | | | | |
| 12:05 - 13:35 | Lunch Break | | | | | | | | | |
| 13:35 - 15:15 | WE3.L01 Urban Remote Sensing I | WE3.L02 Ocean Surface Features from Synthetic Aperture Radar (SAR) I | WE3.L03 Land Cover Change Techniques | WE3.L04 Data System Technologies for Improving Data Access and Usability - Challenges and Solutions I | WE3.L05 Synergy of EO Products to Map the Essential Climate Variable Biomass I | WE3.L06 Segmentation and Image Processing | WE3.L07 Frequency Allocation for Remote Sensing and RF Mitigation for Microwave Radiometry | WE3.L08 Snow and Lance Ice I | WE3.L09 Polarimetry and Applications | WE3.L10 Special Session Honoring the Achievements of Kiyo Tomiyasu |
| 15:15 - 15:40 | Break | | | | | | | | | |
| 15:40 - 17:20 | WE4.L01 Urban Remote Sensing II | WE4.L02 Ocean Surface Features from Synthetic Aperture Radar (SAR) II | WE4.L03 Optical and Infrared Modeling | WE4.L04 Data System Technologies for Improving Data Access and Usability - Challenges and Solutions II | WE4.L05 Synergy of EO Products to Map the Essential Climate Variable Biomass II | WE4.L06 Image Analysis | WE4.L07 Airborne and Spaceborne Measurements of Radio-Frequency Interference | WE4.L08 Snow and Lance Ice II | WE4.L09 Polarimetric Image processing | WE4.L10 IGARSS at 30: Perspectives on Remote Sensing Science and Sensors |
| 18:00 | Soccer Game | | | | | | | | | |
| | Koroda Field, Fort De Rossey Park (Short Walk) | | | | | | | | | |

Wednesday, July 28, Poster Sessions (Coral 3/4/5, Mid-Pacific C.C.)

| | Poster Area A | Poster Area B | Poster Area C | Poster Area D | Poster Area E | Poster Area F | Poster Area G | Poster Area H | Poster Area I | Poster Area J | Poster Area K | Poster Area L | Poster Area M |
|---------------|--|---------------------------------|-----------------------------|--|---|--|--|--|---|--|---|--|---------------------------------------|
| 09:40 - 10:45 | WE1.PA Radar Remote Sensing of Vegetation | WE1.PB Vegetation Mapping I | WE1.PC Agroecosystems I | WE1.PD Volcano and Earthquake Applications | WE1.PE SAR | WE1.PF Target Detection - Object Recognition | WE1.PG Data Assimilation and Inversion II | WE1.PH Hyperspectral and Calibration | WE1.PI Hyperspectral Sensors; Calibration and Applications | WE1.PJ Data Management and Systems I | WE1.PK Aerosols and Atmospheric Chemistry II | WE1.PL Snow and Land Ice Poster I | WE1.PM Snow and Land Ice Poster II |
| 14:55 - 16:00 | WE2.PA Vegetation mapping III | WE2.PB Vegetation Mapping II | WE2.PC Agroecosystems II | WE2.PD Landslides and Earth's Surface Changes | WE2.PE Compression and Efficient Implementations | WE2.PF Optical Image Filtering and Segmentation | WE2.PG Applications in Remote Sensing | WE2.PH Spectral Characterization and Applications | WE2.PI Optical Missions - Past and Future | WE2.PJ Data Management and Systems II | WE2.PK TRMM and GPM | WE2.PL Snow and Land Ice Poster III | WE2.PM Sea Ice Poster |

Thursday, July 29

| | Sea Pearl 1/2/3 (Mid-Pacific C.C.) | Sea Pearl 4/5/6 (Mid-Pacific C.C.) | Hibiscus (Malila C.C.) | Kahili (Malila C.C.) | South Pacific 3 (Mid-Pacific C.C.) | South Pacific 4 (Mid-Pacific C.C.) | Nautlius (Mid-Pacific C.C.) | South Pacific 1/2 (Mid-Pacific C.C.) | Coral 1 (Mid-Pacific C.C.) | Coral 2 (Mid-Pacific C.C.) |
|-----------------------|--|---|---|--|---|--|--|--|--|---|
| 08:20 - 10:00 | TH1.L01 Remote Sensing of Tsunamis and Other Natural Hazards Using GNSS and Radar Measurements I | TH1.L02 Ocean Surface Winds | TH1.L03 Electromagnetic Forward and Inverse Scattering Models I | TH1.L04 Change Detection and Multitemporal Image Analysis I | TH1.L05 Applications for NASA's Decadal Survey Missions and Opportunities to take Research to Operations | TH1.L06 Lidar Sensing of the Atmosphere | TH1.L07 Innovative Options for Developing Future Earth Science Capabilities | TH1.L08 Application of Remote Sensing and CI to Monitoring Snow and Management of Water Resources | TH1.L09 Interferometric SAR Processing | TH1.L10 TanDEM-X Mission |
| 10:00 - 10:25 | Break | | | | | | | | | |
| 10:25 - 12:05 | TH2.L01 Remote Sensing of Tsunamis and Other Natural Hazards Using GNSS and Radar Measurements II | TH2.L02 Ocean Waves and Current | TH2.L03 Electromagnetic Forward and Inverse Scattering Models II | TH2.L04 Change Detection and Multitemporal Image Analysis II | TH2.L05 Radar Estimation of Vegetation Information | TH2.L06 Laser Technology: Recent Developments and Lessons Learned | TH2.L07 Microwave Radiometer Technology and Instrumentation | TH2.L08 Sea Ice | TH2.L09 Polarimetric RADARSAT2 | TH2.L10 ESA's Soil Moisture and Ocean Salinity Mission - Instrument Performance and First Results |
| 12:05 - 13:35 | Lunch Break | | | | | | | | | |
| 13:35 - 15:15 | TH3.L01 Advanced Methods in Satellite Photo- Radargrammetry I | TH3.L02 SMOS and Ocean Surface Salinity | TH3.L03 International Open Standards for Geosciences - Standards Development | TH3.L04 Optical Imagery for Surface Change Detection: Techniques and Applications I | TH3.L05 Regional Land Cover Change I | TH3.L06 Change Detection | TH3.L07 AMSRE I | TH3.L08 Arctic Sea Ice Change and Impacts I | TH3.L09 RADARSAT I | TH3.L10 The NASA Soil Moisture Active and Passive Mission (SMAP): Data Products, Science and Applications I |
| 15:15 - 15:40 | Break | | | | | | | | | |
| 15:40 - 17:20 | TH4.L01 Advanced Methods in Satellite Photo- Radargrammetry II | TH4.L02 SAR and Altimetry | TH4.L03 International Open Standards for Geosciences - Standards Applications | TH4.L04 Optical Imagery for Surface Change Detection: Techniques and Applications II | TH4.L05 Regional Land Cover Change II | TH4.L06 Data Fusion | TH4.L07 AMSRE II | TH4.L08 Arctic Sea Ice Change and Impacts II | TH4.L09 RADARSAT II | TH4.L10 The NASA Soil Moisture Active and Passive Mission (SMAP): Data Products, Science and Applications II |
| Buses Depart 18:00 | Awards Evening at The Bishop Museum | | | | | | | | | Departure from Hilton Hawaiian Village at 18:00 |

Thursday, July 29, Poster Sessions (Coral 3/4/5, Mid-Pacific C.C.)

| | Poster Area A | Poster Area B | Poster Area C | Poster Area D | Poster Area E | Poster Area F | Poster Area G | Poster Area H | Poster Area I | Poster Area J | Poster Area K | Poster Area L | Poster Area M |
|---------------|--------------------------------|---------------------------------------|---|---|--|---|---|------------------------------------|--|--|--------------------------------------|-------------------------------------|---|
| 09:40 - 10:45 | THP1.PA Optical Reflectance | THP1.PB Optical Vegetation Mapping | THP1.PC Vegetation General | THP1.PD Urban Remote Sensing Poster I | THP1.PE Pollution and Contamination Poster | THP1.PF Hyperspectral Data: Classification | THP1.PG Land Cover, Land Use, Classification | THP1.PH Higher Resolution SAR | THP1.PI Geophysical Parameter Extraction by Radar | THP1.PJ Interferometric Techniques | THP1.PK Atmospheric Sensing | THP1.PL Microwave Scattering I | THP1.PM Microwave Scattering II |
| 14:55 - 16:00 | THP2.PA Radar Mapping | THP2.PB Modeling | THP2.PC Next Generation US Operational Environmental Satellite Systems | THP2.PD Urban Remote Sensing Poster II | THP2.PE Applications: GPR, Geology & Health | THP2.PF Algorithms for sensors and platforms | THP2.PG Vegetation | THP2.PH Mission Oriented Survey | THP2.PI Innovative Radar Sensors | THP2.PJ Interferometry and Differential SAR Interferometry Poster | THP2.PK NWP and Data Assimilation | THP2.PL Microwave Scattering III | THP2.PM Optical and Infrared Modeling Poster |

Friday, July 30

| | Sea Pearl 1/2/3 (Mid-Pacific C.C.) | Sea Pearl 4/5/6 (Mid-Pacific C.C.) | Hibiscus (Kalia C.C.) | Kahili (Kalia C.C.) | South Pacific 3 (Mid-Pacific C.C.) | South Pacific 4 (Mid-Pacific C.C.) | Nautlius (Mid-Pacific C.C.) | South Pacific 1/2 (Mid-Pacific C.C.) | Coral 1 (Mid-Pacific C.C.) | Coral 2 (Mid-Pacific C.C.) |
|---------------|---|---|---|---|---|--|--|---|---|---|
| 08:20 - 10:00 | FR1.L01 Pollution and Contamination | FR1.L02 Ocean Biology I | FR1.L03 Ship Detection with Radar and SAR | FR1.L04 New Machine Learning Methods for Remote Sensing Data Analysis I | FR1.L05 Satellite Observations of Vegetation and Temperature | FR1.L06 Hyperspectral Missions and Techniques | FR1.L07 Microwave Radiometer Calibration I | FR1.L08 Microwave Remote Sensing of Terrestrial Snow | FR1.L09 Radar Processing | FR1.L10 SMOS: The Beginning of a L-band Generation of Global Remote Sensed Soil Moisture Observations I |
| 10:00 - 10:25 | Break | | | | | | | | | |
| 10:25 - 12:05 | FR2.L01 UXO and Landmine Remediation | FR2.L02 Ocean Biology II | FR2.L03 GIS Applications | FR2.L04 New Machine Learning Methods for Remote Sensing Data Analysis II | FR2.L05 Optical Monitoring of Forests | FR2.L06 Hyperspectral Missions | FR2.L07 Microwave Radiometer Calibration II | FR2.L08 Calibration and Performance Evaluation of Advanced Passive Microwave Instruments | FR2.L09 Active Microwave Sensors and Applications | FR2.L10 SMOS: The Beginning of a L-band Generation of Global Remote Sensed Soil Moisture Observations II |
| 12:05 - 13:35 | Lunch Break | | | | | | | | | |
| 13:35 - 15:15 | FR3.L01 Ground Penetrating Radar Detection of Subsurface Contaminants and Hazards I | FR3.L02 Ocean Radar Remote Sensing at Grazing Incidence I | FR3.L03 Geographic Information Science: Techniques | FR3.L04 Hyperspectral Methods for Difficult Target Detection I | FR3.L05 Lidar in Forestry | FR3.L06 Hyperspectral Methods | FR3.L07 COSMO/SkyMed I | FR3.L08 Millimeter-wave Technology and Sensors for Earth Science Radar Remote Sensing I | FR3.L09 Interferometry and Differential SAR Interferometry | FR3.L10 SMOS Soil Moisture Science and Products |
| 15:15 - 15:40 | Break | | | | | | | | | |
| 15:40 - 17:20 | FR4.L01 Ground Penetrating Radar Detection of Subsurface Contaminants and Hazards II | FR4.L02 Ocean Radar Remote Sensing at Grazing Incidence II | FR4.L03 GIS Techniques and Standards | FR4.L04 Hyperspectral Methods for Difficult Target Detection II | FR4.L05 Forest Monitoring with Radar | FR4.L06 Spectral Methods | FR4.L07 COSMO/SkyMed II | FR4.L08 Millimeter-wave Technology and Sensors for Earth Science Radar Remote Sensing II | FR4.L09 Interferometric SAR and Applications | FR4.L10 Surface Roughness and Vegetation Effects on Soil Moisture Estimation |

Friday, July 30, Poster Sessions (Coral 3/4/5, Mid-Pacific C.C.)

| | Poster Area A | Poster Area B | Poster Area C | Poster Area D | Poster Area E | Poster Area F | Poster Area G | Poster Area H | Poster Area I | Poster Area J | Poster Area K | Poster Area L | Poster Area M |
|----------------------|--|--|---|--|---|---|--|--|--------------------------------------|--|--|--|---|
| 09:40 - 10:45 | FRP1.PA GNSS Reflectometry and Occultations: Theory and Applications | FRP1.PB Remote Sensing of Soil and Vegetation: Applications I | FRP1.PC Remote Sensing of Soil and Vegetation: Applications II | FRP1.PD Urban Remote Sensing Poster III | FRP1.PE Geophysics and Seismic Applications | FRP1.PF GIS Techniques and Standards I | FRP1.PG GIS Techniques and Standards II | FRP1.PH Polarimetric Methods and Applications | FRP1.PI Radar Processing Poster | FRP1.PJ Bistatic / GMTI SAR | FRP1.PK Clouds and Precipitation | FRP1.PL Ocean Surface Winds and Currents I | FRP1.PM Ocean Surface Winds and Currents III |
| 14:55 - 16:00 | FRP2.PA Soil Moisture and Vegetation Characterization Using Microwave I | FRP2.PB Soil Moisture and Vegetation Properties in Remote Sensing | FRP2.PC Soil Moisture and Vegetation Characterization Using Microwave II | FRP2.PD Earth Observation Applications | FRP2.PE Hydrocarbon and Mineral Applications | FRP2.PF Geographic Information Science: Applications | FRP2.PG DEM | FRP2.PH SAR Techniques and Applications | FRP2.PI SAR Processing Techniques | FRP2.PJ SAR Applications and Processing | FRP2.PK Clouds and Precipitation Applications | FRP2.PL Ocean Surface Winds and Currents II | |

Sponsors

The IGARSS 2010 Local Organizing Committee would like to thank all the organizations that have sponsored this event.

Technical Sponsors

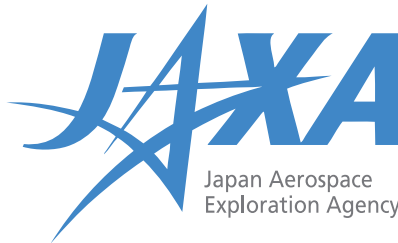


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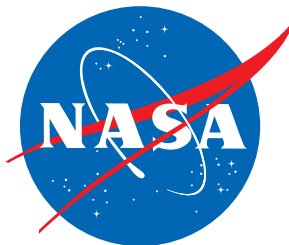


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Welcome from the IEEE GRS-S President

On behalf of the IEEE Geoscience and Remote Sensing Society (IEEE GRS-S), I would like to warmly welcome you to IGARSS 2010 in Honolulu! This year is a very special one, since we are commemorating the 30th anniversary of IGARSS. Since the first IGARSS in Washington, DC, a revolution has taken place in the technologies, data processing and applications of remote sensing. With the Earth Observing System (EOS) satellites in orbit, the upcoming Global Monitoring for Environmental and Security (GMES) satellites, the National Polar Orbiting Operational Environmental Satellite System (NPOESS), the new set of U.S. Earth observing missions as recommended by the U.S. National Research Council (the so-called U.S. Decadal Survey missions), Global Earth Observation System of Systems (GEOSS) initiative, etc., remote sensing data play a most important and indispensable role in providing reliable information to address environmental issues, sustainable development, study of global climate change, geoscience research and the monitoring of natural disasters. Our Society is proud to have actively contributed to shaping these exciting developments in the remote sensing field. IGARSS, our annual symposium, is recognized today as a premier event in remote sensing and provides an ideal forum for obtaining up-to-date information about the latest developments, exchanging ideas, identifying future trends in your research area and making contacts with the international remote sensing community.

I would like to invite you to visit the GRS-S booth in the exhibition area during the IGARSS week. GRS-S will be offering free one-year GRS-S affiliate memberships at our exhibit booth for all IGARSS participants who have not yet been GRS-S members. GRS-S strives to address remote sensing techniques, applications and policies, as well as new research directions. The fields of interest of our Society are the theory, concepts, and techniques of science and engineering as they apply to the remote sensing of the earth, oceans, atmosphere, and space, as well as the processing, interpretation and dissemination of this information. By being a member of GRS-S, you can be a part of this important voice. Benefits of being a GRS-S member include electronic access to our three premier journals, participation in our five Technical Committees, IGARSS participation at a reduced rate, quarterly GRS-S Newsletter, educational programs, industrial relations newsletter, use of our distinguished speakers program, submission of proposals to our book series, joining the GOLD (Graduates of the Last Decade) program, access to tutorial on-line lectures, participation in one of our 36 chapters, etc. You may also find more information on our web site www.grss-ieee.org.

The organization of IGARSS starts about 4 years before the conference takes place. The success of every IGARSS is the result of the hard work of a large number of volunteers. For example, this year we had more than 50 scientists and engineers from many countries who participated in the IGARSS Technical Program Committee meeting in February in Washington, DC, in order to finalize the technical program. My congratulations and sincere thanks to all of our colleagues involved in the review process and session organization for their excellent work performed. A special thanks goes to David Kunkee and Paolo Gamba who have done an outstanding job as co-chairs of the IGARSS technical program. With excellent planning by a highly dedicated organizing committee under the leadership of our general co-chairs Paul Smits and Karen St. Germain, we expect this symposium to become the best IGARSS that we have ever had!

I look forward to meeting you in Honolulu and to sharing a most exciting and fruitful IGARSS 2010 conference!

Sincerely,

Alberto Moreira
President, IEEE Geoscience and Remote Sensing Society

General Co-Chairs' Welcome

We are pleased to welcome you to Honolulu for IGARSS 2010, the 30th annual symposium for GRSS! IGARSS 2010 continues the excellent tradition of gathering world-class scientists, engineers and educators engaged in the fields of geoscience and remote sensing to meet and present their latest activities. Truly an international event, over fifteen hundred participants from all over the world will enjoy a week of technical sessions, tutorials, exhibits and social activities.

For this 30th anniversary IGARSS we will celebrate our accomplishments over three decades of leadership in remote sensing instrumentation, techniques, and applications development. Interviews and flashbacks will give a truly historic perspective on our common achievements, and will be broadcast throughout the Hilton Hawaiian Village.

But perhaps more importantly we will look ahead to the future of our field with some fresh approaches and perspectives through our conference theme: Remote Sensing: Global Vision for Local Action. One such activity will be embodied in the plenary session, which our Conference Plenary Chair, Bill Gail has helped us establish, and which will focus on the emerging field of Community Remote Sensing.

Community remote sensing combines remote sensing with citizen science, social networks, and crowd-sourcing to enhance the data obtained from traditional sources. It includes the collection, calibration, analysis, communication, or application of remotely sensed information by these community means. We hope this plenary session, along with special tutorials and technical sessions, will inspire and excite our community for what is possible in the coming decade.

We are especially excited about our plenary. It will feature Aneesh Chopra (Chief Technology Officer and Assistant to the President of the United States) and Shere Abbott (Associate Director for Environment) from US Office of Science and Technology Policy (OSTP). They will be introduced by Session Moderator Dr. Shelby Tilford, who will also lead the agencies panel discussion with Dr. Michael Freilich (Director, Earth Science Division, Science Mission Directorate, NASA), a representative from ESA, and Dr. Masanobu Shimada (Space Applications Mission Directorate, JAXA).

This discussion will continue throughout the week in a number of panel and special sessions led by prominent members of those communities to help build the cross-disciplinary relationships needed to address the many challenging problems facing our world in which remote sensing, geoscience and related disciplines play key roles. In fact, our Technical Program Co-Chairs, David Kunkee and Paolo Gamba, have led the coordination of a vibrant technical program encompassing traditional IGARSS topics as well as reflecting the theme of the 2010 symposium.

In this regard, we have arranged a number of special sessions and other unique opportunities for participation at IGARSS by students and educators.

As we look forward to an exciting week of activities, we would like to thank all the volunteers on our Organizing Committee, the members of our Technical Program Committee and the hundreds of reviewers who have helped shape IGARSS 2010. Finally, we would especially like to thank Billene Mercer and her staff at Conference Management Services, Inc. for their outstanding dedication and skill in arranging the myriad details necessary for the successful management of IGARSS 2010.

Karen St.Germain and Paul Smits
General Co-Chairs

Technical Program Overview

It is an honor and pleasure to present the 2010 IGARSS technical program. This year marks the 30th anniversary of IGARSS dating from the 1981 meeting in Washington DC. Entering its fourth decade, IGARSS continues to be the premier conference in remote sensing providing a unique opportunity for the world's experts in related disciplines to interact and advance the state of the art.

Accordingly, IGARSS has had a record number of over 2800 abstract submissions for this year's meeting. Following the review period, the Technical Program Committee met on February 26 to organize the abstracts accepted for presentation into 180 oral half sessions, each with 5 presentations, and 103 poster sessions of up to 12 posters each. The technical areas include themes covering remote sensing of land, oceans, atmosphere and cryosphere, electromagnetic modeling, advanced image processing, design of sensors and missions as well as specialized applications, education and policy. We have also introduced a special 30th anniversary track that is intended to highlight the evolution of remote sensing and IGARSS over the past thirty years.

Reinforcing this thought, there are several changes to technical program this year that are designed to continue to improve the IGARSS technical program as the field of remote sensing continues to evolve and develop. First, there is the requirement for a longer abstract which includes a bibliography in order to improve the quality of the abstract reviews. Secondly, we have reduced the number of parallel oral sessions from last year to ten, reversing a trend of increasing the number of parallel sessions. This was done to reduce the overlap of technical topics and improve overall quality of the oral presentations. For the interactive sessions we have placed these in the morning and afternoon to overlap with the oral session break periods that have also been lengthened to promote discussion and attendance at the poster sessions. Invited oral sessions this year are generally opened by an overview presentation that may last 40 minutes. This format is intended to provide additional background and context for the work in these important evolving areas of remote sensing. Finally, we have slightly increased the overall rejection rate in order to continue to improve the overall quality of the conference.

At the conference you may also notice that we continue to increase and improve live webcasting of selected technical presentations. This year we intend to provide live webcasts of two important sessions in the view of the organizing committee. The webcasts will include the presentation material along with a live view of the presenter to enable the remote participant to more fully experience the presentation.

Supporting the theme of this year's IGARSS, several contributions related to community remote sensing are identified in the technical program with a \diamond notation, and we hope these presentations serve as a catalyst for understanding this important emerging aspect of remote sensing.

As in the past, the technical program includes only those presentations for which a presenting author had registered for the symposium by press time. Therefore, we expect very few no-shows, but the large size of the overall technical program will require keeping a strict schedule. In the event that a presentation is not given, other presentations within the session will still maintain their scheduled time. The co-chairs of both oral and interactive sessions have been requested to record which specific presentations were presented. Those that are not presented at IGARSS will not be published in the proceedings that will be available on DVD and on IEEE Xplore following the symposium.

As we close this overview of the technical program we would like to thank the IGARSS 2010 Technical Program Committee for their dedicated and detailed work in creating the best overall technical program from the 2010 abstract submissions. It is also important to note that this work is founded on the enthusiastic response of the community in carrying out detailed reviews of the longer abstracts considered for the technical program this year. We would like to thank the reviewers for their generous support and attention to the many details. And finally, we would like to thank Conference Management Services (CMS, Inc) for their dedicated support in the implementation of the IGARSS 2010 technical program.

We hope you will have a productive and exciting week as we celebrate an important milestone for IGARSS and the geoscience and remote sensing communities.

David Kunkee and Paolo Gamba
Technical Program Co-Chairs

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| Farid Melgani | Majid Mohammady | Gennadiy P. Pochanin | Santos |
| Qingmin Meng | Oskouei | Erika Podest | João Roberto Santos |
| Gregoire M Mercier | Catherine Ottlé | Flávio Jorge Ponzone | Alexander Saraev |
| Nouha Mezned | Tobias Otto | Sorin Pop | José Saraiva |
| Eckart Michaelsen | Sharmila Padmanabhan | Paul Pope | Dinesh Sathyamoorthy |
| Jarno Mielikainen | Philippe Paillou | Athanasios Potsis | Motoyuki Sato |
| Maurizio Migliaccio | Pinakpani Pal | Jordan Powers | Ryoichi Sato |
| Peter J Minnett | Elisa Palazzi | Saurabh Prasad | Gabriela Schaepman- |
| Sidharth Misra | Roman M. Palenichka | Pau Prats | Strub |
| Josef Mittermayer | Simonetta Paloscia | Haiming Qi | Rolf Scheiber |
| Tomoaki Miura | Gintautas Palubinskas | Yuntao Qian | Paul Scheunders |
| Miguel Moctezuma | Paolo Pampaloni | Pierre Queffeuilou | Hartmut Schimpf |
| Shahab D Mohaghegh | Guangdong Pan | Julien Radoux | Gilda Schirinzi |
| Mohamed Mohamed | Jun Pan | Stanley Radzevicius | Martin Schneebeli |
| Lagha Mohand | Ovidiu Pancrati | Mirco Raffetto | John B. Schneider |
| Dmitri N. Moisseev | Suraj Pandey | Ali Rahimikhoob | Klamer Schutte |
| Matthieu Molinier | Nicolas Papadakis | Naoufal Raissouni | Marcus Schwaebisch |
| Alessandra Monerris | Matteo Pardini | Victor Raizer | Gottfried Schwarz |
| Belda | Eulogio Pardo-Iguzquiza | Nareenart Raksuntorn | Guadalupe Sepulcre- |
| Richard K Moore | Dimitris Paronis | Hampapuram | Canto |
| David Morales | Filippo Parrini | Ramapriyan | Francesco Serafino |
| Alberto Moreira | Vito Pascazio | Carey Rappaport | Guy Serbin |
| John A. Morgan | Biliana Paskaleva | Alberto Refice | Joan Serra-Sagrasta |
| Alessandro Mori | Debora Pastina | Steven C. Reising | Roberto Seu |
| | Matteo Pastorino | Ioannis T. Rekanos | Michael Seymour |
| | Virendra Pathak | Mathieu Renaud | Chintan Shah |

| | | | |
|-----------------------|------------------------|-----------------------|--------------------|
| Vijay Shah | John J Szymanski | Adriaan A. Van de | Feng Xu |
| Chen Shaohui | Alireza | Griend | Yong Xue |
| Nimmi C. Parikh | Tabatabaeenejad | Douglas Vandemark | Yoshio Yamaguchi |
| Sharma | Kaoru Tachiiri | Deborah Vane | Fumio Yamazaki |
| Rashmi Sharma | Takeo Tadono | Gabriel Vasile | Banghua Yan |
| Joe Shaw | Tetsuya Tagawa | Kris Vasudevan | Kai Yang |
| Zhishun She | Nasreddine Taleb | Niko E.C. Verhoest | Yun Yang |
| Hui Shen | Bingxiang Tan | Nishchal K Verma | Zhiqiang Yang |
| Lie-Chung Shen | Yumin Tan | Frank Veroustraete | Yanjuan Yao |
| Yosio Edemir | Li Tang | Ana Vidal-Pantaleoni | Mehmet Yavuz |
| Shimabukuro | Wenqing Tang | Douglas A G Vieira | Donghui Yi |
| Michal Shimoni | Majid Hashemi | Ivan Esteban Villalon | Chinatsu Yonezawa |
| Mohammed E. Shokr | Tangestani | Turrubiates | Nick H Younan |
| Fridon Shubitidze | Kevin Tansey | Massimo Vincini | Lawrence Young |
| Jean-Robert Simard | Yuliya Tarabalka | G. Viswanathan | Marwan Younis |
| Anita Simic | Andrew Tatem | Raffaele Vitulli | Qian Yu |
| Elizabeth L. Simms | Calvin Teague | Peter Voelger | Qiyao Yu |
| Steven Simske | Stefano Tebaldini | Ronald L Vogel | Wang Yu |
| Ramesh P. Singh | Fernando Lisboa | Alexander Voronovich | Yunyue Yu |
| Ramesh Sivanpillai | Teixeira | Valeriu Vrabie | Alina Zare |
| Henning Skriver | Miguel Archanjo Telles | Slobodan Vucetic | Evan C. Zaugg |
| Mark Sletten | Marouane Temimi | Monica Wachowicz | Valery U Zavorotny |
| David Small | Jose Antonio Tenedorio | Jeffrey Walker | Howard A Zebker |
| Paul Snoeij | Ana Claudia Teodoro | Juliet Wallace | Junping Zhang |
| Seubson Soisuvarn | Manlio Tesauro | Ingo Walterscheid | Keqi Zhang |
| Francesco Soldovieri | John B Theocharis | Changcheng Wang | Lifu Zhang |
| Raffaele Solimene | Christian Thiel | Ding-Yi Wang | Qiaofeng Zhang |
| Chiara Solimini | Christian Thom | Jing Wang | Qun Zhang |
| Domenico Solimini | Werner Peter Thomas | Kaizhi Wang | Xia Zhang |
| Lin-Ping Song | Kristy Tiampo | Lingli Wang | Xiaoyang Zhang |
| Shuli Song | Francesca Ticconi | Wenhui Wang | Xin Zhang |
| Claudia Spinetti | James C. Tilton | Xi Li Wang | Yifan Zhang |
| Satish Srivastava | Celine Tison | Yanting Wang | Yimin Zhang |
| Michael Starek | Daniela Arnold Tisot | Yuanyuan Wang | Zhaonan Zhang |
| Mattia Stasolla | Mitsuhiro Tomosada | Yunpeng Wang | Lei Zhao |
| Demetris Stathakis | Hüseyin Topan | Zuyuan Wang | Yindi Zhao |
| Tomasz F Stepinski | Peter Torrione | Wardoyo Wardoyo | Mingjie Zheng |
| James Stiles | Ridha Touzi | Guohua Wei | Sheng Zheng |
| Uwe Stilla | Giulia Troglio | Peter Weichman | Yanfei Zhong |
| Leonid Stoimenov | Vassilis Tsagaris | Matthias Weiss | Guoqing Zhou |
| Tazio Strozzi | Maria Tsakiri | David Weissman | Jun Zhou |
| Hongbo Su | Florence Tupin | Cédric Wemmert | Yaping Zhou |
| Lihong Su | Yu-Chang Tzeng | Jean-Pierre Wigneron | Yuyu Zhou |
| Gorthi R. K. S. | Kalum Priyanath | Graeme Wilkinson | Zheng-Shu Zhou |
| Subrahmanyam | Udagepola | David Williams | Wenquan Zhu |
| Anders Sullivan | Silvia Liberata Ullo | Mengistu Wolde | Manfred Zink |
| Hongbo Sun | Cem Unsalan | Robert E Wolfe | Vladimir Znak |
| Keli Sun | Tomoo Ushio | Alexander Wong | Weibao Zou |
| Qiang Sun | Kuniaki Uto | Fan Wu | Raul Zurita-Milla |
| Wenbo Sun | Rajesh Kumar | Jindong Wu | Harold Zwick |
| Robert Sundberg | Vaidyanathan | Xingren Wu | |
| Rikie Suzuki | David Valencia | Zhang Xiaoling | |
| Johannes R. Sveinsson | Andrea Vallecchi | Feiqin Xie | |
| Debadatta Swain | Enric Valor | Hongjie Xie | |
| Stig Syndergaard | | Zhangliang Xiong | |

Welcome to Honolulu

ALOHA, AND WELCOME TO HAWAII!

Prepare to embark on a journey to the islands of paradise as you admire the beautiful deep blue ocean and witness the vibrant tropical vegetation firsthand!

Located on the Island of O‘ahu and nicknamed the Crossroads of the Pacific, Honolulu is the state capital of Hawaii. Honolulu is the center of Hawaii’s economy, and it is the only incorporated city, as all other local government entities are administered at the county level. In the Hawaiian language, Honolulu means “sheltered bay” or “place of shelter.”

Honolulu is comprised of 105 square miles and has a warm, semiarid climate. Most of the residents live in the city proper; however, there are a number of residential neighborhoods in the surrounding suburbs.

Waikiki boasts more than 170 high-rise hotels, hundreds of bars and restaurants, bustling streets, and nonstop activity. The top attractions include Diamond Head, Kapiolani Park, the Honolulu Zoo, the Waikiki Aquarium, and the Waikiki War Memorial Natatorium.

Downtown Honolulu is home to the financial and business sector of city. This is an enjoyable destination if you are interested in strolling through Chinatown, sightseeing, dining, and shopping. Vendors selling papayas will happily regale you with assorted tales of the city.

For those of you seeking a bit of royal history, be sure to visit the Bishop Museum. Founded in 1889 by Charles R. Bishop, the museum was built in honor of his late wife, Princess Bernice Pauahi Bishop, the last descendant of the royal Kamehameha family. Here you will find millions of artifacts, documents, and photographs about Hawaii and other Pacific island cultures. You will also enjoy a visit to Iolani Palace, America’s only royal residence, which was built in 1882.

WEATHER

Hawaii has only two seasons: summer, from May to September, and winter, from October to April. You will notice a subtle difference in the climate depending on where you are on the island. The eastern facing side, or windward side, of each island is usually the cool, wet, and windy side, while the western facing side, the leeward side, is warm and dry. During the summer months, the average temperature is about 80 degrees, while the average is approximately 75 degrees during the winter months.

BEACHES

O‘ahu has more than 130 beautiful beaches. Here are just a few that are ready to be explored!

Waikiki Beach – Waikiki Beach is a true paradise and often the most heavily populated string of beaches throughout Hawaii. In the evening hours, there is music entertainment at numerous beach bars and restaurants. By day, if you like water sports, you will be able to rent all kinds of equipment on the beach. The eastern side of the beach is recommended for picnics. NOTE: During the summer the surf is high, so if you are not sure about the water conditions, ask the lifeguards.

Hanauma Bay – Located in East O‘ahu, this spot is most popular for snorkeling (gear rental available), as you’ll find some of the world’s rarest marine wildlife. It is home to over 450 kinds of tropical fish, many of which can only be found in Hawaii. Also popular for sunbathing and people-watching, amenities include a concession stand, gift shop and shower facilities. NOTE: There is a \$5 fee to enter Hanauma Bay for non-residents of the State of Hawaii. The beach area opens at 6am (06:00) every day, except Tuesdays when it is closed.

Lanikai Beach – Located on the windward coast, Lanikai Beach (whose name translates to “heavenly sea”) is picture perfect, with gold sand and crystal clear water. It has gained international fame as America’s number one beach for several years running. Lanikai is only half-mile long, but it’s hardly ever crowded. There are no main facilities on the beach, except parking, but it is a nice, quiet place to enjoy the sun, sand and salt water.

O‘ahu’s North Shore – Just an hour drive from Honolulu, the North Shore boasts some of the world’s most famous surfing beaches. Sunset Beach, Waimea Bay and the Banzai Pipeline. Every winter, big-wave surfers around the world vie in competition in the Triple Crown of Surfing. During the summer months, the waves are

calm and the beaches are a pleasant place to swim. The North Shore town of Haleiwa has a “country town” feel and has many arts and crafts stores.

Sandy Beach – With its pounding waves, this is one of the best beaches in the world for experienced surfers and bodyboarders. This site is one of the most dangerous shores with wild waves and strong backwash. Lifeguards make more rescues here than any other beach. Bring the family to watch the adventurous surfers tackle the dangerous water, but limit the trip to this only!

TOP FIVE THINGS TO DO ON YOUR FIRST TRIP TO O’AHU*

5. Hike to the top of Diamond Heach (Leahi) Crater.
4. Take a surfing lesson in Waikiki.
3. Visit the USS Arizona and USS Missouri memorials at Pearl Harbor.
2. Take a drive to Haleiwa and the North Shore.
1. Eat at a luau and watch a traditional hula.

*Information about all of these exciting activities can be found by visiting the following website – <http://www.gohawaii.com>

PREPARE FOR YOUR TRAVEL TO HAWAII

- United States Customs
- Honolulu International Airport
- “An O’ahu experience for everyone!”
- Thomas Cook Currency Services
- United States Department of State – Bureau of Consular Affairs

HONOLULU CITY LINKS

- [http://www.gohawaii.com/O’ahu/](http://www.gohawaii.com/O'ahu/)
- [http://www.visit-O’ahu.com/](http://www.visit-O'ahu.com/)
- <http://honolulu.hawaii.edu/photos/hawaii/>
- [http://www.frommers.com/destinations/O’ahu/0009020389.html](http://www.frommers.com/destinations/O'ahu/0009020389.html)
(Frommer’s list of O’ahu beaches)

Internet Access

For IGARSS 2010 participants registered at the Hilton Hawaiian Village, a special rate of \$12.99/day has been negotiated. When an attendee purchases this access, in addition to their guest room, it can be used at wireless hot spots at various points in the hotel, such as the Super Pool, Ali’i Tower Starbucks, Tapa Bar & Pool and the Kalia Tower Starbucks. There are no wireless hot spots around the meeting room areas.

The Internet Café will be located in Coral Lounge area of the Hilton Hawaiian Village. Computers will be available for attendees to use to access the Internet during the symposium.

Hours:

- Monday, July 26 13:30 – 17:30
- Tuesday, July 27 08:00 – 17:30
- Wednesday, July 28 08:00 – 17:30
- Thursday, July 29 08:00 – 17:30
- Friday, July 30 08:00 – 13:00

Registration

The IGARSS Registration Desk is located in the Coral Lounge area.

Registration Desk Hours:

- Sunday, July 2507:30 – 18:00
- Monday, July 2607:30 – 17:30
- Tuesday, July 2707:30 – 17:30
- Wednesday, July 2807:30 – 17:30
- Thursday, July 2907:30 – 17:30
- Friday, July 3007:30 – 13:00

Tutorials

FULL-DAY TUTORIALS

SUNDAY, JULY 25, 08:30 - 17:30

FD-1: Spectral Unmixing of Hyperspectral Data

Location: Sea Pearl Suite 1

Presenters: Qian Du, Antonio Plaza

FD-2: Advanced Classification Techniques for Remote Sensing

Location: Sea Pearl Suite 2

Presenters: Ranga Raju Vatsavai, Surya S. Durbha

FD-3: SAR Polarimetry: Basics, Processing Techniques and Application

Location: Sea Pearl Suite 3

Presenters: Eric Pottier, Jong-Sen Lee

FD-4: Understanding and Interpretation of High Resolution SAR Images

Location: Sea Pearl Suite 4

Presenters: Mihai Datcu, Klaus Seidel

HALF-DAY TUTORIALS

SUNDAY MORNING, JULY 25, 08:30 - 12:30

HD-1: Use of Open Geospatial Consortium (OGC) Standards in the Geosciences

Location: Sea Pearl Suite 5

Presenter: George Percivall

HD-2: Pragmatic Remote Sensing: A Hands-on Approach to Processing

Location: South Pacific 2

Presenters: Jordi Inglada, Emmanuel Christophe

HD-3: NPOESS User's Workshop

Location: South Pacific 3

Presenters: Karen St.Germain, Wendy Abshire, Jeff Hawkins, Tony Reale, Heather Kilcoyne, Carl Hoffman, Lihang Zhou

HD-4: SAR, InSAR, and TimeSAR: Radar Imaging in 2, 3, and 4 Dimensions

Location: South Pacific 1

Presenter: Howard Zebker

SUNDAY AFTERNOON, JULY 25, 13:30 - 17:30

HD-5: Tools and Methods for the Registration and Fusion of Remotely Sensed Data

Location: South Pacific 3

Presenters: Arthur Goshtasby, Jacqueline Le Moigne

HD-7: Lidar for Terrain and Vegetation Mapping

Location: South Pacific 2

Presenter: Qi Chen

HD-8: From Interferometry to Multi-Dimensional SAR Imaging: Theory and Applications

Location: South Pacific 1

Presenters: Gianfranco Fornaro, Fabrizio Lombardini

GEOSS Workshop

GEOSS Workshop XXXVII – Data Quality and Radio Spectrum Allocation Impact on Earth Observation
Sunday, July 25, 08:30 - 18:30
Hilton Hawaiian Village, Nautilus 2

Co-organizers

Changyong Cao, Al Gasiewski, Siri Jodha Singh Khalsa, Jim Mentzer, Granville Paules, Francoise Pearlman, Tom VonDeak

Background

This one-day GEOSS workshop XXXVII on “Data Quality and Radio Spectrum Allocation Impact on Earth Observations” will address the broad challenges of data quality and the impact of generating reliable information for decision makers who are Earth data users but not necessarily experts in the Earth observation field. GEO has initiated a data quality assessment task (DA-09-01a) and workshop users will review and debate the directions and challenges of this effort. Radio spectrum allocation is an element of data availability and data quality, and is also associated with a GEO task (AR-06-11). A recent U.S. National Research Council report on spectrum management will be addressed as part of the workshop. Key representatives from industry, academia, and government will provide invited talks on these and related issues that impact GEOSS implementation.

Details

This one day workshop will be co-located with the IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2010). It will be held at the Hilton Hawaiian Village, in Honolulu Hawaii on Sunday, July 25, 2009 from 08:30 to 18:00. The workshop will offer an agenda of key invited speakers noted for their expertise in data quality and data management areas and in the radio spectrum. Ample time will be allocated to breakout sessions within which small groups will exchange views and provide proposed approaches to question posed to fulfill workshop objectives. A summary of the break-out group discussions will be presented to the reconvened audience. Workshop presentations and break-out sessions summaries will be collected as part of the workshop proceedings and made available on the IEEE Committee on Earth Observation (ICEO) website at www.ieee-earth.org.

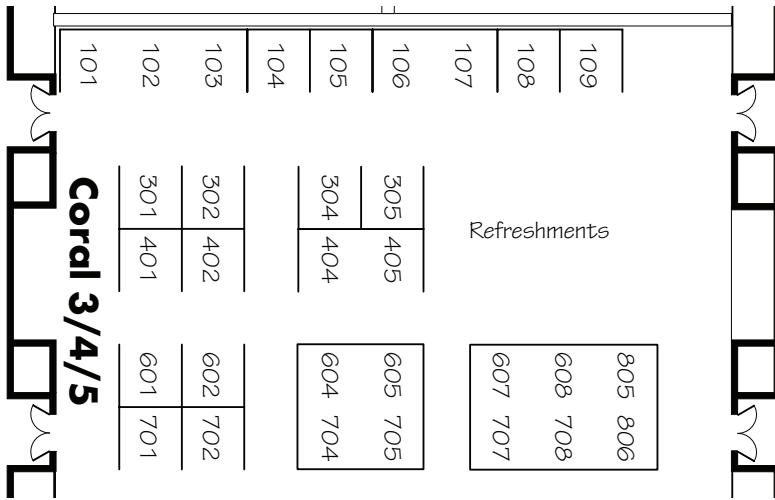
ISIS Hyperspectral Working Group Workshop

ISIS Hyperspectral Working Group Workshop
Sunday, July 25, 08:30 - 18:30
Hilton Hawaiian Village, Nautilus 1

Goals for the GRSS ISIS Technical Committee have been to foster increased synergy and interoperability among current and future international imaging spectroscopy (hyperspectral) missions, their associated ground-segments, and to maximise uptake by the earth observation user community.

The ISIS workshop on July 25th in Honolulu, is open to all IGARSS registrants (separate registration for the workshop is required), and will include space agency updates on their particular satellite missions, as well as ongoing discussions on common data processing standards, coordination of global vicarious calibration activities and related topics.

Exhibit Map



Exhibitor List

| Exhibitor | Booth(s) |
|---|--------------------|
| <p>ASD, Inc.</p> <p>ASD Inc. is the global leader in high-performance analytical instrumentation solutions, unparalleled in providing laboratory-grade remote sensing and material measurement results in the field and on-site. ASD puts the best, fastest and most accurate spectroscopic instruments to work in more than 70 countries across the world. For more information, please visit www.asdi.com.</p> | 301 |
| <p>Canadian Space Agency</p> <p>The Canadian Space Agency (CSA) coordinates all civil, space-related policies and programs on behalf of the Government of Canada. The CSA directs its activities through Earth Observation, Space Science and Exploration, Satellite Communications, and Space Awareness and Learning.</p> | 304 |
| <p>ESIP Federation</p> <p>The ESIP Federation is a broad-based community that produces, interprets and develops applications for Earth science data while providing researchers, educators and decision makers with science information for understanding and addressing the challenges of a dynamic planet. ESIP fosters collaborations and innovations to make Earth science information accessible, usable and relevant. ESIP contributes to the development of GEOSS and works with its sponsors (NASA, NOAA and EPA) to improve coordination across the data community. www.esipfed.org</p> | 104 |
| <p>ESRI</p> <p>ESRI(r) develops geographic information system (GIS) software solutions that function as an integral component in forestry research organizations around the world. More than a million people use ArcGIS(r), an integrated family of products used to make better forestry and land management decisions. ArcGIS(r) improves the way forestry organizations create, visualize, manage, and analyze information for use in the field, on desktops, servers, or over the Web. www.esri.com/forestry</p> | 108 |
| <p>GEO URR Demonstration</p> <p>The intergovernmental Group on Earth Observations (GEO) is developing tools to help users better understand and apply earth observation data to a variety of societal areas. GEO's URR is designed to enable users of Earth observations to access, list, search, and use the data/services available from the GEO Systems. The core of the URR is a comprehensive database linking user types + applications (based on Earth observations and products) + requirements. Visit our booth to learn more and to test/provide feedback on the URR.</p> | 109 |
| <p>Geoscience and Remote Sensing Society (GRSS) and IGARSS 2011</p> <p>The IEEE Geoscience and Remote Sensing Society (GRSS) seeks to advance science and technology in geoscience, remote sensing and related fields using conferences – including the International Geoscience and Remote Sensing Symposium – education, and other resources. Fields of interest to the Society are the theory, concepts, and techniques of science and engineering as they apply to the remote sensing of the earth, oceans, atmosphere, and space, as well as the processing, interpretation and dissemination of this information.</p> | 604, 605, 704, 705 |
| <p>HyVista Corporation Pty Ltd</p> | 401 |
| <p>ITRES Research Limited</p> <p>ITRES (1979) is an airborne hyperspectral remote sensing imager manufacturer and worldwide mapping survey provider. ITRES imagers feature unmatched precision, focus, and resolution for hyperspectral and thermal imaging of infrastructure and environmental applications. Our Lidar-ready systems cover all major spectral regions: hyperspectral VNIR CASI, SWIR SASI, MWIR MASI, hyperspectral thermal TASI and broadband thermal TABI. Supporting products include multiple sensor operation, remote operation capability, and (soon) in-flight geocorrection. New development: Wide-array thermal TABI-1800</p> | 305 |

| | |
|---|------------------------------------|
| <p>Japan Aerospace Exploration Agency (JAXA)</p> <p>On October 1, 2003, the Institute of Space and Astronautical Science (ISAS), the National Aerospace Laboratory of Japan (NAL) and the National Space Development Agency of Japan (NASDA) were merged into one independent administrative institution to be able to perform all their activities in the aerospace field as one organization, from basic research and development to utilization. The independent administrative institution is the Japan Aerospace Exploration Agency (JAXA).</p> | 106, 107 |
| <p>Korea Aerospace Research Institute (KARI)</p> <p>Korea Aerospace Research Institute (KARI) has been devoted to fulfill its role as the leading national aerospace R&D institute in Korea since 1989. Main activities of KARI can be categorized into three areas: the technology development of aircraft, satellites (Korea Multi-Purpose SATellite (KOMPSAT)) and space launch vehicles. KARI has developed KOMPSAT-1 and 2, and is currently developing KOMPSAT-3, 5, and Communication, Ocean and Meteorological Satellite (COMS).</p> | 404, 405 |
| <p>NASA</p> <p>NASA Earth System Science conducts and sponsors research, collects observations from space, develops technologies and extends science and technology education. We work closely with our global partners in government, industry, and the public to enhance economic security, and environmental stewardship, benefiting society in many ways. We conduct and sponsor research to answer science questions about the changes we see in climate, weather, and natural hazards, and deliver sound science that helps decision-makers make informed decisions.</p> | 607, 608, 707, 708, 805, 806 |
| <p>NOAA Satellite and Information Service-NESDIS</p> <p>The NOAA Satellite and Information Service/NESDIS provides climate data derived through the development and operation of geostationary and polar-orbiting operational environmental satellites. The satellite systems provide continuous global observations as well as supply the expansion of climate and weather products. NESDIS collects, develops, and distributes data in real-time to promote scientific responses to our changing climate. This year marks 50 years of remote sensing by satellites of weather and environmental changes. Please visit http://www.nesdis.noaa.gov.</p> | 702 |
| <p>NOAA/NPOESS</p> <p>The National Polar-orbiting Operational Environmental Satellite System (NPOESS) was designed to be the next generation of low earth orbiting environmental satellites. NPOESS will be restructured with NOAA taking responsibility for the afternoon polar orbit and the Department of Defense (DoD) overseeing the early morning orbit. NOAA and DoD will share a ground system and fly the NPOESS instruments to collect, disseminate and process global data about the Earth's weather, atmosphere, oceans, land, and near-space environment.</p> | 701 |
| <p>Northrop Grumman Corporation</p> <p>From hyperspectral imaging to remote sensing, Northrop Grumman has the track record and expertise to provide advanced scientific instruments that enable breakthrough environmental research and operational monitoring. Northrop Grumman Corporation is a leading global security company providing innovative systems, products, and solutions in aerospace, electronics, information systems, shipbuilding and technical services to government and commercial customers worldwide.</p> | 101, 102, 103 |
| <p>NovaSol</p> <p>NovaSol is a Hawaii based company dedicated to providing best value technical solutions to complex military, industrial, and environmental problems. We specialize in research, engineering development, and productization of next-generation active and passive optical systems. In business over 10 years, NovaSol also supplies turn-key HSI/MSI airborne remote sensing systems, including 17 Civil Air Patrol ARCHER systems. In executing programs, NovaSol applies its core technical competencies in sensors, optics, navigation, algorithms, real-time systems, and data analysis.</p> | 302 |
| <p>Scintec Corporation</p> <p>Scintec is a developer and manufacturer of ground-based remote sensing systems using optical and acoustic technology. Innovative product design and outstanding quality has made Scintec a global leader in this field. Today Scintec produces the most advanced and comprehensive wind and temperature profilers in SODAR, RASS and Scintillometer technology. Customers include research institutes and universities, the military, major airports and weather services worldwide.</p> | 402 |
| <p>Taylor & Francis</p> <p>Taylor & Francis is dedicated to the dissemination of scholarly information, utilizing skills and expertise honed since we first began publishing learned journals in 1798. Today, we publish 1,562 scholarly journals in association with 460 societies and institutions. Our publishing team is truly international. With a network of 20 global offices - including Philadelphia, Oxford, Melbourne, Beijing, New Delhi, Stockholm, Johannesburg and Singapore - we can provide local support around the globe. www.tandf.co.uk/journals</p> | 105 |
| <p>UNEP/GRID</p> <p>The North American Node of UNEP GRID, located at the USGS EROS Data Center, is in the forefront of applying information technology tools such as remote sensing, GIS and web mapping to address the relationships between the environment and human populations. Utilizing the expert knowledge of staff and visiting scientists from all across the world, the information created with these tools provide policy-makers a scientific basis for making decisions.</p> | 602 |
| <p>USGS/EROS</p> <p>The Earth Resources Observation and Science (EROS) Center, located in Sioux Falls, SD, is a U.S. Geological Survey (USGS) facility with a national and international mission. EROS contributes to the understanding of a changing Earth through research to operations activities that include developing, implementing, and operating remote sensing based terrestrial monitoring capabilities needed to address science and applications objectives at all levels - within the USGS, across the Federal government, and around the world.</p> | 601 |

Education and Outreach Activities

Education and Outreach (E-O) activities will highlight the emerging field of Community Remote Sensing through hands-on demonstrations, workshops and displays. We invite the participation of college and precollege students!

Education and Outreach events are described below and are scheduled for Wednesday and Thursday 09:00 – 15:45 in the Exhibit/Poster area and the Lehua Suite, with free E-O registration held from 09:00 – 09:40 on Wednesday and Thursday. Preregister and qualify for a \$25 award. The award is provided to assist with lunch and travel cost. Seating is limited so sign up today! To pre-register, send an email to haydenl@mindspring.com with your name, age and school or college. Indicate whether you will attend on Wednesday, Thursday or both days.

The CERES S'COOL Project ◊

Participants will receive a hands-on demonstration of the S'COOL project that aims to collect data on cloud type, height, cover and related conditions from all over the world. Personnel from NASA Langley Research Center will show the power that clouds have in our atmosphere. It is clouds, in part, that affect the overall temperature and energy balance of the Earth. The more we know about clouds, the more we will know about our Earth as a system. The S'COOL observations help NASA to validate satellite data and give us a more complete picture of clouds in the atmosphere and their interactions with other parts of the integrated global Earth system.

Digital Earth Watch (DEW) and Picture Post Network ◊

This workshop provides information on how a community network and simple sensor platform for systematic monitoring of local environmental conditions can be used to study change over time in their local area. Participants compare digital images with satellite imagery and contribute towards improving their own communities. Workshop directors will help you share your digital photographs on the Picture Post website, and to study and analyze your findings using DEW software.

GeoINT Online Communities ◊

During IGARSS 2010, Global Marketing Insights, Inc. will provide project training on the National Geospatial-Intelligence Agency GeoINT Online Communities website focused on Global Food Security. This is an exciting private/public sector project with the National Geospatial-Intelligence Agency and United States Department of Agriculture. The workshop will show you how to give input into the system which impacts all our lives and our dinner tables.

NOAA Seminars

Representatives of the National Oceanic and Atmospheric Administration will conduct discussions and demonstrations of educational products which help build understanding of the science of Earth's systems and the stewardship of our planet. iPhone® applications that link to satellite overpasses will be displayed in addition to the workshops.

IGARSS Scavenger Hunt

Students write four questions that they will ask the scientist and vendors. They take their questions to the E-O booth for approval and signature. Students may ask questions remote sensing, why they enjoy their job, what subjects are most important to study, what does a certain word or image mean, what is the importance of remote sensing, what is GIS, what is GPS, etc. Students then visit vendor booths and meet with the scientists. They ask their questions and get a signature.

CERSER/IGARSS Remote Sensing Art Workshop

Students provide a visual insight into how experiences at IGARSS 2010 have impacted them. Close your eyes and visualize some of the highlights of IGARSS 2010 including registration, exhibits, people, posters, etc. What colors do you recall seeing the most (yellow, blue, etc.)? Use those colors and sights in your design of an IGARSS 2010 Mousepad. Mousepads and paints will be provided by The ECSU Center of Excellence in Remote Sensing Education and Research (CERSER).

IGARSS 2010 Exhibit Hall

IGARSS 2010 will bring together over 2,000 engineers, researchers, teachers, students, and scientists from around the world to review the latest issues and studies of Earth remote sensing, and their environments in space. Interact with companies, government agencies, educational institutions, research facilities, scientific societies, and others exhibiting the latest in geoscience instruments, equipment, software, books and journals, and scientific programs at the International Geoscience and Remote Sensing Symposium.

IGARSS 2010 Research and Education Poster Sessions

Get inspired and excited as you learn about what is possible in the coming decade. Remote sensing scientists, educators and students will present their investigations in hundreds of engaging posters, which allows you to interact with them one-on-one.

SCHEDULE

| | | Wed. | | | | Thur. | | | |
|---------------|--|------|----|-----|----|-------|----|-----|----|
| | | I | II | III | IV | I | II | III | IV |
| | NASA LaRC CERES S'COOL | X | | X | | | X | | X |
| | Digital Earth Watch and Picture Post Network | X | | X | | | X | | X |
| | GeoINT Online Communities | | X | | X | | X | | X |
| | NOAA Climate Change | | X | | X | | X | | X |
| | IGARSS Scavenger Hunt | X | X | X | X | X | X | X | |
| | CERSER Remote Sensing Art Contest | | | X | | | | X | |
| | IGARSS Research & Education Poster Session | X | | | X | X | | | X |
| 09:00 - 09:40 | Registration | | | | | | | | |
| 09:40 - 10:45 | E-O Session I | | | | | | | | |
| 10:40 - 11:00 | Break | | | | | | | | |
| 11:00 - 12:00 | E-O Session II | | | | | | | | |
| 12:00 - 13:30 | Lunch | | | | | | | | |
| 13:30 - 14:30 | E-O Session III | | | | | | | | |
| 14:45 - 15:45 | E-O Session IV | | | | | | | | |

SPONSORS



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University of New Hampshire



Global Marketing Insights, Inc.

◊ – Community Remote Sensing Projects

Social Events

WELCOME RECEPTION LUAU — ALOHA AND WELCOME TO IGARSS 30TH ANNIVERSARY

Sunday, 25 July 2010, 18:00 - 21:00, Hilton Hawaiian Village Great Lawn

The IGARSS Opening Reception takes place just steps away from the spectacular waters of Waikiki Beach. Meet friends and colleagues on the Hilton Hawaiian Village's Great Lawn, adjacent to the Duke Kahanamoku Lagoon, filled with lush vegetation and offering a scenic view of Diamond Head, Hawaii's most recognized landmark, known for its historic hiking trail, stunning coastal views and military history.

STROLLING LUAU AT THE SHERATON WAIKIKI

Tuesday, July 27, 2010, 19:00 - 22:00, Short walk to Sheraton Waikiki, Helumoa Playground

IGARSS 2010 invites you to participate in a colorful and heritage-rich evening at the Sheraton Waikiki for a special strolling luau. Your evening begins with a special lei greeting and an invitation to enjoy special Hawaiian and Polynesian culinary specialties, while you take in the gorgeous vista of Waikiki Beach and Diamond Head. From two entertainment stages, you'll enjoy song and dance of Hawaiian culture along with other Pacific Rim cultures that have influenced the people of Hawaii.

This special evening event, hosted by GRSS, is provided to help celebrate the 30th anniversary of IGARSS.

SOCCER GAME

Wednesday, July 28, 18:00

The 2010 international IGARSS soccer tournament will be held on Wednesday, July 28th. This event is a casual soccer tournament where IGARSS participants compete for the coveted title of "IGARSS soccer champions". Because of the high interest in the game, play will be divided up into three concurrent games run tournament style. The winner will be decided based on FIFA world cup rules.

All skill levels are welcome to participate, or just watch and cheer on!

The event will be held at Kuroda Field, Fort De Russey Park. This is located diagonally adjacent to the Hilton Hawaiian Village conference venue. To get there, walk outside of the Hilton and turn right at Kalia Road. The field is approximately 500 feet down Kalia road at the intersection of Maluhia and Kalia.

Bring your soccer gear to the conference and get ready to play!

Note: Cleats are not allowed on the Kuroda Field.

TECHNICAL COMMITTEE AND CHAPTER CHAIRS LUNCHEON

Wednesday, July 28, 12:05 - 13:35, Rainbow Suite, Rainbow Tower

This event provides a venue for discussion of GRSS Technical Committee and Chapter activities accompanied by a fine meal. Members of GRSS Technical Committees and GRSS Chapter Chairs are especially invited, but all IGARSS delegates (and guests) are welcome to participate. This is an excellent opportunity to learn more about the technical committees and activities of our chapters. Tickets are limited, so please register early!

AWARDS BANQUET

Thursday, July 29, Departure from Hilton Hawaiian Village at 18:00

This year's IGARSS awards evening will take place at The Bishop Museum, located near downtown Honolulu.

Buses will transport guests from the Hilton Hawaiian Village to the museum, where you'll enjoy a full evening of dining, entertainment and true Hawaiian hospitality on the Great Lawn of the Bishop Museum.

Your evening includes roundtrip transportation, full buffet dinner and beverages, plus admission to four of the museum's spectacular galleries, including the newly reopened Hawaiian Hall.

The three floors of Hawaiian Hall will take you on a journey through the different realms of Hawaii - the first floor, Kai Akea, representing Hawaiian gods, legends and beliefs; the second floor, Wao Kanaka, represents the realm where people live and work, focusing on the importance of the land and nature in daily life; and the third floor, Wao Lani, is the realm inhabited by the gods - here, visitors will learn about the ali'i and key moments in Hawaiian history.

Guests will enjoy the interactive nature of the Richard T. Mamiya Science Adventure Center, a 16,500 square-foot facility providing exhibits with a strong emphasis on better understanding Hawaii's environment.

Please note that visitors to the Bishop Museum are permitted to photograph and videotape their exhibits. Flash photography is permitted. In certain exhibit areas, however, videography and photography may be limited due to copyright and/or cultural sensitivities. Please comply with posted rules.

Student Activities

YOUNG PROFESSIONALS' LUNCH

Tuesday, July 27, 2010, 12:05 - 13:35, Honolulu Suite, Tapa Tower

As part of the Student activities, IGARSS 2010 is organizing a "Young Professionals" luncheon. The event is scheduled for Tuesday, July 27 between 12:00 and 14:00 and will be open by registration to students. Only a very limited number of tickets will be available. The lunch will provide a forum of discussion between current students and GOLD members (Graduates of the Last Decade) on career paths, skill sets beneficial to secure employment in the geosciences and remote sensing industries, as well as professional development opportunities. The event will also include invited guests selected from among the GRSS professionals with extensive careers in the field. This is the third event of its kind at IGARSS, having received very strong reception in Boston and Cape Town. Join GOLD members to network in an informal setting. The nominal charge for this event is only partially covering the food costs. Space is very limited, so please register early!

Student Paper Prize Competition

All IEEE student members were invited and encouraged to enter the IGARSS Student Paper Prize Competition. Ten finalists have been selected by a committee to present their papers during a special session at the symposium in Cape Town. Three prizes will be presented: First Prize (Mikio Takagi Student Prize) US\$1000, Second Prize US\$750, Third Prize US\$500, plus certificates for each. Following the special session at IGARSS, a complimentary ticket to the GRSS Annual Awards Banquet will be given to all ten finalists. The ten finalists are listed below (the finalist's name and affiliation are underlined on each paper):

WE1.L04.1: MULTI-VIEW ADAPTIVE DISAGREEMENT BASED ACTIVE LEARNING FOR HYPERSPECTRAL IMAGE CLASSIFICATION

Wei Di; Purdue University
Melba Crawford; Purdue University

WE1.L04.2: CRATER DETECTION BASED ON MARKED POINT PROCESSES

Giulia Troglio; University of Genoa
Jon Atli Benediktsson; University of Iceland
Gabriele Moser; University of Genoa
Sebastiano B. Serpico; University of Genoa

WE1.L04.3: TREE AND CROWN HEIGHT ASSESSEMENTS OF A MARITIME PINE FOREST AT PLOT LEVEL USING A FULLWAVEFORM ULTRAVIOLET LIDAR PROTOTYPE

Tristan Allouis; Cemagref / AgroParisTech
Sylvie Durrieu; Cemagref
Juan Cuesta; Institut Pierre Simon Laplace
Patrick Chazette; Institut Pierre Simon Laplace
Pierre H. Flamant; Institut Pierre Simon Laplace
Pierre Couteron; Institut de Recherche pour le Développement

WE1.L04.4: ELECTROMAGNETIC SCATTERING FROM ARBITRARY RANDOM ROUGH SURFACES USING STABILIZED EXTENDED BOUNDARY CONDITION METHOD (SEBCM) FOR REMOTE SENSING OF SOIL MOISTURE

Xueyang Duan; University of Michigan
Mahta Moghaddam; University of Michigan

WE1.L04.5: BISTATIC SCATTERING, BACKSCATTERING AND EMISSIVITIES OF RANDOMLY ROUGH SOIL SURFACES AT L BAND BASED ON NUMERICAL SOLUTIONS OF MAXWELL EQUATIONS OF 3 DIMENSIONAL SIMULATIONS

Shaowu Huang; University of Washington
Leung Tsang; University of Washington

WE2.L04.1: WINDSAT RETRIEVAL OF OCEAN SURFACE WIND SPEEDS IN TROPICAL CYCLONES

Amanda Mims; University of Michigan
Rachael Kroodsmar; University of Michigan
Christopher Ruf; University of Michigan
Darren McKague; University of Michigan

WE2.L04.2: SCATTEROMETER IMAGE RECONSTRUCTION FROM APERTURE-FILTERED SAMPLES

Brent Williams; Brigham Young University
David G. Long; Brigham Young University

WE2.L04.3: SOIL DIELECTRIC AND SENSITIVITY ANALYSIS FOR SUBSURFACE IMAGING APPLICATIONS BASED ON DISTRIBUTED SENSOR NETWORKS

Fikadu Dagefu; University of Michigan, Ann Arbor
Kamal Sarabandi; University of Michigan, Ann Arbor

WE2.L04.4: REAL-TIME ROAD TRAFFIC MONITORING USING A FAST A PRIORI KNOWLEDGE BASED SAR-GMTI ALGORITHM

Stefan V. Baumgartner; German Aerospace Center (DLR)
Gerhard Krieger; German Aerospace Center (DLR)

WE2.L04.5: DETECTING DEPOLARIZING TARGETS WITH SATELLITE DATA: A NEW GEOMETRICAL PERTURBATION FILTER

Armando Marino; University of Edinburgh
Shane Cloude; AEL consultants
Iain Woodhouse; University of Edinburgh

IEEE GRS-S Membership

On behalf of the IEEE Geoscience and Remote Sensing Society, I would like to thank our Past President Tony Milne very much for his intensive dedication, hard work and great leadership over the past two years! Under Tony's leadership we have completed intensive strategic discussions and planning activities that have allowed the GRS Society to implement a number of new initiatives. These have improved our portfolio and benchmarks in many areas. The exceptional review of the GRS Society last year, an outstanding IGARSS in Cape Town and strong growth in GRS-S membership are just a few examples of our success!

The New Year starts with several new activities. We have just launched our new web site (www.grss-ieee.org). You are invited to visit it, and we would very much appreciate your feedback and suggestions. We hope to provide more information and continue to improve service to our members and to the international remote sensing community.

This year is a special year for the GRS Society: Our 30th IGARSS conference will be held on July 25–30, in Honolulu, Hawaii (www.igarss2010.com). You are cordially invited to join us for this special event to commemorate the 30th anniversary of IGARSS! With excellent planning underway by a highly dedicated organizing committee, we may expect this symposium to become the best IGARSS that we have ever had!

During the past few months four new GRS-S Chapters have been formed in the following countries: Brazil (Student Branch Chapter), South Africa (Joint Chapter), Australia (Joint Sections) and China (Nanjing Section). Other chapter formation initiatives are in process in the diverse locations of China and Turkey. GRS-S has now a total of 34 chapters, including two student chapters. The chapters provide an excellent opportunity to network with colleagues and experts in the local member community. Please check our web site for the GRS-S Chapter point of contact nearest to your home city.

One of the goals during my term as President of the IEEE Geoscience and Remote Sensing Society (GRS-S) is to achieve a high level of involvement of our members and of the international remote sensing community in our Society. The GRS Society is one of 38 technical societies that are part of the world's largest professional society, and that is the IEEE. The vision of the GRS Society is to be the leading organization in the science, engineering, application and education of remote sensing. We are a transnational society due to the global nature of our activities and a premier organization in the field of remote sensing. The GRS Society is third fastest-growing society of IEEE. You can make a larger impact on remote Sensing through the GRS Society. Remote sensing plays an increasingly important role in solutions to environmental problems, the study of global climate change and the monitoring of natural disasters. We are seeing great strides in remote sensing instrumentation, data processing, and applications. The Society strives to address remote sensing techniques, applications and policies, as well as new research directions. By being a member of GRS-S, you can be a part of this important voice. You can make a larger impact on these issues. In the following, I enumerate some of the advantages and benefits of being a member of the IEEE GRS-S.

1) You can readily access our three premier journals: IEEE Transactions on Geoscience and Remote Sensing (TGRS), IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (J-STARS) and the IEEE Geoscience and Remote Sensing Letters (GRSL). Our Society's archival publications represent the forefront of remote sensing science, technology and applications. The Transactions are among the premier journals in IEEE as well as among all remote sensing journals in terms of citation index and impact factor. Members can access the latest issues either on-line or via hard copies in the mail. J-STARS on-line access will become a part of GRS-S membership in 2011.

2) You can participate in our five Technical Committees: Instrumentation and Future Technologies (IFT-TC), Data Archiving and Distribution (DAD-TC), Data Fusion (DF-TC), Frequency Allocations in Remote Sensing (FARS) and International Spaceborne Imaging Spectroscopy (ISIS). The technical committees work together to review the state of the art of remote sensing in these research areas. The Technical Committees make important impacts on the future directions of remote sensing science and technology. You can be a member and participate in this process.

3) You can attend IGARSS, our premier conference, at a reduced rate and also participate in the planning of IGARSS. Our annual international symposium, IGARSS, reports on the recent advances in remote sensing. IGARSS attendance continues to increase. More than 1700 people attended IGARSS 2007 in Barcelona

and IGARSS 2008 in Boston. Upcoming IGARSS will be held in Hawaii (2010), Sendai (2011), Munich (2012) and Melbourne (2013). If you are an expert in the technical topics of Applications of Remote Sensing (Land, Ocean, Atmosphere and Cryosphere), Sensors, Missions and Programs, Instrumentation and Techniques, Modeling and Processing, Electromagnetic and Radiation Transfer, Data Processing and Algorithms, Image Analysis Techniques as well as Remote Sensing Education and Policy, you may serve as volunteer on the Technical Program Committee. You can also volunteer to organize special sessions. We not only organize IGARSS every year, but we also support and co-sponsor a large number of specialty symposia.

4) You can utilize the resources provided by the Society, such as our quarterly Newsletter, educational programs, industrial relations newsletter and current state-of-the-art information of the IEEE GRS-S (www.grs-ieee.org). The Society expends a lot of effort in remote sensing education initiatives, development and collection of educational resources for K-12, undergraduate/graduate education as well as continuing education for professionals. Members can access these resources. We are currently strengthening our industrial relations program. As a member, you can connect to our industrial partners via this initiative.

5) Other benefits to IEEE GRS-S members include a subscription to IEEE Spectrum magazine, access to the IEEE Xplore data base, IEEE e-mail alias, networking with others in the local member community (Sections and Chapters), career and employment resources, etc.

6) You can also invite speakers of our distinguished speakers program, submit proposals to our book series, join the GOLD (Graduate of the Last Decade) program and GOLD conferences, as well as take advantage of other educational services such as tutorials and on-line lectures.

7) GRS-S recognizes outstanding achievements of its members with a number of awards and recognitions: Distinguished Achievement Award, Outstanding Service Award, Education Award, Transactions Prize Paper Award, Letters Prize Paper Award, J-STARS Prize Paper Award (in implementation), Symposium Prize Paper Award, Symposium Interactive Prize Paper Award, three Student Prize Paper Awards (first place is the Mikio Takagi Student Prize), Chapter Excellence Award and the GRS-S GOLD Early Career Award (in the approval process). In addition, GRS-S provides financial support for the IEEE Kiyo Tomiyasu Field Award and the IEEE Electromagnetics Field Award.

8) We have established a number of cooperative relationships with other international organizations in order to provide a better service to our members. GRS-S has become a member of the Joint Board of the Geospatial Information Societies (JB-GIS) in 2009 and is actively involved in their activities. In addition, GRS-S has signed an MoU with the African Association of Remote Sensing and Environment (AARSE) and has started several activities in South Africa (including educational activities). Several other collaborations have been formed in terms of technical co-sponsorship of conferences and in terms of our five Technical Committees' activities (e.g. Technical Committee workshop hosted by the European Space Agency, ESA, in 2009).

9) We are working on globalization initiatives to increase GRS-S membership in South America, South Africa and in the Asia-Pacific region, student travel support for attending IGARSS as well as a minority program. Last year was the third consecutive year that our society has maintained a membership growth above 6% on average (with peaks up to 11%). This has been achieved by intensive membership promotion activities, formation of several new chapters in the past few years, regional liaisons and a globalization task force.

10) GRS-S recognizes and supports new technologies and applications by means of its five Technical Committees, organization of special sessions in conferences, technical co-sponsorship and/or organization of specialty symposia, organization of TGRS Special Issues dedicated to new technologies and J-STARS Special Issues devoted to new applications, participation in global initiatives (GEOSS) and through new initiatives.

If you have suggestions concerning the GRS Society, please do not hesitate to let me know. We are looking forward to increase our member services and thereby to increase the value of GRS-S membership.

Finally, I would like to congratulate our six new IEEE Fellow members (Class of 2010): Lorenzo Bruzzone, Chang Chein-I, Diane Evans, Soren Madsen, Motoyuki Sato, and Valery Zavorotny. In addition, two other GRS-S members were also elected to IEEE Fellow through a nomination submitted by another IEEE society: Norman Chapman (Oceanic Engineering Society) and David Daniels (Aerospace and Electronic Systems Society). Congratulations to all new IEEE Fellow members for this most distinguished recognition!

Together we are looking forward to an exciting year 2010 with many challenges and achievements in Geoscience and Remote Sensing research and applications!

Sincerely,
Alberto Moreira
President IEEE GRS-S
alberto.moreira@dlr.de

GRS-S memberships include on-line access through IEEE Xplore to the Transactions on Geoscience and Remote Sensing (TGRS), Geoscience and Remote Sensing Letters (GRSL) and Journal of Selected Topics in Applied Earth Observations and Remote Sensing (J-STARS), a new journal launched in 2008. Also new, on-line access through IEEE Xplore to all IGARSS Proceedings and selected GRS-S sponsored small symposia is available to members for an additional fee of only \$4. If you would like to receive printed copies of TGRS, GRSL or J-STARS, you must indicate this on your application form and pay the additional fee(s) of \$56, \$30, or \$36, respectively. These options are available only for full-year memberships. The table below is a summary of IEEE and Society Dues.

- For Student, Full, Senior and Fellow GRS-S membership grades, you must pay to become an IEEE member and select GRSS as an additional society membership.
- To calculate total dues, you may elect to add the optional printed TGRS, GRSL or J-STARS fee to the appropriate IEEE member fee. (Affiliates select appropriate GRSS Affiliate fee only. No IEEE member fees will be assessed.)
- Applications received between 16 August and 28 February will be processed as full-year memberships. Services begin immediately.
- Applications received between 1 March and 15 August will be processed as half-year memberships expiring 31 December of that calendar year.

MEMBERSHIP FEES

| Membership Level ▶ Residence ▼ | IEEE GRS-S Member Full year | IEEE GRS-S Member Half year | IEEE GRS-S Student Full Year | IEEE GRS-S Student Half Year | GRS-S Conference Digital Library | Printed TGRS (Members) Full Year only | Printed GRSL (Members) Full Year only |
|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|-------------------------------------|---|---|
| United States | \$185.00 | \$92.50 | \$38.00 | \$19.00 | \$4.00 | \$56.00 | \$30.00 |
| Canada (incl. GST) | \$170.45 | \$85.23 | \$39.80 | \$19.90 | \$4.00 | \$56.00 | \$30.00 |
| Canada (incl. HST) | \$180.77 | \$90.39 | \$42.20 | \$21.10 | \$4.00 | \$55.00 | \$30.00 |
| Africa, Europe, Middle East | \$158.00 | \$79.00 | \$33.00 | \$16.50 | \$4.00 | \$56.00 | \$30.00 |
| Latin America | \$149.00 | \$74.50 | \$33.00 | \$16.50 | \$4.00 | \$56.00 | \$30.00 |
| Asia, Pacific | \$150.00 | \$75.00 | \$33.00 | \$16.50 | \$4.00 | \$56.00 | \$30.00 |

| Membership Level ▶ Residence ▼ | Printed J-STARS (Members) Full Year only | Printed TGRS (Students) Full Year only | Printed GRSL (Students) Full Year only | Printed J-STARS (Students) Full Year only | GRS-S Affiliate Full Year | GRS-S Affiliate Half Year |
|-----------------------------------|--|--|--|---|------------------------------|------------------------------|
| United States | \$36.00 | \$28.00 | \$15.00 | \$18.00 | \$81.00 | \$40.50 |
| Canada (incl. GST) | \$36.00 | \$28.00 | \$15.00 | \$18.00 | \$81.00 | \$40.50 |
| Canada (incl. HST) | \$36.00 | \$28.00 | \$15.00 | \$18.00 | \$81.00 | \$40.50 |
| Africa, Europe, Middle East | \$36.00 | \$28.00 | \$15.00 | \$18.00 | \$81.00 | \$40.50 |
| Latin America | \$36.00 | \$28.00 | \$15.00 | \$18.00 | \$81.00 | \$40.50 |
| Asia, Pacific | \$36.00 | \$28.00 | \$15.00 | \$18.00 | \$81.00 | \$40.50 |

IEEE GRS-S Chapters

| Chapter Location | Societies Joint with | Chapter Chair | E-mail Address |
|-----------------------------------|--|-------------------|------------------------------|
| Region 1: Northeastern USA | | | |
| Boston Section, MA | GRS | William Blackwell | wjb@ll.mit.edu |
| Springfield Section, MA | AP, MTT, ED, GRS, LEO | Paul Siqueira | siqueira@ecs.umass.edu |
| Western New York | GRS | John Kerekes | kerekes@cis.rit.edu |
| Region 2: Eastern USA | | | |
| Washington DC/ Northern VA area | GRS | James Tilton | j.tilton@ieee.org |
| Region 3: Southeastern USA | | | |
| Atlanta Section, GA | AES, GRS | Greg Showman | greg.showman@gtri.gatech.edu |
| Eastern North Carolina Section | GRS | Linda Hayden | hayden@mindspring.com |
| Region 4: Central USA | | | |
| Chicago Section | AES/NPS/ GRS/OE Joint Societies Chapter | Jack Sherman | j.sherman@ieee.org |
| Southeastern Michigan Section | GRS | Mahta Moghaddam | mmoghadd@eecs.umich.edu |

| Region 5: Southwestern USA | | | |
|--|----------------------------|---|--|
| Denver Section, CO | AP, MTT, GRS | Michael Janezic | janezic@boulder.nist.gov |
| Houston Section, TX | AP, MTT, GRS, LEO | Christi Madsen | cmadsen@ee.tamu.edu |
| Region 6: Western USA | | | |
| Los Angeles Section, CA | GRS | Erika Podest | erika.podest@jpl.nasa.gov |
| Region 7: Canada | | | |
| Quebec Section, Quebec | AES, OE, GRS | Xavier Maldague | maldagx@gel.ulaval.ca |
| Toronto Section, Ontario | SP, VT, AES, UFF, OE, GRS | Sri Krishnan | krishnan@ee.ryerson.ca |
| Vancouver Section, BC | AES, GRS | David G. Michelson Steven McClain | dmichelson@ieee.org stevenmcclain@ieee.org |
| Ottawa Section | OE, GRS-S | Hilmi Dajani | hdajani@site.uottawa.ca |
| Region 8: Europe, Middle East and Africa | | | |
| Central Italy Section | GRS | Nazzareno Pierdicca | nazzareno.pierdicca@uniroma1.it |
| South Italy Section | GRS | Maurizio Migliaccio | maurizio.migliaccio@uninav.it |
| Student Branch, Spain Section | GRS | Pablo Benedicto | pablo27@casal.upc.edu |
| Islamabad Section | GRS/AES | M. Umar Khattak | ukhattak@hotmail.com |
| France | GRS | Gregoire Mercier, Telecom Brest | gregoire.mercier@telecom-bretagne.eu |
| Germany Section | GRS | Irena Hajsek | irena.hajsek@dlr.de |
| Russia Section | GRS | Anatolij Shutko | anatoli.shutko@email.aamu.edu ashutko@mail.ru |
| South Africa Section | AES and GRS | Meena Lysko | MLysko@csir.co.za |
| Spain Section | GRS | Juan Manuel Lopez-Sanchez (U of Alicante) | juanma-lopez@ieee.org |
| Ukraine Section | AP, NPS, AES, ED, MTT, GRS | Oksana V. Shramkova | o.shramkova@gmail.com |
| UKRI Section | GRS, OE | Yong Xue | y.xue@londonmet.ac.uk |
| Region 9: Latin America | | | |
| Student Branch, Colombia Section | GRS | Leyini Parra Espitia | leyiniparra@ieee.org |
| Student Branch, South Brazil Section | GRS | Sam Murphy | sam@ige.unicamp.br |
| Region 10: Asia and Pacific | | | |
| Beijing Section, China | GRS | Chao Wang | cwang@rsgs.ac.cn |
| Nanjing Section chapter, China | GRS | Feng Jiao | jiao_feng323@hotmail.com |
| Seoul Section, Korea | GRS | Joong-Sun Won | jswon@yonsei.ac.kr |
| Japan Council | GRS | Yoshihisa Hara | Hara.Yoshihisa@cb.MitsubishiElectric.co.jp |
| Taipei | GRS | Kun-Shan Chen | dkschen@csrsr.ncu.edu.tw |
| Australian Capital Territory and New South Wales Joint Sections, Australia | GRS | Xiuping Jia | x.jia@adfa.edu.au |

Future IGARSS Symposia

| | | |
|-------------|----------------------|------------------|
| IGARSS 2011 | Sendai, Japan | August 1–6, 2011 |
| IGARSS 2012 | Munich, Germany | July 22–27, 2012 |
| IGARSS 2013 | Melbourne, Australia | July 21–26, 2013 |

Opening and Plenary Agenda

IGARSS 2010 OPENING SESSION AND PLENARY
July 26, 2010, 09:00 – 12:30, Tapa Ballroom, Tapa Tower

Opening Session

09:00 Welcome to IGARSS 2010

Dr. Karen M. St. Germain, General Co-Chair

Dr. Paul C. Smits, General Co-Chair

09:15 Welcome from the IEEE GRS Society

Dr. Alberto Moreira, President

09:30 Welcome from IEEE

Dr. John Vig, 2009 IEEE President

09:45 Major Awards and Recognitions

Prof. Werner Wiesbeck, GRS-S Awards Chair

2010 IEEE Fellows

2010 IEEE GRS-S Distinguished Achievement Award

2010 IEEE GRS-S Outstanding Service Award

2010 IEEE GRS-S Education Award

2010 GRS Member in the IEEE Heritage Circle

10:05 Break

Plenary Session

10:30 KEYNOTE - Science and Technology in Support of Democracy: Citizen Participation

Introduction by Session Moderator – Dr. Shelby Tilford

Aneesh Chopra (Chief Technology Officer and Assistant to the President) and Shere Abbott (Associate Director for Environment) from US Office of Science and Technology Policy (OSTP)

11:15 AGENCIES PANEL – The Past and Future of Global Observing

Session Moderator – Dr. Shelby Tilford

| |
|---|
| NASA – Dr. Michael Freilich (Director, Earth Science Division, Science Mission Directorate) |
| JAXA – Dr. Masanobu Shimada (Space Applications Mission Directorate) |
| ESA – Dr. Volker Liebig (Director of Earth Observation) (invited) |

Symposium Introduction

12:15 IGARSS 2010 Technical Program

Dr. David Kunkee, Technical Program Co-Chair

Dr. Paolo Gamba, Technical Program Co-Chair

12:30 Break

Plenary Speaker Information

Aneesh Chopra is the Chief Technology Officer and in this role serves as an Assistant to the President and Associate Director for Technology within the Office of Science & Technology Policy. He works to advance the President’s technology agenda by fostering new ideas and encouraging government-wide coordination to help the country meet its goals from job creation, to reducing health care costs, to protecting the homeland. Aneesh was sworn in on May 22nd, 2009. Prior to his appointment, he served as the fourth Secretary of Technology for the Commonwealth of Virginia from January 2006 until April 2009. Prior to his appointment by then-Governor Timothy M. Kaine, he served as Managing Director with the Advisory Board Company, a publicly-traded healthcare think tank. Chopra was named to Government Technology magazine’s Top 25 in their Doers, Dreamers, and Drivers issue in 2008. Aneesh Chopra received his B.A. from The Johns Hopkins University and his M.P.P. from Harvard’s Kennedy School. He and his wife Rohini have two young children.



Sherburne “Shere” Abbott serves as the Associate Director for Environment of the Office of Science and Technology Policy in the Executive Office of the President. She manages a portfolio of S&T policy that ranges from energy and climate change to environmental quality and sustainability. Prior to her confirmation for this position by the Senate on April 30, 2009, Ms. Abbott was a faculty member of the College of Liberal Arts at the University of Texas at Austin and served as the Director of the Center for Science and Practice of Sustainability in the Office of the Executive Vice President and Provost. Previously, Ms Abbott served as Chief International Officer of the American Association for the Advancement of Science. Prior to that appointment, over a 17 year period at the National Academies’ National Research Council she served as Executive Director of the Board on Sustainable Development, the Director of International Organization Programs for the Office of International Affairs, and the Director of the Polar Research Board of the National Academies’ National Research Council. Ms. Abbott also served as Assistant Scientific Program Director of the U.S. Marine Mammal Commission. Ms. Abbott earned her A.B. from Goucher College and her M.F.S. from Yale University’s School of Forestry and Environmental Studies.



Shelby Tilford is a central figure in the development of remote sensing for Earth science. In his early career from 1961 to 1976, he headed the XUV Spectroscopy Section at the Naval Research Laboratory, conducting research in high resolution vacuum ultraviolet spectroscopy of molecules and atoms of atmospheric, laser, solar, and astrophysical interest. He joined NASA Headquarters in 1976 to develop and implement the congressionally mandated Upper Atmospheric Research Program Office with the objective of better understanding the stratosphere and potential human impact on the ozone layer. In 1992, he was appointed Acting Associate Administrator for the Office of Mission to Planet Earth, an opportunity he used to formulate and initiate the first integrated interdisciplinary multi-agency approach to Earth sciences. This led to the development and implementation of the U.S. Global Change Research Program, of which the Mission to Planet Earth component became the major contributor. He retired from NASA in 1994, worked for Orbital Sciences as Chief Scientist until his second retirement in 2000, and has consulted since then. Dr. Tilford has a PhD in physical chemistry from Vanderbilt.



Forum: The Past and Future of Global Observing

Monday, July 26, 13:35 - 15:15, Lehua Suite

This forum on “The Past and Future of Global Observing” engages the IGARSS2010 plenary speakers of the Agencies Panel in a dialogue with the audience. With the evolving programs in earth observation systems, the dialogue will look to the future, addressing both national and international directions. Audience questions will be encouraged during this unique forum.

The forum is moderated by Dr. Shelby Tilford and includes representatives from ESA, Japan and the US.

Community Remote Sensing at IGARSS

The Earth information needs of society are vast. Until now, we have relied on government-sponsored satellites and observing systems as the foundation for this information. But the rapid emergence of citizen science and social networks introduces an exciting new means for augmenting this knowledge by leveraging the capabilities of the general population. The emerging field of community remote sensing (CRS) combines remote sensing with citizen science, social networks, and crowd-sourcing to enhance the data obtained from traditional sources. It includes the collection, calibration, analysis, communication, or application of remotely sensed information by these community means. Centralized systems will remain critical to our knowledge base, but CRS can extend their capabilities at relatively low cost. Applied in conjunction with centralized systems, CRS can be a powerful tool for addressing environmental issues and responding to events such as natural disasters. IGARSS 2010 spotlights this emerging field with a number of events dedicated to the topic. During the year leading up to the conference, projects from various institutions that embody the CRS theme have been highlighted on the conference website at <http://www.igarss2010.org/CommunityRemoteSensing.asp>. At the conference, there are a variety of activities focused on CRS. For Monday's plenary, the keynote and panel speakers have all being asked to reflect on its importance in their work. On Wednesday and Thursday, several of the Education and Outreach activities include a CRS focus. Finally, a total of 149 conference papers have self-identified as being related to CRS and are identified as such in the program with a \diamond symbol.

Paper Identifiers

| | | | | | | |
|-----------------|------------|-------------------|------------------|-------------|------------------|-----------------|
| Example: | TU | 4 | . | L3 | . | 4 |
| Meaning: | Day | Time Block | Separator | Room | Separator | Sequence |

Day

MO Monday, July 26
 TU Tuesday, July 27
 WE Wednesday, July 28
 TH Thursday, July 29
 FR Friday, July 30

Time Block

1 First Morning Session 08:20 - 10:00
 P1 Morning Poster Session 09:40 - 10:45
 2 Second Morning Session 10:25 - 12:05
 3 First Afternoon Session 13:35 - 15:15
 P2 Afternoon Poster Session 14:55 - 16:00
 4 Second Afternoon Session 15:40 - 17:20

Room

Oral:

L01 ▶ Sea Pearl Suites 1/2/3 Mid-Pacific Conference Center
 L02 ▶ Sea Pearl Suites 4/5/6 Mid-Pacific Conference Center
 L03 ▶ Hibiscus Kalia Conference Center
 L04 ▶ Kahili Kalia Conference Center
 L05 ▶ South Pacific Ballroom 3 Mid-Pacific Conference Center
 L06 ▶ South Pacific Ballroom 4 Mid-Pacific Conference Center
 L07 ▶ Nautilus Mid-Pacific Conference Center
 L08 ▶ South Pacific Ballroom 1/2 Mid-Pacific Conference Center
 L09 ▶ Coral 1 Mid-Pacific Conference Center
 L10 ▶ Coral 2 Mid-Pacific Conference Center

Poster:

PA...PM ▶ Poster Areas A through M Coral 3/4/5, Mid-Pacific Conference Center

Sequence

Oral Order of presentation.

Poster Board number (Complete poster board identifier is the Room plus the Sequence.)

Community Remote Sensing-related

◇ ▶ Related to Community Remote Sensing theme.

MO3.L01: Monday, July 26, 13:35 - 15:15

MO3.L01 Applications: Coastal and Wetlands I

Session Type: Oral-Contributed
 Time: Monday, July 26, 13:35 - 15:15
 Place: Sea Pearl 1/2/3
 Co-Chairs: Stuart Phinn, University of Queensland and Charles Bachmann, US Naval Research Lab

13:35 - 13:55

MO3.L01.1 MAPPING SEAGRASS EXTENT & COMPOSITION IN INTER- & SUB-TIDAL ENVIRONMENTS USING FIELD & REMOTE SENSING

Stuart Phinn, Chris Roelfsema, University of Queensland, Australia

13:55 - 14:15

MO3.L01.2 MAPPING DETAILED SEAGRASS HABITATS USING SATELLITE IMAGERY

Ruiliang Pu, Susan Bell, University of South Florida, United States; Kelli Levy, Pinellas County Department of Environment Management, United States; Cynthia Meyer, University of South Florida, United States

14:15 - 14:35

MO3.L01.3 LONG TERM MONITORING OF SEAGRASS DISTRIBUTION IN MORETON BAY, AUSTRALIA, FROM 1972-2010 USING LANDSAT MSS, TM, ETM+

Mitchell Lyons, Stuart Phinn, Chris Roelfsema, University of Queensland, Australia

14:35 - 14:55

MO3.L01.4 IMPROVED HYPOXIA MODELING FOR NUTRIENT CONTROL DECISIONS IN THE GULF OF MEXICO

Shahid Habib, Kenneth Pickering, Maria Tzortziou, Antonio Mannino, Frirz Policelli, NASA Goddard Space Flight Center, United States Virgin Islands

14:55 - 15:15

MO3.L01.5 EFFECT OF SPATIAL AND SPECTRAL RESOLUTION OF IMAGES ON INTERPRETING INTERTIDAL ESTUARINE SEDIMENT GRAIN SIZE DISTRIBUTIONS

Haijun Huang, Yanxia Liu, Bo Wang, Chinese Academy of Sciences, China

MO3.L02: Monday, July 26, 13:35 - 15:15

MO3.L02 High Resolution Interferometry and Tomographic SAR Imaging I

Session Type: Oral-Invited
 Time: Monday, July 26, 13:35 - 15:15
 Place: Sea Pearl 4/5/6
 Co-Chairs: Gianfranco Fornaro, IREA - CNR, Naples, Italy and Richard Bamler, German Aerospace Center (DLR)

13:35 - 13:55

MO3.L02.1 EXPLOITATION OF COHERENCE MATRIXES IN MULTI-TEMPORAL SAR DATASETS: THE SQUEESAR APPROACH

Alessandro Ferretti, Alfio Fumagalli, Fabrizio Novali, Tele-Rilevamento Europa - T.R.E. s.r.l., Italy; Claudio Prati, Fabio Rocca, Alessio Rucci, Politecnico di Milano, Italy

13:55 - 14:15

MO3.L02.2 COMPRESSIVE SENSING FOR HIGH RESOLUTION DIFFERENTIAL SAR TOMOGRAPHY

Zhu Xiao Xiang, Technical University of Munich (TUM), Germany; Richard Bamler, Technical university of Munich (TUM) & German Aerospace Center (DLR), Germany

14:15 - 14:35

MO3.L02.3 FIRST EXPERIMENTS OF SECTOR INTERPOLATED SAR TOMOGRAPHY

Fabrizio Lombardini, Matteo Pardini, University of Pisa, Italy

14:35 - 14:55

MO3.L02.4 NEW TRENDS IN SAR TOMOGRAPHY

Fabio Baselice, Alessandra Budillon, Università di Napoli Parthenope, Italy; Annarita Evangelista, Università di Cassino, Italy; Giampaolo Ferraioli, Vito Pascazio, Gilda Schirinzi, Università di Napoli Parthenope, Italy

14:55 - 15:15

MO3.L02.5 PERSISTENT SCATTERER PAIRS (PSP) APPROACH IN VERY HIGH RESOLUTION SAR INTERFEROMETRY

Mario Costantini, Salvatore Falco, Fabio Malvarosa, Federico Minati, Francesco Trillo, Francesco Vecchioli, E-GEOS - an ASI/Telespazio Company, Italy

MONDAY

MO3.L03: Monday, July 26, 13:35 - 15:15**MO3.L03 Ionospheric Effects in SAR, PoISAR, and InSAR I**

Session Type: Oral-Invited

Time: Monday, July 26, 13:35 - 15:15

Place: Hibiscus

Co-Chairs: Tom Ainsworth, Naval Research Lab and Franz Meyer, University of Alaska Fairbanks

13:35 - 14:15 Overview Talk (40 minutes)

MO3.L03.1 A REVIEW OF IONOSPHERIC EFFECTS IN LOW-FREQUENCY SAR – SIGNALS, CORRECTION METHODS, AND PERFORMANCE REQUIREMENTS

Franz Meyer, University of Alaska, Fairbanks, United States

14:15 - 14:35

MO3.L03.3 \diamond IONOSPHERIC STREAKS APPEARED IN THE PALSAR IMAGES

Masanobu Shimada, Japan Aerospace Exploration Agency, Japan; Yasushi Muraki, Yuichi Otsuka, Nagoya University, Japan

14:35 - 14:55

MO3.L03.4 IMPACT & MITIGATION STRATEGY OF IONOSPHERIC EFFECTS IN THE CONTEXT OF LOW FREQUENCY (L-/P-BAND) SAR MISSION SCENARIOS

Jun Su Kim, Andreas Dankelmeyer, Konstantinos Papathanassiou, German Aerospace Center (DLR), Germany

14:55 - 15:15

MO3.L03.5 ASSESSMENT OF NEW CORRECTION TECHNIQUES FOR FARADAY ROTATION AND IONOSPHERIC SCINTILLATION: A BIOMASS PERSPECTIVE

Shaun Quegan, Oliver French, University of Sheffield, United Kingdom; Jie Chen, Beihang University, China

MO3.L04: Monday, July 26, 13:35 - 15:15**MO3.L04 Data Mining and Machine Learning for Remote Sensing I**

Session Type: Oral-Invited

Time: Monday, July 26, 13:35 - 15:15

Place: Kahili

Co-Chairs: Surya Durbha, Mississippi State University and Ranga Raju Vatsavai, Oak Ridge National Laboratory

13:35 - 13:55

MO3.L04.1 IMAGE INFORMATION MINING METHODS FOR EXPLORING AND UNDERSTANDING HIGH RESOLUTION IMAGES

Mihai Datcu, Gottfried Schwarz, German Aerospace Center (DLR), Germany

13:55 - 14:15

MO3.L04.2 PROGRESSIVE SPATIAL CLUSTERING OF CONTENT-BASED SATELLITE IMAGERY RETRIEVAL RESULTS

Matt Klaric, Chi-Ren Shyu, University of Missouri-Columbia, United States

14:15 - 14:35

MO3.L04.3 COMPARISON OF CBF, ANN AND SVM CLASSIFIERS FOR OF OBJECT BASED CLASSIFICATION OF HIGH RESOLUTION SATELLITE IMAGES

Krishna Mohan Buddhiraju, Imdad Ali Rizvi, Indian Institute of Technology Bombay, India

14:35 - 14:55

MO3.L04.4 AUTOMATED DETECTION OF FOREST COVER CHANGES

Shyam Boriah, Varun Mithal, Ashish Garg, Michael Steinbach, Vipin Kumar, University of Minnesota, United States; Chris Potter, Steve Klooster, NASA, United States; Juan Carlos Castilla-Rubio, Planetary Skin Institute/Cisco, United Kingdom

14:55 - 15:15

MO3.L04.5 GEOSPATIAL IMAGE MINING FOR NUCLEAR NONPROLIFERATION DETECTION: CHALLENGES AND NEW OPPORTUNITIES

Raju Vatsavai, Budhendra Bhaduri, Anil Cheriyyadat, Oak Ridge National Laboratory, United States; Lloyd Arrowood, Y-12 National Security Complex, United States; Eddie Bright, Shaun Gleason, Oak Ridge National Laboratory, United States; Carl Diegert, Sandia National Laboratories, United States; Aggelos Katsaggelos, Thrasos Pappas, Argonne National Laboratory, United States; Reid Porter, Los Alamos National Laboratory, United States; Jim Bollinger, Savannah River National Laboratory, United States; Barry Chen, Lawrence Livermore National Laboratory, United States; Ryan Hohimer, Pacific Northwest National Laboratory, United States

MO3.L05: Monday, July 26, 13:35 - 15:15**MO3.L05 Forest Biomass I**

Session Type: Oral-Contributed

Time: Monday, July 26, 13:35 - 15:15

Place: South Pacific 3

Co-Chairs: Sassan Saatchi, NASA Jet Propulsion Laboratory and Mark Williams, Fugro-EarthData

13:35 - 13:55

MO3.L05.1 THE BIOMASS MISSION – AN ESA EARTH EXPLORER CANDIDATE TO MEASURE THE BIOMASS OF THE EARTH'S FORESTS

Marco Arcioni, European Space Agency, Netherlands; Jerome Chave, Centre National de la Recherche Scientifique, France; Jørgen Dall, Technical University of Denmark, Denmark; Thuy Le Toan, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Chung-Chi Lin, European Space Agency, Netherlands; Konstantinos Papathanassiou, German Aerospace Center (DLR), Germany; Shaun Quegan, University of Sheffield, United Kingdom; Fabio Rocca, Politecnico di Milano, Italy; Sassan Saatchi, Jet Propulsion Laboratory, United States; Klaus Scipal, European Space Agency, Netherlands; Hank Shugart, University of Virginia, United States; Lars M. H. Ulander, Swedish Defence Research Agency (FOI), Sweden; Mathew Williams, University of Edinburgh, United Kingdom

13:55 - 14:15

MO3.L05.2 SEASONALITY OF ALOS PALSAR INTERFEROMETRIC COHERENCE AND INTERFEROMETRIC PHASE IN CENTRAL SIBERIA AND ITS IMPLICATION ON FOREST PARAMETER RETRIEVAL

Christian Thiel, Christiane Schmillius, Friedrich-Schiller-University Jena, Germany

14:15 - 14:35

MO3.L05.3 CANOPY HEIGHT, CROWN COVER, AND ABOVEGROUND BIOMASS MAPS FOR THE SOUTHWESTERN UNITED STATES FROM MISR, 2000 AND 2009

Mark Chopping, Sawahiko Shimada, Montclair State University, United States; Michael Bull, John Martonchik, NASA, United States

14:35 - 14:55

MO3.L05.4 TOPOGRAPHY EFFECTS ON FOREST RADAR SCATTERING, CONSEQUENCES ON BIOMASS RETRIEVAL

Ludovic Villard, ONERA-CESBIO, France; Pierre Borderies, ONERA, France; Thuy Le Toan, Thierry Kolecq, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Clément Albinet, ONERA, France

14:55 - 15:15

MO3.L05.5 FOREST MAPPING USING 3D DSM DATA FROM SPOT HRS AND Z/I DMC CALIBRATED USING ALS DATA

Jørgen Wallerman, Johan E. S. Fransson, Jonas Bohlin, Håkan Olsson, Swedish University of Agricultural Sciences, Sweden

MO3.L06: Monday, July 26, 13:35 - 15:15**MO3.L06 Hyperspectral Data Classification**

Session Type: Oral-Contributed

Time: Monday, July 26, 13:35 - 15:15

Place: South Pacific 4

Co-Chairs: Melba Crawford, Purdue University and Jon Atli Benediktsson, University of Iceland

13:35 - 13:55

MO3.L06.1 DATA DEPENDANT ADAPTATION FOR IMPROVED CLASSIFICATION OF HYPERSPECTRAL IMAGERY

Hemanth Kalluri, Saurabh Prasad, Lori Bruce, Mississippi State University, United States

13:55 - 14:15

MO3.L06.2 TRANSDUCTIVE KERNEL MATRIX LEARNING WITH HIERARCHIC BAYESIAN MODEL, APPLICATION TO HYPERSPECTRAL IMAGES

André Ferrari, Cédric Richard, Isabelle Smith, Céline Theys, Université de Nice-Sophia Antipolis, CNRS, Observatoire de la Côte d'Azur, France

14:15 - 14:35

MO3.L06.3 FEATURE EXTRACTION AND SELECTION HYBRID ALGORITHM FOR HYPERSPECTRAL IMAGERY CLASSIFICATION

Sen Jia, Shenzhen University, China; Yuntao Qian, Jiming Li, Zhejiang University, China; Weixiang Liu, Zhen Ji, Shenzhen University, China

14:35 - 14:55

MO3.L06.4 CLASSIFICATION OF HYPERSPECTRAL IMAGES WITH EXTENDED ATTRIBUTE PROFILES AND FEATURE EXTRACTION TECHNIQUES

Mauro Dalla Mura, University of Trento, Italy; Jon Atli Benediktsson, University of Iceland, Iceland; Lorenzo Bruzzone, University of Trento, Italy

14:55 - 15:15

MO3.L06.5 NEW HYPERSPECTRAL DATA REPRESENTATION USING BINARY PARTITION TREE

Silvia Valero, Philippe Salembier, Technical University of Catalonia, Spain; Jocelyn Chanussot, GIPSA-Lab, Département des Images et des Signaux, France

MO3.L07: Monday, July 26, 13:35 - 15:15**MO3.L07 Education and Remote Sensing**

Session Type: Oral-Contributed

Time: Monday, July 26, 13:35 - 15:15

Place: Nautilus

Co-Chairs: Liping Di, Geore Mason University and Ellsworth LeDrew, University of Waterloo

13:35 - 13:55

MO3.L07.1 THE CLOUDSAT EDUCATION NETWORK: SCIENTIFICALLY SIGNIFICANT COLLABORATIVE RESEARCH BETWEEN STUDENTS AND SCIENTISTS

Matt Rogers, Colorado State University, United States; Deborah Vane, Jet Propulsion Laboratory, United States

13:55 - 14:15

MO3.L07.2 LIDAR EDUCATION AT GEORGIA TECH

Gary Gimmetstad, Leanne West, Georgia Tech Research Institute, United States

14:15 - 14:35

MO3.L07.3 ESA EARTH OBSERVATION EDUCATIONAL TOOLS CONTRIBUTION TO THE CREATION OF AWARENESS FOR WORLD HERITAGE SITE CONSERVATION

Francesco Sarti, European Space Agency, Italy; Mario Hernandez, UNESCO, France; Jean-Charles Bigot, Steffen Dransfeld, Ana B. Ruescas, European Space Agency, France

14:35 - 14:55

MO3.L07.4 IMPROVING K-12 CLIMATE SCIENCE EDUCATION THROUGH COLLABORATIONS WITH SCIENTISTS

Dana Atwood-Blaine, Ryan Bowman, University of Kansas, United States

14:55 - 15:15

MO3.L07.5 ENHANCING REMOTE SENSING EDUCATION WITH GEOBRAIN CYBERINFRASTRUCTURE

Liping Di, Meixia Deng, George Mason University, United States

MO3.L08: Monday, July 26, 13:35 - 15:15**MO3.L08 TRMM and GPM Precipitation Missions I**

Session Type: Oral-Contributed

Time: Monday, July 26, 13:35 - 15:15

Place: South Pacific 1/2

Co-Chairs: Shinta Seto, University of Tokyo and Steve Ackerman, University of Wisconsin

13:35 - 13:55

MO3.L08.1 A STUDY ON EFFECTIVE DIELECTRIC CONSTANTS OF NON-SPHERICAL SNOWFLAKE AND MELTING HYDROMETEORS

Liang Liao, University of Maryland Baltimore County, United States; Robert Meneghini, NASA Goddard Space Flight Center, United States; Kwo-Sen Kuo, Caelum Research Corp., United States

13:55 - 14:15

MO3.L08.2 SNOWFALL MEASUREMENT USING LIDAR CEILOMETERS, RADARS AND SNOW GAUGES

Mamoru Kubo, Ken-ichiro Muramoto, Kanazawa University, Japan; Toru Shiina, Toyama National College of Technology, Japan; Tadayasu Ohigashi, Taro Shinoda, Nagoya University, Japan; Yasushi Fujiyoshi, Hokkaido University, Japan

14:15 - 14:35

MO3.L08.3 A RADAR PROFILING ALGORITHM DESIGNED FOR USE WITH MULTIREOLUTION RADIOMETER MEASUREMENTS

Joe Munchak, Christian Kummerow, Colorado State University, United States

14:35 - 14:55

MO3.L08.4 APPLICABILITY OF THE ITERATIVE BACKWARD RETRIEVAL METHOD FOR THE GPM DUAL-FREQUENCY PRECIPITATION RADAR

Shinta Seto, University of Tokyo, Japan; Toshio Iguchi, National Institute of Information and Communications Technology, Japan

14:55 - 15:15

MO3.L08.5 SIMULATION OF THE EXTINCTION PROPERTIES OF REALISTICALLY SHAPED PRECIPITATION PARTICLES

Benjamin Johnson, University of Maryland Baltimore County, United States

MO3.L09: Monday, July 26, 13:35 - 15:15

MO3.L09 New Concepts in SAR

Session Type: Oral-Contributed
 Time: Monday, July 26, 13:35 - 15:15
 Place: Coral 1
 Co-Chairs: Gerhard Krieger, German Aerospace Center (DLR) and Martin Suess, European Space Agency

13:35 - 13:55

MO3.L09.1 POLARIMETRIC AND INTERFEROMETRIC APPLICATIONS IN A BISTATIC HYBRID SAR MODE USING TERRASAR-X

Holger Nies, Florian Behner, Simon Reuter, Otmar Löfgren, Robert Wang, Center for Sensorsystems (ZEISS), Germany

13:55 - 14:15

MO3.L09.2 BISTATIC SAR BASED ON TERRASAR-X AND GROUND BASED RECEIVERS

Antoni Broquetas, Maria Fortes, Juan Carlos Merlano, Sergi Duque, Universitat Politècnica de Catalunya, Spain; Paco López-Dekker, German Aerospace Center (DLR), Germany; Jordi J. Mallorquí, Albert Aguasca, Universitat Politècnica de Catalunya, Spain

14:15 - 14:35

MO3.L09.3 DEVELOPMENT AND EXPERIMENTS OF A PASSIVE SAR RECEIVER SYSTEM IN A BISTATIC SPACEBORNE/STATIONARY CONFIGURATION

Simon Reuter, Florian Behner, Holger Nies, Otmar Löffeld, Center for Sensorsystems (ZEISS), Germany; Dietmar Matthes, Joachim Schiller, Fraunhofer Institute for High Frequency Physics and Radar Techniques (FHR), Germany

14:35 - 14:55

MO3.L09.4 DATA ACQUISITION OF VESSEL ISAR DATA WITH ASSISTANCE OF AUTOMATIC IDENTIFICATION SYSTEM

Patrick Berens, Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR, Germany

14:55 - 15:15

MO3.L09.5 THEORETICAL AND PRACTICAL DESIGN CONSIDERATIONS FOR A SMALL, MULTI-BAND SAR: THE SLIMSAR

Evan Zaugg, Matthew Edwards, Alex Margulis, ARTEMIS, Inc., United States

MO3.L10: Monday, July 26, 13:35 - 15:15

MO3.L10 Next Generation US Operational Environmental Satellite Systems I

Session Type: Oral-Contributed
 Time: Monday, July 26, 13:35 - 15:15
 Place: Coral 2
 Co-Chairs: Gary McWilliams, U.S. Army and Shobha Kondragunta, NOAA

13:35 - 13:55

MO3.L10.1 NPOESS: OBSERVING AND COMMUNICATING WEATHER, CLIMATE, AND ENVIRONMENTAL DATA FROM SPACE

Dan Stockton, John M. Haas, Craig S. Nelson, NPOESS Integrated Program Office, United States

13:55 - 14:15

MO3.L10.2 GOES-R SERIES: THE NEXT GENERATION OF GOES

Gregory Mandt, NOAA/ NESDIS/ GOES-R Program, United States

14:15 - 14:35

MO3.L10.3 STATUS OF PRE-LAUNCH ACTIVITIES FOR THE NPOESS COMMUNITY COLLABORATIVE CALIBRATION/VALIDATION PROGRAM FOR THE NPOESS PREPARATORY PROJECT

Heather Kilcoyne, National Oceanic and Atmospheric Administration, United States

14:35 - 14:55

MO3.L10.4 NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL SATELLITE SYSTEM INTERFACE DATA PROCESSING SEGMENT

Joseph Mulligan, Marge Ripley, NPOESS Integrated Program Office, United States

14:55 - 15:15

MO3.L10.5 HDF5 FOR NPOESS SENSOR AND ENVIRONMENTAL DATA RECORDS

Richard Ullman, NASA Goddard Space Flight Center, United States; Ronald Andrews, Northrop Grumman Aerospace Systems Corp, United States

MONDAY

MO4.L01: Monday, July 26, 15:40 - 17:20**MO4.L01 Applications: Coastal and Wetlands II**

Session Type: Oral-Contributed

Time: Monday, July 26, 15:40 - 17:20

Place: Sea Pearl 1/2/3

Co-Chairs: Charles Bachmann, US Naval Research Lab and Stuart Phinn, University of Queensland

15:40 - 16:00

MO4.L01.1 REMOTE SENSING FOR TSUNAMI RESEARCH AND EARLY DETECTION

Y. Tony Song, Jet Propulsion Laboratory, United States

16:00 - 16:20

MO4.L01.2 THE GNSS-BASED COMPONENT OF THE GERMAN-INDONESIAN TSUNAMI EARLY WARNING SYSTEM (GITEWS): OVERVIEW, FIRST OPERATION RESULTS AND CURRENT DEVELOPMENTS

Carsten Falck, Markus Ramatschi, Mitja Bartsch, Alexander Merx, GFZ German Research Centre for Geosciences, Germany

16:20 - 16:40

MO4.L01.3 COASTAL CHARACTERIZATION FROM HYPERSPECTRAL IMAGERY: AN INTERCOMPARISON OF RETRIEVAL PROPERTIES FROM THREE COAST TYPES

Charles Bachmann, US Naval Research Lab, United States; Reid Nichols, Marine Information Resources Corp, United States; Marcos Montes, Robert Fusina, Rong-Rong Li, Carl Gross, US Naval Research Lab, United States; John Fry, Marine Information Resources Corp, United States; Christopher Parrish, Jon Sellars, Stephen White, National Oceanic and Atmospheric Administration, United States; Christopher Jones, Krista Lee, US Naval Postgraduate School, United States

16:40 - 17:00

MO4.L01.4 MONITORING FLOODED AREA FRACTION IN FLOODPLAINS OF PARANÁ BASIN USING PASSIVE AND ACTIVE MICROWAVE SYSTEMS

Mercedes Salvia, Francisco Grings, Instituto de Astronomía y Física del Espacio, Argentina; Paolo Ferrazzoli, Rachid Rahmaoune, Tor Vergata University, Ingegneria, Italy; Matias Barber, Vanesa Douna, Haydee Karszenbaum, Instituto de Astronomía y Física del Espacio, Argentina

17:00 - 17:20

MO4.L01.5 ◇ MAPPING MAJOR FLOODS WITH OPTICAL AND SAR SATELLITE IMAGES

Ejaz Hussain, Jie Shan, Purdue University, United States

MO4.L02: Monday, July 26, 15:40 - 17:20**MO4.L02 High Resolution Interferometry and Tomographic SAR Imaging II**

Session Type: Oral-Invited

Time: Monday, July 26, 15:40 - 17:20

Place: Sea Pearl 4/5/6

Co-Chairs: Fabrizio Lombardini, University of Pisa and Vito Pascazio, University of Naples Parthenope

15:40 - 16:00

MO4.L02.1 POLARIMETRIC SAR TOMOGRAPHY OF NATURAL ENVIRONMENTS USING HYBRID SPECTRAL ESTIMATORS

Yue Huang, Laurent Ferro-Famil, University of Rennes, France; Andreas Reigber, German Aerospace Center (DLR), Germany

16:00 - 16:20

MO4.L02.2 ANALYZING TOMOGRAPHIC SAR DATA OF A FOREST WITH RESPECT TO FREQUENCY, POLARIZATION AND FOCUSING TECHNIQUE

Othmar Frey, Erich Meier, University of Zurich, Switzerland

16:20 - 16:40

MO4.L02.3 BISTATIC SAR TOMOGRAPHY: PROCESSING AND EXPERIMENTAL RESULTS

Sergi Duque, Paco López-Dekker, Juan Carlos Merlano, Jordi J. Mallorquí, Universitat Politècnica de Catalunya, Spain

16:40 - 17:00

MO4.L02.4 3D SAR IMAGE FORMATION FOR A COLLECTION OF POINT TARGETS BURIED UNDER A ROUGH INTERFACE

Mahta Moghaddam, Majid Albahkali, University of Michigan, United States

17:00 - 17:20

MO4.L02.5 FOREST STRUCTURE FROM LONGER WAVELENGTH SARs

Stefano Tebaldini, Fabio Rocca, Politecnico di Milano, Italy

MO4.L03: Monday, July 26, 15:40 - 17:20

MO4.L03 Ionospheric Effects in SAR, PolSAR, and InSAR II

Session Type: Oral-Invited
 Time: Monday, July 26, 15:40 - 17:20
 Place: Hibiscus
 Co-Chairs: Franz Meyer, University of Alaska Fairbanks and Tom Ainsworth, Naval Research Lab

15:40 - 16:00

MO4.L03.1 A PHASE SCREEN SIMULATOR FOR PREDICTING THE IMPACT OF SMALL-SCALE IONOSPHERIC STRUCTURE ON SAR IMAGE FORMATION AND INTERFEROMETRY
 Charles Carrano, Boston College, United States; Ronald Caton, Keith Groves, Air Force Research Laboratory, United States

16:00 - 16:20

MO4.L03.2 MEASUREMENTS AND CORRECTIONS OF IONOSPHERIC EFFECTS IN INSAR IMAGERY
 Xiaoqing Pi, Bruce Chapman, Anthony Freeman, Paul Rosen, Jet Propulsion Laboratory, United States

16:20 - 16:40

MO4.L03.3 ASSESSEMENT AND COMPENSATION OF IONOSPHERIC EFFECTS ON LOW-FREQUENCY POLARIMETRIC SAR DATA
 Tom Ainsworth, Yanting Wang, Jong-Sen Lee, Naval Research Laboratory, United States

16:40 - 17:00

MO4.L03.4 FURTHER DEVELOPMENTS IN IONOSPHERIC MITIGATION OF REPEAT-PASS INSAR DATA
 Paul Rosen, Scott Hensley, Jet Propulsion Laboratory, United States; Franz Meyer, University of Alaska, Fairbanks, United States; Tom Ainsworth, Naval Research Laboratory, United States

17:00 - 17:20

MO4.L03.5 FARADAY ROTATION DETECTION AND CORRECTION FOR DUAL-POLARIZATION (HH-HV) L-BAND DATA
 Jeremy Nicoll, Franz Meyer, University of Alaska, Fairbanks, United States

MO4.L04: Monday, July 26, 15:40 - 17:20

MO4.L04 Data Mining and Machine Learning for Remote Sensing II

Session Type: Oral-Invited
 Time: Monday, July 26, 15:40 - 17:20
 Place: Kahili
 Co-Chairs: Surya Durbha, Mississippi State University and Ranga Raju Vatsavai, Oak Ridge National Laboratory

15:40 - 16:00

MO4.L04.1 SEMANTIC INFORMATION EXTRACTION FROM MULTISPECTRAL GEOSPATIAL IMAGERY VIA A FLEXIBLE FRAMEWORK
 Shaun Gleason, Regina Ferrell, Anil Cheriyaad, Raju Vatsavai, Oak Ridge National Laboratory, United States; Soumya De, Missouri University of Science and Technology, United States

16:00 - 16:20

MO4.L04.2 AN ONTOLOGY ALIGNMENT METHOD FOR EARTH OBSERVATIONS DATA INTEROPERABILITY
 Surya Durbha, Roger L. King, Nicolas Younan, Mississippi State University, United States

16:20 - 16:40

MO4.L04.3 GEOSPATIO-TEMPORAL DATA MINING IN AN EARLY WARNING SYSTEM FOR FOREST THREATS IN THE UNITED STATES
 Forrest Hoffman, Richard Mills, Srinivasa Valli, Oak Ridge National Laboratory, United States; William Hargrove, USDA Forest Service, United States

16:40 - 17:00

MO4.L04.4 ON THE VERIFICATION AND VALIDATION OF GEOSPATIAL IMAGE ANALYSIS ALGORITHMS
 Randy Roberts, Lawrence Livermore National Laboratory, United States; Timothy Trucano, Sandia National Laboratory, United States; Paul Pope, Los Alamos National Laboratory, United States; Cecilia Aragon, Lawrence Berkeley National Laboratory, United States; Ming Jiang, Lawrence Livermore National Laboratory, United States; Thomas Wei, Argonne National Laboratory, United States; Lawrence Chilton, Pacific Northwest National Laboratory, United States; Alan Bakel, Argonne National Laboratory, United States

17:00 - 17:20

MO4.L04.5 MONITORING AIR AND LAND SURFACE TEMPERATURES FROM REMOTELY SENSED DATA FOR CLIMATE-HUMAN HEALTH APPLICATIONS
 Pietro Ceccato, Christelle Vancutsem, International Research Institute for Climate and Society, United States; Marouane Temimi, NOAA-CREST/ City College of New York, United States

MONDAY

MO4.L05: Monday, July 26, 15:40 - 17:20**MO4.L05 Forest Biomass II**

Session Type: Oral-Contributed

Time: Monday, July 26, 15:40 - 17:20

Place: South Pacific 3

Co-Chairs: Jasmeet Judge, University of Florida and Sassan Saatchi, NASA Jet Propulsion Laboratory

15:40 - 16:00

MO4.L05.1 THE 2009-2010 UAVSAR CAMPAIGN TO MAP VEGETATION 3D STRUCTURE AND BIOMASS

Marc Simard, Naiara Pinto, Scott Hensley, Jet Propulsion Laboratory, United States; Ralph Dubayah, University of Maryland, United States

16:00 - 16:20

MO4.L05.2 USING POLARIMETRIC INTERFEROMETRIC ALOS/PALSAR DATA TO ESTIMATE STEM VOLUME IN THE AMAZON REGION

Fabio Gonçalves, Robert Treuhaff, Bruce Chapman, Jet Propulsion Laboratory, United States; Beverly Law, Oregon State University, United States; João Roberto dos Santos, Luciano Dutra, Instituto Nacional de Pesquisas Espaciais, Brazil

16:20 - 16:40

MO4.L05.3 A BIOMASS MAP OF AFRICA'S WOODLANDS AND SAVANNAS

Edward Mitchard, Edinburgh University, United Kingdom; Sassan Saatchi, Jet Propulsion Laboratory, United States; Patrick Meir, Edinburgh University, United Kingdom; Frank De Grandi, Alexandre Bouvet, Joint Research Centre of the European Commission, Italy; Iain Woodhouse, Edinburgh University, United Kingdom; France Gerard, Center for Ecology and Hydrology, United Kingdom

16:40 - 17:00

MO4.L05.4 MAPPING FOREST STRUCTURE USING POLARIMETRIC RADARSAT-2 DATA IN WESTERN NORTH CAROLINA

Joni Bugden-Storie, Western Carolina University, United States; Staci Mellon, Independent,

17:00 - 17:20

MO4.L05.5 ESTIMATION OF TROPICAL FOREST HEIGHT AND ABOVEGROUND BIOMASS FROM DUAL-BAND INSAR MEASUREMENTS IN PERUVIAN AMAZON

Sassan Saatchi, Jet Propulsion Laboratory, United States; Mark Williams, Fugro-EarthData, United States; Miles Silman, Wake Forest University, United States; Scott Hensley, Jet Propulsion Laboratory, United States

MO4.L06: Monday, July 26, 15:40 - 17:20**MO4.L06 Hyperspectral Data Analysis**

Session Type: Oral-Contributed

Time: Monday, July 26, 15:40 - 17:20

Place: South Pacific 4

Co-Chairs: Lorenzo Bruzzone, University of Trento and Antonio Plaza, University of Extremadura

15:40 - 16:00

MO4.L06.1 A GROUP AND REGION BASED COMPRESSION METHOD FOR HYPERSPECTRAL IMAGERY

Lena Chang, Ching Min Cheng, National Taiwan Ocean University, Taiwan; Yang-Lang Chang, National Taipei University of Technology, Taiwan

16:00 - 16:20

MO4.L06.2 UNSUPERVISED LINEAR UNMIXING OF HYPERSPECTRAL IMAGE FOR CROP YIELD ESTIMATION

Bin Luo, GIPSA-Lab, France; Chenghai Yang, USDA, United States; Jocelyn Chanussot, GIPSA-Lab, France

16:20 - 16:40

MO4.L06.3 HYPERSPECTRAL IMAGE ENHANCEMENT USING THERMAL BANDS: A METHODOLOGY TO REMOVE BUILDING SHADOWS

Michele Lazzarini, Tor Vergata University, Italy; Jian Guo Liu, Imperial College London, United Kingdom; Fabio Del Frate, Tor Vergata University, Italy

16:40 - 17:00

MO4.L06.4 MINIMUM VOLUME SIMPLICIAL ENCLOSURE FOR SPECTRAL UNMIXING OF REMOTELY SENSED HYPERSPECTRAL DATA

Eligius Hendrix, Inmaculada Garcia, University of Malaga, Spain; Javier Plaza, Antonio Plaza, University of Extremadura, Spain

17:00 - 17:20

MO4.L06.5 A GRAPH-BASED METHOD FOR NON-LINEAR UNMIXING OF HYPERSPECTRAL IMAGERY.

Rob Heylen, Dzevdet Burazerovic, Paul Scheunders, University of Antwerp, Belgium

MO4.L07: Monday, July 26, 15:40 - 17:20

MO4.L07 Global Earth Observation System of Systems (GEOSS)

Session Type: Oral-Invited
 Time: Monday, July 26, 15:40 - 17:20
 Place: Nautilus
 Co-Chairs: Granville Paules, Kelly-Anderson and Jay Pearlman

15:40 - 16:00

MO4.L07.1 CHALLENGES AND SUCCESSES IN CREATING MULTI-INSTRUMENT/MULTI-PLATFORM SPACE-BASED EARTH SYSTEM DATA RECORDS

Jack A. Kaye, NASA Earth Science Division, United States

16:00 - 16:20

MO4.L07.2 INFORMATION MANAGEMENT FOR THE ENVIRONMENTAL CHANGE STUDIES IN THE INTERNATIONAL POLAR YEAR AND BEYOND

Ellsworth LeDrew, University of Waterloo, Canada; David G. Barber, University of Manitoba, Canada

16:20 - 16:40

MO4.L07.3 HOW OCEANS SHAPE RAINFALL PATTERNS IN A CHANGING CLIMATE

Shang-Ping Xie, University of Hawaii, United States

16:40 - 17:00

MO4.L07.4 LAND USE CHANGE, CLIMATE CHANGE AND BENEFITS OF IMPROVED LAND COVER DATA FOR CLIMATE POLICIES

Steffen Fritz, Petr Havlik, Ian MacCallum, International Institute for Applied Systems Analysis, Austria

17:00 - 17:20

MO4.L07.5 THE GEO FOREST CARBON TRACKING TASK: GOALS AND PROGRESS TO-DATE

Alex A. Held, CSIRO Marine and Atmospheric Research, Australia; Gary Richards, Department of Climate Change, Australia

MO4.L08: Monday, July 26, 15:40 - 17:20

MO4.L08 CloudSat, MODIS, AIRS

Session Type: Oral-Contributed
 Time: Monday, July 26, 15:40 - 17:20
 Place: South Pacific 1/2
 Co-Chairs: Steven Platnick, NASA Goddard Space Flight Center and Tristan L'Ecuyer, Colorado State University

15:40 - 16:00

MO4.L08.1 THE GLOBAL DISTRIBUTION OF LIGHT PRECIPITATION FROM SPACEBORNE CLOUD RADAR

Tristan L'Ecuyer, Colorado State University, United States

16:00 - 16:20

MO4.L08.2 TEN YEARS OF CLOUD PRODUCTS FROM MODIS TERRA: TREND ANALYSIS

Steven Platnick, NASA Goddard Space Flight Center, United States; Michael King, University of Colorado, United States; Paul Hubanks, NASA Goddard Space Flight Center, United States; Steven Ackerman, W. Paul Menzel, University of Wisconsin, United States

16:20 - 16:40

MO4.L08.3 ENHANCED CLOUD ALGORITHM FROM COLLOCATED CALIPSO, CLOUDSAT AND MODIS

Sunny Sun-Mack, Science Systems and Applications Inc., United States; Patrick Minnis, Seiji Kato, National Aeronautics and Space Administration, United States; Yan Chen, Yuhong Yi, Sharon Gibson, Science Systems and Applications Inc., United States; Pat Heck, CIMSS, United States; Dave Winer, National Aeronautics and Space Administration, United States; Kirk Ayers, Science Systems and Applications Inc., United States

16:40 - 17:00

MO4.L08.4 CORRELATION BETWEEN THE SEA SURFACE TEMPERATURE AND THE FREQUENCY OF SEVERE STORMS IN THE TROPICAL OCEANS USING SEVEN YEARS OF AIRS DATA

Hartmut Aumann, Alexander Ruzmakin, California Institute of Technology, United States

17:00 - 17:20

MO4.L08.5 REGIONAL CLOUD AMOUNTS FROM 10-YEARS OF MODIS OBSERVATIONS

Steven Ackerman, Brent Maddux, Richard Frey, W. Paul Menzel, University of Wisconsin, United States; Steven Platnick, NASA, United States

MONDAY

MO4.L09: Monday, July 26, 15:40 - 17:20**MO4.L09 Technical Innovation in SAR**

Session Type: Oral-Contributed

Time: Monday, July 26, 15:40 - 17:20

Place: Coral 1

Co-Chairs: Rudolf Zahn, EADS Deutschland GmbH and Christian Fischer, ASTRIUM GmbH

15:40 - 16:00

MO4.L09.1 THE GMES SENTINEL-1 C-SAR INSTRUMENT

Friedhelm Rostan, Markus Huchler, Sebastian Riegger, EADS Astrium GmbH, Germany; Renato Croci, Thales Alenia Space Italia, Italy; Ramon Torres, European Space Agency - ESTEC, Netherlands

16:00 - 16:20

MO4.L09.2 CODE SEQUENCE SELECTION FOR SAR RADIOMETRIC CALIBRATION

Yiding Wang, North China University of Technology, China; Yuanshu Li, Zhulei Wang, Graduate University of Chinese Academy of Sciences, China

16:20 - 16:40

MO4.L09.3 \diamond A NEW SAR SENSOR DESIGNED FOR MICRO-SATELLITES

Hans Martin Braun, Institute for Navigation, University of Stuttgart, Germany

16:40 - 17:00

MO4.L09.4 POTENTIAL AND LIMITATIONS OF FORWARD-LOOKING BISTATIC SAR

Ingo Walterscheid, Thomas Espeter, Jens Klare, Andreas R. Brenner, Joachim H. G. Ender, Fraunhofer Institute for High Frequency Physics and Radar Techniques (FHR), Germany

17:00 - 17:20

MO4.L09.5 DIGITAL BEAMFORMING SAR (DBSAR) FOR BIOMASS ESTIMATION

Rafael Rincon, K. Jon Ranson, NASA Goddard Space Flight Center, United States; Guoqing Sun, NASA Goddard Space Flight Center / University of Maryland, United States

MO4.L10: Monday, July 26, 15:40 - 17:20**MO4.L10 Next Generation US Operational Environmental Satellite Systems II**

Session Type: Oral-Contributed

Time: Monday, July 26, 15:40 - 17:20

Place: Coral 2

Co-Chairs: John Furgerson, NOAA and Yunyue Yu, NOAA

15:40 - 16:00

MO4.L10.1 \diamond OCEAN COLOR IMPACT OF VIIRS POLARIZATION SENSITIVITY AND UNCERTAINTY

Vijay Kulkarny, Bruce Hauss, John M. Jackson, Justin Ip, Patty Pratt, Clark Snodgrass, Roy Tsugawa, Bernard Bendow, Northrop Grumman Aerospace Systems, United States; Gary Mineart, National Oceanic and Atmospheric Administration, United States

16:00 - 16:20

MO4.L10.2 \diamond VALIDATION FOR GOES-R AND NPOESS LAND SURFACE TEMPERATURE PRODUCTS: ANALYZING DIFFERENCE BETWEEN SATELLITE AND IN SITU MEASUREMENTS

Yunyue Yu, NOAA/NESDIS, United States; Ming Chen, I.M. Systems Group, United States; Dan Tarpley, Short & Associates, United States; Jeffrey Privette, NOAA/NESDIS, United States

16:20 - 16:40

MO4.L10.3 EVALUATION OF CRIS/ATMS PROXY RADIANCES/RETRIEVALS WITH IASI RETRIEVALS, ECMWF ANALYSIS AND RAOB MEASUREMENTS

Murty Divakarla, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States; Chris Barnet, Mitchell Goldberg, Center for Satellite Applications and Research (STAR), United States; Xu Liu, NASA Langley Research Center, United States; William Blackwell, Massachusetts Institute of Technology Lincoln Laboratory, United States; Eric Maddy, Guang Guo, PSGS, United States; Susan Kizer, Science Systems and Applications Inc., United States; Tom King, PSGS, United States; Walter Wolf, Center for Satellite Applications and Research (STAR), United States; Antonia Gambacorta, Kexin Zhang, PSGS, United States

16:40 - 17:00

MO4.L10.4 AUTOMATED MONITORING OF VOLCANIC ASH MICRO- AND MACRO-PHYSICAL PROPERTIES: A COMPARISON OF CURRENT AND FUTURE SATELLITE INSTRUMENT CAPABILITIES

Michael Pavalonis, National Oceanic and Atmospheric Administration, United States

17:00 - 17:20

MO4.L10.5 GLOBAL BIOMASS BURNING EMISSIONS PRODUCT FROM A CONSTELLATION OF GEOSTATIONARY SATELLITES

Shobha Kondragunta, National Oceanic and Atmospheric Administration, United States; Xiaoyang Zhang, Earth Resources Technology at NOAA, United States; Christopher Schmidt, University of Wisconsin, United States; Brad Pierce, National Oceanic and Atmospheric Administration, United States

TU1.L01: Tuesday, July 27, 08:20 - 10:00

TU1.L01 Geology and Solid Earth

Session Type: Oral-Contributed
 Time: Tuesday, July 27, 08:20 - 10:00
 Place: Sea Pearl 1/2/3
 Co-Chairs: Vern Singhroy, CCRS, Canada and Sang-Eun Park, Niigata University

08:20 - 08:40

TU1.L01.1 THE RECOGNITION OF ALTERED ROCK BASED ON SPECTRAL MODELING AND MATCHING USING HYPERSPECTRAL DATA

Qingting Li, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Jingjing Dai, Institute of Mineral Resources, Chinese Academy of Geological Sciences, China; Bing Zhang, Qizhong Lin, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

08:40 - 09:00

TU1.L01.2 DIELECTRIC PARAMETERS MEASUREMENT OF ROCK AND ORE SAMPLES

Sixin Liu, Junjun Wu, Jilin University, China

09:00 - 09:20

TU1.L01.3 SPECTROSCOPY OF SULFATES, CLAYS, AND IRON OXIDES IN THE JURASSIC NAVAJO SANDSTONE

Julianne Bell, Brenda Beitler Bowen, Purdue University, United States; Brigette Martini, Ormat Technologies, United States

09:20 - 09:40

TU1.L01.4 EFFECTS OF MINERAL COMPOSITION, ORGANIC MATTER CONTENT AND TRACE ELEMENT ABUNDANCE ON REFLECTANCE PROPERTIES OF POLY-PHASE MATERIAL OF WASTE ROCK DUMPS

Veronika Kopacková, Czech Geological Survey, Czech Republic; Jan Hanuš, Institute of Systems Biology and Ecology of the Academy of Sciences of the Czech Republic, Czech Republic; Stephane Chevrel, Anna Burginon, BRGM, France; Magdaléna Koubová, Petr Rajík, Czech Geological Survey, Czech Republic

09:40 - 10:00

TU1.L01.5 MONITORING SLOW MOVING LANDSLIDES IN THE BERKELEY HILLS WITH TERRASAR-X DATA

Ling Lei, Beijing University of Aeronautics and Astronautics, China / University of California, Berkeley, United States; Yingqing Zhou, Jingwen Li, Beijing University of Aeronautics and Astronautics, China; Roland Burgmann, University of California, Berkeley, United States

TU1.L02: Tuesday, July 27, 08:20 - 10:00

TU1.L02 Spatiotemporal Pattern Discovery and Data Mining

Session Type: Oral-Invited
 Time: Tuesday, July 27, 08:20 - 10:00
 Place: Sea Pearl 4/5/6
 Chair: Fenzhen Su, LREIS, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences.

08:20 - 08:40

TU1.L02.1 LONG TIME SERIES OF LANDSAT IMAGES TO RECONSTRUCT RIVER SURFACE TEMPERATURE AND TURBIDITY REGIMES OF GUADALQUIVIR ESTUARY

Ricardo Diaz-Delgado, Iban Amezttoy, Remote Sensing and GIS Laboratory of Doñana Biological Station-CSIC. Seville, Spain; Jordi Cristóbal, Autonomous University of Barcelona, Spain; Javier Bustamante, Remote Sensing and GIS Laboratory of Doñana Biological Station-CSIC. Seville, Spain

08:40 - 09:00

TU1.L02.2 ♦ SPATIO-TEMPORAL DATA CLUSTERING BASED ON TYPE-2 FUZZY SETS AND CLOUD MODELS

Kun Qin, Mengran Wu, Lingqiao Kong, Yao Liu, Wuhan University, China

09:00 - 09:20

TU1.L02.3 ♦ FRACTIONAL VEGETATION COVER RETRIEVAL USING MULTI-SPATIAL RESOLUTION DATA AND PLANT GROWTH MODEL

Xihan Mu, Yaokai Liu, Guangjian Yan, Beijing Normal University, China

09:20 - 09:40

TU1.L02.4 AUTOMATIC RECOGNITION OF BUILDING CLUSTER PATTERNS FOR SPATIAL SCALE TRANSFER

Tinghua Ai, Xiang Zhang, Wuhan University, China; Wentao Zhang, Zhongnan University of Economics and Law, China

09:40 - 10:00

TU1.L02.5 BASED ON TIME SERIAL IMAGES TO DETECT ABNORMITY

Fenzhen Su, Li Wang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

TUESDAY

TU1.L03: Tuesday, July 27, 08:20 - 10:00**TU1.L03 Advanced SAR Concepts and Missions I**

Session Type: Oral-Contributed

Time: Tuesday, July 27, 08:20 - 10:00

Place: Hibiscus

Co-Chairs: Marwan Younis, German Aerospace Center (DLR) and David G. Long, Brigham Young University

08:20 - 08:40

TU1.L03.1 ADVANCED DIGITAL BEAMFORMING CONCEPTS FOR FUTURE SAR SYSTEMS

Gerhard Krieger, Marwan Younis, Nicolas Gebert, Sigurd Huber, Federica Bordonni, Anton Patyuchenko, Alberto Moreira, German Aerospace Center (DLR), Germany

08:40 - 09:00

TU1.L03.2 WIDE SWATH SAR INSTRUMENT FOR GLOBAL MONITORING BASED ON DIGITAL BEAM FORMING

Martin Suess, Michael Ludwig, European Space Agency, Netherlands; Christoph Schaefer, Astrium GmbH, Germany; Marwan Younis, Microwaves and Radar Institute, German Aerospace Center (DLR), Germany

09:00 - 09:20

TU1.L03.3 A CONCEPT FOR HIGH PERFORMANCE REFLECTOR-BASED SYNTHETIC APERTURE RADAR

Marwan Younis, Anton Patyuchenko, Sigurd Huber, Gerhard Krieger, Alberto Moreira, German Aerospace Center (DLR), Germany

09:20 - 09:40

TU1.L03.4 TANDEM-L: AN INNOVATIVE INTERFEROMETRIC AND POLARIMETRIC SAR MISSION TO MONITOR EARTH SYSTEM DYNAMICS WITH HIGH RESOLUTION

Gerhard Krieger, Irena Hajnsek, Konstantinos Papathanassiou, Michael Eineder, Marwan Younis, Francesco De Zan, Sigurd Huber, Paco López-Dekker, Pau Prats, German Aerospace Center (DLR), Germany; Bernhard Grafmueller, EADS Astrium GmbH, Germany; Marian Werner, Rolf Werninghaus, Richard Bamler, Alberto Moreira, German Aerospace Center (DLR), Germany

09:40 - 10:00

TU1.L03.5 AN INNOVATIVE SPACEBORNE RADAR CONCEPT FOR GLOBAL MARITIME SURVEILLANCE: DESCRIPTION AND PERFORMANCE DEMONSTRATION

Jacques Richard, Vivien Enjolras, Cathya Schoeser, Thales Alenia Space, France; Sébastien Angelliaume, ONERA, France; Philippe Durand, Centre National d'Etudes Spatiales (CNES), France

TU1.L04: Tuesday, July 27, 08:20 - 10:00**TU1.L04 Geophysical Information Retrieval**

Session Type: Oral-Contributed

Time: Tuesday, July 27, 08:20 - 10:00

Place: Kahili

Co-Chairs: Claudia Notarnicola, EURAC and Geoff Cureton, Univ. of Wisconsin

08:20 - 08:40

TU1.L04.1 APPLICATION OF THE MULTIPLICATIVE-REGULARIZED GAUSS-NEWTON INVERSION FOR INVERTING 3D MARINE CSEM DATA

Aria Abubakar, Jianguo Liu, Guangdong Pan, Tarek Habashy, Mikhail Zaslavsky, Vladimir Druskin, Schlumberger-Doll Research, United States; Graeme Cairns, Christopher Nalepa, Schlumberger, United States

08:40 - 09:00

TU1.L04.2 ◇ LEAF AREA INDEX ESTIMATION FROM MODIS DATA USING THE ENSEMBLE KALMAN SMOOTHER METHOD

Huaan Jin, Jindi Wang, Zhiqiang Xiao, Zhuo Fu, Beijing Normal University, China

09:00 - 09:20

TU1.L04.3 VARIATIONAL DATA ASSIMILATION FOR MISSING DATA INTERPOLATION IN SST IMAGES

Silève Ba, Université Européenne de Bretagne, France; Thomas Corpetti, CNRS-LIAMA, China; Bertrand Chapron, IFREMER, France; Ronan Fablet, Université Européenne de Bretagne, France

09:20 - 09:40

TU1.L04.4 MULTIOBJECTIVE MODEL SELECTION FOR NON-LINEAR REGRESSION TECHNIQUES

Luca Pasoli, University of Trento / EURAC Research, Italy; Claudia Notarnicola, EURAC Research, Italy; Lorenzo Bruzzone, University of Trento, Italy

09:40 - 10:00

TU1.L04.5 RETRIEVAL OF HIGHER ORDER OCEAN WAVE SPECTRA FROM SUNGLINT

Geoff Cureton, University of Wisconsin-Madison, United States

TU1.L05: Tuesday, July 27, 08:20 - 10:00

TU1.L05 Remote Sensing of Soil Moisture: Algorithms and Validation I
 Session Type: Oral-Invited
 Time: Tuesday, July 27, 08:20 - 10:00
 Place: South Pacific 3
 Co-Chairs: Venkat Lakshmi, University of South Carolina and Michael Cosh, USDA/ARS

08:20 - 08:40

TU1.L05.1 SMOS FIRST IN FLIGHT RESULTS
 Yann Kerr, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Philippe Waldteufel, IPSL-SA, France; François Cabot, Philippe Richaume, Arnaud Mialon, Silvia Juglea, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Achim Hahne, Susanne Mecklenburg, European Space Agency, Netherlands

08:40 - 09:00

TU1.L05.2 ♦ IMPLEMENTATION OF L-BAND ACTIVE AND PASSIVE ALGORITHMS FOR SMAP FREEZE-THAW AND SOIL MOISTURE RETRIEVALS
 Eni Njoku, Steven Chan, Scott Dunbar, California Institute of Technology, United States

09:00 - 09:20

TU1.L05.3 STATUS OF THE METOP ASCAT SOIL MOISTURE PRODUCT
 Zoltan Bartalis, Wolfgang Wagner, Vahid Naeimi, Sang-Eun Park, Vienna University of Technology, Austria; Julia Figo-Saldaña, Hans Bonekamp, EUMETSAT, Germany

09:20 - 09:40

TU1.L05.4 EVALUATION AND APPLICATION OF REMOTELY SENSED SOIL MOISTURE PRODUCTS
 John Bolten, NASA Goddard Space Flight Center, United States; Wade Crow, United States Department of Agriculture, United States; Xiwu Zhan, National Oceanic and Atmospheric Administration, United States; Curt Reynolds, United States Department of Agriculture, United States; Matthew Rodell, NASA Goddard Space Flight Center, United States

09:40 - 10:00

TU1.L05.5 DEVELOPMENT OF GLOBAL LAND SURFACE EMISSIVITY PRODUCT AT AMSR-E PASSIVE MICROWAVE FREQUENCIES
 Hamidreza Norouzi, Marouane Temimi, Reza Khanbilvardi, NOAA-CREST/ City College of New York, United States

TU1.L06: Tuesday, July 27, 08:20 - 10:00

TU1.L06 SAR Image Analysis I
 Session Type: Oral-Contributed
 Time: Tuesday, July 27, 08:20 - 10:00
 Place: South Pacific 4
 Co-Chairs: Emmanuel Trouvé, LISTIC, University of Savoie and Gabriel Vasile, CNRS - Grenoble Institute of Technology

08:20 - 08:40

TU1.L06.1 COMPARISON OF ALTERNATIVE IMAGE REPRESENTATIONS IN THE CONTEXT OF SAR CHANGE DETECTION
 Andreas Schmitt, Anna Wendleder, Birgit Wessel, Achim Roth, German Aerospace Center (DLR), Germany

08:40 - 09:00

TU1.L06.2 MULTIREOLUTION DESPECKLING OF VHR SAR IMAGE BASED ON MRF SEGMENTATION.
 Maurizio Abbate, University of Cassino, Italy; Luciano Alparone, F. Argenti, T. Bianchi, University of Florence, Italy; Giro D'Elia, Paola Mariano, University of Cassino, Italy; Adriano Meta, Metasensing, Netherlands

09:00 - 09:20

TU1.L06.3 BUILDING DETECTION AND FOOTPRINT RECONSTRUCTION FROM SINGLE VHR SAR IMAGES
 Adamo Ferro, Dominik Brunner, Lorenzo Bruzzone, University of Trento, Italy

09:20 - 09:40

TU1.L06.4 MODELING HIGH RESOLUTION SAR IMAGES OF URBAN AREAS USING MIXTURE MODELS AND HIDDEN MARKOV MODEL
 Wenju He, Olaf Hellwich, Berlin University of Technology, Germany

09:40 - 10:00

TU1.L06.5 SIMULATION AND VISUALIZATION OF INSAR TIME SERIES ANALYSIS DATA
 David Cohen, Richard Carande, Lynne Newberry, Michael Sapper, Neva Ridge Technologies, United States

TUESDAY

TU1.L07: Tuesday, July 27, 08:20 - 10:00**TU1.L07 Next Generation Data Systems for Climate Record Continuity I**

Session Type: Oral-Invited
 Time: Tuesday, July 27, 08:20 - 10:00
 Place: Nautilus
 Chair: Mathew Schwaller, NASA/GSFC

08:20 - 09:00 Overview Talk (40 minutes)

TU1.L07.1 NPOESS PREPARATORY PROJECT (NPP)
 James F. Gleason, James J. Butler, N. Christina Hsu, NASA, United States

09:00 - 09:20

TU1.L07.3 AN OVERVIEW OF NASA NPP SDS-NICSE ACTIVITIES ON VIIRS SDR ASSESSMENT
 Richard Sikorski, INNOVIM, United States; Kwo-Fu Chiang, Masahiro Nishihama, Sigma Space Corporation, United States; Robert Wolfe, Xiaoxiong (Jack) Xiong, Mathew Schwaller, NASA, United States

09:20 - 09:40

TU1.L07.4 VIIRS PRODUCT EVALUATION AT THE OCEAN PEATE
 Frederick Patt, Science Applications International Corporation, United States; Gene Feldman, National Aeronautics and Space Administration, United States

09:40 - 10:00

TU1.L07.5 EVALUATION OF THE VIIRS LAND ALGORITHMS AT LAND PEATE
 Robert Wolfe, NASA Goddard Space Flight Center, United States; Sadashiva Devadiga, Gang Ye, Sigma Space Corporation, United States; Edward Masuoka, Robert Schweiss, NASA Goddard Space Flight Center, United States

TU1.L08: Tuesday, July 27, 08:20 - 10:00**TU1.L08 NWP and Data Assimilation**

Session Type: Oral-Contributed
 Time: Tuesday, July 27, 08:20 - 10:00
 Place: South Pacific 1/2
 Co-Chairs: Fuzhong Weng, NOAA/NESDIS and Fei Chen, National Center for Atmospheric Research

08:20 - 08:40

TU1.L08.1 4-D CLOUD WATER CONTENT FIELDS DERIVED FROM OPERATIONAL SATELLITE DATA
 William Smith Jr., Patrick Minnis, NASA Langley Research Center, United States; Stanley Benjamin, Stephen Weygandt, NOAA Earth System Research Laboratory, United States

08:40 - 09:00

TU1.L08.2 USE OF SATELLITE DATA FOR SOIL MOISTURE ANALYSIS AT ECMWF
 Patricia de Rosnay, Joaquin Muñoz Sabater, Gianpaolo Balsamo, European Centre for Medium-Range Weather Forecasts, United Kingdom; Matthias Drusch, Klaus Scipal, European Space Agency, Netherlands; Anton Beljaars, Lars Isaksen, European Centre for Medium-Range Weather Forecasts, United Kingdom

09:00 - 09:20

TU1.L08.3 IMPACTS OF INTEGRATING HIGH-RESOLUTION REMOTE-SENSING SURFACE AND VEGETATION DATA ON THE WEATHER RESEARCH FORECASTING (WRF) MODEL FORECAST
 Fei Chen, National Center for Atmospheric Research, United States

09:20 - 09:40

TU1.L08.4 COMPARING THE FORECAST IMPACTS FROM ASSIMILATING SSMIS AND AMSU DATA IN NCEP GLOBAL FORECAST SYSTEM (GFS)
 Fuzhong Weng, NOAA/NESDIS, United States; Banghua Yan, University of Maryland, United States

09:40 - 10:00

TU1.L08.5 AN OBJECTIVE NEAR-CASTING TOOL THAT USES THE GOES SOUNDER TO PREDICT SEVERE CONVECTION
 Robert Aune, National Environmental Satellite, Data, and Information Services, United States; Ralph Petersen, Cooperative Institute for Meteorological Satellite Studies, United States

TU1.L09: Tuesday, July 27, 08:20 - 10:00**TU1.L09 SAR Polarimetry: Theory and Applications I**

Session Type: Oral-Invited

Time: Tuesday, July 27, 08:20 - 10:00

Place: Coral 1

Co-Chairs: Carlos López-Martínez, Universitat Politècnica de Catalunya and Eric Pottier, Université de Rennes 1

08:20 - 09:00 Overview Talk (40 minutes)

TU1.L09.1 APPLICATION OF POLARIMETRIC SAR TO EARTH REMOTE SENSING

Jakob J. van Zyl, Yunjin Kim, Jet Propulsion Laboratory, United States

09:00 - 09:20

TU1.L09.3 FULLY POLARIMETRIC TERRASAR-X DATA: DATA QUALITY AND SCIENTIFIC ANALYSIS

Irena Hajnsek, ETH Zürich / DLR, Germany; Konstantinos Papathanassiou, German Aerospace Center (DLR), Germany

09:20 - 09:40

TU1.L09.4 EXPLOITATION OF THE ADDITIVE COMPONENT OF THE POLARIMETRIC NOISE MODEL FOR SPECKLE FILTERING

Samuel Foucher, Computer Research Institute of Montreal, Canada; Grégory Farage, University of Sherbrooke, Canada; Carlos López-Martínez, Universitat Politècnica de Catalunya, Canada

09:40 - 10:00

TU1.L09.5 RECENT ADVANCES IN FULLY POLARIMETRIC SPACE-SAR SENSOR DESIGN AND ITS APPLICATIONS

Wolfgang-Martin Boerner, University of Illinois at Chicago, United States

TU1.L10: Tuesday, July 27, 08:20 - 10:00**TU1.L10 From Science to Applications: Exploitation of EO Missions**

Session Type: Oral-Contributed

Time: Tuesday, July 27, 08:20 - 10:00

Place: Coral 2

Chair: Yves-Louis Desnos, ESA

08:20 - 08:40

TU1.L10.1 GLOBWAVE AND APPLICATIONS OF GLOBAL SATELLITE WAVE OBSERVATIONS

Fabrice Collard, CLS, France; Bertrand Chapron, Jean-François Piolle, Ifremer, France; Ellis Ash, SATOC, United Kingdom; David Poulter, NOCS, United Kingdom; Geoff Buswell, LOGICA, United Kingdom

08:40 - 09:00

TU1.L10.2 ESTIMATION OF ICE THICKNESS OF TUNDRA LAKES USING ERS-ENVISAT CROSS-INTERFEROMETRY

Urs Wegmüller, Charles Werner, Maurizio Santoro, Andreas Wiesmann, Tazio Strozzi, GAMMA Remote Sensing AG, Switzerland

09:00 - 09:20

TU1.L10.3 ERS-ENVISAT TANDEM CROSS-INTERFEROMETRY FOR MONITORING OF SEA ICE

Paolo Pasquali, Alessio Cantone, Massimo Barbieri, sarmap s.a., Switzerland; Marcus Engdahl, European Space Agency - ESRIN, Italy

09:20 - 09:40

TU1.L10.4 ARCTIC SEA ICE DYNAMICS FOR GLOBAL CLIMATE MODELS: RESULTS FROM THE GLOBICE PROJECT.

Steven Baker, Seymour Laxon, Alan Muir, Andrew Ridout, University College London, United Kingdom; Ron Kwok, California Institute of Technology, United States

09:40 - 10:00

TU1.L10.5 POLARIMETRIC SAR INTERFEROMETRY (POL-INSAR) FOR GLOBAL FOREST BIOMASS MONITORING

Konstantinos Papathanassiou, German Aerospace Center (DLR), Germany; Shane Cloude, AEL Consultants, United Kingdom; Gerhard Krieger, German Aerospace Center (DLR), Germany; Irena Hajnsek, ETH Zürich, Switzerland; Alberto Moreira, German Aerospace Center (DLR), Germany

TUP1.PA: Tuesday, July 27, 09:40 - 10:45

- TUP1.PA Land Cover Change Detection Techniques**
 Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area A
 Co-Chairs: Esra Erten, German Aerospace Center (DLR) and Joseph McGlinchy, Rochester Institute of Technology
- TUP1.PA.1 AN IMPROVEMENT FOR THE UNSUPERVISED WISHART FREEMAN CLASSIFICATION WITH FULLY POLARIMETRIC SAR DATA**
 Fang Cao, Wen Hong, Institute of Electronics, Chinese Academy of Sciences, China; Eric Pottier, IETR UMR CNRS 6164, University of Rennes 1, France
- TUP1.PA.2 SPECTROSCOPIC ANALYSIS FOR MATERIAL IDENTIFICATION AND MAPPING USING PRISM, AN ENVI/IDL BASED SOFTWARE PACKAGE**
 Raymond Kokaly, U.S. Geological Survey, United States
- TUP1.PA.3 ◇ MULTISPECTRAL CLASSIFICATION OF REMOTE SENSING IMAGERY FOR ARCHAEOLOGICAL LAND USE ANALYSIS: PROSPECTIVE STUDY**
 Ivan Villalon, University of Guadalajara, Mexico; Maria Llovera, Autonomous University of San Luis Potosi, Mexico
- TUP1.PA.4 OPTIMAL WAVELENGTHS FOR AN EARLY IDENTIFICATION OF CERCOSPORA BETICOLA WITH SUPPORT VECTOR MACHINES BASED ON HYPERSPECTRAL REFLECTION DATA**
 Till Rumpf, Anne-Katrin Mahlein, Christoph Römer, Lutz Plümer, Bonn University, Germany
- TUP1.PA.5 ◇ SPATIAL AND TEMPORAL DISTRIBUTION PATTERN OF FIRES IN CHINA USING MODIS DATA**
 Xianlin Qin, Zengyuan Li, Research Institute of Forest Resource Information Techniques, China; Zihui Zhang, Information Center of Forest Fire Prediction and Monitoring, China
- TUP1.PA.6 CHANGE DETECTION USING ITERATIVELY REWEIGHTED REGRESSION WITH NEURAL NETWORKS**
 Prashanth R Marpu, Paolo Gamba, University of Pavia, Italy; Morton J. Canty, Juelich Research Center, Germany
- TUP1.PA.7 AUTOMATED SUPERVISED LAND USE CLASSIFICATION AND CHANGE DETECTION: AN IMAGE FUSION BASED APPROACH**
 Francis Padula, Julia MacDonough, Dan Bondy, Monica Cook, Integrity Applications Incorporated, United States
- TUP1.PA.8 A NEW SUB-PIXEL MAPPING METHOD BASED ON SPATIAL AUTOCORRELATION AND LANDSCAPE INDEXES**
 Jian Zhang, College of Resources and Environment, Huazhong Agricultural University,
- TUP1.PA.9 OBJECT-ORIENTED CLASSIFICATION FOR LAND COVER MAPPING BASED ON ASTER DATA FOR BEIJING**
 Ting He, Key Laboratory of Land Use, Ministry of Land and Resources, China; Lela Prashad, Arizona State University, United States; Jing Wang, Key Laboratory of Land Use, Ministry of Land and Resources, China; Jonathan Fink, Arizona State University, United States

TUP1.PB: Tuesday, July 27, 09:40 - 10:45

TUP1.PB Land Cover Change: Vegetation

Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area B
 Chair: Fanan Ujoh, University of Abuja

TUP1.PB.1 COMPARISON OF NEEDLELEAF EVERGREEN FOREST AND NEEDLELEAF DECIDUOUS FOREST IN THE GLCNMO WITH IGBP DISCOVER AND GLC2000

Gegen Tana, Husi Letu, Erdenee Batzorig, Ryutarō Tateishi, Chiba University, Japan

TUP1.PB.2 WOODED HEDGEROWS CHARACTERIZATION IN RURAL LANDSCAPE USING VERY HIGH SPATIAL RESOLUTION SATELLITE IMAGES

Clémence Vannier, Laurence Hubert-Moy, Laboratoire COSTEL, France

TUP1.PB.3 ESTIMATING PASTURE PRODUCTIVITY IN THE BRAZILIAN SAVANNA BIOME BASED ON MODERATE RESOLUTION SATELLITE DATA

Laerte Guimarães Ferreira, Federal University of Goiás, Brazil; Edson Sano, Brazilian Agriculture Research Organization, Brazil; Fernando Moreira Araujo, Federal University of Goiás, Brazil

TUP1.PB.4 MAPPING SOYBEAN AREAS WITH REMOTE SENSING DATA IMAGES USING A SIMPLIFIED BAYESIAN NETWORK

Marcio Mello, Marcos Adami, Anibal Gusso, Gustavo Silva, Brazilian National Institute for Space Research, Brazil; Rodrigo Rizzi, Federal University of Pelotas, Brazil; Bernardo Rudorff, Leila Fonseca, Brazilian National Institute for Space Research, Brazil

TUP1.PB.5 NEW DTW-BASED METHOD TO SIMILARITY SEARCH IN SUGAR CANE REGIONS REPRESENTED BY CLIMATE AND REMOTE SENSING TIME SERIES

L. A. S. Romani, USP - Sao Carlos, Brazil; R. R. V. Goncalves, J. Zullo Jr., Unicamp, Brazil; C. Traina Jr., A. J. M. Traina, USP - Sao Carlos, Brazil

TUP1.PB.6 COMPARISON OF CROP CLASSIFICATION CAPABILITY OF SPACEBORNE MULTI-PARAMETERS SAR DATA

Xin Tian, Erxue Chen, Zengyuan Li, Chinese Academy of Forestry, China; Z. Bob Su, International Institute for Geo-Information Science and Earth Observation, Netherlands; Feilong Ling, Fuzhou University, China; Lina Bai, Fengyu Wang, Chinese Academy of Forestry, China

TUP1.PB.7 THE CHARACTERISTICS OF LAND COVER AND MACROSCOPICAL ECOLOGY CHANGES IN THE SOURCE REGION OF THREE RIVERS IN QINGHAI-TIBET PLATEAU DURING LAST 30 YEARS

Quanqin Shao, Zhiping Zhao, Jiyan Liu, Jiangwen Fan, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

TUP1.PB.8 CHARACTERISTICS OF SPATIAL-TEMPORAL CHANGES OF MODIS NDVI IN CHINESE XILINGOL GRASSLAND FROM 2000 TO 2008

Hongbin Zhang, Qing Huang, Guixia Yang, Gang Li, Baorui Chen, Xiaoping Xin, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China

TUP1.PB.9 AN ANALYSIS OF TEMPORAL EVOLUTION OF NDVI IN VARIOUS VEGETATION-CLIMATE REGIONS IN INNER MONGOLIA, CHINA

Cui Yaoping, Liu Jiyan, Hu Yunfeng, Dong Jinwei, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

TUP1.PB.10 ANALYSIS OF DEFORESTATION IN MATO GROSSO USING MULTI-TEMPORAL LANDSAT TM IMAGERIES

Megumi Maruyama, Yasushi Yamaguchi, Nagoya University, Japan

TUESDAY

TUP1.PC: Tuesday, July 27, 09:40 - 10:45

- TUP1.PC Wetlands and Inland Waters Poster I**
 Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area C
 Chair: Jane Whitcomb, University of Michigan
- TUP1.PC.1 RETRIEVAL OF WATER QUALITY FROM CHINA'S FIRST SATELLITE-BASED HYPERSPECTRAL IMAGER (HJ-1A HSI) DATA**
 Qiao Wang, Satellite Environment Center, Ministry of Environmental Protection, China; Junsheng Li, Qian Shen, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Chuanqing Wu, Satellite Environment Center, Ministry of Environmental Protection, China; Jianlin Yu, China Urban Technology Trust (Beijing) Co.,Ltd., China
- TUP1.PC.2 RESEARCH ON THE LAKES CHANGE IN EJIN ALLUVIAL FAN FROM LONG TIME-SERIES LANDSAT IMAGES**
 Lu Zhang, Huadong Guo, Xinyuan Wang, Xinwu Li, Linlin Lu, Laboratory of Digital Earth Sciences, Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China
- TUP1.PC.3 EVALUATING SOCIAL SERVICE VALUE OF WETLANDS IN BEIJING BASED ON REMOTE SENSING AND GIS**
 Lin Zhu, Huili Gong, Xiaojuan Li, Capital Normal University, China; Weiguo Jiang, Beijing Normal University, China; Yun Chen, CSIRO, Australia; Yun Pan, Capital Normal University, China; Peng Hou, Beijing Normal University, China
- TUP1.PC.4 WATER SURFACE TEMPERATURE RETRIEVAL FOR A SMALL LAKE USING ASTER THERMAL INFRARED DATA**
 Hideyuki Tonooka, Masayuki Hirayama, Ibaraki University, Japan
- TUP1.PC.5 SPATIAL DISTRIBUTION AND THE POSSIBLE SOURCE CDOM FOR INLAND WATER IN SUMMER IN THE NORTHEAST CHINA**
 Guangjia Jiang, Dianwei Liu, Kaishan Song, Bai Zhang, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China
- TUP1.PC.6 MONITORING LONG TIME TRENDS IN LAKE CDOM USING LANDSAT IMAGE ARCHIVE**
 Tiit Kutser, Estonian Marine Institute, University of Tartu, Estonia
- TUP1.PC.7 STUDY IN BIEBRZA WETLANDS USING OPTICAL AND MICROWAVE SATELLITE DATA**
 Maria Budzynska, Katarzyna Dabrowska-Zielinska, Wanda Kowalik, Iwona Malek, Konrad Turlej, Institute of Geodesy and Cartography, Poland
- TUP1.PC.8 SOIL CONCENTRATION REVERSE METHOD BASED ON SPECIAL SPECTRAL POSITION**
 Chuanqing Wu, Qiao Wang, Li Zhu, Yanjuan Yao, Yongjun Zhang, Satellite Environment Center, China; Ying Wang, Renmin University of China, China; Jing Chen, China University of Geosciences, China
- TUP1.PC.9 ESTIMATING CHLOROPHYLL A CONCENTRATION IN LAKE WATER USING SPACE-BORNE HYPERSPECTRAL DATA**
 Li Li, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Qiu Yin, Shanghai Center for Satellite Remote Sensing Applications, China; Hua Xu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Cailan Gong, Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China; Zhenghua Chen, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- TUP1.PC.10 RETRIVAL OF TOTAL SUSPENDED MATTER (TSM) USING REMOTELY SENSED IMAGES IN SHITOUKOU MEN RESERVIOR, NORTHEAST CHINA**
 Kaishan Song, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China; Dong mei Lu, Computer Science and Engineering College, JLIAE, China; Zongm ming Wang, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China; Lin Li, IUPUI, Indianapolis, United States; Bai Zhang, Yuan dong Wang, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China

TUP1.PD: Tuesday, July 27, 09:40 - 10:45

TUP1.PD Applications: Coastal and Wetlands Poster I

Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area D
 Chair: Irena Hajnsek, German Aerospace Center

TUP1.PD.1 ASSESSMENT OF POST-STORM RECOVERY OF BEACH PROFILES USING VIDEO IMAGING TECHNIQUES
 Kristen Splinter, Rodger Tomlinson, Griffith University, Australia

TUP1.PD.2 MONITORING ENVIRONMENTAL CONDITIONS IN MUUGA HARBOUR USING ENVISAT MERIS AND ASAR DATA
 Liis Sipelgas, Rivo Uiboupin, Urmas Raudsepp, Tallinn University of Technology, Estonia

TUP1.PD.3 INVESTIGATIONS ON THE FULL POLARIMETRIC PALSAR DATA TO DISCRIMINATE MACROPHYTES SPECIES IN THE AMAZON FLOODPLAIN WETLAND
 Lauriana Rúbio Sartori, Nilton Nobuhiro Imai, Sao Paulo State University - UNESP, Brazil; José Claudio Mura, Evlyn Márcia Leão de Moraes Novo, National Institute for Space Research (INPE), Brazil; Thiago Sanna Freire Silva, University of Victoria, Canada

TUP1.PD.4 USING LANDSAT DATA TO DETECT LONG-TERM MORPHODYNAMIC BEHAVIOR OF ESTUARIES: A CASE STUDY IN THE XIAOQINGHE RIVER ESTUARY, CHINA
 Yanxia Liu, Haijun Huang, Jun Yan, Chinese Academy of Sciences, China

TUP1.PD.5 THE APPLICABILITY OF GEOGRAPHIC INFORMATION SYSTEMS (GIS) AND REMOTE SENSING IN IDENTIFYING POLYBROMINATED DIPHENYL ETHERS (PBDES) SOURCES USING NOAA NATIONAL STATUS & TRENDS MUSSEL WATCH PROGRAM DATA
 Patrina Bly, Elizabeth City State University, United States; Michael Edwards, National Oceanic and Atmospheric Administration, United States

TUP1.PD.6 SERVICE-BASED DISTRIBUTED DATA MANAGEMENT AND APPLICATION IN CHINA DIGITAL OCEAN
 Wen Dong, Xin Zhang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Bing Jiang, China National Marine Data and Information Service, China

TUP1.PD.7 A STUDY ON SPATIAL AND TEMPORAL VARIATIONS OF COASTAL WETLAND IN PEARL RIVER ESTUARY
 Yi Gao, Yantai Institute of Coastal Zone Research & Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Fenzhen Su, Xiaoyu Sun, Zhenshan Xue, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Yawen He, Yantai Institute of Coastal Zone Research & Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

TUP1.PD.8 A NEW APPROACH TO MICROPHYTOBENTHOS BIOMASS MAPPING BY INVERSION OF THE RADIATIVE TRANSFER MODEL : APPLICATION TO HYPSPEX IMAGES OF BOURGNEUF BAY
 Farzaneh Kazempour, Patrick Launeau, Laboratory of Planetology and Geodynamics of Nantes, France; Vona Meléder, Equipe Mer, Molécule et Santé, France

TUP1.PD.9 MANGROVE DETECTION FROM HIGH RESOLUTION OPTICAL DATA
 Emmanuel Christophe, Chong Min Wong, Soo Chin Liew, National University of Singapore, Singapore

TUP1.PD.10 COASTAL FOREST 3-D STRUCTURE, HEIGHT CLASS DISTRIBUTION AND PRODUCTIVITY MODELING USING RADAR AND LIDAR
 Temilola Fatoyinbo, NASA Goddard Space Flight Center, United States; Marc Simard, NASA Caltech Jet Propulsion Laboratory, United States

TUESDAY

TUP1.PE: Tuesday, July 27, 09:40 - 10:45

- TUP1.PE Roads, Buildings and Urban Areas**
 Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area E
 Co-Chairs: Florence Tupin, TELECOM ParisTech and Lori Mann Bruce, Mississippi State University
- TUP1.PE.1 AUTOMATIC ROAD EXTRACTION BASED ON LOCAL HISTOGRAM AND SUPPORT VECTOR DATA DESCRIPTION CLASSIFIER FROM VERY HIGH RESOLUTION DIGITAL AERIAL IMAGERY**
 Rui Zhang, George Mason University, United States; Xiangguo Lin, Chinese Academy of Surveying and Mapping, China
- TUP1.PE.2 EXPERIMENTAL RESEARCH ON URBAN ROAD EXTRACTION FROM HIGH-RESOLUTION RS IMAGES USING PROBABILISTIC TOPIC MODELS**
 Wenbin Yi, Yunhao Chen, Hong Tang, Beijing Normal University, China; Lei Deng, Capital Normal University, China
- TUP1.PE.3 GEOMETRIC REFINEMENT OF ROAD NETWORKS USING NETWORK SNAKES AND SAR IMAGES**
 Matthias Butenuth, Technische Universität München, Germany
- TUP1.PE.4 ROAD EXTRACTION FROM HIGH-RESOLUTION REMOTELY SENSED PANCHROMATIC IMAGE IN DIFFERENT RESEARCH SCALES**
 Zhanfeng Shen, Jiancheng Luo, Lijing Gao, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- TUP1.PE.5 LINE-SEGMENT VECTORIZATION ON HIGH-RESOLUTION SATELLITE IMAGES**
 Bo Yuan, Soo Chin Liew, Leong Keong Kwah, National University of Singapore, Singapore
- TUP1.PE.6** ♦ **IMAGE DIFFERENCE HISTOGRAM: A NEW TOOL FOR IMAGE ANALYSIS APPLIED TO CLASSIFICATION OF URBAN SETTLEMENTS**
 Guillaume Noel, Barend Van Wyk, French South African Institute of Technology, South Africa; Anton Van Wyk, University of the Witwatersrand, South Africa
- TUP1.PE.7 RANDOM FORESTS FOR BUILDING DETECTION IN POLARIMETRIC SAR DATA**
 Ronny Hänsch, Olaf Hellwich, Technische Universität Berlin, Germany
- TUP1.PE.8 DETECTION OF ALIGNED OBJECTS FOR HIGH RESOLUTION IMAGE UNDERSTANDING**
 Maria Carolina Vanegas, Isabelle Bloch, Telecom ParisTech, France; Jordi Inglada, Centre National d'Etudes Spatiales (CNES), France
- TUP1.PE.9** ♦ **APPLICATION OF 3D-ZERNIKE DESCRIPTORS IN REMOTE SENSING TARGET RECOGNITION**
 Ye Zhang, Yiming Yan, Hao Chen, Harbin Institute of Technology, China
- TUP1.PE.10 CLUSTERING OF DETECTED CHANGES IN SATELLITE IMAGERY USING FUZZY C-MEANS ALGORITHM**
 Ozy Sjahputera, Grant Scott, Klaric Matthew, Brian Claywell, James Keller, Nicolas Hudson, Curt Davis, University of Missouri-Columbia, United States
- TUP1.PE.11 EXTRACTION OF DIFFERENT URBAN AREA CATEGORIES FROM SATELLITE IMAGES USING WINDOW INDEPENDENT CONTEXT SEGMENTATION**
 Michael Nielsen, Stockholm University, Sweden

TUP1.PF: Tuesday, July 27, 09:40 - 10:45

TUP1.PF Data Fusion: Pansharpening and Decision Fusion

Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area F
 Co-Chairs: Jenny Du, Mississippi State University and Jocelyn Chanussot, Grenoble Institute of Technology

TUP1.PF.1 ◇ **MULTIRESOLUTION FUSION OF PAN AND MS IMAGES BASED ON THE CURVELET TRANSFORM**
 ShuQin Ren, Jian Cheng, University of Electronic Science and Technology of China, China; Min Li, Guilin Airforce Academy, China

TUP1.PF.2 **A SIMPLIFIED IMAGE FUSION TECHNIQUE WITH SENSOR SPECTRAL RESPONSE**
 Qiang Zhou, Peng Gong, Ziqi Guo, Caixia Liu, Wei Fu, Baogang Zhang, State Key Laboratory of Remote Sensing, Jointly Sponsored by the Institute of Remote Sensing Applications of Chinese Academy of Science and Beijing Normal University, China

TUP1.PF.3 **MULTIRESOLUTION FUSION IN REMOTELY SENSED IMAGES: USE OF GIBBS PRIOR AND PSO OPTIMIZATION**
 Manjunath Joshi, Prakash Gajjar, DA-IICT, Gandhinagar, India; S. Ravishankar, K. V. V. Murthy, Amrita School of Engineering, India

TUP1.PF.4 **PANSHARPENING FOR CORRECTION OF SPECTRAL AND BLOCK DISTORTIONS**
 Sang-Hoon Lee, Kyungwon University, Republic of Korea

TUP1.PF.5 **MAP-MRF ESTIMATION FOR MULTIRESOLUTION FUSION OF REMOTELY SENSED IMAGES**
 Manjunath Joshi, Abhishek Shripat, Dhirubhai Ambani Institute of Information and Communication Technology, India; Pradipta Nanda, Institute of Technical Education & Research, Bhubaneswar, India; S. Ravishankar, K. V. V. Murthy, Amrita School of Engineering, India

TUP1.PF.6 **EMPIRICAL MODE DECOMPOSITION BASED DECISION FUSION FOR HIGHER HYPERSPECTRAL IMAGE CLASSIFICATION ACCURACY**
 Begum Demir, Sarp Erturk, University of Kocaeli, Turkey

TUP1.PF.7 **IMAGE FUSION FOR CLASSIFICATION OF HIGH RESOLUTION IMAGES BASED ON MATHEMATICAL MORPHOLOGY**
 Frosti Palsson, Johannes R. Sveinsson, Jon Atli Benediktsson, University of Iceland, Iceland; Henrik Aanæs, Technical University of Denmark, Denmark

TUP1.PF.8 ◇ **HYBRID GENETIC ALGORITHM (GA)-BASED NEURAL NETWORK FOR MULTISPECTRAL IMAGE FUSION**
 Xia Peng, Anrong Dang, Tsinghua University, China

TUP1.PF.9 **STEREO MATCHING BETWEEN IMAGES OF LARGE SLOPE BASED ON MULTI-SCALE DIRECTIONAL WAVELET TRANSFORM**
 Xi-an Zhao, Zhi-xue Chen, Guang Zhu, Jing-guo Lv, Chang-feng Jing, Beijing University of Civil Engineering and Architecture, China

TUP1.PF.10 **SUPER-RESOLUTION ANALYSIS FOR ACCURATE MAPPING OF LAND COVER AND LAND COVER PATTERN**
 Anuar Muad, Giles Foody, University of Nottingham, United Kingdom

TUESDAY

TUP1.PG: Tuesday, July 27, 09:40 - 10:45

- TUP1.PG** **Monitoring of the Environment and Natural Hazards**
 Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area G
 Chair: Nicolas Méger, Université de Savoie
- TUP1.PG.1** **OPTIMUM SYSTEMS FOR SATELLITE FIRE DETECTION**
 Tiziana Beltramonte, Maurizio di Bisceglie, Carmela Galdi, Università degli Studi del Sannio, Italy
- TUP1.PG.2** **MAXIMIZING THE DETECTION AND MAPPING OF MINIMAL AREA BURN SCARS WITH A MULTI-PAYLOAD MULTI-METHOD AUTOMATED APPROACH: APPLICATION TO SUMMER FIRE SEASONS IN ITALY**
 Giovanni Laneve, Sapienza Università di Roma, Italy; Barbara Hirn, IES Consulting, Italy; Concettina Di Bartola, Università della Calabria, Italy; Fabrizio Ferrucci, Institut de Physique du Globe de Paris, France
- TUP1.PG.3** **REGULARIZATION OF DISPLACEMENT FIELDS FOR GLACIER MONITORING**
 Renaud Fallourd, Emmanuel Trouvé, Université de Savoie - Polytech'Savoie, France; Charles-Alban Deledalle, Jean-Marie Nicolas, Florence Tupin, Telecom ParisTech, France
- TUP1.PG.4** **AUTOMATIC DETECTION OF MOVING WILD ANIMALS IN AIRBORNE REMOTE SENSING IMAGES**
 Yu Oishi, University of Tsukuba, Japan; Tsuneo Matsunaga, National Institute for Environmental Studies, Japan
- TUP1.PG.5** **APPROACH FOR VOLCANIC SURVEILLANCE USING SATELLITE-BORNE MICROWAVE RADIOMETER DATA**
 Takashi Maeda, Japan Aerospace Exploration Agency, Japan; Tadashi Takano, Nihon University, Japan
- TUP1.PG.6** **COMPARISON OF IMAGE RESTORATION METHODS APLIED TO INLAND AQUATIC SYSTEMS IMAGES AQUIRED BY HR CBERS 2B SENSOR**
 Lino Augusto Sander de Carvalho, Leila Maria Garcia Fonseca, National Institute for Space Research (INPE), Brazil
- TUP1.PG.7** ◇ **AUTOMATIC IMAGE CLASSIFICATION OF LANDSLIDES IMPROVED WITH TERRAIN ROUGHNESS INDICES IN VARIOUS KERNEL SIZES**
 Mon-Shieh Yang, National Cheng Kung University, Taiwan; Ming-Chang Lin, Kaohsiung Normal University, Taiwan; Jin-King Liu, Industrial Technology Research Institute, Taiwan; Ming-Chee Wu, National Cheng Kung University, Taiwan
- TUP1.PG.8** **IDENTIFY EARTHQUAKE HOT SPOTS WITH 3-DIMENSIONAL DENSITY-BASED CLUSTERING ANALYSIS**
 Lei Lei, Claremont Graduate University, United States

TUP1.PH: Tuesday, July 27, 09:40 - 10:45

TUP1.PH Microwave Radiometer Technology and Instrumentation Poster

Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area H
 Co-Chairs: Steven C. Reising, Colorado State University and Adriano Camps, Universitat Politècnica de Catalunya

TUP1.PH.1 F-13 SSM/I INSTRUMENT FAILURE AVERTED BY REPOSITIONING SPACECRAFT SOLAR PANEL AND MITIGATING SENSOR OVERHEATING

Steve Swadley, Jeffrey Hawkins, Gene Poe, Naval Research Laboratory, United States; Dex Landreth, DMSS/USAF, United States; Eun-Sung Park, Donald Boucher, The Aerospace Corporation, United States; Troy vonRenzell, Enzo Uliana, Beverly Gardiner, Interferometrics Corporation, United States

TUP1.PH.2 IMAGING ALGORITHM AND EXPERIMENTAL DEMONSTRATION OF ROTATING SCANNING INTERFEROMETRIC RADIOMETER

Cheng Zhang, Hao Liu, Jingye Yan, Weiyang Sun, Shengwei Zhang, Huguang Liu, Ji Wu, Center for Space Science and Applied Research, Chinese Academy of Sciences, China

TUP1.PH.3 GLOBAL CHANGE OBSERVATION MISSION (GCOM) DATA RECOVERY BY THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) - AN INTERNATIONAL PARTNERSHIP TO CAPTURE CRITICAL OPERATIONAL AND CLIMATE ENVIRONMENTAL DATA RECORDS FROM SPACE

Peter Wilczynski, National Oceanic and Atmospheric Administration, United States

TUP1.PH.4 COMPARING DATA OF TWO AIRBORNE L-BAND RADIOMETERS WITH DIFFERENT SPATIAL RESOLUTION OVER A HETEROGENEOUS LAND SURFACE

Johanna Dall'Amico, University of Munich, Germany; Juha Kainulainen, Aalto University, Finland; Alexander Loew, Max-Planck-Institute for Meteorology, Germany; Wolfram Mauser, University of Munich, Germany

TUP1.PH.5 SYSTEM DESIGN OF W-BAND FULLY POLARIMETRIC RADIOMETER FOR TARGET IDENTIFICATION

Yong-Hoon Kim, Nam-won Moon, Sung-Hyun Kim, School of Information and Mechatronics, Gwangju Institute of Science and Technology, Republic of Korea

TUP1.PH.6 GPM MICROWAVE IMAGER DESIGN, PREDICTED PERFORMANCE AND STATUS

Sergey Krimchansky, David Newell, NASA Goddard Space Flight Center, United States

TUP1.PH.7 ANALYSIS OF ANECHOIC CHAMBER TESTING OF THE HURRICANE IMAGING RADIOMETER

David Fenigstein, Christopher Ruf, University of Michigan, United States; Mark James, David Simmons, Timothy Miller, Courtney Buckley, NASA Marshall Space Flight Center, United States

TUP1.PH.8 OPTIMAL ANTENNA COATINGS FOR HIGH FREQUENCY MICROWAVE RADIOMETERS: DMSP SSMIS CASE STUDY

Donald Boucher, Josh Park, Michael Meshishnek, John Wessel, The Aerospace Corporation, United States; Gene Poe, Naval Research Laboratory, United States; Aluizio Prata, University of Southern California, United States; Ezra Long, Jet Propulsion Laboratory, United States

TUP1.PH.9 DEVELOPMENT OF A THREE-ELEMENT INTERFEROMETER AT 50~56 GHZ FOR GEOSTATIONARY INTERFEROMETRIC MICROWAVE SOUNDER (GIMS)

Hao Liu, Ji Wu, Shengwei Zhang, Jingye Yan, Lijie Niu, Center for Space Science and Applied Research, Chinese Academy of Sciences, China

TUP1.PH.10 GPM MICROWAVE IMAGER ENGINEERING MODEL RESULTS

David Newell, Ball Aerospace and Technologies Corp., United States; Sergey Krimchansky, NASA Goddard Space Flight Center, United States

TUESDAY

TUP1.PI: Tuesday, July 27, 09:40 - 10:45

- TUP1.PI Microwave Radiometer Calibration and Advanced Instrument Design**
 Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area I
 Co-Chairs: Christopher Ruf, University of Michigan and Andreas Colliander, JPL
- TUP1.PI.1 N-ORBIT CALIBRATION OF THE "METEOR-M" MICROWAVE IMAGER/SOUNDER**
 Igor' Cherny, Scientific-Technological Center "Kosmonit", JSC "Russian Space Systems, Russian Federation; Leonid Mitnik, Maia Mitnik, V.I. Il'ichev Pacific Oceanological Institute, Far Eastern Branch, Russian Academy of Sciences, Russian Federation; Alexandr Uspensky, State Research Center for Space Hydrometeorology "Planeta", Russian Federation; Alexandr Streltsov, Scientific-Technological Center "Kosmonit", JSC "Russian Space Systems, Russian Federation
- TUP1.PI.2 ANALYSIS AND VERIFICATION OF CALIBRATION METHODS FOR FULLY POLARIMETRIC W-BAND RADIOMETER**
 Yong-Hoon Kim, Sung-Hyun Kim, Nam-won Moon, School of Information and Mechatronics, Gwangju Institute of Science and Technology, Republic of Korea
- TUP1.PI.3 DEVELOPMENT OF A MICROWAVE RADIOMETER INTER-CALIBRATION TRANSFER FUNCTION FOR THE GPM CONSTELLATION**
 Darren McKague, Rachael Kroodsmma, John Puckett, Christopher Ruf, University of Michigan, United States
- TUP1.PI.4 ♦ OPTIMAL CALIBRATION OF RADIOMETERS USING SYSTEM IDENTIFICATION TECHNIQUES**
 Miao Tian, Al Gasiewski, University of Colorado at Boulder, United States
- TUP1.PI.5 STABILITY OF THE VICARIOUS COLD CALIBRATION STATISTIC FOR THE GPM CONSTELLATION**
 Rachael Kroodsmma, Darren McKague, John Puckett, Christopher Ruf, University of Michigan, United States
- TUP1.PI.6 ICE-PHASE PRECIPITATION RETRIEVALS OVER LAND USING COMBINED RADAR / RADIOMETER SATELLITE OBSERVATIONS**
 Benjamin Johnson, University of Maryland Baltimore County, United States; Gail Skofronick-Jackson, NASA Goddard Space Flight Center, United States
- TUP1.PI.7 REFLECTIVITY STUDIES OF PASSIVE MICROWAVE CALIBRATION TARGETS AND ABSORPTIVE MATERIALS**
 Dazhen Gu, Amanda E. Cox, Derek Houtz, David K. Walker, James Randa, Robert L. Billinger, National Institute of Standards and Technology, United States
- TUP1.PI.8 IN-ORBIT PERFORMANCE OF MICROWAVE HUMIDITY SOUNDER (MWHs) OF THE CHINESE FY-3 METEOROLOGICAL SATELLITE**
 Jing Li, Shengwei Zhang, Jingshan Jiang, Xiaolong Dong, Center for Space Science and Applied Research, Chinese Academy of Sciences, China
- TUP1.PI.9 ON THE DESIGN AND OPTIMIZATION OF THE ARRAY ELEMENTS IN THE GEO ATMOSPHERIC SOUNDER INSTRUMENT: A NEW DESIGN PROCEDURE**
 Isernia Tommaso, Antonia Rita Lagana', Andrea Francesco Morabito, Università Mediterranea di Reggio Calabria, Italy; Anders Carlstrom, RUAG Aerospace Sweden, Sweden; Giovanni Toso, European Space Agency, Netherlands
- TUP1.PI.10 PITFALLS IN THE RETRIEVAL OF FINE AND COARSE MODE AEROSOL OPTICAL DEPTH: HOW WELL DO WE UNDERSTAND COARSE MODE EFFECTS INDUCED BY THIN CLOUDS?**
 Santo V. Salinas, Boon N. Chew, Soo C. Liew, National University of Singapore, Singapore
- TUP1.PI.11 APPLICATION OF ENSEMBLE DETECTION AND ANALYSIS TO MODELING UNCERTAINTY IN NON STATIONARY PROCESSES**
 Paul Racette, NASA Goddard Space Flight Center, United States
- TUP1.PI.12 EVALUATION OF STATISTICAL RETRIEVAL ERRORS FOR GROUND BASED MICROWAVE RADIOMETER MEASUREMENTS**
 Zlatko Vukovic, Stewart Cober, Environment Canada, Canada

TUP1.PJ: Tuesday, July 27, 09:40 - 10:45

TUP1.PJ Remote Sensing Data and Policy Decisions Poster

Session Type: Poster
Time: Tuesday, July 27, 09:40 - 10:45
Place: Poster Area J
Chair: Linda Hayden, Elizabeth City State University

TUP1.PJ.1 MODIS-NDVI-BASED CROP GROWTH MONITORING IN CHINA AGRICULTURE REMOTE SENSING MONITORING SYSTEM

Qing Huang, Huajun Tang, Chinese Academy of Agricultural Sciences, China; Xianlin Qin, Chinese Academy of Forestry, China; Guixia Yang, Jianqiang Ren, Chinese Academy of Agricultural Sciences, China

TUP1.PJ.2 DEVELOPMENT OF AN OPERATIONAL SAR SYSTEM FOR GEOPHYSICAL MEASUREMENTS: WIND FIELDS AS A FIRST CASE

Frank Monaldo, Donald Thompson, Johns Hopkins University, United States; William Pichel, National Oceanic and Atmospheric Administration, United States

TUP1.PJ.3 SOLAR RESOURCE ASSESSMENT WITH MSG DATA

Attilio Gambardella, Thomas Huld, Joint Research Centre of the European Commission, Italy

TUP1.PJ.4 A REAL TIME SYSTEM FOR IDENTIFYING FLOODED ROADS IN RURAL AREAS DURING SEVERE PRECIPITATION EVENTS

Tom Whitney, Stephen Katzberg, Maria Hubbard, South Carolina State University, United States

TUP1.PJ.5 OMI NEAR REAL TIME DATA PROCESSING

Phillip Durbin, ADNET Systems, United States; Curt Tilmes, NASA, United States; Brian Duggan, Bigyani Das, ADNET Systems, United States

TUP1.PJ.6 ◇ A SEGMENTER OF REMOTE SENSING IMAGES FOR DATABASE SPACE POSTGRE-SQL/POSTGIS.

Alcina Maria Nepomuceno, Antônio Nuno de Castro Santa Rosa, University Brasília, Brazil

TUESDAY

TUP1.PK: Tuesday, July 27, 09:40 - 10:45

- TUP1.PK Remote Sensing from UAV and Airborne Platforms**
 Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area K
 Co-Chairs: Scott Hensley, Jet Propulsion Laboratory and Ronald Blom, Jet Propulsion Laboratory
- TUP1.PK.1 ON THE ACCURACY OF 3D LANDSCAPES FROM UAV IMAGE DATA**
 Koen Douterloigne, Sidharta Gautama, Wilfried Philips, Ghent University, Belgium
- TUP1.PK.2 CALIBRATION SYSTEM STABILITY PLANS FOR A LONG-TERM ECOLOGICAL AIRBORNE REMOTE SENSING PROJECT**
 Michele Kuester, Brian Johnson, Thomas Kampe, Joel McCorkel, National Ecological Observatory Network (NEON), United States
- TUP1.PK.3 IN-SITU UNMANNED AERIAL VEHICLE (UAV) SENSOR CALIBRATION TO IMPROVE AUTOMATIC IMAGE ORTHORECTIFICATION**
 Austin Jensen, Norman Wildmann, YangQuan Chen, Utah State University, United States; Holger Voos, Hochschule Ravensburg-Weingarten, Germany
- TUP1.PK.4 DEVELOPING A LOW COST VERTICAL TAKE OFF AND LANDING UNMANNED AERIAL SYSTEM FOR CENTIMETRIC MONITORING OF BIODIVERSITY - THE FONTAINEBLEAU FOREST CASE**
 Laurent Beaudoin, Antoine Gademer, Ecole Supérieure Informatique Electronique Automatique (ESIEA), France; Benoit Petitpas, Michel Roux, Telecom Paristech, France; Bernard Riera, MNHN, France; Jean-Paul Rudant, Université de Marne la Vallée, France
- TUP1.PK.5 MOVING OBJECT TRACKING FROM AIRBORNE VIDEO USING RELAXATION LABELING ALGORITHM ON ACTIVE SIFT POINTS**
 Kyung min Han, Guilherme DeSouza, University of Missouri-Columbia, United States
- TUP1.PK.6 AUTOMATIC GENERATION AND ERROR ANALYSIS OF HIGH-PRECISION DEM DERIVED FROM AIRBORNE DUAL-ANTENNA INTERFEROMETRIC SAR DATA**
 Zhongchang Sun, Huadong Guo, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Mengmei Jiao, Beijing Explo-Tech Engineering Corp, China; Qingni Huang, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China
- TUP1.PK.7 ADVANCED MOTION COMPENSATION FOR AIRBORNE PLATFORMS: APPLICATION TO UAVSAR**
 Cathleen Jones, Scott Hensley, Thierry Michel, Ron Muellershoen, Jet Propulsion Laboratory, United States
- TUP1.PK.8 UAVSAR: FLIGHT PLANNING IN THE CLOUD**
 Sarah Flores, Bruce Chapman, Wayne Tung, Yang Zheng, Yunling Lou, Jet Propulsion Laboratory, United States
- TUP1.PK.9 GEOCODING OF UAVSAR DATA PRODUCTS**
 Yang Zheng, Ronald Muellerschoen, Thierry Michel, Bruce Chapman, Scott Hensley, Yunling Lou, Jet Propulsion Laboratory, United States
- TUP1.PK.10 BIOMASS RETRIEVAL BASED ON UAVSAR POLARIMETRIC DATA**
 Zhiyu Zhang, Beijing Normal University, China; Guoqing Sun, University of Maryland, College Park, United States; Lixin Zhang, Beijing Normal University, China; Zhifeng Guo, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Wenli Huang, University of Maryland, College Park, China
- TUP1.PK.11 RANGELAND RESOURCE ASSESSMENT, MONITORING, AND MANAGEMENT USING UNMANNED AERIAL VEHICLE-BASED REMOTE SENSING**
 Albert Rango, USDA ARS, United States; Andrea Laliberté, New Mexico State University, United States; Kris Havstad, Craig Winters, USDA ARS, United States; Caiti Steele, New Mexico State University, United States; Dawn Browning, USDA ARS, United States

TUP1.PL: Tuesday, July 27, 09:40 - 10:45**TUP1.PL Biology and Altimetry**

Session Type: Poster
 Time: Tuesday, July 27, 09:40 - 10:45
 Place: Poster Area L
 Co-Chairs: Hosni Ghedira, American University in Dubai and Chuqun Chen, CAS

TUP1.PL.1 USING MEDIUM AND HIGH RESOLUTION SATELLITE IMAGES IN MONITORING WATER QUALITY SURROUNDING THE DISCHARGES OF DESALINATION PLANTS IN THE UAE

Ammar Al Muhairi, Emirates Institution for Advanced Science & Technology, United Arab Emirates; Hosni Ghedira, MASDAR Institute/MIT, United Arab Emirates; Hussain Al-Ahmad, Ali Dawood, Khalifa University of Science, Technology and Research (KUSTAR), United Arab Emirates

TUP1.PL.2 IMPROVED MODELS FOR CHLA ESTIMATION BY CONSIDERING THE EFFECT OF PHYTOPLANKTON SPECIFIC ABSORPTION

Jingping Xu, Xingfa Gu, Institute of Remote Sensing Applications of Chinese Academy of Sciences, China; Bai Zhang, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China; Tao Yu, Institute of Remote Sensing Applications of Chinese Academy of Sciences, China; Fang Li, National Marine Environmental Monitoring Center, China; Juan Li, Institute of Remote Sensing Applications of Chinese Academy of Sciences, China

TUP1.PL.3 WATER QUALITY REMOTE SENSING MONITORING RESEARCH IN CHINA BASED ON THE HJ-1 SATELLITE DATA

Yanjuan Yao, Li Zhu, Chuangqing Wu, Yongjun Zhang, Satellite Environment Center, Ministry of Environmental Protection, China; Ying Wang, School of the Environment & Natural Resources, Renmin University of China, China; Jing Chen, School of the Earth Sciences and Resources, China university of Geosciences, China

TUP1.PL.4 ◇ ENTEROMORPHA PROLIFRA AERIAL REMOTE SENSING MONITORING USING ARRAY CAMERA

Xingfeng Chen, Xingfa Gu, Jiping Chen, Jun Liu, Hua Xu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Guoti Yuan, Henan Polytechnic University, China; Yuan Sun, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

TUP1.PL.5 ◇ MONITORING SEA SURFACE SALINITY SEASON VARIATION FROM MODIS SATELLITE DATA

Saleh Daqamseh, Shattri Mansor, Saied Perasteh, Ahmad Rodzi, University Putra Malaysia, Malaysia

TUP1.PL.6 RETRACKING STRATEGY BASED ON WAVEFORM CLASSIFICATION AND SUB-WAVEFORM EXTRACTION FOR COASTAL ALTIMETRY ALONG CHINA COASTAL SEAS

Le Yang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Mingsen Lin, National Satellite Ocean Application Service, State Oceanic Administration, China; Qinhuo Liu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Delu Pan, Second Institute of Oceanography, State Oceanic Administration, China

TUP1.PL.7 ENVISAT RA-2 SEA LEVEL DATA VALIDATION USING DAILY MEAN SEA LEVEL DATA FROM A TIDE GAUGE, IN THE GULF OF CADIZ (SPAIN).

Patricia López-León, Jesús Gómez-Enri, Begoña Tejedor, Alazne Aboitiz, University of Cadiz, Spain; Stefano Vignudelli, National Research Council (CNR), Italy; Pilar Villares, University of Cadiz, Spain

TUP1.PL.8 ◇ VARIABILITY OF THE KUROSHIO CURRENT DYNAMIC HEIGHT ON DECADAL TIME SCALES

Chuntao Chen, Jiajia Liu, Ocean University of China, China

TUP1.PL.9 OPTIMAL ALGORITHMS FOR SPACEBORNE ALTIMETER

Boris Grischchkin, Alexander Baskakov, Moscow Power Engineering Institute (Technical University), Russian Federation

TUESDAY

TUP1.PM: Tuesday, July 27, 09:40 - 10:45**TUP1.PM Lidar Technology**

Session Type: Poster

Time: Tuesday, July 27, 09:40 - 10:45

Place: Poster Area M

Co-Chairs: John Kerekes, Rochester Institute of Technology and Michael Cathcart, Georgia Institute of Technology

TUP1.PM.1 SENSITIVITY STUDIES FOR SPACE-BASED LASER MEASUREMENTS OF ATMOSPHERIC CO₂ CONCENTRATION TOWARDS FUTURE NASA MISSION ASCENDS

Jianping Mao, University of Maryland at Baltimore County, United States; S. Randolph Kawa, James B. Abshire, Haris Riris, NASA Goddard Space Flight Center, United States

TUP1.PM.2 COMPARATIVE ANALYSIS OF TWO NEW APPROACHES FOR LIDAR SYSTEM CALIBRATION

Ayman Habib, Ki In Bang, Ana Kersting, University of Calgary, Canada

TUP1.PM.3 GLOBAL LASER PULSE REFLECTANCE AT 1064 NM OF SNOW AND LAND SURFACES FROM THE GEOSCIENCES LASER ALTIMETER SYSTEM SATELLITE LIDAR

James Spinhirne, University of Arizona, United States; Stephen Palm, SSAI, United States

TUP1.PM.4 A BROAD BAND LIDAR FOR PRECISE ATMOSPHERIC CO₂ COLUMN ABSORPTION MEASUREMENT FROM SPACE

Elena Georgieva, Goddard Earth Sciences and Technology Center at University of Maryland Baltimore County / NASA Goddard Space Flight Center, United States; William Heaps, NASA Goddard Space Flight Center, United States; Wen Huang, Science Systems and Applications Inc., United States

TUP1.PM.5 THE SLOPE IMAGING MULTI-POLARIZATION PHOTON-COUNTING LIDAR: DEVELOPMENT AND PERFORMANCE RESULTS

Philip Dabney, David J. Harding, James B. Abshire, NASA Goddard Space Flight Center, United States; Tim Huss, Gabriel Jodor, Roman Machan, Joe Marzouk, Sigma Space Corporation, United States; Kurt Rush, Antonios Seas, Christopher Shuman, Xiaoli Sun, Susan Valett, NASA Goddard Space Flight Center, United States; Aleksey Vasilyev, Sigma Space Corporation, United States; Anthony Yu, NASA Goddard Space Flight Center, United States; Yunhui Zheng, Sigma Space Corporation, United States

TUP1.PM.6 ALTM PEGASUS SENSOR DESIGN: A NEW PARADIGM IN LIDAR TECHNOLOGY INNOVATION

Michael Sitar, Brent Smith, Optech Incorporated, Canada

TUP1.PM.7 OPTIMAL ESTIMATION OF CALIBRATION PARAMETERS FOR LIDAR DATA

Pravesh Kumari, Bill Carter, Ramesh Shrestha, University of Florida, United States

TU2.L01: Tuesday, July 27, 10:25 - 12:05**TU2.L01 Volcano and Volcanic Hazard Monitoring**

Session Type: Oral-Contributed

Time: Tuesday, July 27, 10:25 - 12:05

Place: Sea Pearl 1/2/3

Co-Chairs: Hoonyol Lee, Kangwon National University and Tetsuya Jitsufuchi, National Research Institute for Earth Science and Disaster Prevention

10:25 - 10:45

TU2.L01.1 DEVELOPMENT OF A NEW AIRBORNE HYPERSPECTRAL IMAGER FOR VOLCANO OBSERVATIONS

Tetsuya Jitsufuchi, National Research Institute for Earth Science and Disaster Prevention, Japan

10:45 - 11:05

TU2.L01.2 TOPOGRAPHIC AND THERMAL MAPPING OF VOLCANIC TERRAIN USING THE AVTIS GROUND BASED 94GHZ DUAL-MODE RADAR/RADIOMETRIC IMAGER

David Macfarlane, University of St Andrews, United Kingdom; Henry Odbert, Montserrat Volcano Observatory, Montserrat; Duncan Robertson, University of St Andrews, United Kingdom; Mike James, Harry Pinkerton, Lancaster University, United Kingdom; Geoff Wadge, University of Reading, United Kingdom

11:05 - 11:25

TU2.L01.3 MONITORING VOLCANIC AREAS USING INTERFEROMETRIC METHODS WITH GROUND TRUTH

Xiaoying Cong, Technische Universität München (TUM), Germany; Michael Eineder, German Aerospace Center (DLR), Germany; Stefan Gernhardt, Technische Universität München (TUM), Germany; Christian Minet, German Aerospace Center (DLR), Germany

11:25 - 11:45

TU2.L01.4 GLOBVOLCANO PRE-OPERATIONAL SERVICES

Maria Lucia Tampellini, Raffaella Ratti, Carlo Gavazzi Space SpA, Italy; Frank Martin Seifert, European Space Agency - ESTEC, Italy; Sven Borgstrom, Istituto Nazionale di Geofisica e Vulcanologia - Osservatorio Vesuviano, Italy; Aline Peltier, Edouard Kaminsky, Institut de Physique du Globe de Paris, France; Marco Bianchi, Tele-rilevamento Europa, Italy; Wendy Branson, MDA, Canada; Fabrizio Ferrucci, Institut de Physique du Globe de Paris, France; Barbara Him, IES Consulting, Italy; Paul van der Voet, Terrasphere, Netherlands

11:45 - 12:05

TU2.L01.5 MONITORING TIME-DEPENDENT VOLCANIC DYNAMICS AT LONG VALLEY CALDERA USING INSAR AND GPS MEASUREMENTS

Zhen Liu, Danan Dong, Paul Lundgren, Jet Propulsion Laboratory, California Institute of Technology, United States

TU2.L02: Tuesday, July 27, 10:25 - 12:05**TU2.L02 Ocean Surface Salinity and Temperature**

Session Type: Oral-Contributed

Time: Tuesday, July 27, 10:25 - 12:05

Place: Sea Pearl 4/5/6

Co-Chairs: Simon Yueh, Jet Propulsion Laboratory and David Le Vine, Goddard Space Flight Center

10:25 - 10:45

TU2.L02.1 SALINITY RETRIEVAL ALGORITHM FOR AQUARIUS

Frank Wentz, Remote Sensing Systems, United States; David Le Vine, Goddard Space Flight Center, United States

10:45 - 11:05

TU2.L02.2 AQUARIUS SCATTEROEMTER CALIBRATION AND ROUGHNESS CORRECTION ALGORITHM

Simon Yueh, Adam Freedman, Alexander Fore, Mario Chaubell, Jet Propulsion Laboratory, California Institute of Technology, United States

11:05 - 11:25

TU2.L02.3 AQUARIUS RADIOMETER: PRE-LAUNCH PERFORMANCE AND CALIBRATION

Jeffrey Piepmeier, Liang Hong, Lakisha Bates, Fernando Pellerano, NASA Goddard Space Flight Center, United States

11:25 - 11:45

TU2.L02.4 AIRCRAFT AND IN SITU SALINITY AND OCEAN COLOR MEASUREMENTS: BRIDGING THE SATELLITE SALINITY COASTAL GAP

Joel Wesson, Derek Burrage, Naval Research Laboratory, United States; Virgilio Maisonet, Stephan Howden, University of Southern Mississippi, United States

11:45 - 12:05

TU2.L02.5 DESCRIPTORS FOR SEA SURFACE TEMPERATURE FRONT REGULARITY CHARACTERIZATION

Ba Silève, Ronan Fablet, Dominique Pastor, Université Européenne de Bretagne, France; Bertrand Chapron, IFREMER, France

TU2.L03: Tuesday, July 27, 10:25 - 12:05**TU2.L03 Advanced SAR Concepts and Missions II**

Session Type: Oral-Contributed

Time: Tuesday, July 27, 10:25 - 12:05

Place: Hibiscus

Co-Chairs: Marwan Younis, German Aerospace Center (DLR) and Alberto Moreira, German Aerospace Center (DLR)

10:25 - 10:45

TU2.L03.1 BIOMASS, COREH2O, PREMIER: ESA'S CANDIDATE 7TH EARTH EXPLORER MISSIONS

Marco Arcioni, Paolo Bensi, Jean-Loup Bezy, Bernardo Carnicero Dominguez, Malcolm Davidson, Mark Drinkwater, Franco Fois, Antonio Gabriele, Roger Haagmans, Florence Heliere, Paul Ingmann, Ville Kangas, Michael Kern, Stefan Kraft, Joerg Langen, Arnaud Lecuyot, Chung-Chi Lin, Roland Meynart, Klaus Scipal, Pierluigi Silvestrin, European Space Agency - ESTEC, Netherlands

10:45 - 11:05

TU2.L03.2 STATUS OF TECHNOLOGY PREPARATION FOR NEXT GENERATION DIGITAL BEAMFORMING SAR

Christian Fischer, Christoph Heer, Christoph Schaefer, EADS Astrium GmbH, Germany

11:05 - 11:25

TU2.L03.3 MODULAR RADAR CORE FOR AIRBORNE AND SPACE APPLICATIONS

Rudolf Zahn, Martin Kirscht, Kosmas Weidmann, EADS Deutschland GmbH, Germany

11:25 - 11:45

TU2.L03.4 IMPLEMENTATION OF A LOW COST, LIGHTWEIGHT X-BAND ANTENNA WITH INTEGRATED SIGNAL PROCESSING ELECTRONICS

Chad Patterson, Tushar Thrivikraman, Ana Yepes, Swapan Bhattacharya, John Cressler, John Papapolymerou, Georgia Institute of Technology, United States

11:45 - 12:05

TU2.L03.5 ULTRA-RAPID OPTRONIC PROCESSOR FOR INSTANTANEOUS ENVISAT/ASAR SCENE OBSERVATION

Linda Marchese, Michel Doucet, INO, Canada; Bernd Harnisch, Martin Suess, European Space Agency - ESTEC, Netherlands; Pascal Bourqui, Mathieu Legros, Nichola Desnoyers, Ludovic Guillot, Luc Mercier, Maxime Savard, Anne Martel, François Châteauneuf, Alain Bergeron, INO, Canada

TU2.L04: Tuesday, July 27, 10:25 - 12:05**TU2.L04 Inversion of Underground or Wireless Sensor Data**

Session Type: Oral-Contributed

Time: Tuesday, July 27, 10:25 - 12:05

Place: Kahili

Co-Chairs: Cedric Richard, University of Nice and Dominik Brunner, Fraunhofer-Gesellschaft

10:25 - 10:45

TU2.L04.1 INVERSE PROBLEM OF SEISMIC WAVEFORM DATA

Mrinal Sen, University of Texas at Austin, United States

10:45 - 11:05

TU2.L04.2 A NEW DIFFERENTIAL EVOLUTION ALGORITHM WITH COOPERATIVE COEVOLUTIONARY SELECTION OPERATOR FOR WAVEFORM INVERSION

Chao Wang, Jinghui Gao, Xi'an Jiaotong university, China

11:05 - 11:25

TU2.L04.3 PHENOMENOLOGICAL MODEL INVERSION WITH FISHER INFORMATION METRICS FOR UNEXPLODED ORDNANCE DETECTION

Jeremiah Remus, Clarkson University, United States; Leslie Collins, Duke University, United States

11:25 - 11:45

TU2.L04.4 DISTRIBUTED LEARNING WITH KERNELS IN WIRELESS SENSOR NETWORKS FOR PHYSICAL PHENOMENA MODELING AND TRACKING

Cédric Richard, Laboratoire Fizeau (UMR CNRS 6525, OCA), France; Paul Honeine, Hichem Snoussi, Institut Charles Delaunay (FRE CNRS 2848), France; André Ferrari, Céline Theys, Laboratoire Fizeau (UMR CNRS 6525, OCA), France

11:45 - 12:05

TU2.L04.5 COLLABORATIVE PROCESSING OF ACOUSTIC AND MAGNETIC DATA VIA HETEROGENEOUS SENSOR NETWORKS

Lei Liu, Yongqiang Chen, National Key Laboratory of Microwave Imaging Technology, Institute of Electronics, Chinese Academy of Sciences, China; Jin Zhan, Institute of Electronics, Chinese Academy of Sciences, China; Minhui Zhu, National Key Laboratory of Microwave Imaging Technology, Institute of Electronics, Chinese Academy of Sciences, China

TU2.L05: Tuesday, July 27, 10:25 - 12:05**TU2.L05 Remote Sensing of Soil Moisture: Algorithms and Validation II**

Session Type: Oral-Invited
 Time: Tuesday, July 27, 10:25 - 12:05
 Place: South Pacific 3
 Co-Chairs: Venkat Lakshmi, University of South Carolina and John Bolten, NASA GSFC

10:25 - 10:45

TU2.L05.1 THE SMAP IN SITU SOIL MOISTURE SENSOR TESTBED: COMPARING IN SITU SENSORS FOR SATELLITE VALIDATION

Michael Cosh, USDA-ARS-HRSL, United States; Tyson Ochsner, Oklahoma State University, United States; Jeff Basara, University of Oklahoma, United States; Thomas Jackson, USDA-ARS-HRSL, United States

10:45 - 11:05

TU2.L05.2 A CALIBRATION SITE IN THE AUSTRALIAN DESERT FOR SMOS

Jeffrey Walker, Christoph Rüdiger, University of Melbourne, Australia; Yann Kerr, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Edward Kim, NASA Goddard Space Flight Center, United States; Robert Gurney, University of Reading, United Kingdom; Damian Barrett, University of Queensland, Australia; John Le Marshall, Bureau of Meteorology, Australia

11:05 - 11:25

TU2.L05.3 SMOS CALIBRATION AND VALIDATION ACTIVITIES WITH AIRBORNE INTERFEROMETRIC RADIOMETER HUT-2D DURING SPRING 2010

Juha Kainulainen, Kimmo Rautiainen, Pauli Sievinen, Jaakko Seppänen, Erkka Rouhe, Martti Hallikainen, Helsinki University of Technology, Finland; Johanna Dall'Amico, University of Munich, Germany; Florian Schlenz, Alexander Loew, Max-Planck-Institute for Meteorology, Germany; Simone Bircher, Technical University of Denmark, Denmark; Carsten Montzka, Research Centre Juelich, Germany

11:25 - 11:45

TU2.L05.4 L-BAND MEASUREMENTS OF BOREAL SOIL

Anna Kontu, Juha Lemmetyinen, Kimmo Rautiainen, Jouni Pulliainen, Finnish Meteorological Institute, Finland

11:45 - 12:05

TU2.L05.5 USING ENHANCED GRACE WATER STORAGE DATA TO IMPROVE DROUGHT DETECTION BY THE U.S. AND NORTH AMERICAN DROUGHT MONITORS

Rasmus Houborg, Matthew Rodell, NASA, United States; Jay Lawrimore, National Oceanic and Atmospheric Administration, United States; Bailing Li, Rolf Reichle, NASA, United States; Richard Heim, Matthew Rosenkrans, Rich Tinker, National Oceanic and Atmospheric Administration, United States; James Famiglietti, University of California, United States; Mark Svoboda, Brian Wardlow, National Drought Mitigation Center, United States; Benjamin Zaitchik, John Hopkins University, United States

TU2.L06: Tuesday, July 27, 10:25 - 12:05**TU2.L06 SAR Image Analysis II**

Session Type: Oral-Contributed
 Time: Tuesday, July 27, 10:25 - 12:05
 Place: South Pacific 4
 Co-Chairs: Gabriel Vasile, CNRS - Grenoble Institute of Technology and Emmanuel Trouvé, LISTIC, University of Savoie

10:25 - 10:45

TU2.L06.1 POLARIMETRIC SAR IMAGE SEGMENTATION USING AFFINITY FUNCTION FROM PROBABILISTIC BOUNDARIES AND PATCH FEATURES

Wenju He, Olaf Hellwich, Berlin University of Technology, Germany

10:45 - 11:05

TU2.L06.2 A NON-LOCAL APPROACH FOR SAR AND INTERFEROMETRIC SAR DENOISING

Charles-Alban Deledalle, Florence Tupin, Telecom ParisTech, France; Loïc Denis, Ecole Supérieure de Chimie Physique Electronique de Lyon, France

11:05 - 11:25

TU2.L06.3 HIGH-RESOLUTION 3-D RADAR IMAGING USING PSEUDO-RANDOM NOISE CODED WAVEFORM

Victor Chen, POC Tech, United States

11:25 - 11:45

TU2.L06.4 ESTIMATION OF THE DEGREE OF POLARIZATION IN COMPACT POLARIMETRY

Reza Shirvany, Marie Chabert, Jean-Yves Tourneret, University of Toulouse, France

11:45 - 12:05

TU2.L06.5 A NONLOCAL APPROACH FOR SAR IMAGE DENOISING

Sara Parrilli, Mariana Poderico, Cesario Vincenzo Angelino, Giuseppe Scarpa, Luisa Verdoliva, University Federico II of Naples, Italy

TU2.L07: Tuesday, July 27, 10:25 - 12:05**TU2.L07 Next Generation Data Systems for Climate Record Continuity II**

Session Type: Oral-Invited
 Time: Tuesday, July 27, 10:25 - 12:05
 Place: Nautilus
 Chair: Robert Schweiss, NASA/GSFC

10:25 - 10:45

TU2.L07.1 THE NEXT GENERATION OF DATA SYSTEMS FOR CONTINUING THE CLIMATE RECORD OF CLOUD AND ATMOSPHERE OBSERVATIONS

Liam Gumley, Robert Holz, Henry Revercomb, Steve Dutcher, Scott Mindock, Greg Quinn, Min Oo, University of Wisconsin-Madison, United States

10:45 - 11:05

TU2.L07.2 NEXT GENERATION OZONE SCIENCE DATA PROCESSING: TOMS TO OMP5

Curt Tilmes, NASA Goddard Space Flight Center, United States

11:05 - 11:25

TU2.L07.3 SCIENCE DATA PROCESSING AND DISTRIBUTION OF CLOUDS AND THE EARTH'S RADIANT ENERGY SYSTEM (CERES) DATA FOR THE NPOESS PREPARATORY PROJECT (NPP)

James W. Closs, John L. Robbins, Walter F. Miller, NASA Langley Research Center / SSAI, United States; Jonathan L. Gleason, NASA Langley Research Center, United States

11:25 - 11:45

TU2.L07.4 THE NASA NPP SOUNDER PEATE PRODUCTS SUPPORTING EDR ASSESSMENTS FOR CLIMATE RESEARCH

Evan Fishbein, Steven Friedman, Sung-Yung Lee, Ruth Monarrez, Nikita Pougatchev, NASA Jet Propulsion Laboratory, United States

11:45 - 12:05

TU2.L07.5 INVESTIGATING THE FEASIBILITY OF THE GLOBSNOW SNOW WATER EQUIVALENT DATA FOR CLIMATE RESEARCH PURPOSES

Kari Luojus, Jouni Pulliainen, Finnish Meteorological Institute, Finland; Chris Derksen, Environment Canada, Canada; Helmut Rott, Thomas Nagler, ENVED IT GmbH, Austria; Rune Solberg, Norwegian Computing Center, Norway; Andreas Wiesmann, GAMMA Remote Sensing Research and Consulting AG, Switzerland; Sari Metsämäki, Finnish Environment Institute, Finland; Eirik Malnes, Northern Research Institute, Norway; Bojan Bojkov, European Space Agency, Italy

TU2.L08: Tuesday, July 27, 10:25 - 12:05**TU2.L08 Atmospheric Profiling**

Session Type: Oral-Contributed
 Time: Tuesday, July 27, 10:25 - 12:05
 Place: South Pacific 1/2
 Co-Chairs: Al Gasiewski, University of Colorado and Fabrizio Cuccoli, CNIT

10:25 - 10:45

TU2.L08.1 VERTICAL MOIST THERMODYNAMIC STRUCTURE OF THE MJO IN AIRS OBSERVATIONS AND ECMWF INTERIM REANALYSIS

Baijun Tian, Duane Waliser, Eric Fetzer, Bjorn Lambrigtsen, Jet Propulsion Laboratory, United States; Yuk Yung, California Institute of Technology, United States

10:45 - 11:05

TU2.L08.2 A COMPARISON OF ESTIMATED MIXING HEIGHT BY MULTIPLE REMOTE SENSING INSTRUMENTS AND ITS INFLUENCE ON AIR QUALITY IN URBAN REGIONS

Chuen Meei Gan, CUNY Graduate Center, United States; Yonghua Wu, Barry Gross, Mark Arend, Fred Moshary, Samir Ahmed, City College of New York, United States

11:05 - 11:25

TU2.L08.3 DERIVING CONVECTIVE STRUCTURE FROM MICROWAVE SOUNDER OBSERVATIONS

Bjorn Lambrigtsen, Jet Propulsion Laboratory, California Institute of Technology, United States

11:25 - 11:45

TU2.L08.4 IMPROVED ALL-WEATHER ATMOSPHERIC SOUNDING USING HYPERSPECTRAL MICROWAVE OBSERVATIONS

William Blackwell, R. Vincent Leslie, Michael Pieper, Jenna Samra, Massachusetts Institute of Technology Lincoln Laboratory, United States

11:45 - 12:05

TU2.L08.5 AEROSOL REMOTE SENSING FROM MOVING PLATFORMS WITH THE FUBISS RADIOMETERS

Jonas von Bismarck, Thomas Ruhtz, Jürgen Fischer, Freie Universität Berlin, Germany

TU2.L09: Tuesday, July 27, 10:25 - 12:05**TU2.L09 SAR Polarimetry: Theory and Applications II**

Session Type: Oral-Invited

Time: Tuesday, July 27, 10:25 - 12:05

Place: Coral 1

Co-Chairs: Carlos López-Martínez, Universitat Politècnica de Catalunya and Eric Pottier, Université de Rennes 1

10:25 - 10:45

TU2.L09.1 COMPACT POLARIMETRY AT THE MOON: THE MINI-RF RADARS

R. Keith Raney, Johns Hopkins University Applied Physics Laboratory, United States; Paul Spudis, Lunar and Planetary Institute, United States; Ben Bussey, J. Robert Jensen, Johns Hopkins University Applied Physics Laboratory, United States; Bill Marinelli, NASA Headquarters, United States; Priscilla McKerracher, Ron Schulze, Herman Sequeira, Helene Winters, Johns Hopkins University Applied Physics Laboratory, United States

10:45 - 11:05

TU2.L09.2 THE COMPACT POLARIMETRY ALTERNATIVE FOR SOIL MOISTURE ESTIMATION USING SMAP

Anthony Freeman, Jet Propulsion Laboratory, California Institute of Technology, United States; Pascale Dubois-Fernandez, My-Linh Truong-Loi, ONERA, France; Seungbum Kim, Jet Propulsion Laboratory, California Institute of Technology, United States

11:05 - 11:25

TU2.L09.3 POTENTIALS OF A COMPACT POLARIMETRIC SAR SYSTEM

My-Linh Truong-Loi, Pascale Dubois-Fernandez, ONERA, France; Eric Pottier, IETR UMR CNRS 6164, France; Anthony Freeman, Jet Propulsion Laboratory, United States; Jean-Claude Souyris, CNES, France

11:25 - 11:45

TU2.L09.4 POLARIMETRIC SCATTERING ANALYSIS FOR ACCURATE OBSERVATION OF STRICKEN MAN-MADE TARGETS USING A ROTATED COHERENCY MATRIX

Ryoichi Sato, Yoshio Yamaguchi, Hiroyoshi Yamada, Niigata University, Japan

11:45 - 12:05

TU2.L09.5 POLARIMETRIC L-BAND PALSAR FOR PEATLAND CHARACTERIZATION

Ridha Touzi, G. Gosselin, A.M. Demers, Canada Centre for Remote Sensing, Canada; R. Brooks, University of Calgary, Canada

TU2.L10: Tuesday, July 27, 10:25 - 12:05**TU2.L10 Applications Bridging the Period Between EOS and the Decadal Survey Eras**

Session Type: Oral-Contributed

Time: Tuesday, July 27, 10:25 - 12:05

Place: Coral 2

Co-Chairs: Andrea Donnellan, JPL and Stephen Volz, NASA

10:25 - 10:45

TU2.L10.1 THE THERMAL INFRARED SENSOR ON THE LANDSAT DATA CONTINUITY MISSION

Dennis Reuter, Cathleen Richardson, James Irons, NASA Goddard Space Flight Center, United States; Richard Allen, University of Idaho, United States; Martha Anderson, US Department of Agriculture/ARS, United States; Jason Budinoff, Gordon Casto, Craig Coltharp, NASA Goddard Space Flight Center, United States; Paul Finneran, Jackson and Tull Inc., United States; Betsy Forsbacka, NASA Goddard Space Flight Center, United States; Taylor Hale, Tom Jennings, SGT, Inc., United States; Murzy Jhabvala, NASA Goddard Space Flight Center, United States; Allen Lunsford, Catholic University of America, United States; Greg Magnuson, Orbital Sciences Corp, United States; Rick Mills, NASA Goddard Space Flight Center, United States; Tony Morse, Idaho Department of Water Resources, United States; Veronica Otero, Scott Rohrbach, Ramsey Smith, NASA Goddard Space Flight Center, United States; Terry Sullivan, Muniz Engineering, United States; Zelalem Tesfaye, Millenium Engineering and Integration Company, United States; Kurtis Thome, Glenn Unger, Paul Whitehouse, NASA Goddard Space Flight Center, United States

10:45 - 11:05

TU2.L10.2 ACCURATE MONITORING OF TERRESTRIAL AEROSOLS AND TOTAL SOLAR IRRADIANCE: THE NASA GLORY MISSION

Michael Mishchenko, Brian Cairns, NASA Goddard Institute for Space Studies, United States; Greg Kopp, Laboratory for Atmospheric and Space Physics, United States; Hal B. Maring, NASA Headquarters, United States; Bryan Fafaul, NASA Goddard Space Flight Center, United States; Kirk Knobelspiesse, Jacek Chowdhary, NASA Goddard Institute for Space Studies, United States

11:05 - 11:25

TU2.L10.3 NEXT-GENERATION GLOBAL PRECIPITATION PRODUCTS AND THEIR APPLICATIONS

Arthur Hou, NASA Goddard Space Flight Center, United States

11:25 - 11:45

TU2.L10.4 THE AQUARIUS/SAC-D MISSION OVERVIEW

Gary Lagerloef, Earth and Space Research, United States; Sandra Torrusio, Comision Nacional de Actividades Espaciales (CONAE), Argentina; David Le Vine, NASA Goddard Space Flight Center, United States; Monica Rabolli, Comision Nacional de Actividades Espaciales (CONAE), Argentina

TU3.L01: Tuesday, July 27, 13:35 - 15:15**TU3.L01 Earthquakes, Volcanoes and Remote Sensing**

Session Type: Oral-Contributed

Time: Tuesday, July 27, 13:35 - 15:15

Place: Sea Pearl 1/2/3

Co-Chairs: Mariarosaria Manzo, IREA-CNR, Italy and Nicola Genzano, University of Basilicata

13:35 - 13:55

TU3.L01.1 A MULTI-SENSORS ANALYSIS OF RST-BASED THERMAL ANOMALIES IN THE CASE OF THE ABRUZZO EARTHQUAKE

Nicola Genzano, Rosita Corrado, University of Basilicata, Italy; Irina Coviello, Carolina Filizzola, Caterina Sara Livia Grimaldi, Teodosio Lacava, National Research Council (CNR), Italy; Mariano Lisi, University of Basilicata, Italy; Francesco Marchese, National Research Council (CNR), Italy; Giuseppe Mazzeo, University of Basilicata, Italy; Rossana Paciello, Nicola Pergola, National Research Council (CNR), Italy; Valerio Tramutoli, University of Basilicata, Italy

13:55 - 14:15

TU3.L01.2 A KNOWLEDGE-BASED METHOD FOR RAPID POST-EARTHQUAKE DAMAGE ASSESSMENT USING HIGH RESOLUTION OPTICAL AND SAR SATELLITE IMAGERY

Y. Sh Dong, W.H Fang, Lu Jin, D.Y Yu, Beijing Normal University, China

14:15 - 14:35

TU3.L01.3 THREE-DIMENSIONAL DEFORMATION FIELD CAUSED BY THE GAIZE EARTHQUAKE BY MULTI-LOS DINSAR MEASUREMENT TECHNOLOGY

Hong Shunying, Institute of Geology, China Earthquake Administration, China; Shen Xuhui, Institute of Earthquake Science, China Earthquake Administration, China; Song Xiaogang, Shan Xinjian, Institute of Geology, China Earthquake Administration, China; Liu Zhirong, Institute of Disaster Prevention Science And Technology, China; Dai Yaqiong, Institute of Earthquake Science, China Earthquake Administration, China; Kang Chunli, China Earthquake Networks Center, China; Jing Feng, Institute of Earthquake Science, China Earthquake Administration, China

14:35 - 14:55

TU3.L01.4 DEFORMATION IN HAWAII'S VOLCANOES OBTAINED FROM A SCANSAR-TO-STRIPMAP SMALL BASELINE SUBSET TECHNIQUE

Antonio Pepe, IREA - CNR, Italy; Ana Bertran Ortiz, Jet Propulsion Laboratory, United States; Riccardo Lanari, IREA - CNR, Italy; Paul Lundgren, Paul Rosen, Jet Propulsion Laboratory, United States; Manuela Bonano, Università 'La Sapienza', Italy

14:55 - 15:15

TU3.L01.5 ROBUST SATELLITE TECHNIQUES (RST) FOR ACTIVE VOLCANOES MONITORING

Francesco Marchese, Carolina Filizzola, National Research Council (CNR), Italy; Giuseppe Mazzeo, University of Basilicata, Italy; Rossana Paciello, Nicola Pergola, National Research Council (CNR), Italy; Valerio Tramutoli, University of Basilicata, Italy

TU3.L02: Tuesday, July 27, 13:35 - 15:15

TU3.L02 Satellite Altimetry Past, Present and Future I

Session Type: Oral-Invited
 Time: Tuesday, July 27, 13:35 - 15:15
 Place: Sea Pearl 4/5/6
 Co-Chairs: William J. Emery, U. Colorado and Jesús Gómez-Enri, UCA

13:35 - 13:55

TU3.L02.1 17 YEARS AND COUNTING: SATELLITE ALTIMETRY FROM RESEARCH TO OPERATIONS

Josh Willis, Lee-Lueng Fu, Jet Propulsion Laboratory, United States; Eric Lindstrom, NASA, United States; Margaret Srinivasan, Jet Propulsion Laboratory, United States

13:55 - 14:15

TU3.L02.2 PROGRESS IN COASTAL ALTIMETRY: OUTCOMES OF THE COASTALT PROJECT

Paolo Cipollini, Peter Challenor, National Oceanography Centre, Southampton, United Kingdom; Henrique Coelho, Hidromod Modelação em Engenharia Lda, Portugal; Joana Fernandes, Universidade do Porto, Portugal; Scott Gleason, National Oceanography Centre, Southampton, United Kingdom; Jesús Gómez-Enri, University of Cadiz, Spain; Christine Gommenginger, National Oceanography Centre, Southampton, United Kingdom; Cristina Martín-Puig, Starlab, Spain; Graham Quartly, Helen Snaith, National Oceanography Centre, Southampton, United Kingdom; Stefano Vignudelli, Consiglio Nazionale Delle Ricerche, Italy; Phil Woodworth, Proudman Oceanographic Laboratory, United Kingdom; Salvatore Dinaro, SERCO/ESRIN, Italy; Jérôme Benveniste, European Space Agency - ESRIN, Italy

14:15 - 14:35

TU3.L02.3 NEW METHOD FOR RECONSTRUCTING SEA LEVEL FROM TIDE GAUGES USING SATELLITE ALTIMETRY

Benjamin Hamlington, Robert Leben, Steven Nerem, University of Colorado at Boulder, United States; Kwang-Yul Kim, Seoul National University, Republic of Korea

14:35 - 14:55

TU3.L02.4 ERROR STRUCTURES IN ALTIMETRY DATA FROM THE WET TROPOSPHERIC CORRECTION

Shannon Brown, Shailen Desai, Jet Propulsion Laboratory, United States

14:55 - 15:15

TU3.L02.5 A LONG-LIVED HURRICANE-INTENSIFIED CYCLONIC OCEAN EDDY

Robert Leben, David A. Joy, University of Colorado, United States; Jessica Hausman, Jet Propulsion Laboratory, United States

TU3.L03: Tuesday, July 27, 13:35 - 15:15

TU3.L03 LAI, Reflectance, and Fluorescence

Session Type: Oral-Contributed
 Time: Tuesday, July 27, 13:35 - 15:15
 Place: Hibiscus
 Co-Chairs: Tony Milne, CRC for Spatial Information and Mehmet Kurum, NASA Goddard

13:35 - 13:55

TU3.L03.1 GLOBAL LEAF AREA INDEX MAPPING AND ITS REMAINING CHALLENGES

Jing Chen, Jan Pisek, Feng Deng, University of Toronto, Canada; Stephen Plummer, European Space Agency - ESRIN, Italy

13:55 - 14:15

TU3.L03.2 PHYSICALLY-BASED CANOPY REFLECTANCE MODEL INVERSION OF FOREST STRUCTURE FROM MODIS IMAGERY IN BOREAL AND MOUNTAINOUS TERRAIN USING THE BIOPHYS-MFM ALGORITHM

Derek Peddle, University of Lethbridge, Canada; Forrest Hall, NASA GSFC / UMBC, United States

14:15 - 14:35

TU3.L03.3 THE EFFECTIVE NATURE OF LAI AS MEASURED FROM REMOTE SENSING OBSERVATIONS

Sivasathivel Kandasamy, Raul Lopez-Lozano, Frederic Baret, INRA-EMMAH, France; Nadia Rochdi, Alberta Terrestrial Imaging Center, Canada

14:35 - 14:55

TU3.L03.4 OBSERVING FLUORESCENCE FROM SPACE: ESA'S MISSION CONCEPTS

Matthias Drusch, European Space Agency, Netherlands; Jose Moreno, Luis Guanter, University of Valencia, Spain; Bernardo Carnicero, Stefan Kraft, European Space Agency, Netherlands

14:55 - 15:15

TU3.L03.5 INTRODUCTION TO FRACTION OF ABSORBED PAR BY CANOPY CHLOROPHYLL (FAPARCHL) AND CANOPY LEAF WATER CONTENT DERIVED FROM HYPERION, SIMULATED HYSPIRI AND MODIS IMAGES

Qingyuan Zhang, University of Maryland Baltimore County, United States; Elizabeth Middleton, NASA, United States

TUESDAY

TU3.L04: Tuesday, July 27, 13:35 - 15:15**TU3.L04 KOMPSAT-5 SAR Mission I**

Session Type: Oral-Invited
 Time: Tuesday, July 27, 13:35 - 15:15
 Place: Kahili
 Co-Chairs: Wooil M. Moon, University of Manitoba and Yong-Sik Chun, KARI

13:35 - 13:55

TU3.L04.1 ◇ OVERVIEW OF KOMPSAT-5 PROGRAM, MISSION, AND SYSTEM

Sang-Ryool Lee, Director of KOMPSAT-5 Program, Republic of Korea

13:55 - 14:15

TU3.L04.2 K5 PERFORMANCE ANALYSIS USING ANTENNA MODEL

Seunghyun Min, Taehwa Kim, Satrec Initiative Co, Republic of Korea; Jung-Hoon Keum, Jin-Hee Kim, Korea Aerospace Research Institute, Republic of Korea

14:15 - 14:35

TU3.L04.3 KOMPSAT-5 SPOTLIGHT SAR PROCESSING USING FSA WITH CALCULATION OF EFFECTIVE VELOCITY

DongHyun Kim, Satrec Initiative Co, Republic of Korea; JaeCheol Yoon, Jaemin Shin, Korea Aerospace Research Institute, Republic of Korea; MoonGyu Kim, Satrec Initiative Co, Republic of Korea

14:35 - 14:55

TU3.L04.4 FIELD TEST OF KOMPSAT-5 CALIBRATION EQUIPMENT

Jaemin Shin, Kwangjae Lee, Jin-Hee Kim, Korea Aerospace Research Institute, Republic of Korea

14:55 - 15:15

TU3.L04.5 DIRECTIONAL-ADAPTIVE DESPECKLING FOR HIGH-RESOLUTION SAR IMAGERY

Sang-Hoon Lee, Kyungwon University, Republic of Korea

TU3.L05: Tuesday, July 27, 13:35 - 15:15**TU3.L05 Combined Active and Passive Soil Moisture Retrieval**

Session Type: Oral-Contributed
 Time: Tuesday, July 27, 13:35 - 15:15
 Place: South Pacific 3
 Co-Chairs: Rajat Bindlish, USDA/ARS and Claudia Notarnicola, EURAC

13:35 - 13:55

TU3.L05.1 COMBINED ACTIVE AND PASSIVE OBSERVATIONS AT L-BAND DURING THE EIGHTH MICROWAVE, WATER AND ENERGY BALANCE EXPERIMENT

Jasmeet Judge, University of Florida, United States; Roger De Roo, Mahta Moghaddam, Anthony England, Xueyang Duan, University of Michigan, United States; Alejandro Monsivais-Huertero, Heather Enos, Tara Bongiovanni, University of Florida, United States; Yuriy Goykhman, University of Michigan, United States; Daniel Preston, Blaire Colvin, Karthik Nagarajan, University of Florida, United States

13:55 - 14:15

TU3.L05.2 AN ACTIVE-PASSIVE COMBINED ALGORITHM FOR HIGH SPATIAL RESOLUTION RETRIEVAL OF SOIL MOISTURE FROM SATELLITE SENSORS

Venkat Lakshmi, University of South Carolina, United States

14:15 - 14:35

TU3.L05.3 ◇ DERIVING SOIL MOISTURE WITH THE COMBINED L-BAND RADAR AND RADIOMETER MEASUREMENTS

Jiancheng Shi, University of California, Santa Barbara, United States; Kun-Shan Chen, National Central University, Taiwan; Leung Tsang, Washington University, Taiwan; Thomas Jackson, USDA/ARS, United States; Eni Njoku, Jakob J. van Zyl, NASA Jet Propulsion Laboratory, United States; Peggy O'Neill, NASA Goddard Space Flight Center, United States; Dara Entekhabi, Massachusetts Institute of Technology, United States; Joel Johnson, Ohio State University, United States; Mahta Moghaddam, University of Michigan, United States

14:35 - 14:55

TU3.L05.4 TOWARDS AN OPERATIONAL DAILY SOIL MOISTURE INDEX DERIVED FROM COMBINATION OF MODIS, ASAR AND AMSR-E DATA

Claudia Notarnicola, Bartolomeo Ventura, EURAC, Italy; Luca Pasoli, Università di Trento-EURAC, Italy; Francesca Di Giuseppe, ARPA-SrvizioldroMeteoClima, Italy; Marc Zebisch, EURAC, Italy

14:55 - 15:15

TU3.L05.5 MONITORING THE SEASONAL GROUND FREEZING IN THE NORTHERN QUEBEC TUNDRA USING ACTIVE AND PASSIVE MICROWAVE.

Parvin Kalantari, Monique Bernier, Jimmy Poulin, Institut National de la Recherche Scientifique, Canada

TU3.L06: Tuesday, July 27, 13:35 - 15:15

TU3.L06 Kernel methods and Manifold Learning

Session Type: Oral-Contributed
 Time: Tuesday, July 27, 13:35 - 15:15
 Place: South Pacific 4
 Co-Chairs: Bor-Chen Kuo, National Taichung University and Devis Tuia, University of Lausanne

13:35 - 13:55

TU3.L06.1 MODEL-BASED ACTIVE LEARNING FOR SVM CLASSIFICATION OF REMOTE SENSING IMAGES
 Edoardo Pasoli, Farid Melgani, University of Trento, Italy

13:55 - 14:15

TU3.L06.2 ANOMALY DETECTION FOR HYPERSPECTRAL IMAGES USING LOCAL TANGENT SPACE ALIGNMENT
 Li Ma, Melba Crawford, Purdue University, United States; Jinwen Tian, Huazhong University of Science and Technology, China

14:15 - 14:35

TU3.L06.3 ESTIMATING BIOPHYSICAL VARIABLE DEPENDENCES WITH KERNELS
 Gustavo Camps-Valls, Universitat de València, Spain; Devis Tuia, University of Lausanne, Switzerland; Valero Laparra, Jesús Malo, Universitat de València, Spain

14:35 - 14:55

TU3.L06.4 SPATIAL INFORMATION BASED SUPPORT VECTOR MACHINE FOR HYPERSPECTRAL IMAGE CLASSIFICATION
 Bor-Chen Kuo, Chih-Sheng Huang, National Taichung University, Taiwan; Chih-Cheng Hung, Southern Polytechnic State University, United States; Yu-Lung Liu, Asia University, Taiwan; I-Ling Chen, National Taichung University, Taiwan

14:55 - 15:15

TU3.L06.5 AN AUTOMATIC METHOD FOR SELECTING THE PARAMETER OF THE RBF KERNEL FUNCTION TO SUPPORT VECTOR MACHINES
 Cheng-Hsuan Li, Chin-Teng Lin, National Chiao-Tung University, Taiwan; Bor-Chen Kuo, Hui-Shan Chu, National Taichung University, Taiwan

TU3.L07: Tuesday, July 27, 13:35 - 15:15

TU3.L07 EOS Terra Contributions to Earth Science – The First 10 Years I

Session Type: Oral-Invited
 Time: Tuesday, July 27, 13:35 - 15:15
 Place: Nautilus
 Co-Chairs: Si-Chee Tsay, NASA Goddard Space Flight Center, USA and Robert Wolfe, NASA

13:35 - 14:15 Overview Talk (40 minutes)

TU3.L07.1 EMERGING IMPLICATIONS OF A TEN-YEAR TERRA DATA RECORD FOR EARTH SCIENCE
 Marc L. Imhoff, Norman Loeb, David Diner, NASA, United States; Michael King, University of Colorado at Boulder, United States; James Drummond, Dalhousie University, Canada; John Gille, UCAR, United States; Michael Abrams, Robert Wolfe, Si-Chee Tsay, NASA, United States

14:15 - 14:35

TU3.L07.3 10 YEARS OF ASTER OPERATION: ACCOMPLISHMENTS
 Michael Abrams, Jet Propulsion Laboratory, United States; Yasushi Yamaguchi, Nagoya University, Japan; Hiroji Tsu, ERSDAC, Japan

14:35 - 14:55

TU3.L07.4 ADVANCES IN EARTH RADIATION BUDGET OBSERVATIONS FROM CERES TERRA
 Norman Loeb, Kory Priestley, Patrick Minnis, Takmeng Wong, Seiji Kato, Kuan-Man Xu, David Doelling, NASA Langley Research Center, United States

14:55 - 15:15

TU3.L07.5 THE IMPACT OF MOPITT DATA ON TROPOSPHERIC CHEMISTRY
 John Gille, National Center for Atmospheric Research, United States; James Drummond, Dalhousie University, Canada; David Edwards, Merritt Deeter, Dallas Masters, Louisa Emmons, Gabriele Pfister, National Center for Atmospheric Research, United States

TUESDAY

TU3.L08: Tuesday, July 27, 13:35 - 15:15**TU3.L08 TRMM and GPM Precipitation Missions II**

Session Type: Oral-Invited

Time: Tuesday, July 27, 13:35 - 15:15

Place: South Pacific 1/2

Co-Chairs: V. Chandrasekar, Colorado State University and Gail Skofronick-Jackson, NASA Goddard Space Flight Center

13:35 - 13:55

TU3.L08.1 GPM MISSION OVERVIEW AND U.S. SCIENCE STATUS

Arthur Hou, NASA Goddard Space Flight Center, United States

13:55 - 14:15

TU3.L08.2 ◇ GPM FIELD CAMPAIGNS FOR ALGORITHM PHYSICS

Walter Petersen, Mathew Schwaller, Arthur Hou, NASA, United States

14:15 - 14:35

TU3.L08.3 LAND SURFACE EMISSION MODELING TO SUPPORT PHYSICAL PRECIPITATION RETRIEVALS

Christa Peters-Lidard, NASA, United States; Kenneth Harrison, ESSIC/NASA, United States; Sujay Kumar, SAIC/NASA, United States; Ralph Ferrara, National Oceanic and Atmospheric Administration, United States; Gail Skofronick-Jackson, NASA, United States

14:35 - 14:55

TU3.L08.4 A GENERALIZED LOGICAL FORMAT FOR INTER-CALIBRATED BRIGHTNESS TEMPERATURES FOR THE GLOBAL PRECIPITATION MEASUREMENT MISSION

Erich Stocker, NASA Goddard Space Flight Center, United States; John Stout, George Mason University, United States; Christian Kummerow, Wesley Berg, Colorado State University, United States

14:55 - 15:15

TU3.L08.5 DATA VISUALIZATION AND ANALYSIS TOOLS FOR THE GLOBAL PRECIPITATION MEASUREMENT (GPM) VALIDATION NETWORK

Kenneth Robert Morris, SAIC, United States; Mathew Schwaller, NASA Goddard Space Flight Center, United States

TU3.L09: Tuesday, July 27, 13:35 - 15:15**TU3.L09 Advanced Methods for Polarimetric Information Extraction I**

Session Type: Oral-Invited

Time: Tuesday, July 27, 13:35 - 15:15

Place: Coral 1

Co-Chairs: Ridha Touzi, Canada Centre for Remote Sensing and Jong-Sen Lee

13:35 - 14:15 Overview Talk (40 minutes)

TU3.L09.1 AN OVERVIEW OF RECENT ADVANCES IN POLARIMETRIC SAR INFORMATION EXTRACTION: ALGORITHMS AND APPLICATIONS

Jong-Sen Lee, Tom Ainsworth, Naval Research Laboratory, United States

14:15 - 14:35

TU3.L09.3 ◇ OPTIMAL PARAMETER ESTIMATION IN HETEROGENEOUS CLUTTER FOR HIGH RESOLUTION POLARIMETRIC SAR DATA

Gabriel Vasile, National Council for Scientific Research, France; Frédéric Pascal, Supelec, France; Jean-Philippe Ovarlez, ONERA, France; Steeve Zozor, Michel Gay, National Council for Scientific Research, France

14:35 - 14:55

TU3.L09.4 SPACEBORNE FULLY POLARIMETRIC TIME-SERIES DATASETS FOR LAND COVER ANALYSIS

Eric Pottier, IETR - UMR CNRS 6164, France; Cécile Marechal, COSTEL - UMR CNRS 6554, France

14:55 - 15:15

TU3.L09.5 CRITICAL ASSESSMENT OF DIVERSE POLARIMETRIC SAR SYSTEMS – PROS AND CONS

Wolfgang-Martin Boerner, UIECE Communications, Sensing & Navigation Laboratory, United States; Tom Ainsworth, NRL-RSD/ISS, United States; Eric Pottier, University of Rennes 1, France; Ya-Qiu Jin, Fudan University, China; Shane Cloude, AEL Consultants, United Kingdom; Yoshio Yamaguchi, NUIE, Japan; Jakob J. van Zyl, Jet Propulsion Laboratory, United States; Konstantinos Papathanassiou, German Aerospace Center (DLR), Germany; Carlos López-Martínez, UPC-TSC/ARS-Group, Spain; Ridha Touzi, Canada Centre for Remote Sensing, Canada

TU3.L10: Tuesday, July 27, 13:35 - 15:15

TU3.L10 Microwave Scatterometry, Radiometry and Ocean Applications (Honoring Dr. W. Linwood Jones) I

Session Type: Oral-Contributed

Time: Tuesday, July 27, 13:35 - 15:15

Place: Coral 2

Co-Chairs: Peter Black, Naval Research Laboratory / Marine Meteorology Division (SAIC) and Khalil A. Ahmad, NOAA/NESDIS/STAR

13:35 - 13:55

TU3.L10.1 DEVELOPMENT OF IMPROVED SATELLITE MICROWAVE SCATTEROMETER OCEAN VECTOR WIND RETRIEVALS IN EXTREME WIND EVENTS

Suleiman Alswiss, Peth Laupattarakasem, W. Linwood Jones, Ruba A. Amarin, University of Central Florida, United States

13:55 - 14:15

TU3.L10.2 ENHANCING OCEANIC RETRIEVALS USING MICROWAVE RADIOMETRY

Ruba A. Amarin, Salem El-Nimri, Sayak Biswas, Spencer Farrar, W. Linwood Jones, James Johnson, University of Central Florida, United States

14:15 - 14:35

TU3.L10.3 INTER-CALIBRATION OF SATELLITE MICROWAVE RADIOMETERS FOR CLIMATE RESEARCH

Frank Wentz, Remote Sensing Systems, United States

14:35 - 14:55

TU3.L10.4 INTERSATELLITE CALIBRATION OF MICROWAVE RADIOMETERS FOR THE GLOBAL PRECIPITATION MEASURING MISSION

Thomas Wilheit, Texas A&M University, United States

14:55 - 15:15

TU3.L10.5 FROM ALLEN TO JANGMI: 30 YEARS OF AIRBORNE TROPICAL CYCLONE PASSIVE MICROWAVE OBSERVATIONS

Peter Black, Science Applications International Corporation, United States

TUESDAY

TUP2.PA: Tuesday, July 27, 14:55 - 16:00

- TUP2.PA Land Cover Change, Ecosystems and Climate**
 Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area A
 Chair: Richard Lucas, Aberystwyth University
- TUP2.PA.1 DETECTION OF METEOROLOGICAL STATIONS' UNDERLYING SURFACE CHANGE BASED ON RS AND ANALYSIS OF ITS INFLUENCE ON AIR TEMPERATURE CHANGE IN CHINA**
 Chaoyang Sun, Qianqin Shao, Jiyan Liu, Wenhui Kuang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China
- TUP2.PA.2 LAND COVER CHANGE IN NATURAL RESERVE OF THE YELLOW RIVER DELTA, CHINA, 1999-2008**
 Qingsheng Liu, Gaohuan Liu, Chong Huang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China
- TUP2.PA.3 SPATIAL PATTERN DYNAMICS OF LAND USE IN YONGDING RIVER BASIN IN CHINA**
 Xiaobing Li, Hong Wang, Yongqin Gai, Lingmei Huang, Jingjing Yu, Beijing Normal University, China
- TUP2.PA.4 LAND USE AND LAND COVER CLASSIFICATION AND CHANGE DETECTION OF THE CASPIAN SEA FOREST BELT**
 Qiang Fu, University of California, Los Angeles, United States; Sassan Saatchi, NASA Jet Propulsion Laboratory, United States; Ali Nouri, Institute of Environment, United States; Soleiman Mohamadi, Gilan University, Iran
- TUP2.PA.5 REGIONAL CLIMATE RESPONSES TO THE LAND USE AND LAND COVER CHANGE IN HEIHE RIVER BASIN, CHINA**
 Liang Chen, Chuanyan Zhao, Zhaodong Feng, Lanzhou University, China
- TUP2.PA.6 SPATIAL MAPPING OF ACTUAL EVAPOTRANSPIRATION AND WATER DEFICIT WITH MODIS PRODUCTS IN THE SONGNEN PLAIN, NORTHEAST CHINA**
 Lihong Zeng, Kaishan Song, Bai Zhang, Zongming Wang, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China
- TUP2.PA.7 REMOTELY SENSED CHANGES IN CROP PRODUCTION OVER INDIA**
 Cristina Milesi, Hirofumi Hashimoto, California State University, Monterey Bay, United States; Arindam Samanta, Boston University, United States; Sangram Ganguly, BAERI, United States; Weile Wang, Forrest Melton, Andrew Michaelis, Petr Votava, California State University, Monterey Bay, United States; Ramakrishna R. Nemani, NASA Ames Research Center, United States; Ranga B. Myneni, Boston University, United States
- TUP2.PA.8 ◇ MODELLING THE FUTURE VARIATIONS OF LAND USE AND LAND COVER IN THE MIDDLE REACHES OF HEIHE RIVER NORTHWESTERN CHINA**
 Hua Zhang, Northwest Normal University; Lanzhou University, China; Bo Zhang, Northwest Normal University, China; Chuanyan Zhao, Lanzhou University, China
- TUP2.PA.9 DEFORESTATION DETECTION IN CERRADO BIOME OF MATO GROSSO STATE, BRAZIL, USING MULTISENSOR IMAGES**
 Gustavo Silva, Antonio Formaggio, Yosio Shimabukuro, Edson Sano, National Institute for Space Research (INPE), Brazil
- TUP2.PA.10 LAND USE AND LAND COVER CHANGE IN 1988 ~ 2007 IN THE YAMAL PENINSULA, RUSSIA**
 Qin Yu, Howard Epstein, University of Virginia, United States
- TUP2.PA.11 DEVELOPMENT OF A LAND COVER CHANGE PRODUCT FOR THE NORTH AMERICAN LAND CHANGE MONITORING SYSTEM- THE UNITED STATES PERSPECTIVE.**
 Sheikh Hossain, SGT, Inc., U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center, United States; Collin Homer, USGS, United States; Chandra Giri, ASRC, United States

TUP2.PB: Tuesday, July 27, 14:55 - 16:00

TUP2.PB Land Cover Change and Urban Regions

Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area B
 Co-Chairs: Yunyue Yu, NOAA/NESDIS and Dawn Browning, New Mexico State University

TUP2.PB.1 CHANGE ASSESSMENT OF ALEBEDO FOR THE DIFFERENT HUMANISTIC REGIONS

Bing Zhang, Liping Lei, Xiaoxue Zhou, Li Zhang, Key Laboratory of Digital Earth, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

TUP2.PB.2 SPECTRAL DATA ANALYSIS OF GROUND OBJECTS IN CHAO LAKE BASIN

Jia Liu, Institute of Remote Sensing Applications Chinese Academy of Sciences; Graduate School of Chinese Academy of Sciences, China; Qiu Yin, Shanghai Center for Satellite Remote-sensing and Application, China; Hua Xu, Institute of Remote Sensing Applications Chinese Academy of Sciences; Graduate School of Chinese Academy of Sciences, China; Li Li, Zhenghua Chen, Institute of Remote Sensing Applications Chinese Academy of Sciences, China; Yuhuan Ren, Weizhen Hou, Pengfei Yin, Institute of Remote Sensing Applications Chinese Academy of Sciences; Graduate School of Chinese Academy of Sciences, China

TUP2.PB.3 STUDY ON THE RELATIONSHIP BETWEEN HUMAN ACTIVITIES AND SPATIAL DISTRIBUTION CHANGES OF TAMARIX IN EJINA OASIS

Shouzhong Peng, Chuanyan Zhao, Xianglin Zheng, Lanzhou University, China

TUP2.PB.4 EFFECTS OF LAND USE/LAND COVER CHANGES ON SOIL EROSION-A CASE STUDY A CATCHMENT IN THE SOUTHWESTERN CHINA

Xiaqin Wu, Beijing Forestry University, China; Yunlong Cai, Peking University, China; Yuqing Zhang, Beijing Forestry University, China

TUP2.PB.5 URBAN BUILDING DAMAGE DETECTION FROM VERY HIGH RESOLUTION IMAGERY BY ONE-CLASS SVM AND SHADOW CHANGES

Peijun Li, Benqing Song, Haiqing Xu, Peking University, China

TUP2.PB.6 ESTIMATING THE EFFECT OF BIOFUEL ON LAND COVER CHANGE USING MULTI-YEAR MODIS LAND COVER DATA.

Nagendra Singh, Budhendra Bhaduri, Oak Ridge National Laboratory, United States

TUP2.PB.7 THE PRELIMINARY TEMPORAL ANALYSIS OF GROUND DEFORMATIONS IN THE AREA OF DABROWSKI COAL BASIN (SOUTH POLAND)

Stanislawa Porzycka, Andrzej Lesniak, AGH University of Science and Technology Krakow, Poland

TUP2.PB.8 SEGMENTATION OF LAKES FROM THE LOCAL BACKGROUND ON THE SURFACE OF TITAN USING CASSINI SAR IMAGES

Emmanuel Bratsolis, University of Athens, Greece

TUP2.PB.9 IMPACT OF THE SPATIAL RESOLUTION ON SAR CHANGE DETECTION

Xavier Dupuis, Helene Oriot, ONERA, France

TUP2.PB.10 LAND USE CHANGE IN THE UNIVERSIDADE FEDERAL DE LAVRAS CAMPUS, MINAS GERAIS STATE, BRAZIL

Elizabeth Ferreira, Antonio Augusto Aguilar Dantas, Universidade Federal de Lavras, Brazil

TUESDAY

TUP2.PC: Tuesday, July 27, 14:55 - 16:00

- TUP2.PC Wetlands and Inland Waters Poster II**
 Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area C
 Chair: Bruce Chapman, Jet Propulsion Laboratory
- TUP2.PC.1 ON THE POTENTIAL OF ROBUST SATELLITE TECHNIQUES (RST) APPROACH FOR FLOODED AREAS DETECTION AND MONITORING USING THERMAL INFRARED DATA**
 Mariapia Faruolo, University of Basilicata, Italy; Irina Coviello, Teodosio Lacava, Nicola Pergola, National Research Council (CNR), Italy; Valerio Tramutoli, University of Basilicata, Italy
- TUP2.PC.2 ◇ NASA'S WATER RESOURCES ELEMENT WITHIN THE APPLIED SCIENCES PROGRAM**
 David Toll, NASA Goddard Space Flight Center, United States; Bradley Doorn, NASA Headquarters, United States; Edwin Engman, Science Applications International Corporation, United States
- TUP2.PC.3 DYNAMICS OF OASIS LANDSCAPE IN INLAND SHULE RIVER BASIN IN ARID NORTHWEST CHINA**
 Guojing Yang, Baisheng Ye, Xia Xie, Lihua Zhou, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, China
- TUP2.PC.4 LAKE SHRINKAGE ANALYSIS USING SPECTRAL-SPATIAL COUPLED REMOTE SENSING ON TIBETAN PLATEAU**
 Cheng Qiao, Jiancheng Luo, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Yongwei Sheng, University of California, United States; Zhanfeng Shen, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Junli Li, University of California, China
- TUP2.PC.5 MAPPING COASTAL WETLANDS USING POLARIMETRIC ALOS PALSAR DATA IN NORTH CAROLINA**
 Andrew Lawson, Joni Bugden-Storie, Western Carolina University, United States
- TUP2.PC.6 ASSESSMENT OF AIRBORNE LIDAR DATA FOR INSTREAM FLOW TYPE CLASSIFICATION**
 Yu-Li Lin, Chi-Kuei Wang, National Cheng Kung University, Taiwan
- TUP2.PC.7 BIRD MIGRATION UNDER CLIMATE CHANGE – A MECHANISTIC APPROACH USING REMOTE SENSING**
 James Smith, NASA Goddard Space Flight Center, United States; Tim Blattner, University of Maryland Baltimore County, United States; Peter Messmer, Tech-X Corporation, United States
- TUP2.PC.8 ADVANCES IN MAPPING AND MODELING SALMON HABITAT USING PRISM, PALSAR, AND TERRASAR-X DATA**
 Rick Guritz, University of Alaska, Fairbanks, United States; Dan Miller, Earth Systems Institute, United States; Kelly Burnett, U.S. Forest Service, United States

TUP2.PD: Tuesday, July 27, 14:55 - 16:00

TUP2.PD Applications: Coastal and Wetlands Poster II

Session Type: Poster
Time: Tuesday, July 27, 14:55 - 16:00
Place: Poster Area D
Chair: Kun-Shan Chen, dkschen@csrsr.ncu.edu.tw

TUP2.PD.1 A STUDY OF TIDAL CHANNEL INFLUENCE UPON SURFICIAL SEDIMENT DISTRIBUTION IN THE GANGHWA-DO SOUTHERN TIDAL FLAT

Jin Ah Eom, Jong-Kuk Choi, Joo-Hyung Ryu, Korea Ocean Research & Development Institute, Republic of Korea; Joong-Sun Won, Yonsei University, Republic of Korea

TUP2.PD.2 THE CHANGE OF TIDAL SURFACE SEDIMENT FACIES USING HIGH RESOLUTION REMOTE SENSING BY GIS ANALYSIS

Jong-Kuk Choi, Joo-Hyung Ryu, Jin Ah Eom, Korea Ocean Research & Development Institute, Republic of Korea

TUP2.PD.3 APPLICATION OF AIRBORNE REMOTE SENSING TO THE SURFACE SEDIMENT CLASSIFICATION IN A TIDAL FLAT

Joo-Hyung Ryu, Jin Ah Eom, Jong-Kuk Choi, Korea Ocean Research & Development Institute, Republic of Korea

TUP2.PD.4 MAPPING CORAL REEF BOTTOM-TYPES AND BATHYMETRY USING COMPACT AIRBORNE SPECTROGRAPHIC IMAGER (CASI) DATA

Ian Leiper, Stuart Phinn, University of Queensland, Australia

TUP2.PD.5 MODIFICATION OF SEADAS SWIR ATMOSPHERIC CORRECTION SCHEME FOR ACCURATE RETRIEVAL OF NIR REMOTE SENSING REFLECTANCE IN THE RIVER DELTA REGIONS OF THE WORLD

James Davies, Colleen Mouw, Chris Moeller, UW-Madison, United States

TUP2.PD.6 RADAR OBSERVATIONS OF WAVE FIELD IN LITTORAL ZONE

Stylianios Flampouris, Joerg Seemann, Friedwart Ziemer, GKSS Research Center, Germany

TUP2.PD.7 REMOTE SENSING OF PRODUCTIVITY AND CALCIFICATION OF THE FLORIDA KEYS REEF TRACT

Eric Hochberg, National Coral Reef Institute, United States

TUP2.PD.8 A GENERALIZED LINEAR MODEL APPROACH FOR BEACH CHARACTERIZATION WITH MULTI-TEMPORAL LIDAR DATA

Michael J. Starek, National Research Council Postdoctoral Associate of the Army Research Office, United States; K. Clint Slatton, University of Florida, United States

TUP2.PD.9 SYNTHETIC APERTURE RADAR IMAGE ANALYSIS AS A TOOL FOR VALIDATION OF BAROCLINIC INTERNAL WAVE 3D MODELING IN ALGECIRAS BAY (STRAIT OF GIBRALTAR)

Carlos José González, Laura López, Jesús Gómez-Enri, Juan Jesús Gomiz, Óscar Álvarez, Miguel Bruno, Rafael Mañanes, María del Pilar Villares, University of Cadiz, Spain

TUESDAY

TUP2.PE: Tuesday, July 27, 14:55 - 16:00

- TUP2.PE Hyperspectral Data: Unmixing & visualization**
 Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area E
 Chair: Paul Scheunders, University of Antwerp
- TUP2.PE.1 PARALLEL IMPLEMENTATION OF THE N-FINDR ENDMEMBER EXTRACTION ALGORITHM ON COMMODITY GRAPHICS PROCESSING UNITS**
 Sergio Sanchez, Gabriel Martin, Antonio Plaza, University of Extremadura, Spain
- TUP2.PE.2 SPATIAL PREPROCESSING FOR ENDMEMBER EXTRACTION USING UNSUPERVISED CLUSTERING AND ORTHOGONAL SUBSPACE PROJECTION CONCEPTS**
 Gabriel Martin, Antonio Plaza, University of Extremadura, Spain
- TUP2.PE.3 SPATIAL-SPECTRAL ENDMEMBER EXTRACTION FROM REMOTELY SENSED HYPERSPECTRAL IMAGES USING THE WATERSHED TRANSFORM**
 Maciel Zortea, University of Tromso, Norway; Antonio Plaza, University of Extremadura, Spain
- TUP2.PE.4 PARALLEL IMPLEMENTATION OF UNMIXING ALGORITHM FOR VARIABLE-ENDMEMBER LINEAR MIXTURE MODEL**
 Naoki Takahashi, SGI Japan, Japan; Kenta Obata, Aichi Prefectural University, Japan; Masaki Iwamaru, SGI Japan, Japan; Hiroki Yoshioka, Aichi Prefectural University, Japan
- TUP2.PE.5 ROBUST ENDMEMBER DETECTION USING L1 NORM FACTORIZATION**
 Alina Zare, Paul Gader, University of Florida, United States
- TUP2.PE.6 VISION-OPTIMIZED IMAGE-ADAPTED PROJECTIONS FOR VISUALIZATION OF HYPERSPECTRAL IMAGERY**
 Maya Gupta, University of Washington, United States; Nasiba Hrustemovic, Avocent, United States
- TUP2.PE.7 AUTOMATIC BLIND SPECTRAL UNMIXING USING LINEAR UNMIXING UNDER SPATIAL AUTOCORRELATION CONSTRAINTS**
 Xianfeng Song, Graduate University of Chinese Academy of Sciences, China; Xiaoguang Jiang, Academy of Opto-Electronics, Chinese Academy of Sciences, China; Xiaoping Rui, Graduate University of Chinese Academy of Sciences, China
- TUP2.PE.8 ESTIMATION OF VIRTUAL DIMENSIONALITY IN HYPERSPECTRAL IMAGERY BY LINEAR SPECTRAL MIXTURE ANALYSIS**
 Wei Xiong, Chein-I Chang, University of Maryland Baltimore County, United States; Ching-Tsornq Tsai, Tunghai University, Taiwan
- TUP2.PE.9 NOISE-ROBUST SUBBAND DECOMPOSITION BLIND SIGNAL SEPARATION FOR HYPERSPECTRAL UNMIXING**
 Yuntao Qian, Qi Wang, Zhejiang University, China
- TUP2.PE.10 CONSIDERATIONS ON UNSUPERVISED SPECTRAL DATA UNMIXING AND COMPLEXITY PURSUIT**
 Stefan Robila, Montclair State University, United States
- TUP2.PE.11 ENHANCED VISUALIZATION OF HYPERSPECTRAL IMAGES**
 Zahid Mahmood, Paul Scheunders, University of Antwerp, Belgium

TUP2.PF: Tuesday, July 27, 14:55 - 16:00

TUP2.PF Registration

Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area F
 Co-Chairs: Jordi Inglada, CNES, France and Allan Nielsen, Technical University of Denmark

TUP2.PF.1 ◇ **REGISTRATION STUDY OF GREAT RESOLUTION DIFFERENCE REMOTE SENSING IMAGE BASED ON INVARIANT FEATURE**

Tao Jiang, Xi Liang Ni, Lei Fang, Guo Lin Liu, Min Ji, Lin Sun, Geomatics College, Shandong University of Science and Technology, China

TUP2.PF.2 THE NORMALIZED SIFT BASED ON VISUAL MATCHING WINDOW AND STRUCTURAL INFORMATION FOR MULTI-OPTICAL IMAGERY REGISTRATION

Ruirui Wang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Jianwen Ma, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Xue Chen, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

TUP2.PF.3 DETECTION AND CORRECTION OF SPECTRAL AND SPATIAL MISREGISTRATION FOR HYPERSPECTRAL DATA

Naoto Yokoya, Norihide Miyamura, Akira Iwasaki, University of Tokyo, Japan

TUP2.PF.4 MULTISENSOR IMAGE REGISTRATION ALGORITHM COMBINING SIFT AND PARTICLE SWARM OPTIMIZATION FOR APPLICATION IN MULTISPECTRAL IMAGERY

Yanfeng Gu, Baoxue Liu, Chen Wang, Xiangrong Zhang, Harbin Institute of Technology, China

TUP2.PF.5 A NEW CONTROL POINTS CONSTRAINED PIECEWISE GEOMETRIC CORRECTION METHOD FOR SERIOUSLY OBLIQUE REMOTE SENSING IMAGE

Wang Chunyuan, Zhang Ye, Chen Yushi, Gu Yanfeng, Harbin Institute of Technology, China

TUP2.PF.6 SAR AND OPTICAL IMAGES REGISTRATION USING SHAPE CONTEXT

Lei Huang, Zhen Li, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Rui Zhang, George Mason University, United States

TUP2.PF.7 MULTI-SPECTRAL REMOTE SENSING IMAGE REGISTRATION VIA SPATIAL RELATIONSHIP ANALYSIS ON SIFT KEYPOINTS

Mahmudul Hasan, Xiuping Jia, University of New South Wales, Australian Defence Force Academy, Australia; Antonio Robles-Kelly, Jun Zhou, National ICT Australia (NICTA), Australia; Mark Richard Pickering, University of New South Wales, Australian Defence Force Academy, Australia

TUP2.PF.8 TIE POINTS BASED PIXEL-LEVEL COMPENSATION OF MISREGISTRATION FOR CHANGE DETECTION

Lining Liu, Beihang University, China; Yiding Wang, North China University of Technology, China; Yunhong Wang, Beihang University, China

TUP2.PF.9 AUTOMATIC REGISTRATION OF SAR AND OPTICAL IMAGE BASED ON MULTI-FEATURES AND MULTI-CONSTRAINTS

Zhenhua Wang, Junping Zhang, Ye Zhang, Bin Zou, Harbin Institute of Technology, China

TUP2.PF.10 ◇ **A REGISTRATION-NOISE DRIVEN TECHNIQUE FOR THE ALIGNMENT OF VHR REMOTE SENSING IMAGES**

Silvia Marchesi, Lorenzo Bruzzone, University of Trento, Italy

TUP2.PF.11 A GEOMETRICAL MODEL FOR A PRECISE REGISTRATION OF SAR AND OPTICAL IMAGERY BY MEANS OF ADJUSTMENT TECHNIQUE

David Bornemann, Olaf Hellwich, Ronny Haensch, Berlin University of Technology, Germany

TUESDAY

TUP2.PG: Tuesday, July 27, 14:55 - 16:00**TUP2.PG Data Assimilation and Inversion I**

Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area G
 Chair: Leland Pierce, University of Michigan

TUP2.PG.1 USING MULTIREOLUTION TREE TO INTEGRATE MODIS AND MISR-L3 LAI PRODUCTS

Dongdong Wang, Shunlin Liang, University of Maryland, College Park, United States

TUP2.PG.2 ADAPTIVE CROSS APPROXIMATION FOR COMPRESSING THE JACOBIAN MATRIX IN THE GAUSS-NEWTON INVERSION

Maokun Li, Aria Abubakar, Tarek Habashy, Schlumberger-Doll Research, United States

TUP2.PG.3 VEGETATION ISOLINE EQUATIONS FOR ANALYSIS OF HYPER-SPECTRAL DATA WITH HIGHER ORDER INTERACTION TERMS

Munenori Miura, Kenta Obata, Hiroki Yoshioka, Aichi Prefectural University, Japan

TUP2.PG.4 PARALLEL UNMIXING OF HYPERSPECTRAL DATA USING COMPLEXITY PURSUIT

Stefan Robila, Martin Butler, Montclair State University, United States

TUP2.PG.5 ESTIMATING THE GREATEST DUST STORM IN EASTERN AUSTRALIA WITH MODIS SATELLITE IMAGES

Xiaojing Li, Linlin Ge, University of New South Wales, Australia; Yusen Dong, China University of Geosciences, China; Hsing-Chung Chang, University of New South Wales, Australia

TUP2.PG.6 INFORMATION FRACTAL IN THE SCALING OF QUANTITATIVE REMOTE SENSING PRODUCTS

Renhua Zhang, Hongbo Su, Jing Tian, Shaohui Chen, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

TUP2.PG.7 VALIDATION OF MODIS FAPAR PRODUCTS IN HULUNBER GRASSLAND OF CHINA

Gang Li, Daolong Wang, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China; Shimin Liu, School of Animal Biology, Faculty of Natural and Agricultural Sciences, University of Western Australia, Australia; Wenjie Fan, Institute of Remote Sensing and GIS, Peking University, China; Hua Zhang, Xiaoping Xin, Hongbin Zhang, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China

TUP2.PG.8 FUSION OF GEOMETRIC MODELS FROM VLS OVERLAPPING PROFILES

Yi Lin, Juha Hyyppä, Finnish Geodetic Institute, Finland

TUP2.PH: Tuesday, July 27, 14:55 - 16:00

TUP2.PH IR Atmospheric Sounding and Calibration

Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area H
 Co-Chairs: William Blackwell, MIT Lincoln Laboratory and Shannon Brown, Jet Propulsion Laboratory

TUP2.PH.1 A GENERALIZED NEURAL NETWORK FOR SIMULTANEOUS RETRIEVAL OF ATMOSPHERIC PROFILES AND SURFACE TEMPERATURE FROM HYPERSPECTRAL THERMAL INFRARED DATA
 Ning Wang, Bo-Hui Tang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Chuanrong Li, Academy of Opto-Electronics, Chinese Academy of Sciences, China; Zhao-Liang Li, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

TUP2.PH.2 HUMAN CELLULAR RESPONSE TO TEMPERATURE INVERSIONS IDENTIFIED BY THE ATMOSPHERIC INFRARED SOUNDER (AIRS)
 Julie Wallace, McMaster University, Canada; Parameswaran Nair, Firestone Institute for Respiratory Health, Canada; Pavlos Kanaroglou, McMaster University, Canada

TUP2.PH.3 A METHOD FOR SIMULTANEOUS BROADBAND SOLAR RADIATION CALIBRATION AND AEROSOL OPTICAL DEPTH RETRIEVAL
 Jinhuan Qiu, Institute of Atmospheric Physics, China

TUP2.PH.4 PORTING AND TESTING NPOESS CRIMSS EDR ALGORITHMS
 Susan Kizer, Xu Liu, Allen Larar, NASA Langley Research Center, United States; William Smith, Hampton University, United States; Daniel Zhou, NASA Langley Research Center, United States; Chris Barnett, Murty Divakarla, Guang Guo, National Oceanic and Atmospheric Administration, United States; William Blackwell, Vincent Leslie, Laura Jairam, Massachusetts Institute of Technology Lincoln Laboratory, United States; Karen St. Germain, National Oceanic and Atmospheric Administration, United States

TUP2.PH.5 PRE-LAUNCH PERFORMANCE VERIFICATION OF THE CRIMSS ATMOSPHERIC TEMPERATURE AND MOISTURE EDR RETRIEVAL ALGORITHM
 Degui Gu, Xialin Ma, Derrick Day, Rick Ohlemacher, Clark Snodgrass, Northrop Grumman Aerospace Systems, United States

TUP2.PH.6 ESTIMATION OF SATELLITE PITCH ATTITUDE FROM ASTER IMAGE DATA
 Tetsuya Okuda, Akira Iwasaki, University of Tokyo, Japan

TUP2.PH.7 SYNERGETIC USE OF MODIS AND AIRS: USE OF SPATIAL AND SPECTRAL RESPONSE IN COMBINATION WITH LEVEL-2 DATA
 Mathias Schreier, University of California, Los Angeles, United States; Brian Kahn, Annmarie Eldering, Denis Elliott, Evan Fishbein, Frederick Irion, Thomas Pagano, Jet Propulsion Laboratory, United States

TUP2.PH.8 SIMULATION AND SPECTRAL ANALYSIS OF FREQUENCY CONVERTER OF DEVICE FOR 3D MEASUREMENTS OF TURBULENT AIR MOVEMENT
 Igor Shirokov, Ivan Skorik, Ivan Kamynin, Sevastopol National Technical University, Ukraine

TUP2.PH.9 INTEGRATED POLAR-GEOSTATIONARY PHYSICAL COLLOCATION SYSTEM FOR GOES-R
 Haibing Sun, Dell Perot Systems, United States; Walter Wolf, NOAA/NESDIS/STAR, United States; Zhaohui Cheng, Dell Perot Systems, United States; Mitchell Goldberg, Christopher Barnett, NOAA/NESDIS/STAR, United States; Thomas King, Dell Perot Systems, United States

TUESDAY

TUP2.PI: Tuesday, July 27, 14:55 - 16:00**TUP2.PI Active Microwave**

Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area I
 Chair: Valery Zavorotny, NOAA

- TUP2.PI.1** ◇ **DEVELOPMENT OF AN OFF-THE-GRID X-BAND RADAR FOR WEATHER APPLICATIONS**
 Gianni Alexis Pablos-Vega, José G. Colom-Ustáriz, Sandra Cruz-Pol, University of Puerto Rico Mayagüez, Puerto Rico; Jorge M. Trabal, University of Massachusetts, Amherst, United States; V. Chandrasekar, Jim George, Frances Junyent, Colorado State University, United States
- TUP2.PI.2** **A KU-BAND ROTATING FAN-BEAM SCATTEROMETER: DESIGN AND PERFORMANCE SIMULATIONS**
 Xiaolong Dong, Di Zhu, Wenming Lin, Center for Space Science and Applied Research, Chinese Academy of Sciences, China
- TUP2.PI.3** **COHERENT MIMO RADAR FOR GMTI**
 Delphine Cerutti-Maori, Jens Klare, Joachim H. G. Ender, Fraunhofer Institute for High Frequency Physics and Radar Techniques (FHR), Germany
- TUP2.PI.4** **DOPPLER EFFECT AND COMPENSATION IN A ROTATING FANBEAM SPACEBORNE SCATTEROMETER**
 Di Zhu, Xiaolong Dong, Wenming Lin, Risheng Yun, Center for Space Science and Applied Research, Chinese Academy of Sciences, China
- TUP2.PI.5** **RADIOMETRIC PERFORMANCE OF THE ADVANCED WIND SCATTEROMETER RADAR ASCAT**
 Julian Wilson, C. Anderson, Julia Figa-Saldaña, Hans Bonekamp, EUMETSAT, Germany
- TUP2.PI.6** **ACCURACY OF THE ENGINEERING CALIBRATION OF WEATHER RADARS**
 Frank Gekat, Dennis Vollbracht, Selex Sistemi Integrati GmbH, Germany
- TUP2.PI.7** **EVIDENCE OF REFRACTIVE INDEX VARIATION WITH ROUGHNESS IN CLOUDSAT W-BAND RADAR AND DIFFERENT APPLICATIONS OF LIDAR/RADAR OCEAN SURFACE ECHO**
 Damien Josset, NASA Postdoctoral Program, United States; Jacques Pelon, IPSL/LATMOS, France; Yongxiang Hu, NASA Langley Research Center, United States; Simone Tanelli, NASA Jet Propulsion Laboratory, United States; Chip Trepte, NASA Langley Research Center, United States; Pengwang Zhai, SSAI, United States
- TUP2.PI.8** **CALIBRATION ACCURACY ENHANCEMENT IN THE FIELD EXPERIMENT WITH A GROUND-BASED SCATTEROMETER**
 Ji-Hwan Hwang, Seong-Min Park, Yisok Oh, Hongik university, Republic of Korea

TUP2.PJ: Tuesday, July 27, 14:55 - 16:00

TUP2.PJ Education and Remote Sensing Posters

Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area J
 Chair: Barry Rock, UNIVERSITY OF NEW HAMPSHIRE

TUP2.PJ.1 ◇ EMERGENT SCIENCE – A NEW WAY FORWARD?

Rahul Ramachandran, University of Alabama, Huntsville, United States; Brian Wilson, NASA Jet Propulsion Laboratory, United States; Christopher Lynnes, NASA Goddard Space Flight Center, United States; Helen Conover, Sunil Movva, University of Alabama, Huntsville, United States

TUP2.PJ.2 INTRODUCTION OF PODCASTS IN REMOTE SENSING EDUCATION

Raffaella Guida, University of Surrey, United Kingdom

TUP2.PJ.3 ANTICIPATING THE VIIRS AND MIS SENSORS ABOARD NPOESS

Thomas Lee, Jeffrey Hawkins, Arunas Kuciauskas, Kim Richardson, Michael H. Bettenhausen, Ian S. Adams, Naval Research Laboratory, United States; Steven D. Miller, CIRA, United States

TUP2.PJ.4 REAL TIME DETECTION OF FOREST FIRES AND VOLCANIC ERUPTIONS FROM METEOSAT SECONDE GENERATION IMAGES USING A NEURAL NETWORK

Laurent Beaudoin, Loica Avanthey, Vincent Germain, Antoine Gademer, Ecole Superieure Informatique Electronique Automatique (ESIEA), France; Jean-Paul Rudant, Université de Marne la Vallée, France

TUP2.PJ.5 THE DESIGN AND IMPLEMENTATION OF A WCS SERER FOR SERVING MODIS DATA

Huazhong He, Guizhou University for Nationalities, China; Yingyue Gao, Zhejiang Univ. of Media and Communication, China; Zhengdong Gao, Liming Song, Yan Hu, Wuhan University, China

TUP2.PJ.6 REMOTE SENSING RESEARCH IN UNDERGRADUATE EDUCATION: AN INTERNATIONAL FIELDWORK PERSPECTIVE

Christopher Storie, The University of Winnipeg, Canada; Joni Bugden-Storie, Western Carolina University, United States

TUP2.PJ.7 HANDS-ON GPS AND REMOTE SENSING TRAINING FOR HIGH SCHOOL LEARNERS DURING IGARSS 2009 IN CAPE TOWN, SOUTH AFRICA

Linda Hayden, Elizabeth City State University, United States; Ambrose Jearld, Jr., National Oceanic and Atmospheric Administration, ; Je'aime Powell, Kuchumbi Hayden, Elizabeth City State University, United States; Nina Jackson, National Oceanic and Atmospheric Administration, United States

TUP2.PJ.8 SUBMERGED AQUATIC VEGETATION HABITAT PRODUCT DEVELOPMENT: AN INTERDISCIPLINARY GIS EXPERIENCE

Jinchun Yuan, Elizabeth Brinker, Benjamin Branch, Patrina Bly, Chelsea Vick, Michael Jefferson, Elizabeth City State University, United States

TUP2.PJ.9 ◇ LRN, ERN:, & BERN @ WIRELESS INTEGRATING THE SCIENCES (WITS) THEATRE

Lawrence Hilliard, Brian Campbell, NASA, United States; Michael Foody, Global Imagination, United States; Dan Klitsner, Kid-Group LLC, United States

TUESDAY

TUP2.PK: Tuesday, July 27, 14:55 - 16:00

- TUP2.PK Aerosols and Atmospheric Chemistry I**
 Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area K
 Chair: Juergen Fischer, Freie Universität Berlin
- TUP2.PK.1 AEROSOL OPTICAL DEPTH RETRIEVAL OVER LAND USING MODIS DATA AND ITS APPLICATION IN DETECTION OF DUST EVENT**
 Linlu Mei, Yong Xue, Jie Guang, Yingjie Li, Ying Wang, Hui Xu, Jianwen Ai, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- TUP2.PK.2 MONITORING THE HEAVY FOG USING AOD DERIVED FROM MODIS DATA**
 Yingjie Li, Yong Xue, Jie Guang, Ying Wang, Linlu Mei, Hui Xu, Jianwen Ai, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- TUP2.PK.3 CONVOLUTION CALCULATION OF DIFFERENTIAL CROSS SECTIONS OF RING EFFECT**
 Dong Han, Liangfu Chen, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Weimin Wu, Qingdao University, China; Shenshen Li, Chao Yu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- TUP2.PK.4 TIME SERIES ALGORITHM FOR AEROSOL RETRIEVALS FROM MODIS**
 Alexei Lyapustin, Yujie Wang, University of Maryland Baltimore County, United States
- TUP2.PK.5 ◇ A PRELIMINARY INVESTIGATION OF CO₂ AND CH₄ CONCENTRATION VARIATIONS WITH THE LANDUSE IN NORTHERN CHINA BY GOSAT**
 Liping Lei, Qing Liu, Li Zhang, Liangyun Liu, Bing Zhang, Key Laboratory of Digital Earth, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China
- TUP2.PK.6 RETRIEVAL OF AEROSOL OPTICAL THICKNESS AND SIZE DISTRIBUTION FROM PARASOL IN PEARL RIVER DELTA AREA**
 Zhe Jiang, Liangfu Chen, Minghui Tao, Lin Su, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- TUP2.PK.7 BLUE REFLECTANCES CONTRAST OF MODIS IMAGERY: IMPLICATION FOR DUST AND BIOMASS BURNED SMOKE DETECTION**
 Ronggao Liu, Yang Liu, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China
- TUP2.PK.8 SATELLITE INFRARED MEASUREMENTS OF SMOKE AEROSOLS FROM FOREST FIRES: IMPLICATIONS FOR GLOBAL WARMING**
 Yongseung Kim, Korea Aerospace Research Institute, Republic of Korea
- TUP2.PK.9 AEROSOL OPTICAL DEPTH RETRIEVAL BASED ON LAND SURFACE SPECTRA MODELING**
 Bo Zhong, Qinhuo Liu, Qiang Liu, Chinese Academy of Sciences, China
- TUP2.PK.10 A NEW METHOD FOR ESTIMATING AEROSOL PROPERTIES AND SURFACE REFLECTANCE FROM POLDER DATA OVER LAND**
 Takashi Kusaka, Kanazawa Institute of Technology, Japan; Ryuichi Taniguchi, Hitachi Government & Public Corporation System Engineering, Japan
- TUP2.PK.11 ANALYSIS OF JING-JIN-TANG DISTRICT SEVEN-YEAR AEROSOL CHANGE USING MODIS DATA**
 Meng Fan, Liangfu Chen, Shenshen Li, Jinhua Tao, Dong Han, Baohua He, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

TUP2.PL: Tuesday, July 27, 14:55 - 16:00

TUP2.PL Ocean Surface Temperature

Session Type: Poster
 Time: Tuesday, July 27, 14:55 - 16:00
 Place: Poster Area L
 Chair: Jorge Vazquez, Jet Propulsion Laboratory/California Institute of Technology

TUP2.PL.1 NOAA'S GLOBAL HIGH RESOLUTION SATELLITE SEA SURFACE TEMPERATURE BLENDED ANALYSIS

Eileen Maturi, John Sapper, William Pichel, NOAA/NESDIS, United States

TUP2.PL.2 EVALUATION OF FY AND HY DATA FOR SEA SURFACE TEMPERATURE OBSERVATIONS

Lei Guan, Hongyan Wang, Liqin Qu, Ocean University of China, China

TUP2.PL.3 RESEARCH ON DYNAMICAL VISUALIZATION OF THE SPATIO-TEMPORAL PROCESS OF SEAWATER TEMPERATURE AND SALINITY

Jian Liu, Graduate School of the Chinese Academy of Sciences, Beijing, China, China; Xin Zhang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Xiaoyi Jiang, Bing Jiang, National Marine Data & Information Service, Tianjin, China; Tianhe Chi, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

TUP2.PL.4 COMBINED DIRECT AND REMOTE SENSING MEASUREMENTS OF AIR-SEA INTERACTION PARAMETERS DURING THE TEMPERATURE FRONT PASSAGE

Natalia Y. Komarova, Space Research Institute, Russian Federation; Irina A. Repina, Institute of Atmospheric Physics, Russian Federation

TUP2.PL.5 THE VALIDATION OF HIGH RESOLUTION SEA SURFACE TEMPERATURE DATA SETS

Jorge Vazquez, Toshio Chin, Edward Armstrong, Jet Propulsion Laboratory, California Institute of Technology, United States; Gary Jedlovec, Frank LaFontaine, Jadyln Shafer, Short Term Prediction Research and Transition Center, United States

TUP2.PL.6 ASSESSMENT OF TMI RETRIEVED SUB SKIN TEMPERATURE OVER THE NORTH INDIAN OCEAN

Anant Parekh, Indian Institute of Tropical Meteorology, India; Abhijit Sarkar, Space Applications Centre, India

TUP2.PL.7 ◇ FILTERING OF FLUID IN MOTION IMAGES USING OPTIMAL MESH SMOOTHING

Guillaume Noel, Yskandar Hamam, Karim Djouani, French South African Institute of Electronics, South Africa

TUP2.PL.8 ◇ EVALUATION OF SST PRODUCTS FROM MULTI-SENSORS IN EAST CHINA SEA

Yumei Wu, East China Sea Fisheries Research Institute, China; Yijun He, Institute of Oceanology, Chinese Academy of Sciences, China

TUESDAY

TUP2.PM: Tuesday, July 27, 14:55 - 16:00**TUP2.PM Lidar Processing and Analysis**

Session Type: Poster

Time: Tuesday, July 27, 14:55 - 16:00

Place: Poster Area M

Co-Chairs: John Kerekes, Rochester Institute of Technology and Michael Cathcart, Georgia Institute of Technology

- TUP2.PM.1 A COMPARISON OF FOREST BIOPHYSICAL PARAMETERS ASSESSED WITH LIDAR DATA ON THREE PLATFORMS: GROUND, AIRBORNE, AND SATELLITE**
Sorin Popescu, Kaiguang Zhao, Texas A&M University, United States; Demetrios Gatzialis, USDA Forest Service, United States; Ryan Sheridan, Muge Mutlu, Texas A&M University, United States
- TUP2.PM.2 A COMPARATIVE STUDY OF POLARIMETRIC AND NON-POLARIMETRIC LIDAR IN DECIDUOUS-CONIFEROUS TREE CLASSIFICATION**
Songxin Tan, Ali Haider, South Dakota State University, United States
- TUP2.PM.3 FLOOR AREA RATIO EXTRACTION BASED ON AIRBORNE LASER SCANNING DATA OVER URBAN AREAS**
Chengyi Wang, Jianglin Ma, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Fuyuan Liang, Western Illinois University, United States
- TUP2.PM.4 QEM-BASED SIMPLIFICATION OF BUILDING FOOTPRINTS FROM AIRBORNE LIDAR DATA**
Zhi Wang, Northeastern University, China; Hui-Ying Li, Jilin University, China; Li-Xin Wu, Beijing Normal University, China
- TUP2.PM.5 THE INVERSION OF CROP HEIGHT BASED ON SMALL-FOOTPRINT WAVEFORM AIRBORNE LIDAR**
Mengwei Zhou, Qinhuo Liu, Qiang Liu, Qing Xiao, Bo Zhong, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- TUP2.PM.6 FUSION OF LIDAR DATA AND ORTHOIMAGE FOR AUTOMATIC BUILDING RECONSTRUCTION**
Huiying Li, Shengbo Chen, Jilin University, China; Zhi Wang, Northeastern University, China; Wenhui Li, Jilin University, China
- TUP2.PM.7 PRECISION OF LVIS AND MISR CANOPY HEIGHT ESTIMATES FOR DESERT GRASSLAND SHRUB CANOPIES ASSESSED WITH FIELD AND UAV ESTIMATES IN A MULTISCALE APPROACH**
Mark Chopping, Aslan Aslan, Montclair State University, United States; Michelle Hofton, University of Maryland, United States; James Blair, NASA Goddard Space Flight Center, United States; Andrea Laliberté, Albert Rango, USDA/ARS, United States
- TUP2.PM.8 EXTRACTION OF BUILDING'S GEOMETRIC AXIS LINE FROM LIDAR DATA FOR DISASTER MANAGEMENT**
Yonglin Shen, Beijing Normal University, China; Zhi Wang, Northeastern University, China; Lixin Wu, Beijing Normal University, China

TU4.L01: Tuesday, July 27, 15:40 - 17:20

TU4.L01 Earthquakes and Remote Sensing

Session Type: Oral-Contributed

Time: Tuesday, July 27, 15:40 - 17:20

Place: Sea Pearl 1/2/3

Co-Chairs: Mariarosaria Manzo, Istituto per il Rilevamento Elettromagnetico dell'Ambiente and Nicola Genzano, University of Basilicata

15:40 - 16:00

TU4.L01.1 2009 EARTHQUAKES IN SUMATRA: THE USE OF L-BAND INTERFEROMETRY IN A SAR-HOSTILE ENVIRONMENT

Emmanuel Christophe, Aik Song Chia, Tiangang Yin, Leong Keong Kwah, National University of Singapore, Singapore

16:00 - 16:20

TU4.L01.2 ♦ FULL EXPLOITATION OF THE SBAS-DINSAR ALGORITHM IN ACTIVE SEISMOGENETIC SCENARIOS

Mariarosaria Manzo, Paolo Berardino, Istituto per il Rilevamento Elettromagnetico dell'Ambiente, Italy; Manuela Bonano, Istituto per il Rilevamento Elettromagnetico dell'Ambiente, Università La Sapienza, Italy; Francesco Casu, Riccardo Lanari, Andrea Manconi, Michele Manunta, Antonio Pepe, Susi Pepe, Eugenio Sansosti, Istituto per il Rilevamento Elettromagnetico dell'Ambiente, Italy; Giuseppe Solaro, Pietro Tizzani, Istituto per il Rilevamento Elettromagnetico dell'Ambiente, Osservatorio Vesuviano, Italy; Giovanni Zeni, Istituto per il Rilevamento Elettromagnetico dell'Ambiente, Italy

16:20 - 16:40

TU4.L01.3 THE CHARACTERISTICS OF POST-SEISMIC SURFACE DEFORMATION OF THE WENCHUAN MS8.0 EARTHQUAKE FROM INSAR

Xiaogang Song, Xinjian Shan, Chunyan Qu, Yufei Han, Guifang Zhang, Limin Guo, Guohong Zhang, Institute of Geology, China Earthquake Administration, China

16:40 - 17:00

TU4.L01.4 ♦ RAPID ANALYSIS AND ASSESSMENT OF EARTHQUAKE-INDUCED SECONDARY MOUNTAIN DISASTER CHAINS BASED ON MULTI-PLATFORM REMOTE SENSING

Bingwei Tian, Katsuaki Koike, Kumamoto University, Japan; Jianrong Fan, Institute of Mountain Hazards and Environment, Chinese Academy of Sciences, China

17:00 - 17:20

TU4.L01.5 LANDSLIDE SUSCEPTIBILITY ASSESSMENT IN ACTIVE SEISMIC ZONE – WITH A CASE STUDY OF WENCHUAN

Shu Tao, Wenji Zhao, Deyong Hu, Capital Normal University, China

TU4.L02: Tuesday, July 27, 15:40 - 17:20

TU4.L02 Satellite Altimetry Past, Present and Future II

Session Type: Oral-Invited

Time: Tuesday, July 27, 15:40 - 17:20

Place: Sea Pearl 4/5/6

Co-Chairs: Vladimir Irisov, ZelTech/NOAA and Nikolai Maximenko, University of Hawaii

15:40 - 16:00

TU4.L02.1 STATISTICAL ANALYSIS OF JASON-1 SEA SURFACE HEIGHT AND BACKSCATTERING DURING SUMATRA-ADAMAN TSUNAMI

Vladimir Irisov, ZelTech/NOAA, United States; Oleg Godin, University of Colorado/CIRES, United States; Benjamin Hamlington, Robert Leben, University of Colorado/CCAR, United States; Gary Wick, National Oceanic and Atmospheric Administration, United States

16:00 - 16:20

TU4.L02.2 SHAPE CLASSIFICATION OF ALTIMETRIC SIGNALS USING ANOMALY DETECTION AND BAYES DECISION RULE

Jean-Yves Tournet, Corinne Mailhes, Jérôme Severini, University of Toulouse, France; Pierre Thibaut, Collecte Localisation Satellite, France

16:20 - 16:40

TU4.L02.3 ATTRIBUTING REGIONAL PATTERNS OF LONG-TERM OCEAN VARIABILITY IN SATELLITE-DERIVED OBSERVATIONS

Pedro DiNezio, University of Miami, United States; Gustavo Goni, National Oceanic and Atmospheric Administration, United States

16:40 - 17:00

TU4.L02.4 OCEAN STRIATIONS

Nikolai Maximenko, Oleg Melnichenko, University of Hawaii, United States; Peter Niiler, Scripps Institution of Oceanography, United States; Niklas Schneider, University of Hawaii, United States; Emanuele Di Lorenzo, Georgia Institute of Technology, United States; Jan Hafner, University of Hawaii, United States; Hideharu Sasaki, Earth Simulator Center, Japan

TUESDAY

TU4.L03: Tuesday, July 27, 15:40 - 17:20**TU4.L03 Microwave Sensing of Forests**

Session Type: Oral-Contributed
 Time: Tuesday, July 27, 15:40 - 17:20
 Place: Hibiscus
 Co-Chairs: Marc Simard, JPL and Christiane Schmullius, University of Jena

15:40 - 16:00

TU4.L03.1 FOREST CHANGE DETECTION FROM L-BAND SATELLITE SAR IMAGES USING ITERATIVE HISTOGRAM MATCHING AND THRESHOLDING TOGETHER WITH DATA FUSION

Andreas Pantze, Johan E. S. Fransson, Swedish University of Agricultural Sciences, Sweden; Maurizio Santoro, GAMMA Remote Sensing AG, Switzerland

16:00 - 16:20

TU4.L03.2 WALL-TO-WALL MAPPING OF FOREST EXTENT AND CHANGE IN TASMANIA USING ALOS PALSAR DATA

Anthea Mitchell, Tony Milne, Ian Tapley, Kim Lowell, CRC for Spatial Information, Australia; Peter Caccetta, Eric Lehmann, Zheng-Shu Zhou, CSIRO, Australia

16:20 - 16:40

TU4.L03.3 MAPPING TROPICAL FOREST USING ALOS PALSAR 50M RESOLUTION DATA WITH MULTISCALE GLCM ANALYSIS

Preesan Rakwatin, Nicolas Longépé, Osamu Isaguchi, Masanobu Shimada, Japan Aerospace Exploration Agency, Japan; Yumiko Uryu, WWF Indonesia, Indonesia

16:40 - 17:00

TU4.L03.4 FOREST PARAMETER RETRIEVAL FROM SAR DATA USING AN ESTIMATION ALGORITHM APPLIED TO REGROWING FOREST STANDS IN QUEENSLAND, AUSTRALIA

Daniel Clewley, Richard Lucas, Aberystwyth University, United Kingdom; Mahta Moghaddam, The University of Michigan, United Kingdom; Pete Bunting, Aberystwyth University, United Kingdom; John Dwyer, University of Queensland, United Kingdom; Joao Carreiras, Tropical Research Institute (IICT), United Kingdom

17:00 - 17:20

TU4.L03.5 MAPPING OF WIND-THROWN FORESTS USING SATELLITE SAR IMAGES

Johan E. S. Fransson, Andreas Pantze, Swedish University of Agricultural Sciences, Sweden; Leif E. B. Eriksson, Chalmers University of Technology, Sweden; Maurizio Santoro, GAMMA Remote Sensing AG, Switzerland

TU4.L04: Tuesday, July 27, 15:40 - 17:20**TU4.L04 KOMPSAT-5 SAR Mission II**

Session Type: Oral-Invited
 Time: Tuesday, July 27, 15:40 - 17:20
 Place: Kahili
 Co-Chairs: Yong-Sik Chun, KARI and Wooil M. Moon, University of Manitoba

15:40 - 16:00

TU4.L04.1 RADARGRAMMETRY OF HIGH RESOLUTION SYNTHETIC APERTURE RADAR ONBOARD KOMPSAT-5

Hoonyul Lee, Kangwon National University, Republic of Korea

16:00 - 16:20

TU4.L04.2 SOIL MOISTURE DETECTION USING KOMPSAT-5 SAR DATA

Yisok Oh, Soon-Gu Kwon, Ji-Hwan Hwang, Hongik University, Republic of Korea

16:20 - 16:40

TU4.L04.3 AN EFFICIENT METHOD OF DOPPLER PARAMETER ESTIMATION IN TIME-FREQUENCY DOMAIN FOR A MOVING OBJECT FROM SPACEBORNE HIGH-RESOLUTION X-BAND SAR DATA

Joong-Sun Won, Jeong-Won Park, Yonsei University, Republic of Korea

16:40 - 17:00

TU4.L04.4 APPLICATION OF KOMPSAT-5 DATA FOR EMERGENT OIL SPILL MONITORING

Duk-Jin Kim, Seoul National University, Republic of Korea; Wooil M. Moon, University of Manitoba, Canada; Youn-soo Kim, Korea Aerospace Research Institute, Republic of Korea

17:00 - 17:20

TU4.L04.5 ESTIMATING RICE GROWTH PARAMETERS USING X-BAND SCATTEROMETER DATA

YiHyun Kim, SukYoung Hong, Eunyoung Choe, National Academy of Agricultural Science, Rural Development Administration, Republic of Korea; Hoonyul Lee, Kangwon National University, Republic of Korea

TU4.L05: Tuesday, July 27, 15:40 - 17:20

TU4.L05 Radar Signature of Soil Moisture and Freeze/Thaw

Session Type: Oral-Contributed
 Time: Tuesday, July 27, 15:40 - 17:20
 Place: South Pacific 3
 Co-Chairs: Simone Pettinato, CNR and Claudia Notarnicola, EURAC

15:40 - 16:00

TU4.L05.1 RETRIEVAL OF SURFACE AND DEEP SOIL MOISTURE FROM RADAR OBSERVATIONS USING SIMULATED ANNEALING

Alireza Tabatabaeejad, Mahta Moghaddam, University of Michigan, United States

16:00 - 16:20

TU4.L05.2 INFERRING THE IMPACT OF RADAR INCIDENCE ANGLE ON SOIL MOISTURE RETRIEVAL SKILL USING DATA ASSIMILATION

Wade Crow, USDA ARS, United States; Wolfgang Wagner, Vahid Naeimi, Technische Universität Wien, Austria

16:20 - 16:40

TU4.L05.3 A POLARIMETRIC TWO-SCALE MODEL FOR SOIL MOISTURE RETRIEVAL

Antonio Iodice, Antonio Natale, Daniele Riccio, Università di Napoli Federico II, Italy

16:40 - 17:00

TU4.L05.4 QUIKSCAT BACKSCATTER SENSITIVITY ON LANDSCAPE FREEZE/THAW STATE OVER ALECTRA SITES IN ALASKA FROM 2000 TO 2008: APPLICATION TO SMAP VALIDATION PLANNING

Andreas Colliander, Kyle McDonald, Jet Propulsion Laboratory, California Institute of Technology, United States; Reiner Zimmermann, Max-Planck-Institute for Biogeochemistry, Germany; Thomas Linke, Ronny Schroeder, Jet Propulsion Laboratory, California Institute of Technology, United States; John Kimball, University of Montana, United States; Eni Njoku, Jet Propulsion Laboratory, California Institute of Technology, United States

17:00 - 17:20

TU4.L05.5 DECOMPOSITION METHODS FOR THE ESTIMATION OF BARE SOIL MOISTURE USING FULLY POLARIMETRIC SAR DATA

Weilin Yuan, Qiming Qin, Shihong Du, Xinyi Shen, Hongbo Jiang, Yan Ma, Institution of Remote Sensing and GIS, Peking University, China

TU4.L06: Tuesday, July 27, 15:40 - 17:20

TU4.L06 Hyperspectral Unmixing

Session Type: Oral-Contributed
 Time: Tuesday, July 27, 15:40 - 17:20
 Place: South Pacific 4
 Co-Chairs: Jocelyn Chanussot, Grenoble Institute of Technology and Antonio Plaza, University of Extremadura

15:40 - 16:00

TU4.L06.1 ON THE PERFORMANCE OF RANDOM-PROJECTION-BASED DIMENSIONALITY REDUCTION FOR ENDMEMBER EXTRACTION

Qian Du, James Fowler, Mississippi State University, United States

16:00 - 16:20

TU4.L06.2 RECENT DEVELOPMENTS IN SPARSE HYPERSPECTRAL UNMIXING

Marian Daniel Iordache, University of Extremadura, Spain; Jose Bioucas-Dias, Instituto Superior Tecnico, Portugal; Antonio Plaza, University of Extremadura, Spain

16:20 - 16:40

TU4.L06.3 HYPERSPECTRAL IMAGE UNMIXING VIA QUADRATIC PROGRAMMING

Zhuocheng Yang, James Farison, Baylor University, United States

16:40 - 17:00

TU4.L06.4 A NOVEL APPROACH FOR HYPERSPECTRAL UNMIXING BASED ON NONNEGATIVE MATRIX FACTORIZATION

Xuesong Liu, Bin Wang, Liming Zhang, Fudan University, China

17:00 - 17:20

TU4.L06.5 CONSTRAINED INDEPENDENT COMPONENT ANALYSIS FOR HYPERSPECTRAL UNMIXING

Wei Xia, Bin Wang, Liming Zhang, Fudan University, China

TUESDAY

TU4.L07: Tuesday, July 27, 15:40 - 17:20

TU4.L07 EOS Terra Contributions to Earth Science – The First 10 Years II
 Session Type: Oral-Invited
 Time: Tuesday, July 27, 15:40 - 17:20
 Place: Nautilus
 Co-Chairs: David Diner, NASA's Jet Propulsion Laboratory and Mark L. Imhoff, NASA

15:40 - 16:00

TU4.L07.1 TEN YEARS OF MISR OBSERVATIONS FROM TERRA: LOOKING BACK, AHEAD, AND IN BETWEEN

David Diner, Jet Propulsion Laboratory, California Institute of Technology, United States; Thomas Ackerman, University of Washington, United States; Amy Braverman, Carol Bruegge, Jet Propulsion Laboratory, California Institute of Technology, United States; Mark Chopping, Montclair State University, United States; Eugene Clothiaux, Pennsylvania State University, United States; Roger Davies, University of Auckland, New Zealand; Larry Di Girolamo, University of Illinois at Urbana-Champaign, United States; Ralph Kahn, Goddard Space Flight Center, United States; Yuri Knyazikhin, Boston University, United States; Yang Liu, Emory University, United States; Roger Marchand, University of Washington, United States; John Martonchik, Jet Propulsion Laboratory, California Institute of Technology, United States; Jan-Peter Muller, University College London, United Kingdom; Anne Nolin, Oregon State University, United States; Bernard Pinty, Michel Verstraete, Joint Research Centre of the European Commission, Italy; Dong Wu, Jet Propulsion Laboratory, California Institute of Technology, United States; Michael Garay, Raytheon Company, United States; Olga Kalashnikova, Anthony Davis, Edgar Davis, Jet Propulsion Laboratory, California Institute of Technology, United States; Russell Chipman, University of Arizona, United States

16:00 - 16:20

TU4.L07.2 TEN YEARS OF EARTH OBSERVATIONS FROM MODIS: WHAT HAS BEEN ACCOMPLISHED?

Michael King, University of Colorado, United States; Steven Platnick, NASA Goddard Space Flight Center, United States; Christopher Justice, University of Maryland, United States; Chuck McClain, NASA Goddard Space Flight Center, United States

16:20 - 16:40

TU4.L07.3 MEASUREMENTS OF CARBON MONOXIDE WITH THE MOPITT INSTRUMENT 1999-2009

James Drummond, Dalhousie University, Canada

16:40 - 17:00

TU4.L07.4 SCALING THE PIPE: NASA EOS TERRA DATA SYSTEMS AT 10

Robert Wolfe, Rama Ramapriyan, NASA Goddard Space Flight Center, United States

17:00 - 17:20

TU4.L07.5 ◇ GROUND-BASED NETWORK AND SUPERSITE OBSERVATIONS TO COMPLEMENT AND ENRICH EOS/TERRA RESEARCH: THE PAST 10 YEARS AND BEYOND

Si-Chee Tsay, Brent N. Holben, E. Judd Welton, NASA Goddard Space Flight Center, United States

TU4.L08: Tuesday, July 27, 15:40 - 17:20**TU4.L08 TRMM and GPM Precipitation Missions III**

Session Type: Oral-Invited
 Time: Tuesday, July 27, 15:40 - 17:20
 Place: South Pacific 1/2
 Chair: V. Chandrasekar, Colorado State University

15:40 - 16:00

TU4.L08.1 FALLING SNOW RETRIEVAL ALGORITHM DEVELOPMENT WORK FOR GPM

Gail Skofronick-Jackson, NASA Goddard Space Flight Center, United States; Benjamin Johnson, University of Maryland, Baltimore County, United States; James R. Wang, SSAI, United States

16:00 - 16:20

TU4.L08.2 DEVELOPMENT OF SPACEBORNE RADAR SIMULATOR BY NICT AND JAXA USING JMA CLOUD-RESOLVING MODEL

Takuji Kubota, Japan Aerospace Exploration Agency, Japan; Hisaki Eito, Kazumasa Aonashi, Akihiro Hashimoto, Japan Meteorological Agency, Japan; Toshio Iguchi, Hiroshi Hanado, National Institute of Information and Communications Technology, Japan; Shuji Shimizu, Naofumi Yoshida, Riko Oki, Japan Aerospace Exploration Agency, Japan

16:20 - 16:40

TU4.L08.3 SCIENTIFIC AND ENGINEERING OVERVIEW OF THE NASA DUAL-FREQUENCY DUAL-POLARIZED DOPPLER RADAR (D3R) SYSTEM FOR GPM GROUND VALIDATION

V. Chandrasekar, Colorado State University, United States; Mathew Schwaller, NASA Goddard Space Flight Center, United States; Manuel Vega, NASA Goddard Space Flight Center / Colorado State University, United States; James R. Carswell, Remote Sensing Solutions, United States; Kumar Vijay Mishra, Colorado State University, United States; Robert Meneghini, NASA Goddard Space Flight Center, United States; Cuong Nguyen, Colorado State University, United States

16:40 - 17:00

TU4.L08.4 CORRECTING MICROWAVE PRECIPITATION RETRIEVALS FOR NEAR-SURFACE EVAPORATION

Chinnawat Surussavadee, Prince of Songkla University, Phuket Campus, Thailand; David Staelin, Massachusetts Institute of Technology, United States

17:00 - 17:20

TU4.L08.5 SURFACE REFERENCE NORMALIZED RADAR CROSS SECTION OVER LAND FOR THE IMPROVEMENT OF THE TRMM PR ALGORITHM

Ken'ichi Okamoto, Tottori University of Environmental Studies, Japan; Jun Komukai, Osaka Prefecture University, Japan; Shoichi Shige, Kyoto University, Japan; Takeshi Manabe, Osaka Prefecture University, Japan

TU4.L09: Tuesday, July 27, 15:40 - 17:20**TU4.L09 Advanced Methods for Polarimetric Information Extraction II**

Session Type: Oral-Invited
 Time: Tuesday, July 27, 15:40 - 17:20
 Place: Coral 1
 Co-Chairs: Ridha Touzi, Canada Centre for Remote Sensing and Jong-Sen Lee

15:40 - 16:00

TU4.L09.1 TROPISAR, A SAR DATA ACQUISITION CAMPAIGN IN FRENCH GUIANA

Pascale Dubois-Fernandez, Olivier Ruault du Plessis, Helene Oriot, ONERA, France; Thuy Le Toan, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Jerome Chave, EDB, France; Lilian Blanc, CIRAD, France; Malcolm Davidson, European Space Agency, Netherlands

16:00 - 16:20

TU4.L09.2 MITIGATING TOPOGRAPHIC EFFECTS ON POLARIMETRIC SAR CLASSIFICATION

Tom Ainsworth, Yanting Wang, Naval Research Laboratory, United States; Franz Meyer, University of Alaska, Fairbanks, United States; Jong-Sen Lee, Naval Research Laboratory, United States

16:20 - 16:40

TU4.L09.3 RETRIEVAL OF SOIL MOISTURE UNDER VEGETATION USING POLARIMETRIC SCATTERING CUBES

Motofumi Arii, Mitsubishi Space Software Co., Ltd., Japan; Jakob J. van Zyl, Yunjin Kim, Jet Propulsion Laboratory, United States

16:40 - 17:00

TU4.L09.4 FOUR-COMPONENT SCATTERING POWER DECOMPOSITION WITH ROTATION OF COHERENCY MATRIX

Yoshio Yamaguchi, Ryoichi Sato, Hiroyoshi Yamada, Niigata University, Japan; Wolfgang-Martin Boerner, University of Illinois at Chicago, United States

17:00 - 17:20

TU4.L09.5 INTERPRETATION OF THE TOUZI DECOMPOSITION FOR OPTIMUM WETLAND CHARACTERIZATION

Ridha Touzi, Canada Centre for Remote Sensing, Canada

TU4.L10: Tuesday, July 27, 15:40 - 17:20

TU4.L10 Microwave Scatterometry, Radiometry and Ocean Applications (Honoring Dr. W. Linwood Jones) II

Session Type: Oral-Contributed

Time: Tuesday, July 27, 15:40 - 17:20

Place: Coral 2

Co-Chairs: Ian S. Adams, Naval Research Laboratory and Peter Black, Naval Research Laboratory / Marine Meteorology Division (SAIC)

15:40 - 16:00

TU4.L10.1 FROM A REAL PENCIL TO A SYNTHETIC BROOM: THE PAST, PRESENT AND FUTURE OF HIRAD
Christopher Ruf, University of Michigan, United States

16:00 - 16:20

TU4.L10.2 WINDSAT: PASSIVELY MEASURING OCEAN VECTOR WINDS
Ian S. Adams, Peter W. Gaiser, Michael H. Bettenhausen, Li Li, Naval Research Laboratory, United States

16:20 - 16:40

TU4.L10.3 TOWARDS BAYESIAN ESTIMATOR SELECTION FOR QUIKSCAT WIND AND RAIN ESTIMATION
Michael Owen, David G. Long, Brigham Young University, United States

16:40 - 17:00

TU4.L10.4 A REVISED GEOPHYSICAL MODEL FUNCTION FOR THE ADVANCED SCATTEROMETER (ASCAT) AT NOAA/NESDIS
Seubson Soisuvarn, Zorana Jelenak, NOAA/UCAR, United States; Paul S. Chang, Qi Zhu, National Oceanic and Atmospheric Administration, United States

17:00 - 17:20

TU4.L10.5 ASSESSMENT OF ASCAT HIGH WIND RETRIEVALS WITHIN EXTRATROPICAL CYCLONES AT NOAA OCEAN PREDICTION CENTER
Khalil A. Ahmad, Zorana Jelenak, Joseph Sienkiewicz, Paul S. Chang, NOAA/NESDIS/STAR, United States

WE1.L01: Wednesday, July 28, 08:20 - 10:00

WE1.L01 Remote Sensing of Human Settlements I

Session Type: Oral-Invited
 Time: Wednesday, July 28, 08:20 - 10:00
 Place: Sea Pearl 1/2/3
 Co-Chairs: Paolo Gamba, Università di Pavia and Lionel Gueguen, JRC

08:20 - 09:00 Overview Talk (40 minutes)

WE1.L01.1 GLOBAL TRENDS IN REMOTE SENSING OF HUMAN SETTLEMENTS
 Bruce Forster, University of New South Wales, Australia

09:00 - 09:20

WE1.L01.3 RECENT PROGRESS IN THERMAL REMOTE SENSING OF URBAN AREAS
 Qihao Weng, Indiana State University, United States

09:20 - 09:40

WE1.L01.4 AUTOMATION OF OBJECT EXTRACTION FROM LIDAR IN URBAN AREAS
 Franz Rottensteiner, Leibniz University Hannover, Germany

09:40 - 10:00

WE1.L01.5 MAPPING EARTHQUAKE DAMAGE IN VHR RADAR IMAGES OF HUMAN SETTLEMENTS: PRELIMINARY RESULTS ON THE 6TH APRIL 2009, ITALY CASE
 Fabio Dell'Acqua, EUCENTRE, Italy; Paolo Gamba, Diego Aldo Polli, University of Pavia, Italy

WE1.L02: Wednesday, July 28, 08:20 - 10:00

WE1.L02 The Global Change Observation Mission (GCOM) I

Session Type: Oral-Invited
 Time: Wednesday, July 28, 08:20 - 10:00
 Place: Sea Pearl 4/5/6
 Co-Chairs: Paul S. Chang, NOAA/NESDIS and Haruhisa Shimoda, Japan Aerospace Exploration Agency

08:20 - 09:00 Overview Talk (40 minutes)

WE1.L02.1 OVERVIEW OF GCOM
 Haruhisa Shimoda, Japan Aerospace Exploration Agency, Japan

09:00 - 09:20

WE1.L02.3 GCOM-W AND GCOM-C PROJECT STATUS
 Keizo Nakagawa, Japan Aerospace Exploration Agency, Japan

09:20 - 09:40

WE1.L02.4 ◇ **OVERVIEW OF GCOM – C1 / SGLI SCIENCE**
 Yoshiaki Honda, Chiba University, Japan

09:40 - 10:00

WE1.L02.5 AMSR INSTRUMENTS ON GCOM-W1/2: CONCEPTS AND APPLICATIONS
 Taikan Oki, Keiji Imaoka, Misako Kachi, Japan Aerospace Exploration Agency, Japan

WEDNESDAY

WE1.L03: Wednesday, July 28, 08:20 - 10:00

WE1.L03 Wetlands and Inland Waters

Session Type: Oral-Contributed

Time: Wednesday, July 28, 08:20 - 10:00

Place: Hibiscus

Co-Chairs: Kyle McDonald, Jet Propulsion Laboratory and Erika Podest, Jet Propulsion Laboratory

08:20 - 08:40

WE1.L03.1 MAPPING WETLAND DYNAMICS WITH MULTI-TEMPORAL ALOS PALSAR SCANSAR IMAGERY

Bruce Chapman, Jet Propulsion Laboratory, United States; Laura Hess, University of California, United States; Laurent Durieux, Institut de Recherche pour le Développement, France; Eduardo Arraut, Instituto Nacional de Pesquisas Espaciais, Brazil; Bruce Marshall, Instituto Nacional de Pesquisas da Amazônia, Brazil; Kyle McDonald, Jet Propulsion Laboratory, United States

08:40 - 09:00

WE1.L03.2 A CASE STUDY FOR THE OKAVANGO DELTA WETLAND: USING MODIS TIME SERIES OBSERVATIONS TO ASCERTAIN FLOODING REGIME DYNAMICS FOR IMPROVED METHANE EMISSION MODELING INPUTS

Kelebogile Mfundisi, University of Botswana, Botswana; Tobias Landmann, University of Wuerzburg, Germany; Andreas Dietz, German Aerospace Center (DLR), Germany; Stefan Dech, University of Wuerzburg, Germany

09:00 - 09:20

WE1.L03.3 OPTIMIZING CLASSIFICATION ACCURACY OF ESTUARINE MACROPHYTES: COMBINING SPATIAL AND PHYSICS-BASED IMAGE ANALYSIS

Janet Anstee, Elizabeth Botha, CSIRO, Australia; Robert Williams, Industry & Investment NSW, Australia; Arnold Dekker, CSIRO, Australia

09:20 - 09:40

WE1.L03.4 A COMPARISON OF INUNDATED WETLAND AND OPEN WATER DISTRIBUTION FOR ALASKA BETWEEN HIGH AND LOW RESOLUTION MICROWAVE REMOTE SENSING DATA

Erika Podest, Kyle McDonald, Ronny Schroeder, Jet Propulsion Laboratory, United States; Jane Whitcomb, Mahta Moghaddam, The University of Michigan, United States

09:40 - 10:00

WE1.L03.5 MAPPING AND CHANGE DETECTION FOR BOREAL WETLANDS OF NORTH AMERICA BASED ON JERS AND PALSAR DATA

Jane Whitcomb, Mahta Moghaddam, University of Michigan, United States; Kyle McDonald, Erika Podest, Bruce Chapman, Jet Propulsion Laboratory, United States

WE1.L04: Wednesday, July 28, 08:20 - 10:00

WE1.L04 Student Contest I

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 08:20 - 10:00
 Place: Kahili
 Chair: Martti Hallikainen

08:20 - 08:40

WE1.L04.1 **MULTI-VIEW ADAPTIVE DISAGREEMENT BASED ACTIVE LEARNING FOR HYPERSPECTRAL IMAGE CLASSIFICATION**

Wei Di, Melba Crawford, Purdue University, United States

08:40 - 09:00

WE1.L04.2 **CRATER DETECTION BASED ON MARKED POINT PROCESSES**

Giulia Traglia, University of Genoa, Italy; Jon Atli Benediktsson, University of Iceland, Iceland; Gabriele Maser, Sebastiano B. Serpico, University of Genoa, Italy

09:00 - 09:20

WE1.L04.3 **TREE AND CROWN HEIGHT ASSESSEMENTS OF A MARITIME PINE FOREST AT PLOT LEVEL USING A FULLWAVEFORM ULTRAVIOLET LIDAR PROTOTYPE**

Tristan Allouis, Cemagref / AgroParisTech, France; Sylvie Durrieu, Cemagref, France; Juan Cuesta, Patrick Chazette, Pierre H. Flamant, Institut Pierre Simon Laplace, France; Pierre Couteron, Institut de Recherche pour le Développement, France

09:20 - 09:40

WE1.L04.4 **ELECTROMAGNETIC SCATTERING FROM ARBITRARY RANDOM ROUGH SURFACES USING STABILIZED EXTENDED BOUNDARY CONDITION METHOD (SEBCM) FOR REMOTE SENSING OF SOIL MOISTURE**

Xueyang Duan, Mahta Moghaddam, University of Michigan, United States

09:40 - 10:00

WE1.L04.5 **BISTATIC SCATTERING, BACKSCATTERING AND EMISSIVITIES OF RANDOMLY ROUGH SOIL SURFACES AT L BAND BASED ON NUMERICAL SOLUTIONS OF MAXWELL EQUATIONS OF 3 DIMENSIONAL SIMULATIONS**

Shaowu Huang, Leung Tsang, University of Washington, United States

WE1.L05: Wednesday, July 28, 08:20 - 10:00

WE1.L05 Remote Sensing for Tropical Deforestation and Degradation: A Global Challenge with Local Impact I

Session Type: Oral-Invited
 Time: Wednesday, July 28, 08:20 - 10:00
 Place: South Pacific 3
 Co-Chairs: Mark Williams, Fugro EarthData and Tom Ainsworth, Naval Research Lab

08:20 - 09:00

WE1.L05.1 **FOREST MAPPING, INVENTORY AND BIOMASS ESTIMATION TECHNIQUES FROM REMOTE SENSING: AN OVERVIEW**

Tony Milne, Cooperative Research Centre for Spatial Information, Australia; Mark Williams, Fugro-EarthData, United States

09:00 - 09:20

WE1.L05.3 **TROPICAL-FOREST STRUCTURE AND ITS RELATION TO BIOMASS ESTIMATION FROM L-BAND REPEAT-TRACK INTERFEROMETRIC SAR AND LIDAR**

Robert Treuhart, Jet Propulsion Laboratory, California Institute of Technology, United States; Fabio Gonçalves, Oregon State University, Jet Propulsion Laboratory, California Institute of Technology, United States; Bruce Chapman, Jet Propulsion Laboratory, California Institute of Technology, United States; Jason Drake, USDA Forest Service, United States; João Roberto dos Santos, Luciano Dutra, Instituto Nacional de Pesquisas Espaciais, Brazil; Paulo M. L. A. Graca, Instituto Nacional de Pesquisas da Amazonia, Brazil; George Purcell, Jet Propulsion Laboratory, California Institute of Technology, United States

09:20 - 09:40

WE1.L05.4 **SAR DATA COLLECTION OVER RAIN FORESTS AT VHF- AND UHF-BAND**

Björn Flood, Per-Olov Fröling, Anders Gustavsson, Tommy Jonsson, Björn Larsson, Mikael Lundberg, Daniel Murdin, Gunnar Stenström, Lars M. H. Ulander, Swedish Defence Research Agency (FOI), Sweden

09:40 - 10:00

WE1.L05.5 **ANALYSIS OF GEOSAR, DUAL-BAND, INSAR DATA FOR PERUVIAN FOREST**

Mark Williams, Fugro-EarthData, United States; Miles Silman, Wake Forest University, United States; Sassan Saatchi, Scott Hensley, Jet Propulsion Laboratory, United States; Mark Sanford, Alina Yohannan, Boris Kofman, James Reis, Bert Kampes, Fugro-EarthData, United States

WEDNESDAY

WE1.L06: Wednesday, July 28, 08:20 - 10:00**WE1.L06 Classification Techniques**

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 08:20 - 10:00
 Place: South Pacific 4
 Co-Chairs: Lori Mann Bruce, Mississippi State University and Antonio Plaza, University of Extremadura

08:20 - 08:40

WE1.L06.1 MARKOV RANDOM FIELD BASED SUPER-RESOLUTION MAPPING FOR IDENTIFICATION OF URBAN TREES IN VHR IMAGES

Juan Ardila, Wietske Bijker, Valentyn Tolpekin, Institute for Geo-Information Science and Earth Observation, Netherlands

08:40 - 09:00

WE1.L06.2 COMBINING CLASSIFIERS FOR ROBUST HYPERSPECTRAL MAPPING USING HIERARCHICAL TREES AND CLASS MEMBERSHIPS

Karoly Livius Bakos, Paolo Gamba, Università di Pavia, Italy; Bogdan Zagajewski, University of Warsaw, Poland

09:00 - 09:20

WE1.L06.3 A MULTIPLE CLASSIFIER APPROACH FOR SPECTRAL-SPATIAL CLASSIFICATION OF HYPERSPECTRAL DATA

Yuliya Tarabalka, GIPSA-Lab - Grenoble Institute of Technology, France; Jon Atli Benediktsson, University Of Iceland, Iceland; Jocelyn Chanussot, GIPSA-Lab - Grenoble Institute of Technology, France; James Tilton, NASA Goddard Space Flight Center, United States

09:20 - 09:40

WE1.L06.4 ADVANCED ACTIVE SAMPLING FOR REMOTE SENSING IMAGE CLASSIFICATION

Michele Volpi, Devis Tuia, Mikhail Kanevski, University of Lausanne, Switzerland

09:40 - 10:00

WE1.L06.5 CLASSIFYING PATTERNS OF LAND COVER USING MUTUAL INFORMATION AND CLUSTERING

Tomasz Stepinski, Lunar and Planetary Institute, United States

WE1.L07: Wednesday, July 28, 08:20 - 10:00**WE1.L07 Data Management and Systems**

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 08:20 - 10:00
 Place: Nautilus
 Co-Chairs: Granville Paules, KELLY, ANDERSON AND ASSOCIATES, INC. and Hampapuram Ramapriyan, NASA Goddard Space Flight Center

08:20 - 08:40

WE1.L07.1 NASA'S STANDARDS PROCESS FOR EARTH SCIENCE DATA SYSTEMS

Richard Ullman, NASA, United States; Yonsook Enloe, SGT, Inc., United States

08:40 - 09:00

WE1.L07.2 ASTER DIGITAL ELEVATION MODEL AND ORTHORECTIFIED IMAGES GENERATED ON THE GEO GRID

Shinsuke Kodama, Hirokazu Yamamoto, Naotaka Yamamoto, Akihide Kamei, Ryosuke Nakamura, Koki Iwao, Satoshi Tsuchida, National Institute of Advanced Industrial Science and Technology, Japan

09:00 - 09:20

WE1.L07.3 ♦ WHAT VOLUNTEERED GEOGRAPHIC INFORMATION IS (GOOD FOR) - DESIGNING A METHODOLOGY FOR COMPARATIVE ANALYSIS OF EXISTING APPLICATIONS TO CLASSIFY VGI AND ITS USES

Nicole Ostlaender, Robin S. Smith, Bertrand de Longueville, Paul Smits, European Commission, Joint Research Center, Italy

09:20 - 09:40

WE1.L07.4 THE USE OF REMOTE SENSING DATA FOR ADVANCING AMERICA'S ENERGY POLICY

Azita Valinia, Bernard Seery, NASA Goddard Space Flight Center, United States

09:40 - 10:00

WE1.L07.5 ♦ CROWD-SOURCING SATELLITE IMAGE ANALYSIS

Emmanuel Christophe, National University of Singapore, Singapore; Jordi Inglada, Centre National d'Etudes Spatiales (CNES), France; Jerome Maudlin, Graphical Hedonist, France

WE1.L08: Wednesday, July 28, 08:20 - 10:00**WE1.L08 Aerosols**

Session Type: Oral-Contributed

Time: Wednesday, July 28, 08:20 - 10:00

Place: South Pacific 1/2

Co-Chairs: Juergen Fischer, Freie Universität Berlin and Kultegin Aydin, Penn State

08:20 - 08:40

WE1.L08.1 MARITIME AEROSOL NETWORK AS A COMPONENT OF AERONET - FIRST STEPS

Alexander Smirnov, Sigma Space Corporation, United States; Brent N. Holben, Goddard Space Flight Center, United States; Andreas Macke, Peter Croot, Leibniz Institute of Marine Sciences at Kiel University, Germany; Sergey Sakerin, Institute of Atmospheric Optics, Russian Federation; Yann Courcoux, Université de la Réunion, France; Tim Smyth, Plymouth Marine Laboratory, United Kingdom; Tymon Zielinski, Institute of Oceanology, Chinese Academy of Sciences, Poland; Giuseppe Zibordi, European Commission, Joint Research Center, Italy; Mike Harvey, National Institute of Water and Atmospheric Research, New Zealand; Remi Losno, Université de Paris 7 et Université de Paris 12, France; Jean Sciare, Laboratoire des Sciences du Climat et de l'Environnement, France; Vladimir Radionov, Arctic and Antarctic Research Institute, Russian Federation; Patricia Quinn, Pacific Marine Environmental Laboratory, United States; Norm Nelson, University of California, Santa Barbara, United States; Joaquim Goes, Bigelow Laboratory for Ocean Sciences, United States; K Krishna Moorthy, Vikram Sarabhai Space Center, India; Carlos Duarte, Mediterranean Institute for Advanced Studies, Spain; Kenneth Voss, University of Miami, United States; David Covert, University of Washington, United States; Nicholas Nalli, National Environmental Satellite, Data, and Information Services, United States; Sergey Gulev, Institute of Oceanology, Chinese Academy of Sciences, Russian Federation; Ilya Slutsker, David Giles, Sigma Space Corporation, United States; Norman O'Neill, Université de Sherbrooke, Canada; Thomas Eck, University of Maryland Baltimore County, United States

08:40 - 09:00

WE1.L08.2 ♦ MULTI-ANGLER POLARIZED REMOTE SENSING OF NON-SPHERICAL AEROSOL PARTICLES

Tianhai Cheng, Xingfa Gu, Tao Yu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

09:00 - 09:20

WE1.L08.3 AEROSOL REMOTE SENSING OVER OCEAN IN GLINT CONTAMINATED REGIONS USING AATSR AND MERIS

Rene Preusker, Juergen Fischer, Freie Universität Berlin, Germany

09:20 - 09:40

WE1.L08.4 DEVELOPING A SATELLITE-BASED TOOL TO MONITOR DUST AND SAND STORMS IN THE UAE

Ali Al Suwaidi, Adnan Al Rais, Emirates Institution for Advanced Science & Technology, United Arab Emirates; Hosni Ghedira, MASDAR Institute/MIT, United Arab Emirates

09:40 - 10:00

WE1.L08.5 APPLICATION OF GROUND TRANSPORTABLE LIDAR FOR THE CALIBRATION AND VALIDATION OF THE NASA'S GLORY AEROSOL POLARIMETRY SENSOR MEASUREMENT

Yahya Golestani, Steven Beck, The Aerospace Corporation, United States

WE1.L09: Wednesday, July 28, 08:20 - 10:00**WE1.L09 The Destiny of DESDynI – Science and Applications Fusing L-band SAR and Lidar in the Next Decade I**

Session Type: Oral-Invited

Time: Wednesday, July 28, 08:20 - 10:00

Place: Coral 1

Co-Chairs: Paul Rosen, Jet Propulsion Laboratory and Scott Hensley, Jet Propulsion Laboratory

08:20 - 08:40

WE1.L09.1 AN OVERVIEW OF THE DESDYNI MISSION

K. Jon Ranson, NASA Goddard Space Flight Center, United States; Paul Rosen, Jet Propulsion Laboratory, United States; Ralph Dubayah, University of Maryland College Park, United States; Bradford Hager, Massachusetts Institute of Technology, United States; Ian Joughin, University of Washington, United States; Scott Luthcke, Bryan Blair, NASA Goddard Space Flight Center, United States; Scott Hensley, Yuhsyen Shen, Jet Propulsion Laboratory, United States; Gerry Daelemans, NASA Goddard Space Flight Center, United States

08:40 - 09:00

WE1.L09.2 GLOBAL BIOMASS ESTIMATES FROM DESDYNI

Ralph Dubayah, University of Maryland, United States

09:00 - 09:20

WE1.L09.3 VERTICAL FOREST STRUCTURE ESTIMATION BY MEANS OF MULTI-BASELINE POL-INSAR AT L-BAND FOR GLOBAL BIOMASS MAPPING POTENTIAL & LIDAR SYNERGIES

Florian Kugler, Seung-Kuk Lee, Stefan Sauer, Astor Torano Caicoa, Konstantinos Papathanassiou, German Aerospace Center (DLR), Germany

09:20 - 09:40

WE1.L09.4 DESDYNI BIODIVERSITY AND HABITAT KEY VARIABLES AND IMPLICATIONS FOR LIDAR-RADAR FUSION

Kathleen Bergen, University of Michigan, United States; Ralph Dubayah, University of Maryland, United States; Scott Goetz, Woods Hole Research Center, United States

09:40 - 10:00

WE1.L09.5 ESTIMATION OF FOREST BIOMASS CHANGE FROM FUSION OF RADAR AND LIDAR MEASUREMENTS

Sassan Saatchi, Jet Propulsion Laboratory, United States

WE1.L10: Wednesday, July 28, 08:20 - 10:00**WE1.L10 Realizing the Applications Benefits from NASA's Pathfinder EOS Missions – the 1st Generation I**

Session Type: Oral-Contributed

Time: Wednesday, July 28, 08:20 - 10:00

Place: Coral 2

Chair: Stephen Volz, NASA

08:20 - 08:40

WE1.L10.1 INTERANNUAL VARIABILITY IN CLIMATE PRODUCTS FROM THE ATMOSPHERIC INFRARED SOUNDER

Thomas Pagano, Jet Propulsion Laboratory, United States; Eric Fetzer, Moustafa Chahine, Edward Olsen, NASA Jet Propulsion Laboratory, United States

08:40 - 09:00

WE1.L10.2 TERRA, AQUA, AND AURA DIRECT BROADCAST – PROVIDING EARTH SCIENCE DATA FOR REALTIME APPLICATIONS

Angelita Kelly, Patrick Coronado, NASA, United States; Warren Case, SGT, Inc., United States; Amelia Franklin, NASA, United States

09:00 - 09:20

WE1.L10.3 USE OF NASA DATA IN THE JOINT CENTER FOR SATELLITE DATA ASSIMILATION

Lars Peter Riishojgaard, Sid-Ahmed Boukabara, Joint Center for Satellite Data Assimilation, United States

09:20 - 09:40

WE1.L10.4 GRACE APPLICATIONS TO REGIONAL HYDROLOGY AND WATER RESOURCES

Byron Tapley, University of Texas at Austin, United States

09:40 - 10:00

WE1.L10.5 IMPLEMENTATION OF THE LAND, ATMOSPHERE NEAR-REAL-TIME CAPABILITY FOR EOS (LANCE)

Karen Michael, Kevin Murphy, Dawn Lowe, Edward Masuoka, Bruce Vollmer, Curt Tilmes, NASA Goddard Space Flight Center, United States; Michael Teague, Gang Ye, Sigma Space, United States; Martha Maiden, H. Michael Goodman, NASA Headquarters, United States; Christopher Justice, University of Maryland, United States

WEP1.PA: Wednesday, July 28, 09:40 - 10:45

WEP1.PA Radar Remote Sensing of Vegetation

Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area A
 Co-Chairs: Stephen McNeill, Landcare Research New Zealand and Wayne Walker, Woods Hole Research Center

WEP1.PA.1 SUPPORTING PRECISION AGRICULTURE WITH DUAL-POLARIMETRIC TERRASAR-X – YIELD PREDICTION AND IDENTIFICATION OF IN-FIELD VARIATIONS TO GENERATE FERTILIZER PRESCRIPTION MAPS

Tishampati Dhar, University of Adelaide, Australia; Carl Menges, Apogee Imaging International, Australia; Doug Gray, University of Adelaide, Australia; John Douglas, Apogee Imaging International, Australia; Leighton Wilksch, Landmark, Australia

WEP1.PA.2 ESTIMATION OF PASTURE BIOMASS AND SOIL-MOISTURE USING DUAL-POLARIMETRIC X AND L BAND SAR – ACCURACY ASSESMENT WITH FIELD DATA

Tishampati Dhar, Carl Menges, John Douglas, Apogee Imaging International, Australia; Michael Schmidt, John Armston, Queensland Department of Natural Resources and Mines, Australia

WEP1.PA.3 USE OF THE MERGED DUAL-FREQUENCY RADAR ALTIMETER BACKSCATTER DATA OVER CHINA LAND SURFACE

Le Yang, Hejuan Du, Hongzhang Ma, Qinhuo Liu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

WEP1.PA.4 THE USE OF ALOS PALSAR IMAGERY FOR CERRADO'S LAND USE AND LAND COVER MAPPING

Edson Sano, Embrapa Cerrados, Brazil; Elaine Santos, Paulo Meneses, University of Brasília, Brazil

WEP1.PA.5 RICE AREAS MAPPING USING ALOS PALSAR FBD DATA CONSIDERING THE BRAGG SCATTERING IN L-BAND SAR IMAGES OF RICE FIELDS

Feilong Ling, Fuzhou University, China; Zengyuan Li, Erxue Chen, Xin Tian, Lina Bai, Fengyu Wang, Chinese Academy of Forestry, China

WEP1.PA.6 SYNERGISTIC USE OF MULTI-TEMPORAL ALOS/PALSAR WITH SPOT MULTISPECTRAL SATELLITE IMAGERY FOR LAND COVER MAPPING IN THE HOCHIMINH CITY AREA, VIETNAM

Hai Tung Chu, Linlin Ge, University of New South Wales, Australia

WEP1.PA.7 A COMBINED APPROACH TO DETECT URBAN FEATURES FROM MULTI-SPECTRAL AND RADAR DATA

Nathalie Long, Unité Mixte de Recherche Littoral, Environnement et Sociétés, France; Elisabeth Simonetto, Laboratoire de Géodésie et Géomatique, France; Erwan Bocher, Institut de Recherche en Sciences et Techniques de l'Institut de Recherche en Sciences et Techniques de la Ville, France

WEP1.PA.8 ◊ AUTOMATIC CHANGE DETECTION IN A MULTITEMPORAL SERIES OF RADAR IMAGES

Sami Benzid, Ferdaous Chaabane, Riadh Abdelfattah, URISA/SUPCOM, Tunisia; Florence Tupin, TSI/TELECOM ParisTech, France

WEP1.PA.9 TROPICAL LAND COVER CHANGE DETECTION WITH POLARIMETRIC SAR DATA

Emerson Luiz Servello, Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis - IBAMA, Brazil; Tatiana Mora Kuplich, Yosio Edemir Shimabukuro, INPE, Brazil

WEP1.PA.10 A SHADOW PERCENTAGE ESTIMATION METHOD FOR RADAR LOOK ANGLE SELECTION IN SPACEBORNE INSAR APPLICATION

Yu Wang, Xing-dong Liang, Institute of Electronics, Chinese Academy of Sciences, China

WEDNESDAY

WEP1.PB: Wednesday, July 28, 09:40 - 10:45**WEP1.PB Vegetation Mapping I**

Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area B
 Chair: Julian Fox, University of Melbourne

- WEP1.PB.1 APPLICATION OF PCA AND CANOPY NEAR, SHORTWAVE-INFRARED BANDS FOR SOYBEAN AND CORN FPAR ESTIMATION IN THE SONGNEN PLAIN, CHINA**
 Xuguang Tang, Kaishan Song, Dianwei Liu, Zongming Wang, Bai Zhang, Fei Yang, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China
- WEP1.PB.2 RESEARCH OF FOREST REGULATING TEMPERATURE BASED ON TIME-SERIES OF SHANDONG PROVINCE**
 Haixia Feng, Peking University, China; Xiong Yuju, Sun Yat-Sen University, China; Bi He, Hanhai Liu, Shandong Jiaotong University, China
- WEP1.PB.3 RESEARCH ON PAR AND FPAR OF CROP CANOPIES BASED ON RGM**
 Xie Donghui, Beijing Normal University, China; Wang Peijuan, Chinese Academy of Meteorological Sciences, China; Liu Rongyuan, Zhu Qijiang, Beijing Normal University, China
- WEP1.PB.4 FOREST BIOMASS ESTIMATION IN NORTHEASTERN CHINA USING ALOS PALSAR DATA COMBINED RADIATIVE TRANSFER MODEL**
 Zhifeng Guo, Wenjian Ni, State key Laboratory of Remote Sensing Science, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Guoqing Sun, University of Maryland, United States
- WEP1.PB.5** ◇ **UTILIZING PUBLIC INTERNET-CONNECTED CAMERAS FOR A CROSS-CONTINENTAL PLANT PHENOLOGY MONITORING SYSTEM**
 Erin Riordan, Eric Graham, Eric Yuen, Deborah Estrin, Philip Rundel, University of California, Los Angeles, United States
- WEP1.PB.6** ◇ **PROVIDING PROCESSING LINES AND TEST DATA FOR THE GMES LAND MONITORING CORE SERVICE**
 Philippe Pacholczyk, Centre National d'Etudes Spatiales (CNES), France
- WEP1.PB.7 PROTOCOLS FOR FIELD SAMPLING OF FOREST CARBON POOLS FOR MONITORING, REPORTING AND VERIFICATION OF REDD**
 Julian Fox, The University of Melbourne, Australia; Mark Williams, Fugro-EarthData, United States; Tony Milne, Cooperative Research Centre for Spatial Information, Australia; Rodney Keenan, The University of Melbourne, Australia
- WEP1.PB.8 TIME LAG ANALYSIS BETWEEN VEGETATION AND CLIMATE CHANGE IN INNER MONGOLIA**
 Huiling Long, Xiaobing Li, Yun Bao, Lingmei Huang, Zhongfei Li, Beijing Normal University, China
- WEP1.PB.9** ◇ **MAPPING EVERGREEN FORESTS IN THE PAN-TROPICAL ZONE USING MULTI-TEMPORAL MODIS IMAGES IN 2005**
 Xiangming Xiao, Chandrashekar Biradar, Huiyong Sang, Jingjing Wang, Sage Sheldon, University of Oklahoma, United States

WEP1.PC: Wednesday, July 28, 09:40 - 10:45**WEP1.PC Agroecosystems I**

Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area C
 Co-Chairs: Guy Serbin, ASRC Management Services and Lahouari Bounoua, NASA

WEP1.PC.1 AN OPTIMIZED BROAD-BAND LEAF CHLOROPHYLL ESTIMATOR
Massimo Vincini, Ermes Frazzi, Università Cattolica del Sacro Cuore, Italy**WEP1.PC.2 COMPARISON OF TWO REGRESSION MODELS FOR PREDICTING CROP YIELD**
Li Zhang, Liping Lei, Dongmei Yan, Key Laboratory of Digital Earth, Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China**WEP1.PC.3 EVALUATING MODIS VEGETATION INDICES USING GROUND BASED MEASUREMENTS IN A MOUNTAINS SEMI-NATURAL MEADOWS OF NORTHEAST PORTUGAL**
Mario Cunha, Isabel Poças, Andre Marçal, Arlete Rodrigues, Faculdade de Ciências, Universidade do Porto, Portugal; Luis Pereira, Instituto Superior de Agronomia, Universidade Técnica de Lisboa, Portugal**WEP1.PC.4 COMPARISON OF MODIS DERIVED EVAPOTRANSPIRATION WITH LAS MEASUREMENTS AT CHANGWU AGRO-ECOLOGICAL EXPERIMENTAL STATION**
Ronglin Tang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Yuanjun Zhu, Wenzhao Liu, Institute of Soil and Water Conservation, Chinese Academy of Sciences, China; Zhao-Liang Li, TRIO/LSIT, France**WEP1.PC.5 HYPERSPECTRAL ASSESSMENT OF CANOPY NITROGEN CONTENT IN RICE - COMPARATIVE ANALYSIS USING MULTIPLE DATASETS -**
Yoshio Inoue, NIAES, Japan; Yan Zhu, NAU, China; Eiji Sakaiya, Aomori-ITC, Japan; Wataru Takahashi, Toyama Prefc., Japan**WEP1.PC.6 ESTIMATION OF CROP LEAF AREA INDEX USING MODIS DIRECTIONAL REFLECTANCES DATA**
Yang Liu, Ronggao Liu, Siliang Liu, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China**WEP1.PC.7 ◇ ESTIMATE CROP EVAPOTRANSPIRATION OF SPRING WHEAT IN THE MIDDLE REACHES OF HEIHE RIVER BASIN, NORTHWESTERN CHINA**
Yao Wang, Chuanyan Zhao, Zhonglin Xu, Huanhua Peng, Lanzhou University, China**WEP1.PC.8 NDVI MODIS SENSOR RESPONSE TO SOYBEAN PHENOLOGY IN THE STATE OF PARANA, BRAZIL**
Angélica Giarolla, Yosio E. Shimabukuro, Instituto Nacional de Pesquisas Espaciais, Brazil

WEP1.PD: Wednesday, July 28, 09:40 - 10:45

- WEP1.PD Volcano and Earthquake Applications**
 Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area D
 Chair: Joong-Sun Won, Yonsei University
- WEP1.PD.1 ASSUMPTIONS IN THE EVALUATION OF LAVA EFFUSION RATES FROM HEAT RADIATION**
 Michele Dragoni, University of Bologna, Italy; Andrea Tallarico, University of Bari, Italy
- WEP1.PD.2 HIGH RESOLUTION D-INSAR MEASUREMENT FOR LAND SUBSIDENCE**
 Ye Xia, Hermann Kaufmann, German Research Center for Geosciences GFZ, Germany
- WEP1.PD.3 TEMPORAL ANALYSIS OF THE MAGMA SUPPLY SYSTEM BENEATH THE OKMOK CALDERA BY INTERFEROMETRIC SYNTHETIC APERTURE RADAR AND STATISTICAL SEISMOLOGY**
 William N. Junek, W. Linwood Jones, University of Central Florida, United States; Mark T. Woods, United States Air Force Technical Applications Center, United States
- WEP1.PD.4 SYNERGETIC EXPLOITATION OF METEOROLOGICAL GEOSTATIONARY PAYLOADS «SEVIRI» AND «JAMI» FOR QUANTITATIVE, REAL-TIME, GLOBAL VOLCANO MONITORING**
 Barbara Hirn, Concettina Di Bartola, IES Consulting, Italy; Fabrizio Ferrucci, University of Calabria, Italy
- WEP1.PD.5 DETECTION OF LAND SUBSIDENCE IN BEIJING, CHINA, USING INTERFEROMETRIC POINT TARGET ANALYSIS TECHNIQUE**
 Hongli Zhao, China University of Geosciences (Beijing), China; Jinghui Fan, Xiaofang Guo, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Jianping Chen, China University of Geosciences (Beijing), China; Ye Xia, German Research Center GFZ, Germany; Daqing Ge, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Lu Zhang, Yubao Qiu, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Chang Zhong, China University of Geosciences (Beijing), China
- WEP1.PD.6 THE SPATIAL EXTENT OF THERMAL ANOMALIES AT LASCAR VOLCANO**
 Sam Murphy, Carlos Roberto de Souza Filho, University of Campinas, Brazil; Clive Oppenheimer, Cambridge University, United Kingdom
- WEP1.PD.7 EXTRACTING SEISMIC ANOMALIES BASED ON STD THRESHOLD METHOD USING OUTGOING LONGWAVE RADIATION DATA**
 Feng Jing, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Xuhui Shen, Institute of Earthquake Science, China Earthquake Administration, China; Chunli Kang, China Earthquake Networks Center, China; Qingyan Meng, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Yang Chen, Shunying Hong, Institute of Earthquake Science, China Earthquake Administration, China
- WEP1.PD.8 DETECTION OF THERMAL CHANGES POSSIBLY ASSOCIATED WITH VOLCANIC ACTIVITY WITH LESS FAINT CHANGES FROM MODIS**
 Katsumi Hattori, Takafumi Noguchi, Nozomi Ohno, Chiba University, Japan

WEP1.PE: Wednesday, July 28, 09:40 - 10:45

WEP1.PE SAR

Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area E
 Chair: Mihai Datcu, German Aerospace Center

WEP1.PE.1 A NOVEL APPROACH FOR REDUNDANT INTEGRATION OF FINITE DIFFERENCES AND PHASE UNWRAPPING ON A SPARSE MULTIDIMENSIONAL DOMAIN

Mario Costantini, Fabio Malvarosa, Federico Minati, E-GEOS - an ASI/Telespazio Company, Italy

WEP1.PE.2 A CHMT MODEL BASED DE-SPECKLING METHOD FOR SAR IMAGE

Deng Lei, Zhao Wenji, Hu Deyong, Hu Zhuowei, Cao Gaoming, Capital Normal University, China

WEP1.PE.3 POLSAR IMAGE CLASSIFICATION USING BP NEURAL NETWORK BASED ON QUANTUM CLONAL EVOLUTIONARY ALGORITHM

Bin Zou, Huijun Li, Lamei Zhang, Harbin Institute of Technology, China

WEP1.PE.4 AN IMPROVED CSA FOR ONE-STATIONARY BISAR SQUINT MODE

Dazhi Zeng, Rui Wang, Teng Long, Tao Zeng, Beijing Institute of Technology, China

WEP1.PE.5 \diamond MORPHOLOGICAL FILTERING OF SAR INTERFEROMETRIC IMAGES

Safa Réjichi, Ferdaous Chaabane, Ecole Supérieure des Communications de Tunis, Tunisia; Florence Tupin, Isabelle Bloch, Telecom ParisTech, France

WEP1.PE.6 SAR COMPLEX IMAGE ANALYSIS: A GAUSS MARKOV VERSUS A MULTIPLE SUB-APERTURE BASED TARGET CHARACTERIZATION

Jagmal Singh, Matteo Soccorsi, Mihai Datcu, German Aerospace Center (DLR), Germany

WEP1.PE.7 FOCUSING GENERAL BISTATIC SAR DATA USING FREQUENCY SCALING

Feng Li, Tao Zeng, Teng Long, Beijing Institute of Technology, China

WEP1.PE.8 OBJECT BASED DETECTION OF MULTISCALE CHANGES IN BRAZILIAN SAVANNAH USING SAR IMAGERY

Luis Carvalho, Federal University of Lavras, Brazil; Geoffrey J. Hay, University of Calgary, Canada; Mike Wulder, Canadian Forest Service, Canada; Fionn Murtagh, University of London, United Kingdom

WEP1.PE.9 \diamond SEMANTIC SEGMENTATION OF POLARIMETRIC SAR IMAGERY USING CONDITIONAL RANDOM FIELDS

Wen Yang, Xun Zhang, Lijun Chen, Hong Sun, Wuhan University, China

WEP1.PE.10 CHARACTERIZATION OF ENVISAT MULTIPOLARIZATION SAR DATA WITH BIDIMENSIONAL STATISTICS

Christophe Gouinaud, LIMOS-ISIMA, France; Pascale Gouinaud, LIMOS, France

WEDNESDAY

WEP1.PF: Wednesday, July 28, 09:40 - 10:45**WEP1.PF Target Detection - Object Recognition**

Session Type: Poster

Time: Wednesday, July 28, 09:40 - 10:45

Place: Poster Area F

Co-Chairs: Gregoire Mercier, TELECOM Bretagne, France and Jenny Du, Mississippi State University

WEP1.PF.1 A STUDY ON ANOMALOUS SIGNAL DETECTION USING HMM FOR ELF ELECTROMAGNETIC WAVE

Yoshinao Ito, Akitoshi Itai, Hiroshi Yasukawa, Aichi Prefectural University, Japan; Ichi Takumi, Nagoya Institute of Technology, Japan; Masayasu Hata, Chubu University, Japan

WEP1.PF.2 MVM BASED SAR IMAGE PROCESSING FOR SHIP POSE ESTIMATION

Chong-wen Duan, Wei-dong Hu, Xiao-yong Du, National University of Defense Technology, China

WEP1.PF.3 A FEATURE-CLUSTERING-BASED SUBSPACE ENSEMBLE METHOD FOR ANOMALY DETECTION IN HYPERSPECTRAL IMAGERY

Zhenlin Liu, Yanfeng Gu, Jinglong Han, Chen Wang, Ye Zhang, Harbin Institute of Technology, China

WEP1.PF.4 LOG-POLAR AND POLAR IMAGE FOR RECOGNITION TARGETS

Abdelmalek Toumi, Ali Khenchaf, Ecole nationale supérieure des ingénieurs des études et techniques d'armement, France

WEP1.PF.5 REFINED TARGET RECOGNITION IN HYPERSPECTRAL IMAGERY BASED ON SPECTRAL REFLECTANCE AND DERIVATIVE INFORMATION

Ye Zhang, Tao Shao, Xiao Fan, Yushi Chen, Harbin Institute of Technology, China

WEP1.PF.6 ◇ EFFECT OF THE POLARIZATION ON SISAR IMAGING AND FEATURE RECOGNITION IN FORWARD SCATTERING RADAR

Dazhi Zeng, Xiaoliang Li, Cheng Hu, Teng Long, Beijing Institute of Technology, China

WEP1.PF.7 INCORPORATION OF CLOUD RADIANCE EFFECTS INTO HYPERSPECTRAL TARGET DETECTION

Caitlin Hart, Michael Gartley, Rochester Institute of Technology, United States

WEP1.PF.8 AUTOMATIC MULTISENSOR IMAGE REGISTRATION BASED ON GLOBAL AND LOCAL GEOMETRIC CONSISTENT EDGE SEGMENTS

Zhiwen Zhu, Jiancheng Luo, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

WEP1.PF.9 ISAR IMAGING OF MANEUVERING TARGETS VIA MATCHING PURSUIT

Gang Li, Hao Zhang, Xiqin Wang, Tsinghua University, China; Xiang-Gen Xia, University of Delaware, United States

WEP1.PF.10 GENERIC OBJECT RECOGNITION IN HIGH RESOLUTION SAR IMAGES

Anca Popescu, University Politehnica Bucharest, Romania; Mihai Costache, Telecom ParisTech, France; Jagmal Singh, Mihai Datcu, Gottfried Schwarz, German Aerospace Center (DLR), Germany

WEP1.PG: Wednesday, July 28, 09:40 - 10:45

WEP1.PG Data Assimilation and Inversion II

Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area G
 Chair: Hiroki Yoshioka, Aichi Prefectural University

WEP1.PG.1 EXTRAPOLATION OF LIDAR FOR FOREST STRUCTURE ESTIMATION USING SAR, IFSAR, AND OPTICAL DATA

Leland Pierce, Michael Benson, Kamal Sarabandi, University of Michigan, United States

WEP1.PG.2 THE EDGELIST ALGORITHM FOR CONSTRAINING PHASE UNWRAPPED SOLUTIONS WITH ADDITIONAL GEODETIC INFORMATION

Piyush Shanker, Howard Zebker, Stanford University, United States

WEP1.PG.3 A SPECIFIC METHODOLOGY FOR ATMOSPHERIC EFFECT REDUCTION ON SAR INTERFEROGRAMS

Riadh Abdelfattah, URISA/SupCom and ITI/Telecom Bretagne, Tunisia; Karem Chokmani, Nabil Chaabane, ETE/INRS Québec, Canada

WEP1.PG.4 ◊ FROM LIDAR SIGNALS TO AEROSOL MICROPHYSICS BY REGULARIZATION

Christine Bäckmann, Pornsarp Pornsawad, Lukas Osterloh, University of Potsdam, Germany; Alexandros Papayannis, National Technical University of Athens, Greece; Aldo Amodeo, Istituto di Metodologie per l'Analisi Ambientale, Italy

WEP1.PG.5 COMPARATIVE ANALYSIS OF REGISTRATION BETWEEN IMAGES AND LIDAR USING DIFFERENT PRIMITIVES

Eunju Kwak, Sendo Wang, Ayman Habib, University of Calgary, Canada

WEP1.PG.6 VECTOR TIME-SERIES FROM MULTIPLE INSAR GEOMETRIES APPLIED TO POST-RIFTING DEFORMATION AT KILAUEA

Cody Wortham, Piyush Agram, Howard Zebker, Stanford University, United States

WEP1.PG.7 INTERCONNECTION OF A CROP GROWTH MODEL WITH REMOTE SENSING DATA TO ESTIMATE THE TOTAL AVAILABLE WATER CONTENT OF SOILS

Pierre Todoroff, Flavie De Robillard, Jean-Baptiste Laurent, Centre de Coopération Internationale pour le Développement, France

WEP1.PG.8 RETRIEVAL OF TIME SERIES LAI BY COUPLING AN EMPIRICAL CROP GROWTH MODEL WITH A RADIATIVE TRANSFER MODEL

Guangjian Yan, Xiaoyan Yang, Jing Li, Xihan Mu, Beijing Normal University, China

WEP1.PG.9 AN INTEGRATED APPROACH TO DETERMINE PARAMETERS OF A 3D VOLCANO MODEL BY USING INSAR DATA WITH METAMODEL TECHNIQUE

Hao Zhang, Xiaoying Cong, Technische Universitaet Muenchen, Germany; Michael Eineder, Remote Sensing Technology Institute, Germany; Kai-Uwe Bletzing, Technische Universitaet Muenchen, Germany

WEDNESDAY

WEP1.PH: Wednesday, July 28, 09:40 - 10:45**WEP1.PH Hyperspectral and Calibration**

Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area H
 Chair: Bo-Cai Gao, Naval Research Laboratory

- WEP1.PH.1 USING HYPERSPECTRAL INFRARED RADIANCE GLOBAL DATA SETS TO VALIDATE CLIMATE ANALYSES**
 Mitchell Goldberg, Lihang Zhou, NOAA/NESDIS, United States; Xingpin Liu, Dell Perot Systems, United States; Likun Wang, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States
- WEP1.PH.2 RESOLUTION ENHANCEMENT OF HYPERSPECTRAL DATA FOR OCEAN AND LITTORAL APPLICATIONS**
 Edwin Winter, Michael Winter, Technical Research Associates, Inc., United States; Scott Beaven, Space Computer Corporation, United States
- WEP1.PH.3 CHARACTERIZATION OF SURFACE DIRECTIONAL REFLECTANCE PROPERTIES OVER THE US SOUTHERN GREAT PLAINS FROM AIRBORNE MEASUREMENTS AND SURFACE OBSERVATIONS**
 Miguel O. Román, NASA Goddard Space Flight Center, United States; Charles K. Gatebe, University of Maryland Baltimore County, United States; Crystal B. Schaaf, Boston University, United States; Michael King, University of Colorado at Boulder, United States
- WEP1.PH.4 THE EFFECT OF INCIDENT LIGHT POLARIZATION ON VEGETATION BIDIRECTIONAL REFLECTANCE FACTOR**
 Georgi T. Georgiev, Sigma Space Corporation, United States; James J. Butler, Kurtis J. Thome, K. Jon Ranson, NASA Goddard Space Flight Center, United States; Michael D. King, University of Colorado, United States
- WEP1.PH.5 AN IMPROVED MULTIANGULAR OBSERVING PLATFORM FOR BRDF MEASUREMENTS**
 Zhen Zhu, Wuming Zhang, Huazhong Ren, Guangjian Yan, Beijing Normal University, China
- WEP1.PH.6 2009 VICARIOUS CALIBRATION RESULTS FOR THE GREENHOUSE GASES OBSERVING SATELLITE (GOSAT)**
 Randy Pollock, Carol Bruegge, Jet Propulsion Laboratory, United States; Kataoka Fumie, Remote Sensing Technology Center of Japan, Japan; Akihiko Kuze, Japan Aerospace Exploration Agency, Japan; Denis O'Brien, Thomas Taylor, Colorado State University, United States
- WEP1.PH.7 GLOBAL SPACE-BASED INTER-CALIBRATION SYSTEM (GSICS) SENSOR INTERCOMPARISONS AND CORRECTIONS**
 Mitchell Goldberg, Xiangqian Wu, NOAA/NESDIS, United States
- WEP1.PH.8 THE USE OF THE SONORAN DESERT AS A PSEUDO-INVARIANT SITE FOR OPTICAL SENSOR CROSS-CALIBRATION AND LONG-TERM STABILITY MONITORING**
 Amit Angal, Science and Systems Applications Inc./ NASA GSFC, United States; Gyanesh Chander, SGT, Inc., U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center, United States; Taeyoung (Jason) Choi, Aisheng Wu, Sigma Space Corporation, United States; Xiaoxiong (Jack) Xiong, Code 614.4, NASA/GSFC, United States
- WEP1.PH.9 SPECTRAL COMPATIBILITY ANALYSIS OF THE ENHANCED VEGETATION INDEX FOR LONG-TERM CONTINUITY ACROSS AVHRR, MODIS, AND VIIRS**
 Tomoaki Miura, Javzandulm Tsend-Ayush, University of Hawaii at Manoa, United States; Kamel Didan, University of Arizona, United States
- WEP1.PH.10 ANALYSIS OF CRIS FM 1 TVAC TEST DATA IN PREPARATION FOR ON-ORBIT RADIOMETRIC CALIBRATION**
 Chunming Wang, Giovanni De Amici, Scott Farrow, Denise Hagan, Denis Tremblay, Northrop Grumman Corporation, United States
- WEP1.PH.11 CALIBRATION OF THE THERMAL INFRARED SENSOR ON THE LANDSAT DATA CONTINUITY MISSION**
 Kurtis Thome, Dennis Reuter, Cathleen Richardson, Ramsey Smith, Goddard Space Flight Center, United States
- WEP1.PH.12 VICARIOUS CALIBRATION OF GOES VISIBLE CHANNEL**
 Xiangqian Wu, NOAA / NESDIS / STAR, United States; Fangfang Yu, ERT, United States; Michael Weinreb, Riverside Technology, United States; Charlie Dean, H-Lok Chang, QSS, United States; Thomas Stone, US Geological Survey, United States; Sung-Rae Chung, KMA, United States; Gordana Rancic, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States

WEP1.PI: Wednesday, July 28, 09:40 - 10:45**WEP1.PI Hyperspectral Sensors, Calibration and Applications**

Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area I
 Chair: Miguel O. Román, NASA

WEP1.PI.1 DEVELOPMENT OF THE SECOND GENERATION HYPERSPECTRAL AIRBORNE TACTICAL INSTRUMENT (HATI): HATI-II

Stephanie Sandor-Leahy, Sveinn Thordarson, Brian Baldauf, Miguel Figueroa, Mark Helmlinger, Harold Miller, Taryn Reynolds, John Shepanski, Northrop Grumman, United States

WEP1.PI.2 DIMENSIONALITY REDUCTION BASED FAST VECTOR QUANTIZATION ALGORITHM FOR HYPERSPECTRAL IMAGE COMPRESSION

Yushi Chen, Harbin Institute of Technology, China; Zhixin Zhou, Beijing Remote Sensing Institute, China; Ye Zhang, Harbin Institute of Technology, China

WEP1.PI.3 EVALUATION OF VIIRS CLOUD AND AEROSOL PRODUCTS FOR THE NPOESS PREPARATORY PROJECT

Geoff Cureton, University of Wisconsin-Madison, United States

WEP1.PI.4 OBSERVATIONS OF THE 2008 SUMMER WILDFIRES BY GASP, MODIS, AND CALIPSO

Jasper Lewis, Hampton University, United States

WEP1.PI.5 UPDATED RESULTS OF CALIBRATION AND VALIDATION OF PRISM ONBOARD ALOS

Takeo Tadono, Takanori Iwata, Masanobu Shimada, Japan Aerospace Exploration Agency, Japan; Junichi Takaku, Sachi Kawamoto, Remote Sensing Technology Center of Japan, Japan

WEP1.PI.6 USE OF EO-1 HYPERION DATA TO CALCULATE SPECTRAL BAND ADJUSTMENT FACTOR (SBAF) BETWEEN THE L7 ETM+ AND TERRA MODIS SENSORS

Gyanesh Chander, SGT, Inc., U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center, United States; Nischal Mishra, Dennis Helder, David Aaron, South Dakota State University, United States; Taeyoung (Jason) Choi, Sigma Space Corporation, United States; Amit Angal, Science Systems and Applications Inc., United States; Xiaoxiong (Jack) Xiong, NASA Goddard Space Flight Center, United States

WEP1.PI.7 FUSION: A FULLY ULTRAPORTABLE SYSTEM FOR IMAGING OBJECTS IN NATURE

Lawrence Corp, Sigma Space Corporation, United States; Bruce Cook, Elizabeth Middleton, NASA Goddard Space Flight Center, United States; Yen-Ben Cheng, ERT, United States; Fred Huemmrich, Petya Campbell, UMBC JCET, United States

WEP1.PI.8 PLEIADES-HR IMAGE QUALITY COMMISSIONING FORESEEN METHODS

Laurent Lebeque, Daniel Greslou, Françoise Delussy, Sébastien Fourest, Christophe Latry, Philippe Kubik, Jean-Marc Delvit, Centre National d'Etudes Spatiales (CNES), France

WEP1.PI.9 AN OVERVIEW OF THE WEB-BASED GOOGLE EARTH COINCIDENT IMAGING TOOL

Gyanesh Chander, SGT, Inc., U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center, United States; Brian Killough, NASA Langley Research Center, United States; Sanjay Gowda, Min Qu, Angela Bowes, David Cornelius, Analytical Mechanics Associates, Inc. (AMA), United States; Shelley Stover, Science Systems and Applications Inc., United States

WEP1.PI.10 ALL-SKY IMAGING OF VISIBLE-WAVELENGTH ATMOSPHERIC POLARIZATION AT MAUNA LOA, HAWAII

Andrew Dahlberg, Nathan Pust, Joseph Shaw, Montana State University, United States

WEP1.PI.11 CALIBRATION OF THE AFGHANISTAN HYMAP DATASET

Todd Hoefen, Raymond Kokaly, Trude King, USGS, United States

WEDNESDAY

WEP1.PJ: Wednesday, July 28, 09:40 - 10:45**WEP1.PJ Data Management and Systems I**

Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area J
 Chair: Nina Jackson, NOAA NESDIS

- WEP1.PJ.1** ◇ **REUSE OF SOFTWARE ASSETS FOR THE NASA EARTH SCIENCE DECADAL SURVEY MISSIONS**
 Chris Mattmann, NASA Jet Propulsion Laboratory, United States; Robert Downs, Columbia University, United States; James Marshall, Neal Most, Shahin Samadi, INNOVIM / NASA Goddard Space Flight Center, United States
- WEP1.PJ.2** **PRODUCTION OF CEOP SATELLITE DATASETS - JAXA'S CONTRIBUTION TO GEWEX/CEOP**
 Kazuo Umezawa, Japan Aerospace Exploration Agency, Japan
- WEP1.PJ.3** **A GIS-BASED SPATIAL MANAGEMENT AND ANALYSIS SYSTEM FOR RURAL SOCIO-ECONOMIC STATISTIC DATA**
 Jian Lian, Xiaojuan Li, Huili Gong, Yanbing Wang, Cankun Yang, Capital Normal University, China
- WEP1.PJ.4** **ON THE METHOD OF OBTAINING INDOOR POSITIONING INFORMATION FOR REALIZATION ADVANCED GEOSPATIAL INFORMATION SOCIETY**
 Sayaka Takeuchi, Masaaki Shikada, Kanazawa Institute of Technology, Japan
- WEP1.PJ.5** **EXPERIENCES WITH NASA EARTH SCIENCE DATA INFORMATION SYSTEMS AND SUGGESTIONS FOR IMPROVEMENTS FROM A SCIENTIST USER PERSPECTIVE**
 Kwo-Sen Kuo, Caelum Research Corporation, United States
- WEP1.PJ.6** ◇ **MODELING GEOSS – A DOMAIN MODEL FOR GLOBAL SYSTEMS OF SYSTEMS**
 Michael Burnett, NASA / SGT, United States
- WEP1.PJ.7** **LIGHTWEIGHT ADVERTISING AND SCALABLE DISCOVERY OF SERVICES, DATASETS, AND EVENTS USING FEEDCASTS AND SOCIAL TAGGING**
 Brian Wilson, Gerald Manipon, Jet Propulsion Laboratory, United States; Rahul Ramachandran, University of Alabama, Huntsville, United States
- WEP1.PJ.8** ◇ **THE CEOS WGISS INTEGRATED CATALOG FOR GEO**
 Kenneth McDonald, National Oceanic and Atmospheric Administration, United States; Yonsook Enloe, Michael Burnett, SGT, Inc., United States; Martin Yapur, National Oceanic and Atmospheric Administration, United States
- WEP1.PJ.9** **PERSISTENT WCS AND CSW SERVICES OF GOES DATA FOR GEOSS**
 Liping Di, Genong Yu, Yuanzheng Shao, Yuqi Bai, Meixia Deng, George Mason University, United States; Kenneth McDonald, National Oceanic and Atmospheric Administration, United States
- WEP1.PJ.10** **SCIENCE WORKFLOW MANAGEMENT SYSTEM FOR THE TERRESTRIAL OBSERVATION AND PREDICTION SYSTEM (TOPS)**
 Petr Votava, University Corporation at Monterey Bay, United States; Robert Morris, Jennifer L. Dungan, NASA, United States; Lina Khatib, SGT, Inc., United States

WEP1.PK: Wednesday, July 28, 09:40 - 10:45**WEP1.PK Aerosols and Atmospheric Chemistry II**

Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area K
 Chair: Juergen Fischer, Freie Universität Berlin

WEP1.PK.1 HIGH RESOLUTION AOT RETRIEVAL BASED ON MODIS SURFACE REFLECTANCE PRODUCT

Dabin Ji, Chinese Academy of Sciences, China; Lin Sun, Shandong University of Science and Technology, China; Jiancheng Shi, Chinese Academy of Sciences, China; Tao Jiang, Shandong University of Science and Technology, China

WEP1.PK.2 A ROBUST SATELLITE TECHNIQUE (RST) FOR DUST STORM DETECTION AND MONITORING: THE CASE OF 2009 AUSTRALIAN EVENT

Valerio Tramutoli, University of Basilicata, Italy; Carolina Filizzola, Francesco Marchese, National Research Council (CNR), Italy; Giuseppe Mazzeo, University of Basilicata, Italy; Rossana Paciello, Nicola Pergola, Carla Pietrapertosa, National Research Council (CNR), Italy; Filomena Sannazzaro, University of Basilicata, Italy

WEP1.PK.3 REGIONAL QUANTITATIVE RETRIEVAL OF AEROSOL OPTICAL DEPTH BY EXPLOITING THE SYNERGY OF VISSR AND MODIS DATA

Linyan Bai, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Jianzhong Feng, Key Lab of Resources Remote Sensing & Digital Agriculture, Ministry of Agriculture, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China

WEP1.PK.4 PROGRESS IN THE VALIDATION OF DUAL-WAVELENGTH AEROSOL RETRIEVAL MODELS VIA AIRBORNE HIGH SPECTRAL RESOLUTION LIDAR DATA

Christopher McPherson, John Reagan, University of Arizona, United States; Chris Hostetler, John Hair, Rich Ferrare, NASA Langley Research Center, United States

WEP1.PK.5 AEROSOL OPTICAL THICKNESS RETRIEVAL BASED ON HJ-CCD SUPPORTED BY MODIS SURFACE REFLECTANCE PRODUCTION

Changkui Sun, Lin Sun, Shandong University of Science and Technology, China

WEP1.PK.6 A NEW CONTEXT-BASED PROCEDURE FOR THE DETECTION AND REMOVAL OF CLOUD SHADOW FROM MODERATE-AND-HIGH RESOLUTION SATELLITE DATA OVER LAND

Jianzhong Feng, Key Lab of Resources Remote Sensing & Digital Agriculture, Ministry of Agriculture, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China; Linyan Bai, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

WEP1.PK.7 LONG-TERM AEROSOL CLIMATE DATA RECORDS FROM MODIS AND SEAWIFS OVER LAND AND OCEAN

N. Christina Hsu, NASA Goddard, United States; Myeong-Jae Jeong, University of Maryland Baltimore County, United States; Clare Salustro, Corey Bettenhausen, SSAI, United States

WEP1.PK.8 ST RADAR SYSTEM FOR WIND PROFILING OVER HIMALAYAS

Viswanathan G, Samaresh Bhattacharjee, Narendra Singh, Aryabhatta Research Institute of Observational Sciences, India; Ramarao V, Sudhir C, Venkatesh Rao I, Spanwave Technology Solutions Pvt Ltd, India; Swamy N, Balakrishnan S, Vikas Communications, India; Harender P, Electronics Corporation of India Ltd, India

WEP1.PK.9 ESTIMATION OF PIXEL-BASED VISIBLE/NIR BAND RATIO FOR HIGH RESOLUTION AEROSOL RETRIEVAL FROM MODIS IMAGERY

Ronggao Liu, Yang Liu, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

WEP1.PK.10 AOT RETRIEVAL BASED ON CR ALGORITHM INTEGRATED WITH BRDF MODEL IN URBAN AREA

Lin Sun, Shandong University of Science and Technology, China; Qinhuo Liu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Tao Jiang, Guolin Liu, Min Ji, Feifei Xu, Shandong University of Science and Technology, China

WEP1.PL: Wednesday, July 28, 09:40 - 10:45

- WEP1.PL Snow and Land Ice Poster I**
 Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area L
 Chair: Jørgen Dall, TUD
- WEP1.PL.1 APPROACHES TO USING END-MEMBERS FOR SUB-PIXEL SNOW MAPPING WITH MODIS DATA IN QINGHAI-TIBET PLATEAU**
 Ji Zhu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Jiancheng Shi, University of California, Santa Barbara, United States; Hanfang Chu, Shijiazhuang University of Economics, China; Yaunhui Wang, China University of Mining and Technology, China
- WEP1.PL.2 MULTICHANNEL COHERENT RADAR DEPTH SOUNDER FOR NASA OPERATION ICE BRIDGE**
 Lei Shi, Christopher Allen, John Ledford, Fernando Rodriguez-Morales, William Blake, Ben Panzer, Stephen Prokopiack, University of Kansas, United States
- WEP1.PL.3 MULTI-FREQUENCY AND POLARIMETRIC MEASUREMENTS OF SNOW MICROWAVE REFLECTION AND EMISSION BY C- AND KU-BAND, COMBINED SCATTEROMETER-RADIOMETER SYSTEMS**
 Astghik Hambaryan, Artashes Arakelyan, Vardan Hambaryan, Vanik Karyan, Melanya Grigoryan, Mushegh Manukyan, Gagik Hovhannisyan, Arsen Arakelyan, Sargis Darbinyan, ECOSERV Remote Observation Centre Company, Armenia
- WEP1.PL.4 OUTFLOW ESTIMATION FOR SHIRASE GLACIER USING ASTER AND PALSAR DATA**
 Kazuki Nakamura, National Institute of Advanced Industrial Science and Technology, Japan; Tsutomu Yamanokuchi, Remote Sensing Technology Center of Japan, Japan; Koichiro Doi, Kazuo Shibuya, National Institute of Polar Research, Japan
- WEP1.PL.5 IMPROVEMENT OF MODIS SNOW COVER ALGORITHM FOR THE HINDU KUSH-HIMALAYAN REGION**
 Bo-Hui Tang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Basanta Shrestha, International Centre for Integrated Mountain Development, Nepal; Zhao-Liang Li, Gaohuan Liu, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Hua Ouyang, Deo Raj Gurung, Giriraj Amarnath, Aung Khun San, International Centre for Integrated Mountain Development, Nepal
- WEP1.PL.6 ANALYSIS ON THE SPECTRAL REFLECTANCE RESPONSE TO SNOW CONTAMINANTS IN NORTHEAST CHINA**
 Xiaochun Lei, Kaishan Song, Zongming Wang, Jia Du, Yangqing Wu, Yuandong Wang, Xuguang Tang, Lihong Zeng, Guangjia Jiang, Dianwei Liu, Bai Zhang, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China
- WEP1.PL.7 MULTI-FREQUENCY INTERFEROMETRIC SYNTHETIC APERTURE RADAR (INSAR) DATA FOR CHARACTERISING THE TOPOGRAPHY AND LAND COVER IN AUSTRALIAN ANTARCTIC TERRITORY**
 Anthea Mitchell, Hsing-Chung Chang, Hay-Man Ng, Linlin Ge, Shawn Laffan, University of New South Wales, Australia
- WEP1.PL.8 SURFACE ALBEDO OF THE INNER ARCTIC: VALIDATION OF THE CLIMATE-SAF SATELLITE ALBEDO PRODUCT WITH IN-SITU OBSERVATIONS**
 Aku Riihelä, Vesa Laine, Terhikki Manninen, Timo Vihma, Finnish Meteorological Institute, Finland; Timo Palo, Tartu University, Estonia
- WEP1.PL.9 IMPROVING HYDROLOGICAL FORECASTING USING MULTI-SOURCE REMOTE SENSING DATA TOGETHER WITH IN SITU MEASUREMENTS**
 Juha-Petri Kärnä, Markus Huttunen, Sari Metsämäki, Bertel Vehviläinen, Victor Podsechin, Finnish Environment Institute, Finland; Jouni Pulliainen, Juha Lemmetyinen, Timo Kuitunen, Finnish Meteorological Institute, Finland; Yrjö Rauste, Robin Berglund, VTT Technical Research Centre of Finland, Finland
- WEP1.PL.10 QUANTIFYING INTER-COMPARISON OF THE MICROWAVE EMISSION MODEL OF LAYERED SNOWPACKS (MEMLS) AND THE MULTILAYER DENSE MEDIA RADIATIVE TRANSFER THEORY (DMRT) IN MODELING SNOW MICROWAVE RADIANCE**
 Bangsen Tian, Zhen Li, Yanan Zhu, Quan Chen, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Yongqian Wang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

WEP1.PM: Wednesday, July 28, 09:40 - 10:45**WEP1.PM Snow and Land Ice Poster II**

Session Type: Poster
 Time: Wednesday, July 28, 09:40 - 10:45
 Place: Poster Area M
 Chair: Dorothy Hall, NASA GSFC

- WEP1.PM.1** ◇ **IMPACT OF TERRAIN TOPOGRAPHY ON RETRIEVAL OF SNOW WATER EQUIVALENCE USING PASSIVE MICROWAVE REMOTE SENSING**
 Pei Wang, Lingmei Jang, Lixin Zhang, Beijing Normal University, China
- WEP1.PM.2** **NEW APPROACH FOR THE GLOBAL MAPPING OF FRACTIONAL SNOW COVERAGE IN BOREAL FOREST AND TUNDRA BELT APPLICABLE TO VARIOUS SENSORS**
 Sari Metsämäki, Olli-Pekka Mattila, Juha-Petri Kärnä, Finnish Environment Institute, Finland; Jouni Pulliainen, Kari Luojus, Finnish Meteorological Institute, Finland
- WEP1.PM.3** **VALIDATION OF DM-PACT MODELED SNOW BACKSCATTERING COEFFICIENT FOR ARBITRARY SHAPED PARTICLES IN KU-BAND**
 Annakaisa von Lerber, Aalto University, Finland; Marko Mäkynen, Jouni Pulliainen, Finnish Meteorological Institute, Finland; Helmut Rott, ENVEO-Environmental Earth Observation Information Technology GmbH, Austria; Juha Lemmetyinen, Finnish Meteorological Institute, Finland; Andreas Wiesmann, GAMMA Remote Sensing Research and Consulting AG, Switzerland; Jaan Praks, Martti Hallikainen, Aalto University, Finland
- WEP1.PM.4** **COMBINED HEMISPHERICAL SCALE SWE AND SNOW CLEARANCE MONITORING**
 Matias Takala, Jouni Pulliainen, Kari Luojus, Juha Lemmetyinen, Mwaba Kangwa, Finnish Meteorological Institute, Finland; Sari Metsämäki, Finnish Environment Institute SYKE, Finland; Jarkko Koskinen, Finnish Meteorological Institute, Finland
- WEP1.PM.5** **MONITORING THICKNESS CHANGE OF THE DONGKEMADI GLACIER ON QINGHAI-TIBETAN PLATEAU USING SRTM DEM AND MAP-BASED TOPOGRAPHIC DATA**
 Qiang Xing, Zhen Li, Jianmin Zhou, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China
- WEP1.PM.6** **USE OF REMOTELY SENSED SNOW COVER AND SOIL STATE INFORMATION FOR CARBON BALANCE MAPPING: CASE STUDIES AT THE SODANKYLÄ-PALLAS SATELLITE CAL-VAL SITE, NORTHERN FINLAND**
 Jouni Pulliainen, Tuomas Laurila, Anna Kontu, Ali Nadir Arslan, Finnish Meteorological Institute, Finland; Olli-Pekka Mattila, Finnish Environment Institute, Finland; Matias Takala, Tuula Aalto, Juha Lemmetyinen, Tiina Markkanen, Jarkko Koskinen, Kari Luojus, Finnish Meteorological Institute, Finland
- WEP1.PM.7** **EVALUATION OF VEGETATION EFFECT ON THE RETRIEVAL OF SNOW PARAMETERS FROM BACKSCATTERING MEASUREMENTS: A CONTRIBUTION TO COREH2O MISSION**
 Giovanni Macelloni, Marco Brogioni, Francesco Montomoli, IFAC - CNR, Italy; Michael Kern, European Space Agency - ESTEC, Netherlands; Helmut Rott, University of Innsbruck, Austria
- WEP1.PM.8** ◇ **FULLY POLARIMETRIC ALOS PALSAR DATA APPLICATIONS FOR SNOW AND ICE STUDIES**
 G. Venkataraman, G. Singh, IIT Bombay, India; Yoshio Yamaguchi, Niigata University, Japan
- WEP1.PM.9** **A NEW GLOBAL SNOW EXTENT PRODUCT BASED ON ATSR-2 AND AATSR**
 Rune Solberg, Jostein Amlien, Bjørn Wangensteen, Hans Koren, Norwegian Computing Center, Norway; Sari Metsämäki, Finnish Environment Institute, Finland; Thomas Nagler, ENVEO, Austria; Kari Luojus, Jouni Pulliainen, Finnish Meteorological Institute, Finland
- WEP1.PM.10** ◇ **TEMPORAL SNOWPACK DENSITY MAPPING USING C-BAND MULTI-POLARIZATION ASAR DATA**
 G. Venkataraman, G. Singh, IIT Bombay, India
- WEP1.PM.11** **ASSIMILATION OF MODIS SNOW COVER AND REAL TIME SNOW DEPTH POINT DATA IN A SNOW DYNAMIC MODEL**
 Simone Gabellani, Roberto Rudari, CIMA Research Foundation, Italy; Fabio Castelli, University of Florence, Italy; Giorgia Macchiavella, Giorgio Boni, CIMA Research Foundation, Italy

WE2.L01: Wednesday, July 28, 10:25 - 12:05**WE2.L01 Remote Sensing of Human Settlements II**

Session Type: Oral-Invited

Time: Wednesday, July 28, 10:25 - 12:05

Place: Sea Pearl 1/2/3

Co-Chairs: Paolo Gamba, Università di Pavia and Lionel Gueguen, JRC

10:25 - 10:45

WE2.L01.1 AUTOMATIC INFORMATION RETRIEVAL FROM METER AND SUB-METER RESOLUTION SATELLITE IMAGE DATA IN SUPPORT TO CRISIS MANAGEMENT

Martino Pesaresi, Thomas Kemper, Guido Lemoine, European Commission, Joint Research Centre, Italy

10:45 - 11:05

WE2.L01.2 ◇ VERY HIGH RESOLUTION REMOTE SENSING DATA: PROCESSING CAPABILITIES AND LIMITATIONS IN URBAN AREA

Jie Shan, Ejaz Hussain, Purdue University, United States

11:05 - 11:25

WE2.L01.3 URBAN STRUCTURE TYPES - A MEANS FOR CHARACTERIZING AND PARTITIONING URBAN AGGLOMERATIONS WITH A MULTITUDE OF APPLICATIONS

Mathias Bochow, GFZ German Research Centre for Geosciences, Germany; Hannes Taubenböck, German Aerospace Center (DLR), Germany; Susan Niebergall, University of Munich, Germany; Karl Segl, Hermann Kaufmann, GFZ German Research Centre for Geosciences, Germany

11:25 - 11:45

WE2.L01.4 ADVANCED TECHNIQUES AND NEW HIGH RESOLUTION SAR SENSORS FOR MONITORING URBAN AREAS

Gianfranco Fornaro, Diego Reale, IREA - CNR, Italy; Xiaxiang Zhu, Technical University of München, Germany; Nico Adam, Richard Bamler, German Aerospace Center (DLR), Germany

11:45 - 12:05

WE2.L01.5 MULTI ASPECT VHR SAR IMAGING OF URBAN AREAS

Uwe Stilla, Technische Universität München, Germany

WE2.L02: Wednesday, July 28, 10:25 - 12:05**WE2.L02 The Global Change Observation Mission (GCOM) II**

Session Type: Oral-Invited

Time: Wednesday, July 28, 10:25 - 12:05

Place: Sea Pearl 4/5/6

Co-Chairs: Paul S. Chang, NOAA/NESDIS and Zorana Jelenak, NOAA/NESDIS

10:25 - 10:45

WE2.L02.1 GCOM DATA UTILIZATION AT NOAA

Paul S. Chang, Zorana Jelenak, Peter Wilczynski, National Oceanic and Atmospheric Administration, United States

10:45 - 11:05

WE2.L02.2 THE DUAL FREQUENCY SCATTEROMETER INSTRUMENT CONCEPT

Robert Gaston, Stephen Durden, Chialin Wu, Richard Hughes, Yahya Rahmat-Samii, Larry Epp, John Burt, Jet Propulsion Laboratory, California Institute of Technology, United States

11:05 - 11:25

WE2.L02.3 DUAL-FREQUENCY SCATTEROMETER PERFORMANCE STUDIES

Ernesto Rodriguez, Bryan Stiles, Alexandra Chau, Jan Martin, Svetla Hristova-Veleva, Jet Propulsion Laboratory, California Institute of Technology, United States

11:25 - 11:45

WE2.L02.4 IMPACT OF THE DUAL FREQUENCY SCATTEROMETER ON NOAA OPERATIONS

Zorana Jelenak, NOAA/NESDIS/SIAR-UCAR, United States; Paul S. Chang, NOAA/NESDIS/SIAR, United States

11:45 - 12:05

WE2.L02.5 AMSR AND DFS SYNERGY

Naoto Ebuchi, Hokkaido University, Japan; W. Timothy Liu, Jet Propulsion Laboratory, United States

WE2.L03: Wednesday, July 28, 10:25 - 12:05

WE2.L03 Agroecosystems

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 10:25 - 12:05
 Place: Hibiscus
 Chair: Elizabeth Middleton, NASA

10:25 - 10:45

WE2.L03.1 MONITORING CROP YIELD IN USA USING A SATELLITE-BASED CLIMATE-VARIABILITY IMPACT INDEX

Ping Zhang, NASA Goddard Space Flight Center / Earth Resource Technology, Inc., United States; Bruce Anderson, Boston University, United States; Bin Tan, NASA Goddard Space Flight Center / Earth Resource Technology, Inc., United States; Mathew Barlow, University of Massachusetts, Lowell, United States; Ranga B. Myneni, Boston University, United States

10:45 - 11:05

WE2.L03.2 FORECASTING CORN YIELD WITH IMAGING SPECTROSCOPY

Lawrence Corp, Sigma Space Corporation, United States; Elizabeth Middleton, NASA / GSFC, United States; Craig Daughtry, Andrew Russ, USDA HRSI, United States; Petya Campbell, Fred Huemrich, UMBC JCET, United States; Yen-Ben Cheng, ERT, United States

11:05 - 11:25

WE2.L03.3 IRRIGATION REQUIREMENT ESTIMATION USING VEGETATION INDICES AND INVERSE BIOPHYSICAL MODELING

Lahouari Bounoua, Marc L. Imhoff, National Aeronautics and Space Administration, United States; Shannon Franks, University of Maryland College Park, United States

11:25 - 11:45

WE2.L03.4 ASSESSMENT OF SPECTRAL INDICES FOR CROP RESIDUE COVER ESTIMATION

Guy Serbin, ASRC Management Services, United States; E. Raymond Hunt Jr., Craig Daughtry, USDA Agricultural Research Service, United States; David Brown, Washington State University, United States; Gregory McCarty, Paul Doraiswamy, USDA Agricultural Research Service, United States

11:45 - 12:05

WE2.L03.5 NASA DATA PRODUCTS FOR AGRICULTURAL PRODUCTIVITY FORECASTS

Ashutosh Limaye, USRA, United States; Richard McNider, Donald Moss, University of Alabama, Huntsville, United States; Mohammad Al-Hamdan, USRA, United States

WE2.L04: Wednesday, July 28, 10:25 - 12:05

WE2.L04 Student Contest II

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 10:25 - 12:05
 Place: Kahili
 Chair: Martti Hallikainen

10:25 - 10:45

WE2.L04.1 WINDSAT RETRIEVAL OF OCEAN SURFACE WIND SPEEDS IN TROPICAL CYCLONES

Amanda Mims, Rachael Kroodsmo, Christopher Ruf, Darren McKague, University of Michigan, United States

10:45 - 11:05

WE2.L04.2 SCATTEROMETER IMAGE RECONSTRUCTION FROM APERTURE-FILTERED SAMPLES

Brent Williams, David G. Long, Brigham Young University, United States

11:05 - 11:25

WE2.L04.3 SOIL DIELECTRIC AND SENSITIVITY ANALYSIS FOR SUBSURFACE IMAGING APPLICATIONS BASED ON DISTRIBUTED SENSOR NETWORKS

Fikadu Dagefu, Kamal Sarabandi, University of Michigan, Ann Arbor, United States

11:25 - 11:45

WE2.L04.4 REAL-TIME ROAD TRAFFIC MONITORING USING A FAST A PRIORI KNOWLEDGE BASED SAR-GMTI ALGORITHM

Stefan V. Baumgartner, Gerhard Krieger, German Aerospace Center (DLR), Germany

11:45 - 12:05

WE2.L04.5 DETECTING DEPOLARIZING TARGETS WITH SATELLITE DATA: A NEW GEOMETRICAL PERTURBATION FILTER

Armando Marino, University of Edinburgh, United Kingdom; Shane Cloude, AEL consultants, United Kingdom; Iain Woodhouse, University of Edinburgh, United Kingdom

WEDNESDAY

WE2.L05: Wednesday, July 28, 10:25 - 12:05**WE2.L05 Remote Sensing for Tropical Deforestation and Degradation: A Global Challenge with Local Impact II**

Session Type: Oral-Invited

Time: Wednesday, July 28, 10:25 - 12:05

Place: South Pacific 3

Co-Chairs: Mark Williams, Fugro EarthData and Tom Ainsworth, Naval Research Lab

10:25 - 10:45

WE2.L05.1 MULTIFREQUENCY SAR ANALYSIS FOR FOREST MONITORING IN TROPICAL FOREST ENVIRONMENTS

Ralf Knuth, Nicole Richter, Robert Eckardt, Jussi Baade, Christiane Schmillius, Friedrich-Schiller-Universität, Germany

10:45 - 11:05

WE2.L05.2 ADVANCES IN THE INTEGRATION OF ALOS PALSAR AND LANDAT SENOR DATA FOR FOREST CHARACTERISATION, MAPPING AND MONITORING

Richard Lucas, Aberystwyth University, United Kingdom; John Armston, Natural Resource Sciences, Australia; Nunung Nugroho, The Fenner School of Environment and Society, Australia; Joao Carreiros, Geoinformation for Development Unit, Australia

11:05 - 11:25

WE2.L05.3 ADVANCED SAR / OPTICAL MONITORING OF TROPICAL FORESTS – GEO FOREST CARBON TRACKING TASK SUPPORTING THE UNFCCC REDD PROCESS

Frank Martin Seifert, Stephen Briggs, European Space Agency, Italy; Josef Kellndorfer, Woods Hole Research Center, United States; Dirk Hoekman, Wageningen University, Netherlands

11:25 - 11:45

WE2.L05.4 USE OF PALSAR POLARIMETRIC DATA FOR TROPICAL FOREST STRATIFICATION

Cedric Lardeux, University of Rennes 1, France; David Niamen, University of Marne la Vallée, France; Jean-Baptiste Routier, Adeline Giraud, Office National des Forêts International, France; Pierre-Louis Frison, University of Marne la Vallée, France; Eric Pottier, University of Rennes 1, France; Jean-Paul Rudant, University of Marne la Vallée, France

11:45 - 12:05

WE2.L05.5 THE GEO FOREST CARBON TRACKING TASK: GOALS AND PROGRESS TO-DATE

Alex A. Held, CSIRO, Australia; Gary Richards, Department of Climate Change, Australia

WE2.L06: Wednesday, July 28, 10:25 - 12:05**WE2.L06 Classification and Clustering**

Session Type: Oral-Contributed

Time: Wednesday, July 28, 10:25 - 12:05

Place: South Pacific 4

Co-Chairs: Selim Aksoy, Bilkent University, Turkey and Jordi Inglada, CNES, France

10:25 - 10:45

WE2.L06.1 UNSUPERVISED CLASSIFICATION OF REMOTELY SENSED IMAGES USING GAUSSIAN MIXTURE MODELS AND PARTICLE SWARM OPTIMIZATION

Caglar Ari, Selim Aksoy, Bilkent University, Turkey

10:45 - 11:05

WE2.L06.2 LAZY YET EFFICIENT LAND-COVER MAP GENERATION FOR HR OPTICAL IMAGES

Julien Michel, CS, France; Julien Malik, CS, France; Jordi Inglada, Centre National d'Etudes Spatiales (CNES), France

11:05 - 11:25

WE2.L06.3 UNSUPERVISED NONPARAMETRIC CLASSIFICATION OF POLARIMETRIC SAR DATA USING THE K-NEAREST NEIGHBOR GRAPH

Ashlin Richardson, University of Victoria, Canada; David Goodenough, Hao Chen, Natural Resources Canada, Canada; Belaid Maa, University of Victoria, Canada; Geordie Hobart, Natural Resources Canada, Canada; Wendy Myrvold, University of Victoria, Canada

11:25 - 11:45

WE2.L06.4 A TEST STATISTIC FOR HIGH RESOLUTION POLARIMETRIC SAR DATA CLASSIFICATION

Pierre Formont, Supelec Onera NUS DSTA Research Alliance, France; Jean-Philippe Ovarlez, ONERA, France; Frédéric Pascal, Supelec Onera NUS DSTA Research Alliance, France; Gabriel Vasile, Grenoble Image Speech Signal Automatics Lab, France; Laurent Ferro-Famil, Institut d'Electronique et de Télécommunications de Rennes, France

11:45 - 12:05

WE2.L06.5 LAND COVER CLASSIFICATION BASED ON SINGLE-POLARIZED VHR SAR IMAGES USING TEXTURE INFORMATION DERIVED VIA SPECKLE ANALYSIS

Thomas Esch, German Aerospace Center (DLR), Germany; Andreas Schenk, Karlsruhe Institute of Technology (KIT), Germany; Michael Thiel, Tobias Ullmann, University of Würzburg, Germany; Achim Roth, Stefan Dech, German Aerospace Center (DLR), Germany

WE2.L07: Wednesday, July 28, 10:25 - 12:05

WE2.L07 Remote Sensing Data and Policy Decisions

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 10:25 - 12:05
 Place: Nautilus
 Co-Chairs: David Weissman, Hofstra University and Jay Pearlman, Chair, IEEE Committee on Earth Observations

10:25 - 10:45

WE2.L07.1 MANAGEMENT OF NASA'S EARTH VENTURE-1 (EV-1) AIRBORNE SCIENCE SELECTIONS

B. Danette Allen, Todd C. Denkins, National Aeronautics and Space Administration, United States; Jon H. Kilgore, Booz | Allen | Hamilton, United States; James E. Wells, National Aeronautics and Space Administration, United States

10:45 - 11:05

WE2.L07.2 RESULTS OF THE U.S. NATIONAL RESEARCH COUNCIL STUDY OF THE SCIENTIFIC USES OF THE RADIO SPECTRUM

David Lang, U.S. National Research Council, United States; Al Gasiewski, University of Colorado at Boulder, United States; Marshall Cohen, California Institute of Technology, United States

11:05 - 11:25

WE2.L07.3 OIL SPILL STATISTICS FROM SAR IMAGES IN THE NORTH EASTERN BALTIC SEA SHIP ROUTE IN 2007-2009

Sven Anderson, Urmas Raudsepp, Rivo Uiboupin, University of Technology, Estonia

11:25 - 11:45

WE2.L07.4 METHODOLOGY TO GENERATE YIELD MAPS OF MAIZE CROPS

Jesus Soria-Ruiz, INIFAP, Mexico; Yolanda Fernandez-Ordonez, COLPOS, Mexico

11:45 - 12:05

WE2.L07.5 CYBER INFRASTRUCTURE FOR COMMUNITY REMOTE SENSING

Arcot Rajasekar, Reagan Moore, University of North Carolina at Chapel Hill, United States; Mike Wan, Wayne Schroeder, University of California, San Diego, United States

WE2.L08: Wednesday, July 28, 10:25 - 12:05

WE2.L08 Clouds and Precipitation

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 10:25 - 12:05
 Place: South Pacific 1/2
 Co-Chairs: Kultegin Aydin, Penn State and Pingping Xie, NOAA

10:25 - 10:45

WE2.L08.1 THE EXTERNAL CALIBRATION STUDY FOR EARTHCARE/CPR

Hiroaki Horie, Yuichi Ohno, Nobuhiro Takahashi, NICT, Japan

10:45 - 11:05

WE2.L08.2 A KALMAN FIELTER APPROACH TO INTEGRATE PRECIPITATION INFORMATION FROM SATELLITE AND GAUGE OBSERVATIONS OVER THE GLOBE

Pingping Xie, Robert Joyce, Soo-Hyun Yoo, Yelena Yarosh, National Oceanic and Atmospheric Administration, United States

11:05 - 11:25

WE2.L08.3 WHAT IS THE INFORMATION CONTENT OF TRMM PRECIPITATION RADAR FOR DETERMINING RADIOMETER OBSERVATIONS AND VICE VERSA?

Balaji Chakravarthy, Mmanu Chathurvedi, Srinivasa Ramanujam K, Indian Institute of Technology Madras, India; V. Chandrasekar, Cuong Nguyen, Matthew Martinez, Colorado State University, United States

11:25 - 11:45

WE2.L08.4 REMOTE SENSING OF CLOUD AND PRECIPITATION OF WARM CLOUDS BY PASSIVE AND ACTIVE SENSORS ABOARD A-TRAIN SATELLITE

Zhanqing Li, Ruiyue Chen, University of Maryland, United States

11:45 - 12:05

WE2.L08.5 FORWARD MODELING AND PERFORMANCE ESTIMATION FOR NOTIONAL NEXT-GENERATION SPACEBORNE CLOUD PROFILING RADARS

Simone Tanelli, Jet Propulsion Laboratory, United States; Alessandro Battaglia, University of Leicester, United Kingdom; Pavlos Kollias, McGill University, Canada; Gianfranco Sacco, Ziad Haddad, Jet Propulsion Laboratory, United States; Lin Tian, GEST/ Goddard Space Flight Center, United States; Stephen Durden, Eastwood Im, Jet Propulsion Laboratory, United States

WEDNESDAY

WE2.L09: Wednesday, July 28, 10:25 - 12:05

WE2.L09 The Destiny of DESDynI – Science and Applications Fusing L-band SAR and Lidar in the Next Decade II

Session Type: Oral-Invited
Time: Wednesday, July 28, 10:25 - 12:05
Place: Coral 1
Co-Chairs: Scott Hensley, JPL and Paul Rosen, JPL

10:25 - 10:45

WE2.L09.1 INTEGRATED SAR AND LIDAR OBSERVATIONS OF THE SEA ICE COVER: RESOLVING THE CONTRIBUTIONS OF THERMODYNAMICS AND DYNAMICS TO THE ICE THICKNESS DISTRIBUTION

Ron Kwok, Jet Propulsion Laboratory, United States

10:45 - 11:05

WE2.L09.2 LARGE SCALE MODELING OF ANTARCTICA AND GREENLAND CONSTRAINED USING LIDAR AND SAR DATA FROM DESDYNI.

Eric Larour, Jet Propulsion Laboratory, United States

11:05 - 11:25

WE2.L09.3 DESDYNI LIDAR FOR SOLID EARTH APPLICATIONS

Jeanne Sauber, NASA Goddard Space Flight Center, United States; Michelle Hofton, University of Maryland, United States; Ronald Bruhn, University of Utah, United States; Scott Luthcke, Bryan Blair, NASA Goddard Space Flight Center, United States

11:25 - 11:45

WE2.L09.4 ICESAT LIDAR AND GLOBAL DIGITAL ELEVATION MODELS: APPLICATIONS TO DESDYNI/TANDEM-L

Claudia C. Carabajal, Sigma Space Corporation at NASA/GSFC, United States; David J. Harding, NASA Goddard Space Flight Center, United States

11:45 - 12:05

WE2.L09.5 COUPLING POLARIMETRIC L-BAND INSAR AND AIRPORTED LIDAR TO CHARACTERIZE THE GEOMORPHOLOGICAL DEFORMATIONS IN THE FOURNAISE VOLCANO

Essam Heggy, Paul Rosen, Jet Propulsion Laboratory, United States; Kazin Wada, Geographical Survey Institute, Japan; Melanie Sedeze, Institut de Physique du Globe de Paris, France; Frederic Bretar, Institut Geographique Nationale, France; Stephane Jacquemoud, Thomas Staudhacher, Institut de Physique du Globe de Paris, France; Simone Tanelli, Jet Propulsion Laboratory, United States

WE2.L10: Wednesday, July 28, 10:25 - 12:05

WE2.L10 Realizing the Applications Benefits from NASA's Pathfinder EOS Missions – the 1st Generation II

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 10:25 - 12:05
 Place: Coral 2
 Chair: Stephen Volz, NASA

10:25 - 10:45

WE2.L10.1 LANDSAT DATA PRODUCTS, FREE AND CLEAR

James Irons, NASA Goddard Space Flight Center, United States; Thomas Loveland, John Dwyer, U.S. Geological Survey Earth Resources Observation and Science (EROS) Center, United States

10:45 - 11:05

WE2.L10.2 UAVSAR PATHFINDER FOR DESDYNI POTENTIAL FOR INSAR MONITORING OF GULF COAST SUBSIDENCE THROUGH INTEGRATION WITH GEODESY AND GEOPHYSICAL MODELS

Ronald Blom, Bruce Chapman, Jet Propulsion Laboratory, United States; Roy Dokka, Louisiana State University, United States; Eric Fielding, Scott Hensley, Erik Ivins, Jet Propulsion Laboratory, United States; Rowena Lohman, Cornell University, United States

11:05 - 11:25

WE2.L10.3 ◊ PROSPECTS OF NEW REAL-TIME RADAR APPLICATIONS FOR ENVIRONMENTAL REMOTE SENSING

Amelia Franklin, Patrick Coronado, NASA, United States

11:25 - 11:45

WE2.L10.4 OPERATION ICEBRIDGE: USING INSTRUMENTED AIRCRAFT TO BRIDGE THE OBSERVATIONAL GAP BETWEEN ICESAT AND ICESAT-2

Michael Studinger, Goddard Earth Science and Technology / University of Maryland at Baltimore County, United States; Lora Koenig, NASA Goddard Space Flight Center, United States; Seelye Martin, University of Washington, United States; John Sonntag, NASA Wallops Flight Facility, United States

11:45 - 12:05

WE2.L10.5 NASA'S EVOLVING APPROACHES TO MAXIMIZING APPLICATIONS RETURN FROM OUR EARTH OBSERVING SATELLITES

Stephen Volz, NASA, United States

WE3.L01: Wednesday, July 28, 13:35 - 15:15

WE3.L01 Urban Remote Sensing I

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 13:35 - 15:15
 Place: Sea Pearl 1/2/3
 Co-Chairs: Jocelyn Chanussot, GIPSA Lab, INP Grenoble and Lorenzo Bruzzone, University of Trento

13:35 - 13:55

WE3.L01.1 URBAN HEAT ISLAND EFFECT ACROSS BIOMES IN THE CONTINENTAL USA

Ping Zhang, NASA Goddard Space Flight Center / Earth Resource Technology, Inc., United States; Marc L. Imhoff, Robert Wolfe, Lahouari Bounoua, NASA Goddard Space Flight Center, United States

13:55 - 14:15

WE3.L01.2 INSAR TIME-SERIES ANALYSIS FOR MANAGEMENT AND MITIGATION OF GEOLOGICAL RISK IN URBAN AREA

Francesca Cigna, Chiara Del Ventisette, University of Firenze, Italy; Vincenzo Liguori, University of Palermo, Italy; Nicola Casagli, University of Firenze, Italy

14:15 - 14:35

WE3.L01.3 BUILDING DETECTION AND HEIGHT ESTIMATION FROM HIGH-RESOLUTION INSAR AND OPTICAL DATA

Jan Dirk Wegner, Uwe Soergel, Leibniz University Hannover, Germany

14:35 - 14:55

WE3.L01.4 BUILDING DETECTION USING DIRECTIONAL SPATIAL CONSTRAINTS

Gokhan Akcay, Selim Aksoy, Bilkent University, Turkey

14:55 - 15:15

WE3.L01.5 ◊ ESTIMATION OF BUILDING DENSITY USING TERRA-SAR-X-DATA

Martin Schmidt, University of Wuerzburg, Germany; Thomas Esch, German Aerospace Center (DLR), Germany; Doris Klein, Michael Thiel, University of Wuerzburg, Germany; Stefan Dech, German Aerospace Center (DLR), Germany

WEDNESDAY

WE3.L02: Wednesday, July 28, 13:35 - 15:15

WE3.L02 Ocean Surface Features from Synthetic Aperture Radar (SAR) I

Session Type: Oral-Invited

Time: Wednesday, July 28, 13:35 - 15:15

Place: Sea Pearl 4/5/6

Co-Chairs: Will Perrie, Bedford Institute of Oceanography and Paul Hwang, Research Laboratory, Washington DC, USA

13:35 - 13:55

WE3.L02.1 OBSERVATION OF A BOAT AND ITS WAKE WITH A DUAL-BEAM ALONG-TRACK INTERFEROMETRIC SAR

Jakov V. Toporkov, Paul Hwang, Mark Sletten, Naval Research Laboratory, United States; Stephen J. Frasier, University of Massachusetts, United States; Gordon Farquharson, University of Washington, United States; Dragana Perkovic, Jet Propulsion Laboratory, California Institute of Technology, United States

13:55 - 14:15

WE3.L02.2 FINE STRUCTURE OF THE UPPER OCEAN FROM HIGH-RESOLUTION SAR IMAGERY AND IN-SITU MEASUREMENTS

Alexander Soloviev, Chris Maingot, Atsushi Fujimura, Jenny Fenton, Mikhail Gilman, Silvia Matt, Nova Southeastern University, United States; Susanne Lehner, Domenico Velotto, Stephan Brusch, German Aerospace Center (DLR), Germany

14:15 - 14:35

WE3.L02.3 A NEW POLARIZATION RATIO MODEL FROM C-BAND RADARSAT-2 FINE QUAD-POL IMAGERY

Biao Zhang, Will Perrie, Bedford Institute of Oceanography, Canada; Paul Hwang, Naval Research Laboratory, United States; Yijun He, Institute of Oceanology, Chinese Academy of Sciences, China

14:35 - 14:55

WE3.L02.4 BREAKING WAVE MEASUREMENTS WITH SAR DEPOLARIZED RETURNS

Paul Hwang, Naval Research Laboratory, United States; Biao Zhang, Will Perrie, Bedford Institute of Oceanography, Canada

14:55 - 15:15

WE3.L02.5 SPACEBORNE SAR IMAGING OF COASTAL OCEAN PHENOMENA

Xiaofeng Li, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States; William Pichel, NOAA/NESDIS/STAR, United States; Xiaofeng Yang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

WE3.L03: Wednesday, July 28, 13:35 - 15:15**WE3.L03 Land Cover Change Techniques**

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 13:35 - 15:15
 Place: Hibiscus
 Co-Chairs: Pierric Ferrier, CNES and Bin Tan, Earth Resource Technology

13:35 - 13:55

WE3.L03.1 ASPECTS OF MULTIVARIATE STATISTICAL THEORY WITH THE APPLICATION TO CHANGE DETECTION

Esra Erten, Andreas Reigber, German Aerospace Center (DLR), Germany; Olaf Hellwich, Technische Universität Berlin, Germany

13:55 - 14:15

WE3.L03.2 AN ILLUMINATION CORRECTION ALGORITHM ON LANDSAT-TM DATA

Bin Tan, Earth Resource Technology, United States; Robert Wolfe, Jeffrey Masek, NASA Goddard Space Flight Center, United States; Feng Gao, Earth Resource Technology, United States; Eric Vermote, University of Maryland, United States

14:15 - 14:35

WE3.L03.3 AUTOMATED LAND COVER CHANGE DETECTION: THE QUEST FOR MEANINGFUL HIGH TEMPORAL TIME SERIES EXTRACTION

Brian Salmon, University of Pretoria, South Africa; Jan Olivier, Council for Scientific and Industrial Research, South Africa; Waldo Kleynhans, University of Pretoria, South Africa; Konrad Wessels, Frans van den Bergh, Council for Scientific and Industrial Research, South Africa

14:35 - 14:55

WE3.L03.4 A SPATIO-TEMPORAL APPROACH TO DETECTING LAND COVER CHANGE USING AN EXTENDED KALMAN FILTER ON MODIS TIME SERIES DATA

Waldo Kleynhans, Corne Olivier, Brian Salmon, University of Pretoria, CSIR, South Africa; Konrad Wessels, Frans van den Bergh, CSIR, South Africa

14:55 - 15:15

WE3.L03.5 EXTRACTING STRUCTURAL LAND COVER COMPONENTS USING SMALL-FOOTPRINT WAVEFORM LIDAR DATA

Joseph McGlinchy, Jan van Aardt, Harvey Rhody, John Kerekes, Emmett Ientilucci, Rochester Institute of Technology, United States; Greg Asner, David Knapp, Carnegie Institution for Science, United States; Renaud Mathieu, Council for Scientific and Industrial Research, United States; Ty Kennedy-Bowdoin, Carnegie Institution for Science, United States; Barend Erasmus, School of Animal, Plant and Environmental Science, University of the Witwatersrand, United States; Izak Smit, Kruger National Park Scientific Services, United States; Wu Jiaying, Diane Sarrazin, Rochester Institute of Technology, United States

WE3.L04: Wednesday, July 28, 13:35 - 15:15**WE3.L04 Data System Technologies for Improving Data Access and Usability - Challenges and Solutions I**

Session Type: Oral-Invited
 Time: Wednesday, July 28, 13:35 - 15:15
 Place: Kahili
 Co-Chairs: Hampapuram Ramapriyan, NASA Goddard Space Flight Center and Gilbert Rochon, Purdue University/Purdue Terrestrial Observatory

13:35 - 14:15 Overview Talk (40 minutes)

WE3.L04.1 ADVANCES IN SPATIAL DATA INFRASTRUCTURE, ACQUISITION, ANALYSIS, ARCHIVING & DISSEMINATION

Hampapuram Ramapriyan, NASA Goddard Space Flight Center, United States; Gilbert L. Rochon, Purdue University-Purdue Terrestrial Observatory, United States; Ruth Duerr, University of Colorado-National Snow & Ice Data Center, United States; Robert Rank, NOAA NESDIS, United States; Stefano Nativi, University of Florence, Italy; Erich Stocker, NASA Goddard Space Flight Center, United States

14:15 - 14:35

WE3.L04.3 MINING AS A SERVICE

Rahul Ramachandran, Sunil Movva, U. S. Nair, University of Alabama, Huntsville, United States; Christopher Lynnes, NASA Goddard Space Flight Center, United States; Peter Fox, RPI, United States

14:35 - 14:55

WE3.L04.4 IRODS: DATA SHARING TECHNOLOGY INTEGRATING COMMUNITIES OF PRACTICE

Reagan Moore, Arcot Rajasekar, University of North Carolina at Chapel Hill, United States

14:55 - 15:15

WE3.L04.5 ♦ MULTI-SATELLITE EARTH SCIENCE DATA RECORD FOR STUDYING GLOBAL VEGETATION TRENDS AND CHANGES

Kamel Didan, University of Arizona, United States

WE3.L05: Wednesday, July 28, 13:35 - 15:15**WE3.L05 Synergy of EO Products to Map the Essential Climate Variable Biomass I**

Session Type: Oral-Invited

Time: Wednesday, July 28, 13:35 - 15:15

Place: South Pacific 3

Co-Chairs: Christiane Schmullius, University of Jena and Matthew Hansen, South Dakota State University

13:35 - 14:15 Overview Talk (40 minutes)

WE3.L05.1 STATE-OF-THE-ART AND REQUIREMENTS FOR GLOBAL BIOMASS MONITORING

Thuy Letoon, Centre National d'Etudes Spatiales (CNES), France

14:15 - 14:35

WE3.L05.3 ACTIVE REMOTE SENSING OF BIOMASS IN SAVANNA REGIONS

Richard Lucas, Aberystwyth University, United Kingdom; Karin Viergever, Ecometrica, United Kingdom; Iain Woodhouse, University of Edinburgh, United Kingdom; John Armston, Department of Natural Environment and Resource Management, Australia

14:35 - 14:55

WE3.L05.4 MODIS VCF AND CHANGE: GLOBAL DISTURBANCE MONITORING

Matthew Hansen, Peter Potapov, South Dakota State University, United States; Stephen Stehman, SUNY-ESF, United States; Mark Broich, South Dakota State University, United States

14:55 - 15:15

WE3.L05.5 APPROACHES FOR FOREST BIOMASS ESTIMATION AND MAPPING IN CANADA

Ronald Hall, Rob Skakun, Andre Beaudoin, Mike Wulder, Eric Arseneault, Pierre Bernier, Luc Guindon, Joan Luther, Mark Gillis, Natural Resources Canada, Canada

WE3.L06: Wednesday, July 28, 13:35 - 15:15**WE3.L06 Segmentation and Image Processing**

Session Type: Oral-Contributed

Time: Wednesday, July 28, 13:35 - 15:15

Place: South Pacific 4

Co-Chairs: Guoqing Zhou, Old Dominion University and Gabriele Moser, University of Genova

13:35 - 13:55

WE3.L06.1 SEGMENTATION OF MULTISOURCE IMAGE BY MULTIVIEW LEARNING

Keming Chen, Jian Cheng, Hanqing Lu, Institute of Automation, Chinese Academy of Sciences, China; Zhixin Zhou, Beijing Institute of Remote Sensing, China

13:55 - 14:15

WE3.L06.2 DYNAMIC SEGMENTATION FOR IMAGE INFORMATION MINING

Giuseppe Masi, Raffaele Gaetano, Giuseppe Scarpa, Giovanni Poggi, University Federico II of Naples, Italy

14:15 - 14:35

WE3.L06.3 AUTOMATIC DAMAGE DETECTION USING PULSECOUPLED NEURAL NETWORK FOR THE 2009 ITALIAN EARTHQUAKE

Fabio Pacifici, DigitalGlobe, Inc., United States; Marco Chini, Christian Bignami, Salvatore Stramondo, Istituto Nazionale di Geofisica e Vulcanologia, Italy; William J. Emery, CCAR, University of Colorado at Boulder, United States

14:35 - 14:55

WE3.L06.4 COLLAPSED BUILDINGS EXTRACTION USING MORPHOLOGICAL PROFILES AND TEXTURE STATISTICS -A CASE STUDY IN THE 5.12 WENCHUAN EARTHQUAKE

Liwei Li, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Zuchuan Li, Graduate University of Chinese Academy of Sciences, China; Rui Zhang, George Mason University, United States; Liping Lei, Jianwen Ma, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

14:55 - 15:15

WE3.L06.5 SUPER-RESOLUTION: AN EFFICIENT METHOD TO IMPROVE SPATIAL RESOLUTION OF HYPERSPECTRAL IMAGES

Alberto Villa, Grenoble Institut of Technology / University of Iceland, France; Jocelyn Chanussot, Grenoble Institut of Technology, France; Jon Atli Benediktsson, Magnus Ulfarsson, University of Iceland, Iceland; Christian Jutten, Grenoble Institut of Technology, France

WE3.L07: Wednesday, July 28, 13:35 - 15:15

WE3.L07 Frequency Allocation for Remote Sensing and RFI Mitigation for Microwave Radiometry

Session Type: Oral-Invited

Time: Wednesday, July 28, 13:35 - 15:15

Place: Nautilus

Co-Chairs: Shannon Brown, Jet Propulsion Laboratory and Joel Johnson, The Ohio State University

13:35 - 13:55

WE3.L07.1 RFI ANALYSIS IN SMOS IMAGERY

Antonio Gutierrez, Jose Barbosa, Rita Castro, Deimos Engenharia, Portugal; Adriano Camps, Jose Miguel Tarongi, Universitat Politècnica de Catalunya, Spain

13:55 - 14:15

WE3.L07.2 SURVEYS AND ANALYSIS OF RFI IN THE SMOS CONTEXT

Niels Skou, Jan Balling, Sten S. Søbjerg, Steen S. Kristensen, Technical University of Denmark, Denmark

14:15 - 14:35

WE3.L07.3 RADIO-FREQUENCY INTERFERENCE (RFI) MITIGATION FOR THE SOIL MOISTURE ACTIVE/PASSIVE (SMAP) RADIOMETER

Damon Bradley, Cliff Brambora, Englin Wong, Lynn Miles, Dave Durachka, NASA Goddard Space Flight Center, United States; Brian Farmer, Muniz Engineering Incorporated, United States; Priscilla Mohammed, University of Maryland Baltimore County, United States; Jeff Piepmier, Jim Medeiros, Neil Martin, NASA Goddard Space Flight Center, United States

14:35 - 14:55

WE3.L07.4 IMPACT OF RADIO FREQUENCY INTERFERENCE MITIGATION ON ERRORS IN SOIL MOISTURE RETRIEVAL

Sidharth Misra, University of Michigan, United States; Rajat Bindlish, USDA, United States; Christopher Ruf, University of Michigan, United States; Thomas Jackson, USDA, United States

14:55 - 15:15

WE3.L07.5 TIME EVOLUTION AND SPATIAL DISTRIBUTION OF OCEAN-REFLECTED RADIO-FREQUENCY INTERFERENCE DURING THE WINDSAT ERA

Ian S. Adams, Michael H. Bettenhausen, Peter W. Gaiser, Naval Research Laboratory, United States; William Johnston, Computational Physics, Inc., United States

WEDNESDAY

WE3.L08: Wednesday, July 28, 13:35 - 15:15**WE3.L08 Snow and Lance Ice I**

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 13:35 - 15:15
 Place: South Pacific 1/2
 Co-Chairs: Leung Tsang, U of Washington and Martti Hallikainen, Helsinki University of Technology

13:35 - 13:55

WE3.L08.1 VALIDATION OF THE CANADIAN REGIONAL CLIMATE MODEL (CRCM) SNOW COVER SIMULATIONS USING REMOTE SENSING DATA

Karem Chokmani, Monique Bernier, Institut National de la Recherche Scientifique, Canada

13:55 - 14:15

WE3.L08.2 COMBINING ACTIVE AND PASSIVE MICROWAVE DATA FOR SNOW PARAMETERS RETRIEVAL WITH MULTI-SENSOR SNOW PROPERTIES MEASUREMENTS: THE GAPS09 AND GAPS10 EXPERIMENTS

Marco Tedesco, CUNY, United States; Hans-Peter Marshall, Boise State University, United States, United States; Nick Steiner, CUNY, United States; Edward Josberger, USGS, United States; Xiaolan Xu, University of Washington, United States

14:15 - 14:35

WE3.L08.3 FIRST RESULTS OF A LOW-FREQUENCY 3D-SAR APPROACH FOR MAPPING GLACIERS

Daniel Henke, Erich Meier, RSL, University of Zurich, Switzerland

14:35 - 14:55

WE3.L08.4 MONITORING OF THAWING PROCESS USING ENVISAT ASAR GLOBAL MODE DATA

Sang-Eun Park, Annett Bartsch, Daniel Sabel, Wolfgang Wagner, Vienna University of Technology, Austria

14:55 - 15:15

WE3.L08.5 ESA'S CANDIDATE CORE EXPLORER MISSION COREH2O: A SATELLITE MISSION DEDICATED TO SNOW AND ICE RESEARCH

Helmut Rott, University of Innsbruck, Austria; Don Cline, National Operational Hydrologic Remote Sensing Center, United States; Claude Duguay, University of Waterloo, Canada; Richard Essery, University of Edinburgh, United Kingdom; Pierre Etchevers, Meteo France, France; Irena Hajnsek, DLR-HR, ETH Zurich, Germany; Florence Heliere, Michael Kern, European Space Agency, Netherlands; Giovanni Macelloni, IFAC - CNR, Italy; Eirik Malnes, Norut IT, Norway; Arnaud Lecuyot, European Space Agency, Netherlands; Jouni Pulliainen, FMI, Finland; Simon Yueh, Jet Propulsion Laboratory, United States

WE3.L09: Wednesday, July 28, 13:35 - 15:15**WE3.L09 Polarimetry and Applications**

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 13:35 - 15:15
 Place: Coral 1
 Co-Chairs: Mark Sletten, Naval Research Laboratory and Jaan Praks, Helsinki University of Technology

13:35 - 13:55

WE3.L09.1 DIRECT ESTIMATION OF FARADAY ROTATION AND OTHER SYSTEM DISTORTION PARAMETERS FROM POLARIMETRIC SAR DATA

Mariko Burgin, Mahta Moghaddam, University of Michigan, United States; Anthony Freeman, Jet Propulsion Laboratory, California Institute of Technology, United States

13:55 - 14:15

WE3.L09.2 POLARIMETRIC SAR IMAGE VISUALIZATION AND INTERPRETATION WITH COVARIANCE MATRIX INVARIANTS

Jaan Praks, Helsinki University of Technology, Finland; Elise Koeniguer, ONERA, France; Martti Hallikainen, Helsinki University of Technology, Finland

14:15 - 14:35

WE3.L09.3 EVALUATION OF THE INFLUENCE OF THE POLARIMETRIC CALIBRATION PROCESS ON THE H/A/ALPHA DECOMPOSITION

Antonio Henrique Correia, Diretoria de Serviço Geográfico, Brazil; Corina da Costa Freitas, José Claudio Mura, Instituto Nacional de Pesquisas Espaciais, Brazil

14:35 - 14:55

WE3.L09.4 EVALUATION OF SYSTEM POLARIZATION QUALITY FOR POLARIMETRIC SAR IMAGERY AND TARGET DECOMPOSITION

Yanting Wang, Computational Physics, Inc., United States; Tom Ainsworth, Jong-Sen Lee, Naval Research Laboratory, United States

14:55 - 15:15

WE3.L09.5 RAIN EFFECT ON POLARIMETRIC SAR OBSERVATION

Hiroaki Yasuma, Hajime Fukuchi, Tokyo Metropolitan University, Japan

WE3.L10: Wednesday, July 28, 13:35 - 15:15

WE3.L10 Special Session Honoring the Achievements of Kiyo Tomiyasu

Session Type: Oral-Contributed

Time: Wednesday, July 28, 13:35 - 15:15

Place: Coral 2

Co-Chairs: Steven C. Reising, Colorado State University and Jon Atli Benediktsson, University of Iceland

13:35 - 13:55

WE3.L10.1 MANY HAPPY RETURNS: REFLECTIONS INSPIRED BY KIYO TOMIYASU

Keith Raney, Johns Hopkins University Applied Physics Laboratory, United States

13:55 - 14:15

WE3.L10.2 COMMUNICATION CODING OF PULSED RADAR SYSTEMS

Werner Wiesbeck, Karlsruhe Institute of Technology, Germany

14:15 - 14:35

WE3.L10.3 THE FUTURE OF SPACEBORNE SYNTHETIC APERTURE RADAR

Gerhard Krieger, Alberto Moreira, German Aerospace Center (DLR), Germany

14:35 - 14:55

WE3.L10.4 KIYO TOMIYASU, CO-SEISMIC SLIP AND THE KRAFLA VOLCANO: REFLECTIONS ON INSAR AND EARTH SCIENCE

Paul Rosen, NASA's Jet Propulsion Laboratory, United States

15:05 - 15:15

WE3.L10.5 UNCLE KIYO – GRSS MENTOR AND CORPORATE MEMORY

Martti Hallikainen, TKK, Finland

WEDNESDAY

WEP2.PA: Wednesday, July 28, 14:55 - 16:00**WEP2.PA Vegetation mapping III**

Session Type: Poster

Time: Wednesday, July 28, 14:55 - 16:00

Place: Poster Area A

Co-Chairs: Mehmet Kurum, NASA Goddard Space Flight Center and Crystal B. Schaaf, Boston University

WEP2.PA.1 CHARACTERIZATION OF FOREST OPACITY USING MULTI-ANGULAR EMISSION AND BACKSCATTER DATA

Mehmet Kurum, Peggy O'Neill, NASA Goddard Space Flight Center, United States; Roger Lang, George Washington University, United States; Alicia Joseph, NASA Goddard Space Flight Center, United States; Michael Cosh, Thomas Jackson, USDA ARS, United States

WEP2.PA.2 ESTIMATING LEAF AREA INDEX OF QINGHAI SPRUCE FOREST IN QILIAN MOUNTAIN USING QUICKBIRD SATELLITE DATA

Zhongren Nan, Zhanjun Zhao, Chuanyan Zhao, Lanzhou University, China; Weihua Shen, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, China

WEP2.PA.3 ANALYSIS OF TIME-SERIES MODIS 250M VEGETATION INDEX DATA FOR VEGETATION CLASSIFICATION IN THE WENQUAN AREA OVER THE QINGHAI-TIBET PLATEAU

Xiumin Zhang, Zhuotong Nan, Yu Sheng, Lin Zhao, Guoying Zhou, Guangyang Yue, Jichun Wu, Chinese Academy of Sciences, China

WEP2.PA.4 ◇ ESTIMATION OF THE CO₂ EMISSION FROM THE PEATLAND OF CENTRAL KALIMANTAN USING THE PALSAR INTERFEROMETRY

Masanobu Shimada, Japan Aerospace Exploration Agency, Japan; Takashi Inoue, Ryusuke Hatano, Hokkaido University, Japan; Yoshio Awaya, Gifu University, Japan; Yoshiyuki Kiyno, Forestry and Forest Products Research Institute, Japan

WEP2.PA.5 ASSESSING THE DROUGHT MONITORING CHARACTERISTIC OF TIME-SERIES NDVI INDICES IN CROP GROWING SEASON

Lei Zhou, JIANJUN WU, Jie Zhang, Feifei Zhao, MING LIU, Lin Zhao, Beijing Normal University, China

WEP2.PA.6 PERFORMANCE EVALUATION OF SPECTRAL INDICES TO ESTIMATE EQUIVALENT WATER THICKNESS

Jian-Jun Wu, Jie Zhang, Lei Zhou, Jian-Liang Nie, Beijing Normal University, China

WEP2.PA.7 ◇ DIFFERENTIAL EXTINCTION COEFFICIENT DETERMINED BY PLANT MORPHOLOGY USING POLARIMETRIC ANALYSIS

Chufeng Hu, Jiadong Xu, Nanjing Li, Linxi Zhang, Northwestern Polytechnical University, China

WEP2.PA.8 RETRIEVAL OF GRASS CANOPY WATER CONTENT, LEAF AREA INDEX, AND DRY WEIGHT USING TM/ETM+ DATA, A CASE STUDY IN A TYPICAL SEMI-ARID STEPPE IN NORTHERN CHINA

Yuanyuan Wang, Guicai Li, Meng Wang, Key Laboratory of Radiometric Calibration and Validation for Environmental Satellites, China Meteorological Administration, China

WEP2.PA.9 CROP AREA ESTIMATION BASED ON MODIS-VI TIME SERIES BY PAN-CPI MODEL

Yaazhong Pan, Le Li, Jinshui Zhang, Dong Hou, College of Resources Science and Technology, State Key Laboratory of Earth Processes and Resource Ecology, Beijing Normal University, China

WEP2.PA.10 DEVELOPING A NOVEL TOPOGRAPHY - ADJUSTED VEGETATION INDEX (TAVI) FOR RUGGED AREA

Hong Jiang, Bo Wu, Xiao-Qin Wang, Fuzhou University, China

WEP2.PB: Wednesday, July 28, 14:55 - 16:00**WEP2.PB Vegetation Mapping II**

Session Type: Poster
 Time: Wednesday, July 28, 14:55 - 16:00
 Place: Poster Area B
 Chair: Crystal B. Schaaf, Boston University

WEP2.PB.1 CARBON STOCK ESTIMATION IN THE MANGROVE PLANTATION AREA BY USING MULTI-TEMPORAL SATELLITE DATA AND THE SELF-THINNING MODEL

Takashi Ishii, Yutaka Tateda, Masahiro Imamura, Central Research Institute of Electric Power Industry, Japan

WEP2.PB.2 NATIONAL ECOLOGICAL OBSERVATORY NETWORK (NEON) AIRBORNE REMOTE MEASUREMENTS OF VEGETATION CANOPY BIOCHEMISTRY AND STRUCTURE

Brian Johnson, Michele Kuester, Thomas Kampe, NEON, Inc., United States

WEP2.PB.3 ESTIMATION OF VEGETATION PARAMETERS FROM MODIS FPAR TIME SERIES AND LANDSAT TM AND ETM+ PRODUCTS FOR SOIL EROSION MODELLING

Birte Schoettker, University of Queensland, Australia; Peter Scarth, Department of Environment and Resource Management, Australia; Stuart Phinn, University of Queensland, Australia; Michael Schmidt, Robert Denham, Department of Environment and Resource Management, Australia

WEP2.PB.4 ESTIMATION OF EVAPOTRANSPIRATION OVER NORTHEAST ASIA USING MODIS PRODUCTS AND MM5 FDDA DATA

Keunchang Jang, Seungtaek Jung, Sinkyu Kang, Jaechul Kim, Chong Bum Lee, Kangwon National University, Republic of Korea; Joon Kim, Yonsei University, Republic of Korea

WEP2.PB.5 ANALYSIS OF VEGETATION INDEX NDVI ANISOTROPY TO IMPROVE THE ACCURACY OF THE GOES-R GREEN VEGETATION FRACTION PRODUCT

Yuhong Tian, I.M. Systems Group at NOAA-NESDIS-STAR, United States; Peter Romanov, University of Maryland, United States; Yunyue Yu, NOAA-NESDIS-STAR, United States; Hui Xu, I.M. Systems Group at NOAA-NESDIS-STAR, United States; Dan Tarpley, Short and Associates at NOAA-NESDIS-STAR, United States

WEP2.PB.6 DEVELOPMENT OF A DECISION SUPPORT SYSTEM FOR MONITORING, REPORTING AND FORECASTING ECOLOGICAL CONDITIONS OF THE APPALACHIAN TRAIL

Yeqiao Wang, University of Rhode Island, United States; Ramakrishna R. Nemani, NASA Ames Research Center, United States; Fred Dieffenbach, National Park Service, United States; Kenneth Stolte, USDA Forest Service, United States; Glenn Holcomb, USGS, United States; Matt Robinson, Appalachian Trail Conservancy, United States; C. Casey Reese, National Park Service, United States; Marcia McNiff, USGS, United States; Roland Duhaime, University of Rhode Island, United States; Brian Mitchell, National Park Service, United States; Geri Tierney, State University of New York, United States; Peter August, Peter Paton, Charles LaBash, University of Rhode Island, United States

WEP2.PB.7 INDIVIDUAL TREE SPECIES CLASSIFICATION USING STRUCTURAL FEATURES FROM HIGH DENSITY AIRBORNE LIDAR DATA

Jili Li, Baoxin Hu, Gunho Sohn, Linhai Jing, York University, Canada

WEP2.PB.8 DEVELOPMENT OF A CARTOGRAPHIC INDEX OF FOREST STAND VITALITY USING AN IKONOS SATELLITE IMAGE

Francine N'Zang Essono, Lacin Coulibaly, Hector Guy Adégbidi, Université de Moncton, Canada; Richard Fournier, Université de Sherbrooke, Canada

WEP2.PB.9 USING AIRBORNE LIDAR TO RETRIEVE CROP STRUCTURAL PARAMETERS

Yaokui Cui, Peking University, China; Kaiguang Zhao, Duke University, United States; Wenjie Fan, Xiru Xu, Peking University, China

WEP2.PB.10 INVESTIGATION OF FOREST HEIGHT RETRIEVAL USING SRTM-DEM AND ASTER-GDEM

Wenjian Ni, Zhifeng Guo, State Key Laboratory of Remote Sensing Science, Jointly Sponsored by the Institute of Remote Sensing Applications of Chinese Academy of Sciences and Beijing Normal University, China; Guoqing Sun, University of Maryland, United States; Hong Chi, State Key Laboratory of Remote Sensing Science, Jointly Sponsored by the Institute of Remote Sensing Applications of Chinese Academy of Sciences and Beijing Normal University, China

WEP2.PB.11 ESTIMATION OF VEGETATION WATER CONTENT THROUGH GA-PLS MODELING OF MODIS REFLECTANCE DATA

Lin Li, Indiana University-Purdue University, United States; Susan L. Ustin, David Riano, University of California, United States; Yen-Ben Cheng, NASA Goddard Space Flight Center, United States

WEP2.PC: Wednesday, July 28, 14:55 - 16:00**WEP2.PC Agroecosystems II**

Session Type: Poster
 Time: Wednesday, July 28, 14:55 - 16:00
 Place: Poster Area C
 Chair: Lahouari Bounoua, NASA

WEP2.PC.1 VALIDATION OF REMOTELY SENSED EVAPOTRANSPIRATION: A CASE STUDY

Zhenzhen Jia, Shaomin Liu, Ziwei Xu, Beijing Normal University, China

WEP2.PC.2 MODIS TIME SERIES TO ASSESS PASTURE LAND

Daniel Alves de Aguiar, Marcos Adami, Wagner Fernando da Silva, Bernardo Friedrich Theodor Rudorff, National Institute of Space Research, Brazil; João dos Santos Vila da Silva, EMBRAPA CNPTIA, Brazil

WEP2.PC.3 ANALYSIS ON DRIVING FACTORS OF DESERTIFICATION IN NORTHERN CHINA: A CASE STUDY OF YANCHI COUNTY

Lihua Zhou, Guojing Yang, Tao Wang, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, China

WEP2.PC.4 STUDY ON ESTIMATING THE PLANTING AREA OF WINTER WHEAT BASED ON MIXED FIELD DECOMPOSITION OF REMOTE SENSING

Xiaohe Gu, Jingcheng Zhang, National Engineering Research Center for Information Technology in Agriculture, China; Yaozhong Pan, Tangao Hu, Le Li, Chao Li, State Key Laboratory of Earth Surface Processes and Resource Ecology, China

WEP2.PC.5 WINTER WHEAT YIELDS ASSESSMENT USING DATA ASSIMILATION METHOD COMBINED MODIS-LAI AND SWAP MODEL

Hao Jiang, Wenbo Xu, University of Electronic Science and Technology of China, China; Jianxi Huang, China Agricultural University, China; Xiaoliang Sun, Chengdu University of Technology, China; Weiqi Zhou, University of California, Davis, United States

WEP2.PC.6 APPLICATION OF WAVELET TRANSFORM ON HYPERSPECTRAL REFLECTANCE FOR SOYBEAN LAI ESTIMATION IN THE SONGNEN PLAIN, CHINA

Dong mei Lv, Computer Science and Engineering College, JLIIE, China; Kaishan Song, Zong ming Wang, Jia Du, Li hong Zeng, Xiaochun Lei, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China

WEP2.PC.7 EXTRACTING SPATIAL INFORMATION OF HARVEST INDEX FOR WINTER WHEAT BASED ON MODIS NDVI IN NORTH CHINA

Jianqiang Ren, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China; Xingren Liu, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Zhongxin Chen, Huajun Tang, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China

WEP2.PC.8 INTEGRATING REMOTELY SENSED LAI WITH EPIC MODEL BASED ON GLOBAL OPTIMIZATION ALGORITHM FOR REGIONAL CROP YIELD ASSESSMENT

Jianqiang Ren, Fushui Yu, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China; Jun Qin, Institute of Tibetan Plateau Research, Chinese Academy of Sciences, China; Zhongxin Chen, Huajun Tang, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China

WEP2.PC.9 RELATIONSHIP BETWEEN NDVI- MODIS/TERRA AND WATER BALANCE COMPONENTS FOR SOYBEAN CROP, BRAZIL

Angélica Giarolla, Instituto Nacional de Pesquisas Espaciais, Brazil; Walter E. Baethgen, Pietro Ceccato, International Research Institute for Climate and Society, United States

WEP2.PD: Wednesday, July 28, 14:55 - 16:00**WEP2.PD Landslides and Earth's Surface Changes**

Session Type: Poster
 Time: Wednesday, July 28, 14:55 - 16:00
 Place: Poster Area D
 Chair: Joong-Sun Won, Yonsei University

WEP2.PD.1 PREDICTION OF GROUND SUBSIDENCE USING GIS AND THE WEIGHT-OF-EVIDENCE MODEL
 Saro Lee, Hyun-Joo Oh, Korea Institute of Geoscience & Mineral Resources (KIGAM), Republic of Korea

WEP2.PD.2 VALIDATION OF LOGISTIC REGRESSION MODEL FOR LANDSLIDE SUSCEPTIBILITY MAPPING AT GANEONG AREAS, KOREA
 Hyun-Joo Oh, Saro Lee, Korea Institute of Geoscience & Mineral Resources (KIGAM), Republic of Korea

WEP2.PD.3 EVIDENTIAL REASONING APPLIED TO GIS-BASED LANDSLIDE SUSCEPTIBILITY MAPPING WITH GEOSPATIAL DATA
 No-Wook Park, Inha University, Republic of Korea

WEP2.PD.4 THE SURFACE COSEISMIC DEFORMATION AND SOURCE PARAMETERS RESEARCH OF THE XIZANG GAIZE EARTHQUAKE BASED ON THE INSAR TECHNOLOGY
 Guifang Zhang, Institute of Geology, China Earthquake Administration, China

WEP2.PD.5 STRONG TECTONIC AND WEAK CLIMATIC CONTROL OF THE GEOMORPHOLOGIC AND GEOLOGICAL FEATURES IN WEST KUNLUN
 Bin Wang, 1 State Key Laboratory of Loess and Quaternary Geology, Institute of Earth Environment, Chinese Academy of Sciences; 2 Graduate School of Chinese Academy of Sciences, China; Hong Chang, State Key Laboratory of Loess and Quaternary Geology, Institute of Earth Environment, Chinese Academy of Sciences, China

WEP2.PD.6 HIGH-RESOLUTION MAPPING OF FLUVIAL LANDFORM CHANGE IN ARID ENVIRONMENTS USING TERRASAR-X IMAGES
 Jussi Baade, Christiane Schmuilius, Friedrich-Schiller-Universität, Germany

WEP2.PD.7 SOLID EARTH DEFORMATION MONITORING USING SATELLITE ALTIMETRY IN SOUTHWESTERN COASTS IN TAIWAN
 Kai-chien Cheng, National Chung Cheng University, Taiwan; Cheinway Hwang, National Chiao-Tung University, Taiwan; Yu-Hsiang Chung, Ching-Yao Huang, National Chung Cheng University, Taiwan; Shiang-Hung Wei, National Chiao-Tung University, Taiwan; Hyongki Lee, C. K. Shum, Ohio State University, United States; Chung-Yen Kuo, National Cheng Kung University, Taiwan

WEP2.PD.8 DISASTER MAPPING FROM MEDIUM SPATIAL RESOLUTION ALOS PALSAR IMAGES
 Yanfang Dong, Institute of Earthquake Science, China Earthquake Administration, China; Qi Li, Institute for Geo-Resources and Environment, National Institute of Advanced Industrial Science and Technology, Japan; Aixia Dou, Xiaoping Wang, Institute of Earthquake Science, China Earthquake Administration, China

WEP2.PD.9 CHARACTERIZATION OF THE SHALLOW STRUCTURES OF THE DEREN FAULT BY GROUND PENETRATING RADAR
 Qi Lu, Jilin University, China; Motoyuki Sato, Tohoku University, Japan; Cai Liu, Jilin University, China

WEP2.PE: Wednesday, July 28, 14:55 - 16:00**WEP2.PE Compression and Efficient Implementations**

Session Type: Poster
 Time: Wednesday, July 28, 14:55 - 16:00
 Place: Poster Area E
 Co-Chairs: Javier Plaza, University of Extremadura and Emmanuel Christophe, NUS

WEP2.PE.1 AN APPROACH TO DIMINISH BOUNDARY DISTORTION IN COMPRESSING GRID DEM DATA WITH DISCRETE WAVELET TRANSFORM

Zhanqiang Chang, Xiaomeng LIU, Lei Wang, Capital Normal University, China

WEP2.PE.2 FAST ALGORITHM FOR REMOTE SENSING IMAGE PROGRESSIVE COMPRESSION

Jing-Jing Zheng, Institute of Computing Technology, Chinese Academy of Sciences, China; Jian-Qun Xu, Alcatel-Lucent Qingdao Co., China

WEP2.PE.3 A FLEXIBLE ABSTRACT GRAPHICAL GRID WORKFLOW DATA STRUCTURE FOR REMOTE SENSING QUANTITATIVE RETRIEVAL

Jianwen Ai, Yong Xue, Jie Guang, Yingjie Li, Ying Wang, Linlu Mei, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

WEP2.PE.4 DECOMPOSITION OF OPTICAL IMAGES MIXED PIXELS BASED ON LAGRANGIAN CONSTRAINED ALGORITHM

Xianchuan Yu, Xiaofeng Chu, Zhongjun Zhang, Beijing Normal University, China

WEP2.PE.5 NEARLY OPTIMAL WAVELET PAIRS FOR REMOTELY SENSED IMAGE COMPRESSION

Hong Sung Jin, Dong Yeob Han, Chonnam National University, Republic of Korea; Hyo Seong Lee, Suncheon National University, Republic of Korea

WEP2.PE.6 A FRAMEWORK FOR EFFICIENTLY PARALLELIZING NONLINEAR HYPERSPECTRAL NOISE REDUCTION

David Goodenough, Natural Resources Canada, Canada; Tian Han, Belaid Moga, Kelsey Lang, University of Victoria, Canada; Hao Chen, Natural Resources Canada, Canada; Amanpreet Dhaliwal, University of Victoria, Canada; Ashlin Richardson, Natural Resources Canada, Canada

WEP2.PE.7 MODELING LIDAR SCENE SPARSITY USING COMPRESSIVE SENSING

Juan Castorena, Charles Creusere, David Voelz, New Mexico State University, United States

WEP2.PE.8 USING APPROXIMATION AND RANDOMNESS TO SPEED-UP INTENSIVE LINEAR FILTERING

Jordi Inglada, Julien Michel, Centre National d'Etudes Spatiales (CNES), France

WEP2.PF: Wednesday, July 28, 14:55 - 16:00**WEP2.PF Optical Image Filtering and Segmentation**

Session Type: Poster

Time: Wednesday, July 28, 14:55 - 16:00

Place: Poster Area F

Co-Chairs: Selim Aksoy, Bilkent University, Turkey and Sang-Hoon Lee, Kyungwon University, Korea

WEP2.PF.1 A VARIATIONAL APPROACH FOR THE DESTRIPIING OF MODIS DATA

Marouan Bouali, INRIA, France; Saïd Ladjal, Télécom ParisTech, France

WEP2.PF.2 \diamond JOINT SPATIO-SPECTRAL BASED EDGE DETECTION FOR MULTISPECTRAL INFRARED IMAGERY

Biliana Paskaleva, Majeed Hayat, Woo-Yong Jang, Yagya Sharma, University of New Mexico, United States; Steven Bender, Los Alamos National Laboratory, United States; Sanjay Krishna, University of New Mexico, United States

WEP2.PF.3 APPLYING CELLULAR AUTOMATA TO HYPERSPECTRAL EDGE DETECTION

Matthew Lee, Lori Bruce, Mississippi State University, United States

WEP2.PF.4 \diamond SHADOW EXTRACTION AND CORRECTION FROM QUICKBIRD IMAGES

Wen Liu, Fumio Yamazaki, Chiba University, Japan

WEP2.PF.5 EFFICIENT REGION MERGING METHOD BASED ON CLASSIFIED MERGING COST

Ning Wu, Qiuxiao Chen, Zhejiang University, China; Jiancheng Luo, Zhanfeng Shen, Xiaodong Hu, Chinese Academy of Sciences, China

WEP2.PF.6 EVALUATION OF SATELLITE IMAGE SEGMENTATION USING SYNTHETIC IMAGES

Andre Marçal, Arlete Rodrigues, Mario Cunha, Faculdade de Ciências, Universidade do Porto, Portugal

WEP2.PF.7 HYPERSPECTRAL IMAGE SEGMENTATION BASED ON SPATIAL-SPECTRAL CONSTRAINED REGION ACTIVE CONTOUR

Junping Zhang, Jiawei Chen, Ye Zhang, Bin Zou, Harbin Institute of Technology, China

WEP2.PF.8 IMAGE RESTORATION AND ITS IMPACT ON RADIOMETRIC MEASUREMENTS

Giovanni Boggione, Lino Carvalho, Leila Fonseca, Flávio Ponzoni, National Institute for Space Research (INPE), Brazil

WEP2.PF.9 A NEW APPLICATION OF PIXEL PURITY INDEX TO UNSUPERVISED MULTISPECTRAL IMAGE CLASSIFICATION

Shih-Yu Chen, National Chung Hsing University, Taiwan; Chinsu Lin, National Chiayi University, Taiwan; Yen-Chieh Ouyang, National Chung Hsing University, Taiwan; Chein-I Chang, University of Maryland Baltimore County, United States

WEP2.PF.10 MULTI SCALE REPRESENTATION FOR REMOTELY SENSED IMAGES USING FAST ANISOTROPIC DIFFUSION FILTERING

Iris Vanhamel, Musa Alrefaya, Hichem Sahli, Vrije Universiteit Brussel, Belgium

WEP2.PF.11 INTEGRATING SPATIAL PROXIMITY WITH MANIFOLD LEARNING

Wonkook Kim, Melba Crawford, Purdue University, United States

WEDNESDAY

WEP2.PG: Wednesday, July 28, 14:55 - 16:00**WEP2.PG Applications in Remote Sensing**

Session Type: Poster

Time: Wednesday, July 28, 14:55 - 16:00

Place: Poster Area G

Co-Chairs: Paul Gader, University of Florida and Gabriel Vasile, CNRS - Grenoble Institute of Technology

WEP2.PG.1 THE USE OF SPATIAL CONSTRAINTS IN THE DERIVATION OF MESOSCALE SEA SURFACE CURRENT FIELDS FROM MULTI-SENSOR SATELLITE DATA

Benjamin Seppke, Martin Gade, Leonie Dreschler-Fischer, University of Hamburg, Germany

WEP2.PG.2 SUB-GRID PHYSICAL OPTICAL FLOW FOR REMOTE SENSING OF SANDSTORM

Cyril Cassisa, Serge Simoens, Laboratory of Fluid Mechanics and Turbulence, France; Veronique Prinnet, Laboratory of Pattern Recognition, China; Liang Shao, Laboratory of Fluid Mechanics and Turbulence, France

WEP2.PG.3 A NEW SYSTEM FOR BREAKZONE LOCATION AND THE MEASUREMENT OF BREAKING WAVE HEIGHTS AND PERIODS.

Christopher Lane, Yaniv Gal, Matthew Browne, Andrew Short, CoastalCOMS Pty Ltd, Australia; Darrell Strauss, Katherine Jackson, Clarence Tan, Griffith University, Australia

WEP2.PG.4 ◊ COMBINING TEXTUAL AND VISUAL THESAURUS FOR A MULTI-MODAL SEARCH IN A SATELLITE IMAGE DATABASE

Sahbi Bahroun, Sup'Com, Ecole supérieure des Communications de Tunis, Tunisia; Nozha Boujemaa, IMEDIA, INRIA Rocquencourt, France; Zied Belhadj, Sup'Com, Ecole Supérieure des Communications de Tunis, Tunisia

WEP2.PG.5 AN ONTOLOGY-BASED MODELING OF AN OCEAN SATELLITE IMAGE RETRIEVAL SYSTEM.

Jesus Almendras-Jimenez, Jose Piedra-Fernandez, Manuel Canton-Garbin, University of Almeria, Spain

WEP2.PG.6 LAND SURFACE TEMPERATURES FROM METEOSAT-9 SATELLITE IN MINAS GERAIS STATE, BRAZIL

Antonio Augusto Aguilar Dantas, Elizabeth Ferreira, Universidade Federal de Lavras, Brazil

WEP2.PG.7 ◊ DYNAMICAL PROCESSING OF GEOPHYSICAL SIGNATURES BASED ON REMOTE SENSING DATA FROM SPOT 5 SATELLITE

Ivan Villalon, University of Guadalajara, Mexico

WEP2.PG.8 APPLICATIONS USING EO-1 HYPERION AT-SENSOR AND SURFACE REFLECTANCE: COMPARISONS AND CASE STUDIES

Yen-Ben Cheng, Earth Resources Technology, Inc., United States; Elizabeth Middleton, National Aeronautics and Space Administration, United States; Qingyuan Zhang, Stephen Ungar, Petya Campbell, University of Maryland Baltimore County, United States

WEP2.PG.9 LOCALIZED LAND SURFACE TEMPERATURE RETRIEVAL FROM THE MODIS LEVEL-1B DATA USING WATER VAPOR AND IN SITU DATA

Kai Wang, Qiang Liu, Qinhua Liu, State Key Laboratory of Remote Sensing Science, Jointly Sponsored by the Institute of Remote Sensing Applications of Chinese Academy of Sciences and Beijing Normal University, China

WEP2.PG.10 A KNOWLEDGE BASED FRAMEWORK FOR THE DETECTION OF MEASUREMENT UNCERTAINTIES IN DERIVED SEA SURFACE CURRENT FIELDS

Benjamin Seppke, Leonie Dreschler-Fischer, University of Hamburg, Germany; Michael Wessel, Hamburg University of Technology, Germany; Martin Gade, University of Hamburg, Germany

WEP2.PH: Wednesday, July 28, 14:55 - 16:00**WEP2.PH Spectral Characterization and Applications**

Session Type: Poster
 Time: Wednesday, July 28, 14:55 - 16:00
 Place: Poster Area H
 Chair: Miguel O. Román, NASA

WEP2.PH.1 AN ATMOSPHERIC CORRECTION ALGORITHM FOR HYPERSPECTRAL IMAGERY OF LAKE WATER BY CHINESE SATELLITE HJ-1A

Hua Xu, Xingfa Gu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Qiu Yin, Shanghai Center for Satellite Remote Sensing Applications, China; Li Li, Zhenhua Chen, Yuhuan Ren, Weizhen Hou, Jia Liu, Pengfei Yin, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

WEP2.PH.2 HIGH ALTITUDE THERMAL SOUNDING USING DOPPLER MODULATED GAS CORRELATION

Larry Gordley, Benjamin Marshall, Martin McHugh, GATS, Inc., United States; Dave Fritts, CoRA/NWRA, United States; Chad Fish, Space Dynamics Laboratory, United States

WEP2.PH.3 GLOBAL, REGIONAL AND LOCALIZED INVERSION METHODS FOR MAPPING BATHYMETRY BASED ON MULTI-SPECTRAL IMAGERY

Hongxing Liu, Haibin Su, Lei Wang, Anthony Filippi, Will Heyman, University of Cincinnati, United States

WEP2.PH.4 SPECTRAL ANALYSIS OF ASTER AND HYPERION DATA FOR GEOLOGICAL CLASSIFICATION OF VOLCANO TEIDE

Alessandro Piscini, Stefania Amici, Istituto Nazionale di Geofisica e Vulcanologia, Italy; David Pieri, Jet Propulsion Laboratory, United States

WEP2.PH.5 A NEW METHOD FOR ESTIMATING SNR FROM OPTICAL IMAGERY

Xinhong Wang, Lingling Ma, Lingli Tang, Chuanrong Li, Bo Zhu, Academy of Opto-Electronics, Chinese Academy of Sciences, China

WEP2.PH.6 ON-ORBIT SPECTRAL PERFORMANCE VALUATION OF HJ-1A/HSI DATA USING ATMOSPHERIC ABSORPTION LINES

Lingling Ma, Xinhong Wang, Lingli Tang, Chuanrong Li, Academy of Opto-Electronics, Chinese Academy of Sciences, China

WEP2.PH.7 SURFICIAL MATERIAL MAPPING OF AFGHANISTAN: A TOOL FOR ECONOMIC RECOVERY

Trude King, Raymond Kokaly, Todd Hoefen, U.S. Geological Survey, United States

WEP2.PH.8 A SIMPLE SCHEME FOR UNMIXING HYPERSPECTRAL DATA BASED ON THE GEOMETRY OF THE N-DIMENSIONAL SIMPLEX

Paul Honeine, Institut Charles Delaunay (FRE CNRS 2848), France; Cédric Richard, Laboratoire Fizeau (UMR CNRS 6525, OCA), France

WEP2.PH.9 CALIBRATION OF THE REFLECTED SOLAR INSTRUMENT FOR THE CLIMATE ABSOLUTE RADIANCE AND REFRACTIVITY OBSERVATORY

Kurtis Thome, Goddard Space Flight Center, United States; Robert Barnes, Science Applications International Corporation, United States; Rosemary Baize, Joseph O'Connell, Langley Research Center, United States; Jason Hair, Goddard Space Flight Center, United States

WEP2.PH.10 RECOVERING HIGH SPATIO-TEMPORAL RESOLUTION TOPOGRAPHY OF CAPILLARY-GRAVITY WAVES IN AN OPEN OCEAN ENVIRONMENT

Christopher J. Zappa, Columbia University, United States; Howard Schultz, University of Massachusetts, United States; Michael Banner, Russel Morison, University of New South Wales, Australia; Larry Pezzaniti, Polaris Sensor Technologies, United States

WEP2.PH.11 SPECTRAL CHARACTERIZATION OF PERENNIAL GRASS (BRACHIARIA BRIZANTHA) GROWN OVER SOIL CONTAMINATED BY HYDROCARBONS: A POTENTIAL TOOL FOR DETECTING PIPELINE LEAKAGE

Carlos Roberto Souza Filho, Giuliana Quiterio, University of Campinas, Brazil; Teodoro Almeida, University of Sao Paulo, Brazil; Marcos Noppler Alves, University of Campinas, Brazil; Wilson Oliveira, Lis Rabaco, Petrobras, Brazil; Luciola Magalhaes, University of Campinas, Brazil

WEP2.PI: Wednesday, July 28, 14:55 - 16:00

- WEP2.PI** **Optical Missions - Past and Future**
 Session Type: Poster
 Time: Wednesday, July 28, 14:55 - 16:00
 Place: Poster Area I
 Chair: Bo-Cai Gao, Naval Research Laboratory
- WEP2.PI.1** **ASSESSMENT OF A TECHNIQUE FOR ESTIMATION OF OUTGOING LONGWAVE RADIATION FROM THE ATMOSPHERIC INFRARED SOUNDER RADIANCE OBSERVATIONS**
 Fengying Sun, Dell Perot Systems, United States; Mitchell Goldberg, NOAA/NESDIS/STAR, United States
- WEP2.PI.2** **RELATIVE MTF CHARACTERIZATION AND CORRECTION OF LANDSAT 4**
 Dennis Helder, Cody Anderson, Dinesh Shilpakar, South Dakota State University, United States
- WEP2.PI.3** **THE LANDSAT DATA CONTINUITY MISSION OPERATIONAL LAND IMAGER (OLI) RADIOMETRIC CALIBRATION**
 Brian Markham, Philip Dabney, Jeanine Murphy-Morris, NASA Goddard Space Flight Center, United States; Ed Knight, Geir Kvaran, Ball Aerospace and Technologies Corp., United States; Julia Barsi, SSAI, United States
- WEP2.PI.4** **TWENTY-FIVE YEARS OF LANDSAT THERMAL BAND CALIBRATION**
 Julia Barsi, SSAI, United States; Brian Markham, NASA, United States; John Schott, Rochester Institute of Technology, United States; Simon Hook, NASA, United States; Nina Raqueno, Rochester Institute of Technology, United States
- WEP2.PI.5** **DERIVATION OF LANDSAT 5 TM DETECTOR RELATIVE GAIN MODELS USING THE USGS IMAGE ASSESSMENT SYSTEM (IAS)**
 Jim Dewald, Dennis Helder, South Dakota State University, United States
- WEP2.PI.6** **OPERATIONAL CALIBRATION AND VALIDATION OF LANDSAT DATA CONTINUITY MISSION (LDCM) SENSORS USING THE IMAGE ASSESSMENT SYSTEM (IAS)**
 Esad Micijevic, Ron Morfitt, Stinger Ghaffarian Technologies, Inc., United States
- WEP2.PI.7** **AUTOMATIC IMAGE ORIENTATION AND DSM EXTRACTION FROM ALOS-PRISM TRIPLET IMAGES**
 José Alberto Gonçalves, University of Porto, Portugal
- WEP2.PI.8** **STATUS OF TERRA AND AQUA MODIS INSTRUMENTS**
 Xiaoxiong (Jack) Xiong, NASA Goddard Space Flight Center, United States; Brian Wenny, Tiejun Chang, Junqiang Sun, Hongda Chen, Aisheng Wu, Sigma Space Corporation, United States; William Barnes, University of Maryland, Baltimore County, United States; Vincent Salomonson, University of Utah, United States
- WEP2.PI.9** **◇ CORRECTION OF SECOND ORDER LIGHT FOR THE HICO SENSOR ONBOARD THE INTERNATIONAL SPACE SATATION**
 Rong-Rong Li, Robert Lucke, Michael Corson, Daniel Korwan, Bo-Cai Gao, Naval Research Laboratory, United States
- WEP2.PI.10** **CROSS-TRACK INFRARED SOUNDER (CRIS) PRE-LAUNCH PERFORMANCE**
 Farhang Sabet-Peyman, Denise Hagen, Scott Farrow, Northrop Grumman, United States; Ronald Glumb, Joe Predina, ITT Corporation, United States; Marc Wigdor, NPOESS Integrated Program Office, United States

WEP2.PJ: Wednesday, July 28, 14:55 - 16:00

WEP2.PJ Data Management and Systems II

Session Type: Poster
 Time: Wednesday, July 28, 14:55 - 16:00
 Place: Poster Area J
 Chair: Jinchun Yuan, Center of Excellence in Remote Sensing Education and Research

WEP2.PJ.1 DATA EXCHANGE BETWEEN SPECTRAL DATABASES
 Andreas Hueni, Mathias Kneubuehler, Michael Schaepman, University of Zurich, Switzerland

WEP2.PJ.2 ◇ **ENHANCED DIGITAL UP/ DOWN FREQUENCY CONVERTERS**
 Ahmed Amein, Mohamed Abdel Wahab, Military Technical College, Egypt; Hasan Alarsh, Egyptian Armed Forces, Egypt

WEP2.PJ.3 STANDARDISED SPECTRA(400-2500NM)AND ASSOCIATED METADATA:AN EXAMPLE FROM NORTHERN TROPICAL AUSTRALIA.
 Kirrilly Pfitzner, Andreas Bollhöfer, Andrew Esparon, Renee Bartolo, Grant Staben, Department of the Environment, Heritage, Water and the Arts (DEWHA), Australia

WEP2.PJ.4 DEVELOPMENT OF ALOS/PALSAR DATA ON-DEMAND PROCESSING AND PROVIDING SYSTEM ON GEO GRID
 Yuka Takeyama, Shinsuke Kodama, Kazuki Nakamura, Masashi Matsuoka, Naotaka Yamamoto, National Institute of Advanced Industrial Science and Technology, Japan

WEP2.PJ.5 RESEARCH ON MARINE ENVIRONMENTAL DATA MANAGEMENT IN CHINA DIGITAL OCEAN PROTOTYPE SYSTEM
 Jian Liu, 1.
 Graduate School of the Chinese Academy of Sciences, China; Xin Zhang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Xiaoyi Jiang, Bing Jiang, National Marine Data & Information Service, Tianjin, China; Tianhe Chi, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

WEP2.PJ.6 DATA ACCEPTANCE PROCEDURES AND LEVELS OF SERVICE AT THE NATIONAL SNOW AND ICE DATA CENTER
 Ruth Duerr, Ron Weaver, Marilyn Kaminski, University of Colorado at Boulder, United States

WEP2.PJ.7 SETTLEMENT INFORMATION MANAGEMENT SYSTEM OF BEIJING-SHANGHAI HIGH-SPEED RAILWAY BASED ON GOOGLE MAP SERVICE
 Yanbin Wang, Southwest Jiaotong University, China; Wensheng Zhou, Tsinghua University, China

WEP2.PJ.8 NOAA ENTERPRISE ARCHIVE ACCESS TOOL (NEAAT): ACCELERATED APPLICATION DEVELOPMENT (XAD)
 Robert Rank, NOAA/NESDIS, United States

WEP2.PJ.9 A NEW ARCHITECTURE FOR DISASTER MANAGEMENT
 Tullio Joseph Tanzi, Telecom ParisTech, France; Jean-Paul Rudant, Université de Marne la Vallée, France

WEP2.PJ.10 PRE-LAUNCH VIIRS, CRIS, AND ATMS PROXY DATASETS FOR NPP VALIDATION
 Joseph Zajic, General Dynamics Information Technology, Inc., United States; Richard Ullman, NASA Goddard Space Flight Center, United States

WEDNESDAY

WEP2.PK: Wednesday, July 28, 14:55 - 16:00**WEP2.PK TRMM and GPM**

Session Type: Poster
 Time: Wednesday, July 28, 14:55 - 16:00
 Place: Poster Area K
 Co-Chairs: Benjamin Johnson, University of Maryland Baltimore County/JCET and John Kwiatkowski, George Mason University

WEP2.PK.1 TRANSFERRING ERROR CHARACTERISTICS OF SATELLITE RAINFALL DATA FROM GROUND VALIDATION (GAUGED) INTO NON-GROUND VALIDATION (UNGAUGED) REGIONS

Faisal Hossain, Ling Tang, Tennessee Technological University, United States

WEP2.PK.2 AN ATTENUATION CORRECTION TECHNIQUE BASED ON THE NETWORK OF RADARS

Sanghun Lim, V. Chandrasekar, Colorado State University, United States; Yanting Wang, Naval Research Laboratory, United States

WEP2.PK.3 INVESTIGATIONS INTO HIGH RESOLUTION MAPPING OF PRECIPITATION FEATURES UTILIZING THE TRMM PRECIPITATION RADAR

Chris Kidd, University of Birmingham, United Kingdom; John Kwiatkowski, George Mason University, United States; Steve Nesbitt, University of Illinois, United States

WEP2.PK.4 GLOBAL PRECIPITATION RETRIEVAL ALGORITHM TRAINED FOR SSMIS USING A NUMERICAL WEATHER PREDICTION MODEL: DESIGN AND EVALUATION

Chinnawat Surussavadee, Prince of Songkla University, Phuket Campus, Thailand; David Staelin, Massachusetts Institute of Technology, United States

WEP2.PK.5 INFRARED SATELLITE PRECIPITATION ESTIMATE USING WAVELET-BASED CLOUD CLASSIFICATION AND RADAR CALIBRATION

Majid Mahrooghy, Valentine Anantharaj, Nicolas Younan, Mississippi State University, United States; Walter Petersen, Joseph Turk, NASA, United States; James Aanstoos, Mississippi State University, United States

WEP2.PK.6 RETRIEVING SNOWFALL RATE USING SATELLITE PASSIVE MICROWAVE DATA

Huan Meng, NOAA/NESDIS, United States; Banghua Yan, University of Maryland, United States; Ralph Ferrara, NOAA/NESDIS, United States; David Price, University of Maryland, United States

WEP2.PK.7 ◇ MICROPHYSICAL RETRIEVALS OF DUAL POLARIZATION AND DUAL FREQUENCY GROUND RADAR FOR GPM GROUND VALIDATION

Minda Le, V. Chandrasekar, S. Lim, Colorado State University, United States

WEP2.PK.8 A MICROWAVE-BASED HYDROMETEOR PROFILE RETRIEVAL ALGORITHM USING A VARIATIONAL TECHNIQUE

Sid-Ahmed Boukabara, NOAA/NESDIS & JCSDA, United States; Flavio Iturbide-Sanchez, Kevin Garrett, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States; Wanchun Chen, Perot Systems Inc., United States; Christopher Grassotti, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States

WEP2.PK.9 A NEW APPROACH TO MODELING ICE CRYSTAL AGGREGATES AND ITS IMPLICATIONS FOR RADAR REMOTE SENSING

Giovanni Botta, Kultegin Aydin, Johannes Verlinde, Pennsylvania State University, United States

WEP2.PK.10 MODELING ATTENUATION OF MELTING HYDROMETEORS WITH A METHOD BASED ON VOLUME INTEGRAL EQUATIONS

Annakaisa von Lerber, Timo Piepponen, Aalto University, Finland; Jarkko Koskinen, Finnish Meteorological Institute, Finland; Antti Kestilä, Aalto University, Finland; Jani Tyynelä, Timo Nousiainen, University of Helsinki, Finland; Jarmo Koistinen, Finnish Meteorological Institute, Finland; Ari Sihvola, Pasi Ylä-Oijala, Jaan Praks, Martti Hallikainen, Aalto University, Finland; Jouni Pulliainen, Finnish Meteorological Institute, Finland

WEP2.PL: Wednesday, July 28, 14:55 - 16:00

- WEP2.PL Snow and Land Ice Poster III**
 Session Type: Poster
 Time: Wednesday, July 28, 14:55 - 16:00
 Place: Poster Area L
 Chair: Marco Tedesco, CUNY
- WEP2.PL.1 VALIDATION OF SNOW COVERED AREA BASED ON SNOW PRODUCT DERIVED FROM MODIS AND AMSR-E IN THE HEILONGJIANG BASIN**
 Jin fan Xie, Climate Centre of Jilin Meteorological Bureau, China; Kaishan Song, Xiaochun Lei, Zong ming Wang, Jia Du, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China; Gui xin Zhong, College of Urban and environmental Science, NENU, China
- WEP2.PL.2 THE SNOWSCAT GROUND-BASED POLARIMETRIC SCATTEROMETER: CALIBRATION AND INITIAL MEASUREMENTS FROM DAVOS SWITZERLAND**
 Charles Werner, Andreas Wiesmann, Tazio Strozzi, GAMMA Remote Sensing AG, Switzerland; Christian Mätzler, University of Bern, Switzerland; Martin Schneebeli, WSL Institute for Snow and Avalanche Research, Switzerland
- WEP2.PL.3 THE PRELIMINARY ANALYSIS OF SNOW MONITORING USING AMSR-E AND WINTER SNOW CAMPAIGN OVER TIBET PLATEAU, CHINA**
 Yubao Qiu, Huadong Guo, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Jiancheng Shi, Institute for Computational Earth System Sciences, University of California, Santa Barbara, United States; Shichang Kang, Institute of Tibetan Plateau Research, Chinese Academy of Sciences, China; James R. Wang, NASA Goddard Space Flight Center, United States; Juha Lemmetyinen, Arctic Research Centre, Finnish Meteorological Institute (FMI), Finland; Lingmei Jiang, School of Geography, Beijing Normal University, China
- WEP2.PL.4 CREATION OF ERSATZ GROUND REFERENCE DATA FOR VALIDATING THE MODIS SNOW AND ICE PRODUCT SUITE**
 James Tilton, Dorothy Hall, NASA Goddard Space Flight Center, United States; George Riggs, SSAI, United States
- WEP2.PL.5 SNOW RETRIEVAL ALGORITHM FOR PASSIVE MICROWAVE REMOTE SENSING USING DENSE MEDIA RADIATIVE TRANSFER THEORY**
 Xiaolan Xu, Leung Tsang, Zhiqian Gui, University of Washington, United States; Edward Josberger, U.S. Geological Survey, United States; Li Li, Naval Research Laboratory, United States
- WEP2.PL.6 OBSERVING SEASONAL SNOW CHANGES IN THE BOREAL FOREST AREA USING ACTIVE AND PASSIVE MICROWAVE MEASUREMENTS**
 Jouni Pulliainen, Juha Lemmetyinen, Anna Kontu, Finnish Meteorological Institute, Finland; Andreas Wiesmann, GAMMA Remote Sensing AG, Switzerland; Thomas Nagler, Helmut Rott, ENVEO IT GmbH, Austria; Malcolm Davidson, Dirk Schuettemeyer, Michael Kern, European Space Agency - ESTEC, Netherlands
- WEP2.PL.7 AIRBORNE HIGH-ALTITUDE, 25M FOOTPRINT, WAVEFORM LIDAR MAPPING OF GREENLAND AND ANTARCTICA**
 Michelle Hofton, University of Maryland, United States; Scott Luthcke, Bryan Blair, David Rabine, NASA Goddard Space Flight Center, United States
- WEP2.PL.8 CRYOSAT-2: POST LAUNCH PERFORMANCE OF SIRAL-2 AND ITS CALIBRATION/VALIDATION**
 Robert Cullen, Richard Francis, Malcolm Davidson, European Space Agency, Netherlands; Duncan Wingham, UCL, United Kingdom; Mònica Roca, IsardSAT, Spain; Laurent Rey, Laurent Rey, Thales Alenia Space, France; Friedhelm Rostan, Astrium GmbH, Germany
- WEP2.PL.9 SAGE: A TOOL FOR EXPLORATION OF REMOTE SENSING DATA RELATING GREENLAND'S ICE SHEET AND GLACIERS**
 David Gallaher, Siri Jodha Khalsa, Ruth Duerr, University of Colorado, United States
- WEP2.PL.10 SENSITIVITY OF THE SNOWMELT RUNOFF MODEL TO UNDERESTIMATES OF REMOTELY SENSED SNOW COVERED AREA**
 Caiti Steele, New Mexico State University, United States; Albert Rango, USDA-ARS Jornada Experimental Range, United States; Dorothy Hall, NASA Goddard Space Flight Center, United States; Max Bleiweiss, New Mexico State University, United States
- WEP2.PL.11 SENSITIVITY ANALYSIS OF SNOW PARAMETERS INVERSION PROCEDURE TO THE PASSIVE MICROWAVE MIXED-PIXEL PATTERNS**
 Tianjie Zhao, Yongpan Zhang, Lingmei Jiang, Lixin Zhang, School of Geography and Remote Sensing Science, Beijing Normal University, China

WEP2.PM: Wednesday, July 28, 14:55 - 16:00

- WEP2.PM** **Sea Ice Poster**
 Session Type: Poster
 Time: Wednesday, July 28, 14:55 - 16:00
 Place: Poster Area M
 Chair: Julienne Stroeve, University of Colorado
- WEP2.PM.1** **DIURNAL CHANGE FROM SURFACE TO VOLUME SCATTERING INDUCED BY THAW AND REFREEZE OF THE THE SNOW COVER: A THERMODYNAMIC APPROACH.**
 Eric Hudier, University of Quebec, Canada
- WEP2.PM.2** **USING HJ 1-A/B SATELLITE IMAGERY FOR NEAR-SHORE SEA ICE MONITORING IN THE NANPU-CAOFEIDIAN AREA, BOHAI BAY, CHINA**
 Hongying Zhou, Wuyi Yu, Yimin Zhang, Youyan Zhang, Xiaoping Qi, Research Institute of Petroleum Exploration and Development, China
- WEP2.PM.3** **ICEBERG SIZE AND ORIENTATION ESTIMATION USING SEAWINDS**
 Keith M. Stuart, David G. Long, Brigham Young University, United States
- WEP2.PM.4** **ESTIMATION OF SEA ICE CONCENTRATION IN THE SEA OF OKHOTSK USING PALSAR POLARIMETRIC DATA**
 Hiroyuki Wakabayashi, Shoji Sakai, Nihon University, Japan
- WEP2.PM.5** **COMBINING AMSR-E AND 1UIKSCAT TO RETRIEVE SEA ICE TYPES AND CONCENTRATIONS IN THE ARCTIC**
 Mohammed Shokr, Tom Agnew, Environment Canada, Canada
- WEP2.PM.6** ◇ **DEVELOPMENT OF AN ADVANCED TECHNIQUE FOR MAPPING AND MONITORING SEA AND LAKE ICE FOR THE FUTURE GOES-R ADVANCED BASELINE IMAGER (ABI)**
 Rouzbeh Nazari, Marouane Temimi, Reza Khanbilvardi, City University of New York, United States
- WEP2.PM.7** **INVESTIGATION OF ARCTIC SEA ICE THICKNESS USING SPACE-BORNE POLARIMETRIC SAR DATA**
 Jin-Woo Kim, Duk-Jin Kim, Seoul National University, Republic of Korea; Byong Jun Hwang, Scottish Marine Institute, United Kingdom
- WEP2.PM.8** **AUTOMATED POLAR ICE THICKNESS ESTIMATION FROM RADAR IMAGERY**
 MyAsia Reid, Michael Jefferson, Eric Akers, Elizabeth City State University, United States; Gladys Finyom, University of Arizona, United States; Christopher Gifford, Arvin Agah, University of Kansas, United States
- WEP2.PM.9** **SEA ICE MONITORING IN THE BALTIC SEA USING DUAL-POL C AND L BAND SAR DATA**
 Rivo Uiboupin, Liis Sipelgas, Tallinn University of Technology, Estonia

WE4.L01: Wednesday, July 28, 15:40 - 17:20

WE4.L01 Urban Remote Sensing II

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 15:40 - 17:20
 Place: Sea Pearl 1/2/3
 Co-Chairs: Lorenzo Bruzzone, University of Trento and Jocelyn Channusot, GIPSA Lab, INP Grenoble

15:40 - 16:00

WE4.L01.1 PSI ANALYSES OF LAND SUBSIDENCE DUE TO ECONOMIC DEVELOPMENT NEAR THE CITY OF HANGZHOU, CHINA

Dapeng Yan, China University of Geosciences (Beijing), China; Daqing Ge, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Jin Yang, China University of Geosciences (Beijing), China; Ling Zhang, Yan Wang, Xiaofang Guo, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China

16:00 - 16:20

WE4.L01.2 OPERATIONAL EVALUATION OF DAMAGES IN FLOODED AREAS COMBINING COSMO-SKYMED AND MULTISPECTRAL OPTICAL IMAGES

Elena Angiati, University of Genoa, Italy; Giorgio Boni, CIMA Research Foundation, Italy; Laura Cadela, Italian Space Agency, Italy; Fabio Castelli, University of Florence, Italy; Silvana Dellepiane, University of Genoa, Italy; Fabio Delogu, CIMA Research Foundation, Italy; Fabio Pintus, ACROTEC S.r.L., Italy; Roberto Rudari, CIMA Research Foundation, Italy; Sebastiano B. Serpico, University of Genoa, Italy; Stefania Traversa, CIMA Research Foundation, Italy; Cosimo Versace, CONSORZIO COS (OT), Italy

16:20 - 16:40

WE4.L01.3 ◊ COMBINING GIS AND INSAR DATA FOR 3D BUILDING RECONSTRUCTION

Antje Thiele, Stefan Hinz, Karlsruhe Institute of Technology (KIT), Germany; Erich Cadario, Fraunhofer FOM, Research Institute for Optronics and Pattern Recognition, Germany

16:40 - 17:00

WE4.L01.4 URBAN STORAGE HEAT FLUX ESTIMATION USING ASTER REMOTE SENSING DATA

Deyong Hu, Lei Deng, Dan Meng, Capital Normal University, China

17:00 - 17:20

WE4.L01.5 MONITORING OF COLLAPSED BUILT-UP AREAS WITH HIGH RESOLUTION SAR IMAGES

Raffaella Guida, Surrey Space Centre, United Kingdom; Antonio Iodice, Daniele Riccio, Università di Napoli Federico II, Italy

WE4.L02: Wednesday, July 28, 15:40 - 17:20

WE4.L02 Ocean Surface Features from Synthetic Aperture Radar (SAR) II

Session Type: Oral-Invited
 Time: Wednesday, July 28, 15:40 - 17:20
 Place: Sea Pearl 4/5/6
 Co-Chairs: Paul Hwang, Research Laboratory, Washington DC, USA and Will Perrie, Bedford Institute of Oceanography

15:40 - 16:00

WE4.L02.1 GULF STREAM THERMAL FRONTS DETECTED BY SYNTHETIC APERTURE RADAR

Will Perrie, Tao Xie, Bedford Institute of Oceanography, Canada

16:00 - 16:20

WE4.L02.2 SURF ZONE SURFACE DISPLACEMENT MEASUREMENTS USING INTERFEROMETRIC MICROWAVE RADAR

Gordon Farquharson, University of Washington, United States; Stephen J. Frasier, University of Massachusetts, United States; Britt Raubenheimer, Steve Elgar, Woods Hole Oceanographic Institution, United States

16:20 - 16:40

WE4.L02.3 TIDAL CURRENT MEASUREMENT WITH TERRASAR-X ALONG-TRACK INTERFEROMETRY

Steffen Suchandt, Hartmut Runge, German Aerospace Center (DLR), Germany; Roland Romeiser, University of Miami, United States; Nuria Tous-Ramon, Ulrich Steinbrecher, German Aerospace Center (DLR), Germany

16:40 - 17:00

WE4.L02.4 GLOBAL COMPARISON OF SEA SURFACE CURRENTS DERIVED FROM DRIFTER AND ALTIMETRY OBSERVATIONS

Rick Lumpkin, Gustavo Goni, NOAA/Atlantic Oceanographic and Meteorological Laboratory, United States; Pedro DiNezio, Cooperative Institute for Marine and Atmospheric Studies, University of Miami, United States; Nikolai Maximenko, International Pacific Research Center, School of Ocean and Earth Science and Technology, University of Hawaii, United States

17:00 - 17:20

WE4.L02.5 ◊ STATISTICAL PROPERTIES OF OCEAN SURFACE HEIGHTS USING REMOTE SENSORS WITH VARIABLE LINE OF SIGHT ANGLE.

Josee Alvarez-Borrega, Centro de Investigación Científica y de Educación Superior de Ensenada, Mexico; Beatriz Martin-Atienza, Universidad Autónoma de Baja California, Mexico

WEDNESDAY

WE4.L03: Wednesday, July 28, 15:40 - 17:20**WE4.L03 Optical and Infrared Modeling**

Session Type: Oral-Contributed

Time: Wednesday, July 28, 15:40 - 17:20

Place: Hibiscus

Co-Chairs: Guoqing Sun, NASA/Goddard and Michael King, University of Colorado

15:40 - 16:00

WE4.L03.1 A TWO-LEVEL ALGORITHM FOR GLOBAL RADIATION TRANSFER OF LARGE 3D VEGETATION CANOPIES AT PIXEL SCALE

Huaguo Huang, Beijing Forestry University, China; Qinhuo Liu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Wenhan Qin, NASA Goddard Space Flight Center, United States

16:00 - 16:20

WE4.L03.2 A MODIFIED VEGETATION INDEX BASED ALGORITHM FOR THERMAL IMAGERY SHARPENING

Ling Chen, Guangjian Yan, Huazhong Ren, Aihua Li, Beijing Normal University, China

16:20 - 16:40

WE4.L03.3 EVALUATION OF SATELLITE MEASUREMENTS OF FIRE RADIATIVE POWER (FRP) USING AIRBORNE MEASUREMENTS

Charles Ichoku, Luke Ellison, NASA Goddard Space Flight Center, United States; Vincent Ambrosia, NASA Ames Research Center, United States

16:40 - 17:00

WE4.L03.4 A SINGLE-CHANNEL ALGORITHM FOR LAND SURFACE TEMPERATURE RETRIEVAL FROM HJ-1B/IRS DATA BASED ON A PARAMETRIC MODEL

Hua Li, Qinhuo Liu, Bo Zhong, Yongming Du, State Key Laboratory of Remote Sensing Science, China; Heshun Wang, Beijing Research Institute of Uranium Geology, China; Qiao Wang, Satellite Environment Center, Ministry of Environmental Protection, China

17:00 - 17:20

WE4.L03.5 SURFACE SOLAR IRRADIATION MAPS FROM SEVIRI MSG DATA

Attilio Gambardella, Thomas Huld, Jean Verdebout, Joint Research Centre of the European Commission, Italy

WE4.L04: Wednesday, July 28, 15:40 - 17:20**WE4.L04 Data System Technologies for Improving Data Access and Usability - Challenges and Solutions II**

Session Type: Oral-Invited

Time: Wednesday, July 28, 15:40 - 17:20

Place: Kahili

Co-Chairs: Hampapuram Ramapriyan, NASA Goddard Space Flight Center and Gilbert Rochon, Purdue University/Purdue Terrestrial Observatory

15:40 - 16:00

WE4.L04.1 DATA SYSTEM DESIGN AND IMPLEMENTATION FOR QUERY AND ANALYSIS OF SYNTHETIC APERTURE RADAR DATA SETS IN SUPPORT OF GLOBAL SCALE MAPPING OF INUNDATED WETLANDS

Kyle McDonald, Bruce Chapman, Sarah Flores, Jeffrey Hall, Erika Podest, Jet Propulsion Laboratory, California Institute of Technology, United States; John Kimball, Flathead Lake Biological Station, United States; Mahta Moghaddam, Jane Whitcomb, The University of Michigan, United States; Laura Hess, University of California, United States

16:00 - 16:20

WE4.L04.2 A MULTI-SENSOR WATER VAPOR CLIMATE DATA RECORD USING CLOUD CLASSIFICATION

Eric Fetzer, Brian Wilson, Evan Fishbein, Brian Kahn, William Read, Joao Teixeira, Qing Yue, Van Dang, Alexandre Guillaume, Jet Propulsion Laboratory, United States

16:20 - 16:40

WE4.L04.3 WEB SERVICES FOR CUSTOM LEVEL 2 AND LEVEL 3 DATA SUMMARIZATION OF NEWS MERGED A-TRAIN DATA

Hook Hua, Eric Fetzer, Steven Lewis, Mathew Henderson, Alexandre Guillaume, Seungwon Lee, Manuel de la Torre-Juárez, Van Dang, Amy Braverman, Jet Propulsion Laboratory, California Institute of Technology, United States

16:40 - 17:00

WE4.L04.4 CLASS PLANS PROVIDING ARCHIVE, ACCESS, AND DISTRIBUTION SERVICES FOR GOES-R DATA

Robert Rank, NOAA/NESDIS, United States

17:00 - 17:20

WE4.L04.5 FUSION STANDARDS STUDY

George Percivall, Open Geospatial Consortium, United States

WE4.L05: Wednesday, July 28, 15:40 - 17:20

WE4.L05 Synergy of EO Products to Map the Essential Climate Variable Biomass II
 Session Type: Oral-Invited
 Time: Wednesday, July 28, 15:40 - 17:20
 Place: South Pacific 3
 Co-Chairs: Matthew Hansen, South Dakota State University and Christiane Schmullius, University of Jena

15:40 - 16:00

WE4.L05.1 PANTROPICAL ALOS/PALSAR DATABASE IN SUPPORT OF FOREST CARBON TRACKING
 Josef Kellendorfer, Wayne Walker, Jesse Bishop, Tina Cormier, Katie Kirsch, Woods Hole Research Center, United States; Francesco Holecz, SARMAP, Switzerland; Greg Fiske, Alessandro Baccini, Scott Goetz, Skee Houghton, Nadine Laporte, Woods Hole Research Center, United States

16:00 - 16:20

WE4.L05.2 USING AIRBORNE & SPACE LIDARS FOR LARGE-AREA INVENTORY
 Ross Nelson, NASA Goddard Space Flight Center, United States; Göran Ståhl, Sören Holm, Swedish University of Agricultural Sciences, Sweden; Timothy Gregoire, Yale University, United States; Erik Næsset, Terje Gobakken, Norwegian University of Life Sciences, Norway

16:20 - 16:40

WE4.L05.3 DISTRIBUTION OF CARBON STORED IN PAN-TROPICAL FORESTS FROM FUSION OF FIELD INVENTORY AND REMOTE SENSING DATA
 Sassan Saatchi, Jet Propulsion Laboratory, United States; Nancy Harris, Sandra Brown, Winrock International, United States; Stephen Hagen, William Salas, Applied GeoSolutions, LLC, United States; Michael Lefsky, Colorado State University, United States

16:40 - 17:00

WE4.L05.4 ABOVEGROUND FOREST BIOMASS TRENDS FOR THE CONTERMINOUS U.S. INFERRED FROM LANDSAT TIME-SERIES AND FIELD INVENTORY DATA
 Scott Powell, Montana State University, United States; Warren Cohen, USDA Forest Service, United States; Robert Kennedy, Oregon State University, United States

17:00 - 17:20

WE4.L05.5 OPTIONS AND LIMITATIONS OF OPERATIONAL ABOVE-GROUND BIOMASS MAPPING – A SUMMARY OF 12 YEARS OF FOREST BIOMASS MAPPING WITH RADAR REMOTE SENSING IN SIBERIA, CHINA AND CANADA
 Christiane Schmullius, Oliver Cartus, Christian Thiel, Carolin Thiel, Maurizio Santoro, Friedrich-Schiller-University Jena, Germany

WE4.L06: Wednesday, July 28, 15:40 - 17:20

WE4.L06 Image Analysis
 Session Type: Oral-Contributed
 Time: Wednesday, July 28, 15:40 - 17:20
 Place: South Pacific 4
 Co-Chairs: Guoqing Zhou, Old Dominion University, Norfolk, VA and Thuy Letoan, CESBIO

15:40 - 16:00

WE4.L06.1 ◊ **REMOTE SENSING IMAGE SYNTHESIS**
 Ying Liu, Alexander Wong, Paul Fieguth, University of Waterloo, Canada

16:00 - 16:20

WE4.L06.2 TRANSFORMATION-INVARIANT EXTRACTION OF MULTI-LOCATION IMAGE FEATURES FROM REMOTE SENSING IMAGERY
 Roman Palenichka, Ahmed Lakhssassi, Marek Zaremba, University of Quebec in Outaouais, Canada

16:20 - 16:40

WE4.L06.3 DETECTING AIRCRAFT WITH A LOW RESOLUTION INFRARED SENSOR
 Jeremie Jakubowicz, Telecom ParisTech, France; Sidonie Lefebvre, ONERA, France; Eric Moulines, Telecom ParisTech, France

16:40 - 17:00

WE4.L06.4 LEAST DEPENDENT COMPONENT ANALYSIS FOR TRACE GASES RETRIEVAL FROM SATELLITE DATA
 Pia Addabbo, Maurizio di Bisceglie, Carmela Galdi, University of Sannio, Italy

17:00 - 17:20

WE4.L06.5 ROBUST REAL TIME VEHICLE CONTOUR TRACKING ON LOW QUALITY AERIAL INFRA RED IMAGERY
 Salman Aslam, Aaron Bobick, Christopher Barnes, Georgia Institute of Technology, United States

WEDNESDAY

WE4.L07: Wednesday, July 28, 15:40 - 17:20**WE4.L07 Airborne and Spaceborne Measurements of Radio-Frequency Interference**

Session Type: Oral-Contributed

Time: Wednesday, July 28, 15:40 - 17:20

Place: Nautilus

Co-Chairs: Joel Johnson, The Ohio State University and Shannon Brown, Jet Propulsion Laboratory

15:40 - 16:00

WE4.L07.1 K-BAND RADIO FREQUENCY INTERFERENCE SURVEY OF SOUTHEASTERN MICHIGAN

Shannon Curry, University of Michigan, United States; Michael Ahlers, Technical University of Denmark, Denmark; Harvey Elliot, Steve Gross, Darren McKague, Sidharth Misra, John Puckett, Christopher Ruf, University of Michigan, United States

16:00 - 16:20

WE4.L07.2 STUDIES OF RADIO FREQUENCY INTERFERENCE AT L-BAND USING AN AIRBORNE 2-D INTERFEROMETRIC RADIOMETER

Martti Hallikainen, Juha Kainulainen, Jaakko Seppänen, Anssi Hakkarainen, Kimmo Rautiainen, Aalto University, Finland

16:20 - 16:40

WE4.L07.3 CHARACTERIZATION OF K-BAND RADIO FREQUENCY INTERFERENCE FROM AMSR-E, WINDSAT AND SSM/I

Darren McKague, John Puckett, Christopher Ruf, University of Michigan, United States

16:40 - 17:00

WE4.L07.4 A RST-BASED STUDY OF AMSRE C-BAND RADIO FREQUENCY INTERFERENCES

Teodosio Lacava, Irina Coviello, Nicola Pergola, Institute of Methodologies for Environmental Analysis - National Research Council, Italy; Valerio Tramutoli, University of Basilicata, Italy

17:00 - 17:20

WE4.L07.5 RADIO FREQUENCY INTERFERENCE DETECTION ALGORITHM BASED ON SPECTROGRAM ANALYSIS

Jose Miguel Tarongi, Adriano Camps, Universitat Politècnica de Catalunya, Spain

WE4.L08: Wednesday, July 28, 15:40 - 17:20**WE4.L08 Snow and Lance Ice II**

Session Type: Oral-Contributed

Time: Wednesday, July 28, 15:40 - 17:20

Place: South Pacific 1/2

Chair: Marco Tedesco, CUNY

15:40 - 16:00

WE4.L08.1 LAKE ICE THICKNESS ESTIMATION USING GPS

Mark Jacobson, Montana State University Billings, United States

16:00 - 16:20

WE4.L08.2 AIRBORNE 3D BASAL DEM AND ICE THICKNESS MAP OF PINE ISLAND GLACIER

William Blake, Lei Shi, Christopher Allen, Prasad Gogineni, CReSIS, United States

16:20 - 16:40

WE4.L08.3 ICE SHEET ANISOTROPY MEASURED WITH POLARIMETRIC ICE SOUNDING RADAR

Jørgen Dall, Technical University of Denmark, Denmark

16:40 - 17:00

WE4.L08.4 COMBINING MODIS AND QUIKSCAT DATA TO DELINEATE SURFACE AND NEAR-SURFACE MELT ON THE GREENLAND ICE SHEET

Dorothy Hall, NASA / Goddard Space Flight Center, United States; Son Nghiem, Jet Propulsion Laboratory, United States; Nicola DiGirolamo, Science Systems and Applications Inc., United States; Gregory Neumann, Jet Propulsion Laboratory, United States

17:00 - 17:20

WE4.L08.5 CRYOSAT-2: MEASURING FLUCTUATIONS OF LAND AND MARINE ICE FIELDS FROM SPACE

Richard Francis, European Space Agency, Netherlands; Duncan Wingham, University College London, United Kingdom; Robert Cullen, European Space Agency, Netherlands

WE4.L09: Wednesday, July 28, 15:40 - 17:20

WE4.L09 Polarimetric image processing

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 15:40 - 17:20
 Place: Coral 1
 Co-Chairs: Jakob J. van Zyl, JPL and Yoshio Yamaguchi, Niigata University

15:40 - 16:00

WE4.L09.1 ROLL INVARIANT TARGET DETECTION BASED ON POLSAR CLUTTER MODELS

Lionel Bombrun, Gabriel Vasile, Michel Gay, GIPSA-lab / Grenoble INP, France; Jean-Philippe Ovarlez, ONERA, France; Frédéric Pascal, SONDRRA Research Alliance, France

16:00 - 16:20

WE4.L09.2 POLARIMETRIC SAR ESTIMATION BASED ON NON-LOCAL MEANS

Charles-Alban Deledalle, Florence Tupin, Telecom ParisTech, France; Loïc Denis, Ecole Supérieure de Chimie Physique Electronique de Lyon, France

16:20 - 16:40

WE4.L09.3 MEAN-SHIFT AND HIERARCHICAL CLUSTERING FOR TEXTURED POLARIMETRIC SAR IMAGE SEGMENTATION/CLASSIFICATION

Jean-Marie Beaulieu, Laval University, Canada; Ridha Touzi, Natural Resources Canada, Canada

16:40 - 17:00

WE4.L09.4 ORTHOGONAL POLARIMETRIC SAR PROCESSOR BASED ON SIGNAL AND INTERFERENCE SUBSPACE MODELS

Frédéric Brigui, Laetitia Thirion-Lefevre, SONDRRA/Supelec, France; Guillaume Ginalhac, Philippe Forster, SATIE / UniverSud, France

17:00 - 17:20

WE4.L09.5 RECENT ADVANCES IN THE DEVELOPMENT OF THE OPEN SOURCE TOOLBOX FOR POLARIMETRIC AND INTERFEROMETRIC POLARIMETRIC SAR DATA PROCESSING: THE POLSARPRO V4.1.5 SOFTWARE

Eric Pottier, I.E.T.R - UMR CNRS 6164, France

WE4.L10: Wednesday, July 28, 15:40 - 17:20

WE4.L10 IGARSS at 30: Perspectives on Remote Sensing Science and Sensors

Session Type: Oral-Contributed
 Time: Wednesday, July 28, 15:40 - 17:20
 Place: Coral 2
 Co-Chairs: Bruce Guenther, NOAA/IPA and David Kunkee, NOAA

15:40 - 16:20

WE4.L10.1 OPERATIONAL ENVIRONMENTAL DATA IN 2010: CONNECTING GLOBAL AND LOCAL OBSERVATIONS

Karen St. Germain, National Oceanic and Atmospheric Administration, United States

16:20 - 17:00

WE4.L10.3 THE EVOLUTION OF THE US SATELLITE IR SOUNDING PROGRAM – FROM THE NIMBUS SIRS AND IRIS TO THE NPOESS CRIS

W. L. Smith, Sr., Henry Revercomb, University of Wisconsin-Madison, United States

17:00 - 17:20

WE4.L10.5 ADVANCES IN NIGHTTIME SATELLITE REMOTE SENSING CAPABILITIES VIA THE NPOESS/VIIRS DAY/NIGHT BAND LOW-LIGHT VISIBLE SENSOR AND TRACING EVOLUTION OF THESE CAPABILITIES OVER LIFETIME OF IGARSS

Steven D. Miller, T. F. Lee, R. Turner, C. Combs, S. Kidder, C. Elvidge, Colorado State University, United States

WEDNESDAY

TH1.L01: Thursday, July 29, 08:20 - 10:00**TH1.L01 Remote Sensing of Tsunamis and Other Natural Hazards Using GNSS and Radar Measurements I**

Session Type: Oral-Invited

Time: Thursday, July 29, 08:20 - 10:00

Place: Sea Pearl 1/2/3

Co-Chairs: Attila Komjathy, NASA/JPL/Caltech and Michael Hickey, Embry-Riddle Aeronautical University

08:20 - 09:00 Overview Talk (40 minutes)

TH1.L01.1 SEISMIC AND TSUNAMI SIGNATURES IN THE IONOSPHERE: WHAT WE LEARN FROM SUMATRA 2004 TO SAMOA 2009

Giovanni Occhipinti, Institut de Physique du Globe de Paris, France

09:00 - 09:20

TH1.L01.3 TSUNAMI FORECASTING: A FRAMEWORK FOR ADVANCES IN TSUNAMI RESEARCH

Eddie Bernard, National Oceanic and Atmospheric Administration, United States

09:20 - 09:40

TH1.L01.4 COMBINING MEASUREMENTS AND MODELS FOR REAL-TIME TSUNAMI FORECAST

Yong Wei, Vasily Titov, NOAA Center for Tsunami Research, United States

09:40 - 10:00

TH1.L01.5 EFFECTS OF TSUNAMIS ON THE UPPER ATMOSPHERE

Michael Hickey, Embry-Riddle Aeronautical University, United States; Richard Walterscheid, The Aerospace Corporation, United States; Gerald Schubert, University of California, Los Angeles, United States; Attila Komjathy, David Galvan, Anthony Mannucci, NASA, United States

TH1.L02: Thursday, July 29, 08:20 - 10:00**TH1.L02 Ocean Surface Winds**

Session Type: Oral-Contributed

Time: Thursday, July 29, 08:20 - 10:00

Place: Sea Pearl 4/5/6

Co-Chairs: David G. Long, Brigham Young University and James Carswell, Remote Sensing Solutions, Inc.

08:20 - 08:40

TH1.L02.1 EXPERIMENTS ON THE EFFECT OF SWELL ON SCATTEROMETER RESPONSE

Brian Haus, Mark Donelan, University of Miami, United States; William Plant, University of Washington, United States; Olivier Troianowski, Saunier & Associates, France

08:40 - 09:00

TH1.L02.2 TOWARDS AN IMPROVED WIND AND RAIN BACKSCATTER MODEL FOR ASCAT

Michael Owen, David G. Long, Brigham Young University, United States

09:00 - 09:20

TH1.L02.3 IMPROVED HURRICANE ACTIVE/PASSIVE SIMULATED WIND VECTOR RETRIEVALS

Suleiman Alsheiss, Peth Laupattarakasem, Salem El-Nimri, W. Linwood Jones, University of Central Florida, United States; Svetla Hristova-Veleva, Jet Propulsion Laboratory, United States

09:20 - 09:40

TH1.L02.4 PRELIMINARY INVESTIGATION OF SPLASH EFFECT ON HIGH WIND C-BAND HH-POL MODEL FUNCTION

James R. Carswell, Remote Sensing Solutions Inc, United States; Dragana Perkovic, Jet Propulsion Laboratory, California Institute of Technology, United States; Tao Chu, University of Massachusetts / Stanford university, United States; Stephen J. Frasier, University of Massachusetts, United States; Paul S. Chang, Zorana Jelenak, NOAA/NESDIS/STAR-UCAR, United States

09:40 - 10:00

TH1.L02.5 ALTIMETER SURFACE OBSERVATIONS IN TROPICAL CYCLONES

Yves Quilfen, Bertrand Chapron, Jean Tournadre, IFREMER, France

TH1.L03: Thursday, July 29, 08:20 - 10:00

TH1.L03 Electromagnetic Forward and Inverse Scattering Models I

Session Type: Oral-Contributed
 Time: Thursday, July 29, 08:20 - 10:00
 Place: Hibiscus
 Co-Chairs: Mahta Moghaddam, University of Michigan and Kamal Sarabandi, University of Michigan

08:20 - 08:40

TH1.L03.1 BISTATIC RADAR CROSS SECTION OF AN COMPLEX TARGET ON SEA SURFACE

Yacine Bennani, Ali Khenchaf, Fabrice Comblet, Ania Ali-Yahia, ENSIETA, France

08:40 - 09:00

TH1.L03.2 FULL WAVE ANALYSIS OF VHF-UHF FOREST BISTATIC SCATTERING MECHANISMS AN INVESTIGATION ON THE INFLUENCE OF ELECTROMAGNETIC COUPLING

Sami Bellez, Laboratoire des signaux et systèmes (L2S), France; Hélène Roussel, Cyril Dahon, UPMC Univ Paris6-L2E, France

09:00 - 09:20

TH1.L03.3 COMPARISONS OF ROUGH SURFACE BACKSCATTERING COEFFICIENTS FOR 2 DIMENSIONAL SCATTERING PROBLEMS USING NUMERICAL AND ANALYTICAL MODELS

Zhiqian Gui, University of Washington, United States; Joel Johnson, Ohio State University, United States; Xueyang Duan, University of Michigan, United States; Leung Tsang, University of Washington, United States; Mahta Moghaddam, University of Michigan, United States; Jiancheng Shi, University of California, Santa Barbara, United States; Eni Njoku, Jet Propulsion Laboratory, United States; Peng Xu, Wuhan University, China; Kun-Shan Chen, National Central University, Taiwan

09:20 - 09:40

TH1.L03.4 3D VECTOR ELECTROMAGNETIC SCATTERING FROM MULTILAYER RANDOM ROUGH SURFACES USING STABILIZED EBCM FOR REMOTE SENSING OF SOIL MOISTURE

Xueyang Duan, Mahta Moghaddam, University of Michigan, United States

09:40 - 10:00

TH1.L03.5 3D MARKOV RANDOM FIELD IN REALISTIC INVERSE SCATTERING

Roberta Autieri, Università di Napoli Parthenope, Italy; Michele D'Urso, Giugliano Research Center, Large System Unit, SELEX Sistemi Integrati, Italy; Christelle Eyraud, Amelie Litman, Institut Fresnel UMR 6133, France; Vito Pascazio, Università di Napoli Parthenope, Italy; Tommaso Isernia, Università Mediterranea di Reggio Calabria, Italy

TH1.L04: Thursday, July 29, 08:20 - 10:00

TH1.L04 Change Detection and Multitemporal Image Analysis I

Session Type: Oral-Invited
 Time: Thursday, July 29, 08:20 - 10:00
 Place: Kahili
 Co-Chairs: Lorenzo Bruzzone, University of Trento and Jordi Inglada, CNES, France

08:20 - 09:00

Overview Talk (40 minutes)

TH1.L04.1 A CONCEPTUAL FRAMEWORK FOR CHANGE DETECTION IN VERY HIGH RESOLUTION REMOTE SENSING IMAGES

Lorenzo Bruzzone, Francesca Bovolo, University of Trento, Italy

09:00 - 09:20

TH1.L04.3 MULTITEMPORAL ANALYSIS OF MULTISENSOR DATA: INFORMATION THEORETICAL APPROACHES

Lionel Gueguen, European Commission, Joint Research Centre, Italy; Shiyong Cui, Gottfried Schwarz, Mihai Datcu, German Aerospace Center (DLR), Germany

09:40 - 10:00

TH1.L04.5 PULSE COUPLED NEURAL NETWORKS FOR AUTOMATIC CHANGE DETECTION AT VERY HIGH SPATIAL RESOLUTION

Fabio Pacifici, Christopher Padwick, Giovanni Marchisio, DigitalGlobe, Inc., United States

THURSDAY

TH1.L05: Thursday, July 29, 08:20 - 10:00**TH1.L05 Applications for NASA's Decadal Survey Missions and Opportunities to take Research to Operations**

Session Type: Oral-Invited
 Time: Thursday, July 29, 08:20 - 10:00
 Place: South Pacific 3
 Chair: Andrea Donnellan, JPL

08:20 - 08:40

TH1.L05.1 FOSTERING APPLICATIONS OPPORTUNITIES FOR THE NASA SOIL MOISTURE ACTIVE PASSIVE (SMAP) MISSION

Susan Moran, USDA Southwest Watershed Research Center, United States; Peggy O'Neill, NASA Goddard Space Flight Center, United States; Dara Entekhabi, Massachusetts Institute of Technology, United States; Eni Njoku, Kent Kellogg, Jet Propulsion Laboratory, United States

08:40 - 09:00

TH1.L05.2 ◊ COMPARING SCIENTIFIC AND SCIENCE HAZARD APPLICATION REQUIREMENTS FOR DESDYNI

Gerald Bawden, US Geological Survey, United States

09:00 - 09:20

TH1.L05.3 CLARREO MISSION DESIGN: ENGAGING USERS TO MAXIMIZE SOCIETAL BENEFIT AND SCIENCE VALUE

David Young, National Aeronautics and Space Administration, United States

09:20 - 09:40

TH1.L05.4 HYSPIRI SCIENCE AND APPLICATIONS

Simon Hook, NASA Jet Propulsion Laboratory, United States; Elizabeth Middleton, NASA Goddard Space Flight Center, United States; Robert Green, NASA Jet Propulsion Laboratory, United States

09:40 - 10:00

TH1.L05.5 PROPOSED SCIENCE FROM NASA'S EARTH VENTURE-1 (EV-1) AIRBORNE SCIENCE SELECTIONS

B. Danette Allen, Todd C. Denkins, Hal B. Maring, NASA, United States

TH1.L06: Thursday, July 29, 08:20 - 10:00**TH1.L06 Lidar Sensing of the Atmosphere**

Session Type: Oral-Contributed
 Time: Thursday, July 29, 08:20 - 10:00
 Place: South Pacific 4
 Co-Chairs: Joseph Shaw, Montana State University and Michael Cathcart, Georgia Institute of Technology

08:20 - 08:40

TH1.L06.1 STATISTICS OF DEPOLARIZATION RATIO FROM AN AIRBORNE BACKSCATTER LIDAR

John Yorks, Science Systems and Applications Inc., United States; Matthew McGill, NASA Goddard Space Flight Center, United States; Dennis Hlavka, William Hart, Science Systems and Applications Inc., United States

08:40 - 09:00

TH1.L06.2 OBSERVATIONAL STUDIES OF ATMOSPHERIC AEROSOLS IN THE LOWER TROPOSPHERE USING MULTIPLE SENSORS

Kevin Repasky, Amin Nehrir, David Hoffman, Michael Thomas, John Carlsten, Joseph Shaw, Montana State University, United States

09:00 - 09:20

TH1.L06.3 REVIEW OF OBSERVING SYSTEM SIMULATION EXPERIMENTS TO EVALUATE THE POTENTIAL IMPACT OF LIDAR WINDS ON WEATHER PREDICTION

Robert Atlas, National Oceanic and Atmospheric Administration, United States

09:20 - 09:40

TH1.L06.4 AIRBORNE DOPPLER WIND LIDAR INVESTIGATIONS OF WESTERN PACIFIC TYPHOON GENESIS AND EVOLUTION

George Emmitt, Simpson Weather Associates, United States

09:40 - 10:00

TH1.L06.5 REMOTE SENSING ATMOSPHERIC CO₂ COLUMN ABUNDANCE USING AN AIRBORNE PULSED LASER SOUNDER AT 13 KM ALTITUDE

Graham Allan, Sigma Space Corporation at NASA/GSFC, United States; William Hasselbrack, Sigma Space Corporation, United States; Haris Riris, James B. Abshire, Clark Weaver, Jianping Mao, Xiaoli Sun, NASA, United States; Arlyn Andrews, National Oceanic and Atmospheric Administration, United States

TH1.L07: Thursday, July 29, 08:20 - 10:00

TH1.L07 Innovative Options for Developing Future Earth Science Capabilities

Session Type: Oral-Contributed

Time: Thursday, July 29, 08:20 - 10:00

Place: Nautilus

Co-Chairs: George Komar, NASA Earth Science Technology Office and Michael Pasciuto, NASA

08:20 - 08:40

TH1.L07.1 THE NEED FOR AN INSTRUMENT FIRST, SPACECRAFT SECOND MISSION DEVELOPMENT APPROACH

Claude Freaner, NASA, United States; Robert Bitten, The Aerospace Corporation, United States

08:40 - 09:20 Overview Talk (40 minutes)

TH1.L07.2 INSTRUMENT FIRST, SPACECRAFT SECOND: A NEW PARADIGM IN SPACE MISSION DEVELOPMENT

Robert Bitten, Eric Mahr, The Aerospace Corporation, United States

09:20 - 09:40

TH1.L07.3 AUTONOMOUS SATELLITE OPERATIONS VIA SECURE VIRTUAL MISSION OPERATIONS CENTER

Eric Miller, General Dynamics, United States; Phillip Paulsen, Michael Pasciuto, NASA, United States

09:40 - 10:00

TH1.L07.4 DARPA'S SYSTEM F6 PROGRAM FOR DEMONSTRATING SPACECRAFT FRACTIONATION

Paul Eremenko, DARPA, United States

TH1.L08: Thursday, July 29, 08:20 - 10:00

TH1.L08 Application of Remote Sensing and CI to Monitoring Snow and Management of Water Resources

Session Type: Oral-Invited

Time: Thursday, July 29, 08:20 - 10:00

Place: South Pacific 1/2

Co-Chairs: Sivaprasad Gogineni, University of Kansas and Linda Hayden, Elizabeth City State University

08:20 - 08:40

TH1.L08.1 OPERATION ICE BRIDGE OVERVIEW AND RESULTS FROM AIRCRAFT LASER ALTIMETRY OVER GREENLAND AND ANTARCTICA.

William Krabill, Sigma Space Corporation, United States; John Sonntag, Serdar Manizade, Earl Fredrick, James Yungel, EG&G Services, Inc., United States

08:40 - 09:00

TH1.L08.2 3D IMAGING OF ICE SHEETS

John Paden, Vexcel Corporation, United States; Christopher Allen, Prasad Gogineni, CReSIS, United States

09:00 - 09:20

TH1.L08.3 ASSESSING AND UNDERSTANDING GREENLAND AND ANTARCTIC ICE SHEET MASS BALANCE

Waleed Abdalati, University of Colorado at Boulder, United States

09:20 - 09:40

TH1.L08.4 TERRASAR-X OBSERVATIONS OVER THE ANTARCTIC ICE SHEET

Dana Floricioiu, Nestor Yague-Martinez, Michael Eineder, German Aerospace Center (DLR), Germany; Kenneth Jezek, Katy Farness, Ohio State University, United States

09:40 - 10:00

TH1.L08.5 MONITORING SNOW COVER WITH MULTISENSOR AUTOMATED SNOW MAPPING SYSTEM AT NOAA/NESDIS

Peter Romanov, University of Maryland, United States; Hui Xu, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States

THURSDAY

TH1.L09: Thursday, July 29, 08:20 - 10:00**TH1.L09 Interferometric SAR Processing**

Session Type: Oral-Contributed

Time: Thursday, July 29, 08:20 - 10:00

Place: Coral 1

Co-Chairs: Howard Zebker, Stanford University and Marcus Schwaebisch, Intermap Technologies

08:20 - 08:40

TH1.L09.1 GEODETICALLY ACCURATE INSAR DATA PROCESSOR FOR TIME SERIES ANALYSIS

Howard Zebker, Stanford University, United States; Scott Hensley, Jet Propulsion Laboratory, United States; Piyush Shanker, Cody Wortham, Stanford University, United States

08:40 - 09:00

TH1.L09.2 ADVANCES IN THE GENERATION OF DEFORMATION TIME SERIES FROM SAR DATA SEQUENCES IN AREAS AFFECTED BY LARGE DYNAMICS

Francesco Casu, Andrea Manconi, Antonio Pepe, Mariarosaria Manzo, Riccardo Lanari, IREA - CNR, Italy

09:00 - 09:20

TH1.L09.3 ALGAE: A FAST ALGEBRAIC ESTIMATION OF INTERFEROGRAM PHASE OFFSETS IN SPACE VARYING GEOMETRIES

Stefano Tebaldini, Guido Gatti, Mauro Mariotti d'Alessandro, Fabio Rocca, Politecnico di Milano, Italy

09:20 - 09:40

TH1.L09.4 ACCURATE FOCUSING OF SINGLE-PASS AIRBORNE INSAR DATA AT L-BAND

Marcus Schwaebisch, Intermap Technologies GmbH, Germany; Bryan Mercer, Qiaoping Zhang, Wei Huang, Intermap Technologies Corporation, Canada

09:40 - 10:00

TH1.L09.5 INVESTIGATIONS ON TOPS INTERFEROMETRY WITH TERRASAR-X

Pau Prats, Luca Marotti, Steffen Wollstadt, Rolf Scheiber, German Aerospace Center (DLR), Germany

TH1.L10: Thursday, July 29, 08:20 - 10:00**TH1.L10 TanDEM-X Mission**

Session Type: Oral-Invited

Time: Thursday, July 29, 08:20 - 10:00

Place: Coral 2

Co-Chairs: Irena Hajnsek, ETH Zurich, Institute of Environmental Engineering / German Aerospace Center, Microwaves and Radar Institute and Alberto Moreira, German Aerospace Center, Microwaves and Radar Institute

08:20 - 08:40

TH1.L10.1 TANDEM-X: SCIENTIFIC CONTRIBUTIONS

Irena Hajnsek, ETH Zürich / DLR, Germany; Gerhard Krieger, Konstantinos Papathanassiou, Stefan V. Baumgartner, Marc Rodriguez-Cassola, Pau Prats, German Aerospace Center (DLR), Germany

08:40 - 09:00

TH1.L10.2 TANDEM-X COMMISSIONING PHASE STATUS

Jaime Hueso Gonzalez, Markus Bachmann, Harald Hofmann, German Aerospace Center (DLR), Germany

09:00 - 09:20

TH1.L10.3 MONOSTATIC CALIBRATION OF BOTH TANDEM-X SATELLITES

Marco Schwerdt, Markus Bachmann, Dirk Schrank, Jaime Hueso Gonzalez, Clemens Schulz, Björn Döring, German Aerospace Center (DLR), Germany

09:20 - 09:40

TH1.L10.4 PROCESSING OF BISTATIC TANDEM-X DATA

Helko Breit, Thomas Fritz, German Aerospace Center (DLR), Germany; Ulrich Bals, Technical University of Munich, Germany; Andreas Niedermeier, Michael Eineder, Nestor Yague-Martinez, Cristian Rossi, German Aerospace Center (DLR), Germany

09:40 - 10:00

TH1.L10.5 VALIDATION OF TIE-POINT CONCEPTS BY THE DEM ADJUSTMENT APPROACH OF TANDEM-X

Martin Huber, Astrid Gruber, Birgit Wessel, Markus Breunig, Anna Wendleder, German Aerospace Center (DLR), Germany

THP1.PA: Thursday, July 29, 09:40 - 10:45**THP1.PA Optical Reflectance**

Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area A
 Chair: Crystal B. Schaaf, Boston University

THP1.PA.1 ASSESSMENT OF BIASES IN MODIS SURFACE REFLECTANCE DUE TO LAMBERTIAN APPROXIMATION

Yujie Wang, Alexei Lyapustin, University of Maryland Baltimore County, United States

THP1.PA.2 A NEW APPROACH FOR MEASURING PHOTOSYNTHETIC LIGHT-USE EFFICIENCY FROM SPACE USING MULTI-ANGULAR SATELLITE OBSERVATIONS

Thomas Hilker, Nicholas Coops, University of British Columbia, Canada; Forrest Hall, Alexei Lyapustin, University of Maryland, Baltimore County / NASA GSFC, United States; Andrew Black, University of British Columbia, Canada; Yujie Wang, University of Maryland, Baltimore County / NASA GSFC, United States

THP1.PA.3 DAILY LAND SURFACE ALBEDO AND REFLECTANCE ANISOTROPY FROM MODIS

Crystal B. Schaaf, Yanmin Shuai, Zhuosen Wang, Alan Strahler, Boston University, United States; Xiaoyang Zhang, Earth Resources Technology, Inc., United States; David Roy, South Dakota State University, United States; Andrew Richardson, Harvard University, United States

THP1.PA.4 COMBINING OBSERVATIONS IN THE REFLECTIVE SOLAR AND THERMAL DOMAINS FOR IMPROVED MAPPING OF CARBON, WATER AND ENERGY FLUXES

Rasmus Houborg, NASA, United States; Martha Anderson, Bill Kustas, USDA-ARS, United States; Matthew Rodell, NASA, United States

THP1.PA.5 ESTIMATION OF BOREAL FOREST LAI IN WINTER CONDITIONS: TEST OF A NEW METHOD USING WIDE OPTICS AIRBORNE IMAGES

Terhikki Manninen, Finnish Meteorological Institute, Finland; Lauri Korhonen, University of Eastern Finland, Finland; Pekka Voipio, Finnish Forest Research Institute (Metla), Finland; Panu Lahtinen, Finnish Meteorological Institute, Finland; Pauline Stenberg, University of Helsinki, Finland

THP1.PA.6 AUTOMATED BLENDING OF LANDSAT AND MODIS SURFACE REFLECTANCES AT GLOBAL SCALES

Weile Wang, Hirofumi Hashimoto, Cristina Milesi, Sangram Ganguly, Petr Votava, Andrew Michaelis, CSU-Monterey Bay & NASA ARC, United States; Ramakrishna R. Nemani, NASA Ames Research Center, United States; Feng Gao, ERT & NASA GSFC, United States

THP1.PA.7 AUSCOVER CALVAL: COORDINATING AUSTRALIAN ACTIVITIES IN CALIBRATION AND VALIDATION

Simon Jones, RMIT University, Australia; Tim Malthus, CSIRO Land and Water, Australia; Alex A. Held, CSIRO Division of Marine and Atmospheric Research, Australia; Karin Reinke, Elizabeth Farmer, Rakesh Devedas, RMIT University, Australia

THP1.PA.8 SYNCHRONOUS RETRIEVAL OF FOREST CANOPY COVER BY AIRBORNE LIDAR AND OPTICAL REMOTE SENSING

Chunxiang Cao, Min Xu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Yunfei Bao, Beijing Institute Of Space Mechanics and Electricity, China; Hao Zhang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

THP1.PA.9 SPATIAL-TEMPORAL VARIATIONS OF PHOTOSYNTHETICALLY ACTIVE RADIATION BASED ON SATELLITE DATA IN HEIHE RIVER BASIN FROM 2000 TO 2008

Jiangtao Xiao, Shihua Li, Hao Jiang, University of Electronic Science and Technology of China, China

THP1.PA.10 LEAF AREA INDEX RETRIEVAL FROM REMOTELY SENSED DATA: SCALING EFFECT AND PROPAGATION MECHANISMS

Hua Wu, Bo-Hui Tang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Chuanrong Li, Academy of Opto-Electronics, Chinese Academy of Sciences, China; Zhao-Liang Li, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

THP1.PB: Thursday, July 29, 09:40 - 10:45

- THP1.PB Optical Vegetation Mapping**
 Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area B
 Co-Chairs: Rasmus Houborg, NASA Goddard Space Flight Center and Wilfrid Schroeder, NOAA
- THP1.PB.1 ESTIMATING REGIONAL ABOVEGROUND FOREST BIOMASS USING HJ-1 SATELLITE DATA AND ICESAT**
 Hong Chi, Zhifeng Guo, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Guoqing Sun, University of Maryland, United States
- THP1.PB.2 RETRIEVAL OF FUEL MOISTURE CONTENT FROM HYPERSPECTRAL DATA VIA PARTIAL LEAST SQUARE**
 Jie Zhang, Jian-Jun Wu, Lei Zhou, Beijing Normal University, China
- THP1.PB.3 SPECTROSCOPIC DETERMINATION OF LEAF WATER CONTENT USING CONTINUOUS WAVELET ANALYSIS**
 Tao Cheng, Benoit Rivard, Arturo Sánchez-Azofeifa, University of Alberta, Canada
- THP1.PB.4 APPLICATION OF INTEGRATED HYPERSPECTRAL AND LIDAR IMAGERY FOR THE CHARACTERIZATION OF TERRESTRIAL ECOSYSTEMS**
 Aaron Swanson, Lynn Abelson, John Craig, James Barter, Mark Helmlinger, Northrop Grumman, United States
- THP1.PB.5 POST-FIRE VEGETATION MONITORING USING HYPERSPECTRAL AHS-INTA IMAGES IN GUADALAJARA (SPAIN)**
 Federico González-Alonso, CIFOR - INIA, Spain; Margarita Huesca, Silvia Merino-de-Miguel, Universidad Politécnica de Madrid, Spain; Sergio Martínez, Junta de Castilla-La Mancha, Spain; José Miguel Cuevas, CIFOR - INIA, Spain
- THP1.PB.6 EARLY CHARACTERIZATION OF THE ACTIVE FIRE DETECTION PRODUCTS DERIVED FROM THE NEXT GENERATION NPOESS/VIIRS AND GOES-R/ABI INSTRUMENTS**
 Wilfrid Schroeder, University of Maryland, United States; Ivan Csiszar, National Oceanic and Atmospheric Administration, United States; Louis Giglio, Science Systems and Applications Inc., United States; Christopher Schmidt, Jay Hoffmann, Scott Lindstrom, Cooperative Institute for Meteorological Satellite Studies, United States
- THP1.PB.7 FUTURE FLIGHT OPPORTUNITIES AND CALIBRATION PROTOCOLS FOR CERES : CONTINUATION OF THE EARTH RADIATION BUDGET CLIMATE DATA RECORD**
 Kory Priestley, Norman Loeb, NASA, United States; Louis Smith, National Institute of Aerospace, United States; Susan Thomas, Science Systems and Applications Inc., United States
- THP1.PB.8 ASTER THERMAL TEMPERATURE AND EMISSIVITY VALIDATION ON VOLCANO TEIDE**
 Stefania Amici, Alessandro Piscini, Maria Fabrizia Buongiorno, Istituto Nazionale di Geofisica e Vulcanologia, Italy
- THP1.PB.9 EUROS DR ICC BANYOLES 2008 CAMPAIGN DATASET AND RESULTS**
 Lucas Martínez, Roman Arbiol, Anna Tarda, Fernando Perez, Institut Cartogràfic de Catalunya, Spain; Eva Maria Rubio Caballero, Magali Odi, Daniel Moya, María Llanos López González, Jose Gonzalez Piqueras, Francisco Ramón Lopez Serrano, Universidad de Castilla La Mancha, Spain; Gerard More, Centre de Recerca Ecològica i Forestal de Catalunya, Spain; Cristina Cea, Xavier Pons, Universitat Autònoma de Barcelona, Spain; Yolanda Sola, Jeronimo Lorente, Elies Campmany, Universitat de Barcelona, Spain; Adolfo Comeron, Carlos Muñoz, Mohd Nadzri Md Reba, Francesc Rocadenbosch, Sergio Tomas, Universitat Politècnica de Catalunya, Spain; Jordi Cunillera, Servei Meteorològic de Catalunya, Spain; Eija Honkavaara, Lauri Markelin, Finnish Geodetic Institute, Finland
- THP1.PB.10 A METHODOLOGY TO ASSESS IMPACT OF OPTICAL AND ELECTRICAL CROSSTALK IN NEW GENERATION SENSORS USING HERITAGE DATA**
 Hassan Oudrari, Thomas Schwarting, Vincent Chiang, Jeff McIntire, Sigma Space Corporation, United States; Chunhui Pan, Science Systems and Applications Inc., United States; Xiaoxiong (Jack) Xiong, James J. Butler, National Aeronautics and Space Administration, United States
- THP1.PB.11 MULTI-IMAGE SPACE RESECTION BASED GEOMETRIC CALIBRATION FOR FOUR BANDS CCD CAMERA**
 Xingfeng Chen, Xingfa Gu, State key Laboratory of Remote Sensing Science, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Huibin Ge, Jinjin Zhang, Henan Polytechnic University, China; Jiping Chen, State key Laboratory of Remote Sensing Science, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Fengjie Zheng, Guoti Yuan, Henan Polytechnic University, China; Jun Liu, Information Engineering University, Zhengzhou, China, China

THP1.PC: Thursday, July 29, 09:40 - 10:45

THP1.PC Vegetation General

Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area C
 Chair: Weile Wang, California State University - Monterey Bay

THP1.PC.1 COMPARING TERRESTRIAL VEGETATION PHENOLOGY FROM MODIS AND MERIS SENSOR DATA

C Jeganathan, University of Southampton, United Kingdom; Sangram Ganguly, NASA Ames Research Center, United States; Jadu Dash, University of Southampton, United Kingdom; Mark Friedl, Boston University, United States; Peter Atkinson, University of Southampton, United Kingdom

THP1.PC.2 ESTIMATING GROSS PRIMARY PRODUCTION OF FORESTS USING MODIS PRODUCTS

Hirofumi Hashimoto, Weile Wang, Cristina Milesi, California State University, Monterey Bay, United States; Sangram Ganguly, NASA Ames Research Center, United States; Ranga B. Myneni, Boston University, United States; Ramakrishna R. Nemani, NASA Ames Research Center, United States

THP1.PC.3 ◇ EXTRACTING TREES AND STRUCTURE PARAMETERS VIA INTEGRATION OF LIDAR DATA AND GROUND IMAGERY

Xuemei Gong, Beijing Institute of Technology, China; Daiyong Wei, Beijing Normal University, China; Guoqing Zhou, Old Dominion University, United States

THP1.PC.4 TEN-DAILY GLOBAL COMPOSITES OF METOP-AVHRR

Herman Eerens, Bart Ooms, Erwin Goor, Else Swinnen, Walter Heyns, Tim Jacobs, Adri Timmermans, Johan Vereecken, Bart Deronde, VITO, Belgium

THP1.PC.5 ESTIMATING ECOSYSTEM RESPIRATION USING SATELLITE REMOTE SENSING

Abdullah Rahman, Indiana University, United States

THP1.PC.6 HABITAT MAPPING AND QUALITY ASSESSMENT OF HEATHLANDS USING A MODIFIED KERNEL-BASED RECLASSIFICATION TECHNIQUE

Guy Thoonen, University of Antwerp, Belgium; Toon Spanhove, Research Institute for Nature and Forest, Belgium; Birgen Haest, Flemish Institute for Technological Research, Belgium; Jeroen Vanden Borre, Research Institute for Nature and Forest, Belgium; Paul Scheunders, University of Antwerp, Belgium

THP1.PC.7 SUPPORT VECTOR MACHINES REGRESSION FOR ESTIMATION OF FOREST PARAMETERS FROM AIRBORNE LASER SCANNING DATA

Jean-Matthieu Monnet, Frédéric Berger, Cemagref, France; Jocelyn Chanussot, Grenoble Institute of Technology, France

THP1.PC.8 GROUND TRUTH METHOD ASSESSMENT FOR SVM BASED LANDSCAPE CLASSIFICATION

Robin Pouteau, Benoit Stoll, Sébastien Chabrier, South Pacific Geosciences Laboratory - University of French Polynesia, French Polynesia

THP1.PC.9 MULTI-SOURCE SVM FUSION FOR ENVIRONMENTAL MONITORING IN THE MARQUESAS ARCHIPELAGO

Robin Pouteau, Benoit Stoll, Sébastien Chabrier, University of French Polynesia, French Polynesia

THURSDAY

THP1.PD: Thursday, July 29, 09:40 - 10:45**THP1.PD Urban Remote Sensing Poster I**

Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area D
 Chair: Uwe Stilla, Technical University Munich

- THP1.PD.1 ON THE RELATIVE PREDICTIVE VALUE OF THE NEW SPECTRAL BANDS IN THE WORLDVIEW-2 SENSOR**
 Giovanni Marchisio, Fabio Pacifici, Kumar Navulur, Christopher Padwick, DigitalGlobe, Inc., United States
- THP1.PD.2 INTERPRETATION OF BUILDINGS IN HIGH RESOLUTION SAR IMAGES BASED ON ELECTROMAGNETIC METHOD**
 Fengli Zhang, Yun Shao, Zi Wan, Xiao Zhang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- THP1.PD.3 IMPERVIOUS SURFACE COVERAGE AND THEIR IMPACT ON OTHER COMPONENTS OF THE URBAN ECOSYSTEM IN BEIJING**
 Dan Meng, Huili Gong, Xiaojuan Li, Wenji Zhao, Yanfang Li, Capital Normal University, China
- THP1.PD.4 APPLICATION OF ASPECT ANGLE NORMALIZED POLSAR IMAGES FOR URBAN BUILDING DETECTION**
 Lu Zhang, Huadong Guo, Xinwu Li, Wenxue Fu, Laboratory of Digital Earth Sciences, Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China
- THP1.PD.5 AUTOMATIC BUILDING IDENTIFICATION USING GPS AND MACHINE LEARNING**
 Robert Woodley, Warren Noll, Joseph Barker, 21st Century Systems, Inc, United States; Donald Wunsch, Missouri University of Science and Technology, United States
- THP1.PD.6 STUDY ON QUANTITATIVE EARTHQUAKE DAMAGE OF DUJIANGYAN CITY, CAUSED BY 2008 MS=8.0 WENCHUAN, CHINA EARTHQUAKE BASED ON AERIAL IMAGERY**
 Xiaoqing Wang, Aixia Dou, Xiang Ding, Institute of Earthquake Science, China
- THP1.PD.7 HIGH RESOLUTION OPTICAL AND SAR IMAGE FUSION FOR ROAD DATABASE UPDATING**
 Vincent Poulain, Centre National d'Etudes Spatiales (CNES), France; Jordi Inglada, CNES-CESBIO, France; Marc Spigai, Thales Alenia Space, France; Jean-Yves Tourneret, Philippe Marthon, University of Toulouse, France
- THP1.PD.8 ◇ PREDICTION OF AIR TEMPERATURE DISTRIBUTION IN URBANIZED AREA OF TOKYO, JAPAN USING AIRBORNE THEMAL IMAGES**
 Akinobu Murakami, University of Tsukuba, Japan
- THP1.PD.9 PREDICTION OF URBAN LAND USE EVOLUTION USING TEMPORAL REMOTE SENSING DATA ANALYSIS AND A SPATIAL LOGISTIC MODEL**
 Hongga Li, Xiaoxia Huang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Bo Huang, Chinese University of Hong Kong, China; Ping Luo, Shenzhen Real Estate Research Center, Shenzhen Municipality Bureau of Land and Resources, China
- THP1.PD.10 BUILDING EXTRACTION FROM VHR MULTI-SPECTRAL IMAGES USING RULE-BASED OBJECT-ORIENTED METHOD: A CASE STUDY**
 Qulin Tan, Beijing Jiaotong University, China; Qingchao Wei, Fei Liang, Beijing Jiaotong University, China

THP1.PE: Thursday, July 29, 09:40 - 10:45**THP1.PE Pollution and Contamination Poster**

Session Type: Poster

Time: Thursday, July 29, 09:40 - 10:45

Place: Poster Area E

Chair: Bing Zhang, Center for Earth Observation and Digital Earth, Chinese Academy of Sciences

THP1.PE.1 APPLY SEMI-SUPERVISED SUPPORT VECTOR REGRESSION FOR REMOTE SENSING WATER QUALITY RETRIEVING

Xili Wang, Lei Ma, Shaanxi Normal University, China; Xilin Wang, Beijing Forestry University, China

THP1.PE.2 OIL SPILL DETECTION AND TRACKING USING SAR IMAGERY IN THE GULF OF MEXICO

William Pichel, National Oceanic and Atmospheric Administration, National Environmental Satellite Data and Information Service, United States; Yongcun Cheng, Danish National Space Center, Denmark; Xiaofeng Li, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States; Oscar Garcia-Pineda, Florida State University, United States; Qing Xu, Danish National Space Center, China; Sonia Gallegos, Naval Research Laboratory, United States; Christopher Jackson, Global Ocean Associates, United States

THP1.PE.3 AN EXPERIMENT FOR OIL SPILL RECOGNITION USING RADARSAT-2 IMAGE

Wei Tian, Yun Shao, Junna Yuan, Shiang Wang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Yang Liu, Research Institute of Petroleum Exploration and Development, PetroChina, China

THP1.PE.4 METALLIC OBJECTS AND OIL SPILL DETECTION WITH MULTI-POLARIZATION SAR

Ferdinando Nunziata, Università di Napoli Parthenope, Italy; Xiaofeng Lee, NOAA/NESDIS, United States; Maurizio Migliaccio, Antonio Montuori, Università di Napoli Parthenope, Italy; William Pichel, NOAA/NESDIS/STAR, United States

THP1.PE.5 ◇ SPATIAL AND TEMPORAL DISTRIBUTION VARIATION AND METEOROLOGICAL FACTORS ANALYZING OF ALGAL BLOOMS BASED ON HJ-1 SATELLITES IN LAKE DIANCHI, CHINA, 2009

Li Zhu, Chuangqing Wu, Yanjuan Yao, Yongjun Zhang, Satellite Environment Center, Ministry of Environmental Protection, China

THP1.PE.6 ◇ FORECASTING AIR QUALITY BY INTEGRATION OF SATELLITE DATA AND HYSPLIT TRAJECTORY MODEL

Jie Guang, Yong Xue, Linlu Mei, Yingjie Li, Ying Wang, Hui Xu, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Jianping Guo, Chinese Academy of Meteorological Sciences, China

THP1.PE.7 RESEARCH OF AIR POLLUTION IMPACT OF STRAW BURNING BASED ON MODIS

Qing Li, Qiao Wang, Zhongting Wang, Satellite Environment Center, Ministry of Environmental Protection of China, China; Jinglei Ding, Renmin University of China, China; Xiang Zhao, Beijing Normal University, China; Lijuan Zhang, Chunyan Zhou, Satellite Environment Center, Ministry of Environmental Protection of China, China; Xing Yang, China University of Geosciences, China

THP1.PE.8 SPECTRAL RESPONSE OF WHEAT (TRITIZNM AESTIVUM L.) LEAVES TO COPPER STRESS

Ying Qu, Suhong Liu, Jiangzhou Xia, Beijing Normal University, China

THP1.PE.9 MODELLING OF TAILING SPECTRUM OF THE TUNISIAN SEMI-ARID CONTEXT

Nouha Mezned, Sâadi Abdeljaouad, Faculté des Sciences de Tunis, Tunisia; Mohamed Rached Boussema, Ecole Nationale d'Ingénieurs, Tunisia

THP1.PE.10 ◇ CUMULATIVE ENVIRONMENTAL IMPACTS AND SOCIAL VULNERABILITY IN SAN JOAQUIN VALLEY, CALIFORNIA

Ganlin Huang, Jonathan London, University of California, Davis, United States

THP1.PE.11 AEROSOL OPTICAL THICKNESS FROM MODIS DATA AT 500M RESOLUTION FOR TWO EXTREME AEROSOL EVENTS ANALYSIS

Ying Wang, Yong Xue, Jie Guang, Yingjie Li, Linlu Mei, Hui Xu, Jianwen Ai, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Qiang Li, Shandong University of Science and Technology, China

THP1.PF: Thursday, July 29, 09:40 - 10:45

- THP1.PF** **Hyperspectral Data: Classification**
 Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area F
 Co-Chairs: Farid Melgani, University of Trento and Bor-Chen Kuo, National Taichung University, Taiwan
- THP1.PF.1** **SPARSITY-BASED CLASSIFICATION OF HYPERSPECTRAL IMAGERY**
 Yi Chen, Johns Hopkins University, United States; Nasser Nasrabadi, US Army Research Laboratory, United States; Trac Tran, Johns Hopkins University, United States
- THP1.PF.2** **CALIBRATING PROBABILITIES FOR HYPERSPECTRAL CLASSIFICATION OF ROCK TYPES**
 Sildomar Monteiro, Richard Murphy, University of Sydney, Australia
- THP1.PF.3** **A FULL DIAGONAL BANDWIDTH GAUSSIAN KERNEL SVM BASED ENSEMBLE LEARNING FOR HYPERSPECTRAL CHEMICAL PLUME DETECTION**
 Prudhvi Gurram, Heesung Kwon, Army Research Laboratory, United States
- THP1.PF.4** **APPLYING OPTIMAL ALGORITHM TO DATA-DEPENDENT KERNEL FOR HYPERSPECTRAL IMAGE CLASSIFICATION**
 H-Ling Chen, National Taichung University, Taiwan; Cheng-Hsuan Li, National Chiao-Tung University, Taiwan; Bor-Chen Kuo, National Taichung University, Taiwan; Hsiao-Yun Huang, Fu Jen Catholic University, Taiwan
- THP1.PF.5** **OPTIMAL KERNEL BANDWIDTH ESTIMATION FOR HYPERSPECTRAL KERNEL-BASED ANOMALY DETECTION**
 Heesung Kwon, Prudhvi Gurram, Army Research Laboratory, United States
- THP1.PF.6** **THE IMPACT OF SPATIAL RESOLUTION ON INFORMATION CLASS SEPARABILITY IN HYPERSPATIAL IMAGERY**
 Vern C. Vanderbilt, NASA, United States; Jonathan Greenberg, University of California, Davis, United States
- THP1.PF.7** **A NOVEL CLASSIFICATION PROCESSING BASED ON THE SPATIAL INFORMATION AND THE CONCEPT OF ADABOOST FOR HYPERSPECTRAL IMAGE CLASSIFICATION**
 Bor-Chen Kuo, Shih-Syun Lin, Huey-Min Wu, National Taichung University, Taiwan; Chun-Hsiang Chuang, National Chiao-Tung University, Taiwan
- THP1.PF.8** **◇ UNDERWATER TARGET DETECTION WITH HYPERSPECTRAL REMOTE-SENSING IMAGERY**
 Sylvain Jay, Mireille Guillaume, Fresnel Institute, France
- THP1.PF.9** **◇ RELEVANCE VECTOR MACHINE FOR EFFICIENT CLASSIFICATION OF SCATTERED PATTERNS IN HYPERSPECTRAL IMAGERY**
 Fereidoun A. Mianji, Yuhang Zhang, Ye Zhang, Harbin Institute of Technology, China

THP1.PG: Thursday, July 29, 09:40 - 10:45

THP1.PG Land Cover, Land Use, Classification

Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area G
 Chair: Allan Nielsen, Technical University of Denmark

THP1.PG.1 CLUSTER-BASED ACTIVE LEARNING FOR COMPACT IMAGE CLASSIFICATION

Devis Tuia, Mikhail Kanevski, University of Lausanne, Switzerland; Jordi Muñoz Mari, Gustavo Camps-Valls, Universitat de València, Spain

THP1.PG.2 A HYBRID PSO/ACO ALGORITHM FOR LAND COVER CLASSIFICATION

Qin Dai, Jianbo Liu, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

THP1.PG.3 HYBRID SVM AND SVSA METHOD FOR CLASSIFICATION OF REMOTE SENSING IMAGES

Gulsen Taskin Kaya, Istanbul Technical University, Turkey; Okan K. Ersoy, Purdue University, United States; Mustafa E. Kamasak, Istanbul Technical University, Turkey

THP1.PG.4 INVESTIGATING THE EFFECTS OF ENSEMBLE CLASSIFICATION ON REMOTELY SENSED DATA FOR LAND COVER MAPPING

Bolanle Abe, Anthony Gidudu, University of the Witwatersrand, South Africa; Tshilidzi Marwala, University of Johannesburg, South Africa

THP1.PG.5 AN UNSUPERVISED PARALLELEPIPED MULTISPECTRAL IMAGE CLASSIFIER USING DIFFERENTIAL EVOLUTION

Chih-Cheng Hung, Scott Letkeman, Southern Polytechnic State University, United States; Bor-Chen Kuo, National Taichung University, Taiwan

THP1.PG.6 LCLU INFORMATION SYSTEM FOR OBJECT-ORIENTED NOMENCLATURE

Eva Savina Malinverni, Anna Nora Tasseti, Primo Zingaretti, Polytechnic University of Marche, Italy

THP1.PG.7 HIGH-PRECISE WATER EXTRACTION BASED ON COUPLED SPECTRAL-SPATIAL INFORMATION

Jiancheng Luo, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Yongwei Sheng, University of California, United States; Zhanfeng Shen, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Junli Li, University of California, United States

THP1.PG.8 TEXTURE ESTIMATION IN SAR IMAGES: THE IMPACT OF SCALE AND MODEL PARAMETERS

Mihai Datcu, Daniela Espinoza-Molina, Amaia de Miguel, Gottfried Schwarz, German Aerospace Center (DLR), Germany

THP1.PG.9 USING LOCAL TRANSITION PROBABILITY MODELS IN MARKOV RANDOM FIELD FOR MULTI-TEMPORAL IMAGE CLASSIFICATION

Wei Fu, Ziqi Guo, Qiang Zhou, Caixia Liu, Baogang Zhang, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

THP1.PG.10 VINEYARD IDENTIFICATION AND CHARACTERIZATION BASED ON TEXTURE ANALYSIS IN THE HELDERBERG BASIN (SOUTH AFRICA)

Antoine Lefebvre, Thomas Corpetti, Valérie Bonnardot, Hervé Quénoel, Laurence Hubert-Moy, Université Rennes 2, France

THP1.PG.11 DETECTION OF NORTH-WALL AND EDDIES IN THE GULF STREAM IN AVHRR SEA SURFACE TEMPERATURE USING CLUSTERING

Dheeraj Duggiraju, Ramprasad Balasubramanian, Gangopadhyay Avijit, University of Massachusetts, Dartmouth, United States

THP1.PG.12 METHODOLOGY FOR EDDIES RECOGNITION FROM SATELLITE IMAGES

Rosa Cristhyna Paes, Gutemberg França, Victor Daher, Federal University of Rio de Janeiro, Brazil; Angelo Sartori, Petrobras/CENPES, Brazil; Nelson Ebecken, Federal University of Rio de Janeiro, Brazil

THURSDAY

THP1.PH: Thursday, July 29, 09:40 - 10:45

- THP1.PH Higher Resolution SAR**
 Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area H
 Co-Chairs: Rudolf Zahn, EADS Deutschland GmbH and Hans Martin Braun, Institute for Navigation, University of Stuttgart
- THP1.PH.1 THEORY AND DESIGN OF TIME-SERIES SAR (TSAR) SYSTEMS**
 Howard Zebker, Piyush Shanker, Stanford University, United States
- THP1.PH.2 RESULTS OF FLIGHT TESTING OF A DIFFERENTIAL ABSORPTION MICROWAVE SENSOR FOR THE REMOTE SENSING OF ATMOSPHERIC PRESSURE**
 Roland Lawrence, Shivam Shah, Old Dominion University, United States; Bing Lin, Steve Harrah, Langley Research Center, United States; Patricia Hunt, Lockheed Martin, United States; Carl Lipp, ATK, United States
- THP1.PH.3 PERFORMANCE OF PI-SAR2: X-BAND AIRBORNE POLARIMETRIC AND INTERFEROMETRIC SAR WITH SUB-METER SPATIAL RESOLUTION**
 Akitsugu Nadai, Seiho Uratsuka, Toshihiko Umehara, Takeshi Matsuoka, Tatsuharu Kobayashi, Makoto Satake, National Institute of Information and Communications Technology, Japan
- THP1.PH.4 SHIP DETECTION AND MEASUREMENT USING THE TERRASAR-X DUAL-RECEIVE ANTENNA MODE**
 Steffen Suchandt, Hartmut Runge, Ulrich Steinbrecher, German Aerospace Center (DLR), Germany
- THP1.PH.5 QUASAR SBK ACCURATE INTERNAL CALIBRATION**
 Javier del Castillo, Juan Manuel Cuerdo, Juan Ramon Larrañaga, Spanish National Institute for Aerospace Technology (INTA), Spain
- THP1.PH.6 AIRBORNE DINSAR TIME SERIES AT X-BAND**
 Stefano Perna, Università degli Studi di Napoli Parthenope, Italy; Christian Wimmer, João Moreira, Orbisat Remote Sensing, Brazil; Mariarosaria Manzo, IREA - CNR, Italy; Gianfranco Fornara, National Research Council (CNR), Italy
- THP1.PH.7 THE DIGITAL WIDE BAND CHIRP PULSE GENERATOR AND PROCESSOR FOR PI-SAR2**
 Takashi Fujimura, Shingo Matsuo, Isamu Oihara, Hideharu Totsuka, Tsunekazu Kimura, NEC, Japan
- THP1.PH.8 VALIDATION FOR THE ABSOLUTE RADIOMETRIC CALIBRATION OF THE HJ-1B CCD SENSORS OF CHINA**
 Hongbo Jiang, Qiming Qin, Jun Li, Shaohua Zhao, Heng Dong, Weilin Yuan, Rongbo Cui, Peking University, China

THP1.PI: Thursday, July 29, 09:40 - 10:45**THP1.PI Geophysical Parameter Extraction by Radar**

Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area I
 Chair: Mariko Burgin, University of Michigan

THP1.PI.1 SPACEBORNE P-BAND SAR FOR BIOMASS MISSION

Sophie Ramongassie, Shadi Khureim-Castiglioni, Jérôme Lorenzo, Eric Labiote, Yannick Baudasse, Carlo Svara, Thales Alenia Space, France; Florence Heliere, Cyril Manganot, Kees Van't Klooster, European Space Agency - ESTEC, Netherlands

THP1.PI.2 ◇ SPACE MULTI-POSITIONAL VHF-BAND RADAR SYSTEM FOR EARTH OBSERVATION ON THE BASIS OF MICROSATELLITES

Ravil Akhmetov, Rocket Space Center, Russian Federation; Oleg Goriachkin, Volga State University of Telecommunications and Informatics, Russian Federation; Alexander Kovalenko, Viktor Riemann, SRIPI, Russian Federation; Nikolay Stratilatov, Sergey Tkachenko, Rocket Space Center, Russian Federation

THP1.PI.3 SIGNAL: SAR FOR ICE, GLACIER AND OCEAN GLOBAL DYNAMICS

Thomas Börner, Francesco De Zan, Gerhard Krieger, Paco López-Dekker, Irena Hajsek, Konstantinos Papathanassiou, Michelangelo Villano, Marwan Younis, Andreas Danklmayer, German Aerospace Center (DLR), Germany; Wolfgang Dierking, Alfred-Wegener Institute, Germany; Thomas Nagler, Environmental Earth Observation IT GmbH (ENVEO), Austria; Susanne Lehner, German Aerospace Center (DLR), Germany; Thomas Fügen, EADS Astrium GmbH, Germany; Alberto Moreira, German Aerospace Center (DLR), Germany

THP1.PI.4 COMPARISON OF POLARIMETRIC CALBRATION TECHNIQUES AND THEIR APPLICATIONS

Wuping Lu, Hong Zhang, Chao Wang, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

THP1.PI.5 INVESTIGATION OF RADAR SUBSURFACE SOUNDING THROUGH SEASONAL CYCLES COLLECTED BY MARS SHALLOW RADAR (SHARAD) IN THE SOUTH POLAR AREA

Kwan Yee Cheng, Carl Leuschen, George Tsoufas, University of Kansas, United States

THP1.PI.6 ESTIMATING THE PHASE SIGNATURE OF THE EARTH'S IONOSPHERE USING GPS CARRIER PHASE MEASUREMENT

Jingyi Chen, Howard Zebker, Stanford University, United States

THP1.PI.7 SIMULATION OF KU/KA BAND RADAR OBSERVATIONS OF ICE PRECIPITATION BY COMBINING C-BAND WEATHER RADAR AND CLOUDSAT CPR MEASUREMENTS

Jussi Leinonen, Finnish Meteorological Institute, Finland; Dmitri Moiseev, University Of Helsinki, Finland; V. Chandrasekar, Colorado State University, United States; Jarkko Koskinen, Finnish Meteorological Institute, Finland

THP1.PI.8 SIMULATING AND MITIGATING IONOSPHERIC EFFECTS IN SYNTHETIC APERTURE RADAR

A. Philip Roth, Barton D. Huxtable, Kancham Chotoo, Susan D. Chotoo, User Systems, Incorporated, United States

THP1.PI.9 DESIGN CONSIDERATIONS FOR A DUAL-FREQUENCY RADAR FOR SEA SPRAY MEASUREMENT IN HURRICANES

Daniel Esteban-Fernandez, Stephen Durden, Julian Chaubell, Kenneth Cooper, Jet Propulsion Laboratory, United States

THP1.PI.10 INTERFEROMETRIC ALIGNMENT OF SPACEBORNE DUAL-ANTENNA SAR SYSTEM

Zheng Xiang, Zhenlin Wang, Kaizhi Wang, Xingzhao Liu, Shanghai Jiao Tong University, China; Guozhong Chen, Junli Chen, Shanghai Institute of Satellite Engineering, China

THP1.PI.11 DISTRIBUTED TARGET SITES FOR RADIOMETRIC MONITORING WITHIN THE RADARSAT PROGRAM: EXPLOITATION AND DEVELOPMENTS AT THE CANADIAN SPACE AGENCY

Stephane Côté, Satish Srivastava, Stephanie Muir, Canadian Space Agency, Canada; Tom Lukowski, Defence R&D Canada, Canada

THP1.PJ: Thursday, July 29, 09:40 - 10:45**THP1.PJ Interferometric Techniques**

Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area J
 Chair: Gianfranco Fornaro, University of Naples

- THP1.PJ.1 PERFORMANCE ANALYSIS OF ATMOSPHERIC CORRECTION IN INSAR DATA BASED ON THE WEATHER RESEARCH AND FORECASTING MODEL (WRF)**
 Wenyu Gong, Franz Meyer, Peter Webley, Don Morton, University of Alaska, Fairbanks, United States
- THP1.PJ.2 THE MATHEMATIC MODEL OF MULTIPATH ERROR IN AIRBORNE INTERFEROMETRIC SAR SYSTEM**
 Yongfei Mao, Maosheng Xiang, Lideng Wei, Songtao Han, Institute of Electronics, Chinese Academy of Sciences, China
- THP1.PJ.3 ESTIMATION AND COMPENSATION OF IONOSPHERIC DELAY FOR SAR INTERFEROMETRY**
 Ramon Brcic, Alessandro Parizzi, Michael Eineder, Richard Bamler, German Aerospace Center (DLR), Germany; Franz Meyer, University of Alaska, United States
- THP1.PJ.4 PHASE RETRIEVAL IN SAR INTERFEROGRAMS USING DIFFUSION AND INPAINTING**
 Alfio Borzi, Maurizio di Bisceglie, Carmela Galdi, Luca Pallotta, Silvia Liberata Ulla, University of Sannio, Italy
- THP1.PJ.5 AUTOMATIC EXCLUSION OF SURFACE DEFORMATION IN INSAR DEM GENERATION USING DIFFERENTIAL RADAR INTERFEROMETRY**
 Jung Hum Yu, Linlin Ge, SSIS University of NSW, Australia
- THP1.PJ.6 DEVELOPING HIGH RESOLUTION ATMOSPHERIC PHASE SCREENS FOR INSAR TIME SERIES ANALYSIS**
 Sean Buckley, Dochul Yang, University of Texas at Austin, United States
- THP1.PJ.7 ◇ BUILDING HEIGHT EXTRACTION VIA A DETERMINISTIC APPROACH USING A TERRASAR-X DATA STACK**
 Kang Liu, Timo Balz, Mingsheng Liao, Wuhan University, China
- THP1.PJ.8 MULTI-BASELINE ALONG TRACK SAR INTERFEROMETRIC SYSTEMS FOR GROUND MOVING TARGET INDICATION**
 Alessandra Budillon, University of Naples Parthenope, Italy; Annarita Evangelista, University of Cassino, Italy; Vito Pascazio, Gilda Schirinzi, University of Naples Parthenope, Italy
- THP1.PJ.9 ATMOSPHERIC PHASE SCREEN-ESTIMATION FOR PSINSAR APPLIED TO TERRASAR-X HIGH RESOLUTION SPOTLIGHT-DATA**
 Markus Even, Fraunhofer Research Institute for Optronics and Pattern Recognition, Germany; Alexander Schunert, Leibniz Universität Hannover, Germany; Karsten Schulz, Fraunhofer Research Institute for Optronics and Pattern Recognition, Germany; Uwe Soergel, Leibniz Universität Hannover, Germany
- THP1.PJ.10 ACCELERATING INSAR RAW DATA SIMULATION ON GPU USING CUDA**
 Fan Zhang, Bing-nan Wang, Maosheng Xiang, Institute of Electronics, Chinese Academy of Sciences, China

THP1.PK: Thursday, July 29, 09:40 - 10:45**THP1.PK Atmospheric Sensing**

Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area K
 Chair: Al Gasiewski, University of Colorado

- THP1.PK.1 ASSESSMENT OF REANALYSIS DATASETS USING AIRS AND IASI HYPERSPECTRAL RADIANCES**
 Likun Wang, Dell Perot Systems, United States; Mitchell Goldberg, NOAA/NESDIS/STAR, United States
- THP1.PK.2 A STUDY ON THE RELATIONSHIP BETWEEN IONOSPHERIC CORRECTION AND DATA CONTROL FOR GPS RADIO OCCULTATION IN AUSTRALIA**
 Keifei Zhang, RMIT University, Australia; John Le Marshall, Bureau of Meteorology, Australia; Robert Norman, Chuan-Sheng Wang, Erijiang Fu, RMIT University, Australia
- THP1.PK.3 OBSERVATION OF LONG TERM TRENDS IN THE AMOUNT OF ATMOSPHERIC WATER VAPOR BY SPACE GEODESY AND REMOTE SENSING TECHNIQUES**
 Rüdiger Haas, Tong Ning, Elgered Gunnar, Chalmers University of Technology, Sweden
- THP1.PK.4 IMPROVED DETERMINATION OF SURFACE AND ATMOSPHERIC TEMPERATURES USING ONLY SHORTWAVE AIRS CHANNELS: THE AIRS VERSION-6 RETRIEVAL ALGORITHM**
 Joel Susskind, National Aeronautics and Space Administration, United States; John Blaisdell, Lena Iredell, Science Applications International Corporation, United States
- THP1.PK.5 THE ACTIVE TEMPERATURE, OZONE AND MOISTURE MICROWAVE SPECTROMETER, A NEW GLOBAL CLIMATE SENSOR**
 Emil Kursinski, Dale Ward, Angel Otarola, University of Arizona, United States; Christopher Groppi, Arizona State University, United States; Rod Frehlich, National Center for Atmospheric Research, United States; Sarmad Albanna, Katherine Sammler, Michael Schein, Michael Stovern, Brian Wheelright, University of Arizona, United States; Willy Bertiger, Herb Pickett, Jet Propulsion Laboratory, United States; David Rind, NASA Goddard Institute for Space Studies, United States; Martin Ross, The Aerospace Corporation, United States
- THP1.PK.6 HIGH RESOLUTION SOUNDING OF UPPER TROPOSPHERE AND LOWER STRATOSPHERE OZONE, WATER VAPOR AND TEMPERATURE**
 John Gille, University of Colorado and NCAR, United States; John Barnett, Oxford University, United Kingdom; Craig Hartsough, Chris Halvorson, Bruno Nardi, Charles Cavanaugh, Lesley Smith, National Center for Atmospheric Research, United States
- THP1.PK.7 WAVELET FILTERING OF GNSS NETWORK DATA FOR THE DETECTION AND IDENTIFICATION OF IONOSPHERIC DISTURBANCES CAUSED BY TSUNAMIS**
 Yu-Ming Yang, James Garrison, See-Chen Lee, Purdue University, United States
- THP1.PK.8 THE USE OF NOAA PRODUCTS VALIDATION SYSTEM IN SUPPORT OF SATELLITE DERIVED PRODUCT SYSTEMS**
 Anthony Reale, NOAA/NESDIS, United States
- THP1.PK.9 USE OF A NETWORK OF COMPACT MICROWAVE RADIOMETERS TO RETRIEVE 3-D WATER VAPOR TO ESTIMATE WET TROPOSPHERIC PATH DELAY VARIATIONS IN SPACEBORNE INTERFEROMETRIC SAR IMAGERY**
 Swaroop Sahoo, Steven C. Reising, Colorado State University, United States; Sharmila Padmanabhan, Jet Propulsion Laboratory, United States; Domenico Gimini, University of L'Aquila, Italy; Jothiram Vivekanandan, National Center for Atmospheric Research, United States; Flavio Iturbide-Sanchez, National Oceanic and Atmospheric Administration, United States; Nazzareno Pierdicca, Sapienza University of Rome, Italy
- THP1.PK.10 NEURAL NETWORK FOR THE SATELLITE RETRIEVAL OF PRECIPITABLE WATER VAPOR OVER LAND**
 Vinia Mattioli, Stefania Bonafoni, Patrizia Basili, University of Perugia, Italy; Giovanni Carlesimo, University of L'Aquila, Italy; Piero Ciotti, University of L'Aquila, Italy; Luca Pulvirenti, Nazzareno Pierdicca, University La Sapienza of Rome, Italy
- THP1.PK.11 SPATIAL FILTERING AND RESAMPLING OF MULTI-RESOLUTION MICROWAVE SOUNDER OBSERVATIONS**
 Jenna Samra, William Blackwell, R. Vincent Leslie, Massachusetts Institute of Technology Lincoln Laboratory, United States
- THP1.PK.12 MULTI-BAND NDSA MEASUREMENTS BETWEEN TWO COUNTER-ROTATING LEO SATELLITES FOR ESTIMATING THE TROPOSPHERIC WATER VAPOR PROFILE**
 Fabrizio Cuccoli, Luca Facheris, CNIT, Italy

THP1.PL: Thursday, July 29, 09:40 - 10:45**THP1.PL Microwave Scattering I**

Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area L
 Chair: Kun-Shan Chen, National Central University, Taiwan, China

THP1.PL.1 MODELING OF ELECTROMAGNETIC WAVE SCATTERING THROUGH A WALL WITH ROUGH INTERFACES

Pasquale Imperatore, Antonio Iodice, Daniele Riccio, Università di Napoli Federico II, Italy

THP1.PL.2 MODELING OF MICROWAVE BACKSCATTERING FROM A ROUGH SEA SURFACE WITH STEEP WAVES

Alexander Voronovich, Valery Zavorotny, NOAA/Earth System Research Laboratory, United States

THP1.PL.3 ◇ PHYSICAL OPTICS-BASED METHOD FOR RADAR SIGNATURE OF COMPLEX OBJECTS OVER A SEA SURFACE

Majid Rochdi, Alexandre Baussard, Ali Khenchaf, e3i2 laboratory, France

THP1.PL.4 FOREST POLARIMETRIC ELECTROMAGNETIC SCATTERING VERSUS BIOMASS: INFLUENCE OF BIO-PHYSICAL PARAMETERS

Pierre Borderies, ONERA, France; Ludovic Villard, ONERA-CESBIO, France

THP1.PL.5 PHYSICAL-BASED MODELS OF SPECKLE FOR HIGH RESOLUTION SAR IMAGES

Gerardo Di Martino, Antonio Iodice, Daniele Riccio, Giuseppe Ruello, University of Naples "Federico II", Italy

THP1.PL.6 FRACTAL BASED FILTERING OF SAR IMAGES

Gerardo Di Martino, Antonio Iodice, Daniele Riccio, Giuseppe Ruello, Ivana Zinno, University of Naples "Federico II", Italy

THP1.PL.7 COMPARISON OF A MULTILATERAL-BASED ACQUISITION WITH TERRESTRIAL LASER SCANNER AND PROFILOMETER TECHNIQUE FOR SOIL ROUGHNESS MEASUREMENT

Carlos Pérez-Gutiérrez, University of Salamanca, Spain; Jesús Álvarez-Mozos, Public University of Navarra, Spain; José Martínez-Fernández, Nilda Sánchez, University of Salamanca, Spain

THP1.PL.8 ELECTROMAGNETIC SIMULATIONS OF BOREHOLE RADAR FOR METAL ORE DETECTION

Sixin Liu, Junfeng Zhou, Junjun Wu, Zhaofa Zeng, Jilin University, China

THP1.PL.9 TOPOGRAPHIC EFFECTS ON SPACEBORNE RADIOMETRIC OBSERVATIONS AND POSSIBLE CORRECTION STRATEGIES

Luca Pulvirenti, Nazzareno Pierdicca, Frank Marzano, Sapienza University of Rome, Italy

THP1.PL.10 ◇ CHARACTERIZATION OF THE SCATTERED FIELD BY AN URBAN AREA IN THE X-FREQUENCY BAND FOR BISTATIC AND MONOSTATIC RADAR CONFIGURATIONS

Ngoc Truong Minh Nguyen, David Lautru, Hélène Roussel, UPMC Univ Paris 6, UR2, L2E, France

THP1.PL.11 MICROWAVE SCATTERING MODEL FOR A CORN CANOPY

Yang Du, Wenzhe Yan, Zhejiang University, China; Zengyuan Li, Erxue Chen, Bingxiang Tan, Zhihai Gao, Chinese Academy of Forestry, China

THP1.PM: Thursday, July 29, 09:40 - 10:45**THP1.PM Microwave Scattering II**

Session Type: Poster
 Time: Thursday, July 29, 09:40 - 10:45
 Place: Poster Area M
 Chair: Sermsak Jaruwatanadilok, U of Washington

THP1.PM.1 AN IMPROVED NUMERICAL METHOD FOR SCATTERING FROM DIELECTRIC ROUGH SURFACES
 Yang Du, Bin Liu, Zhejiang University, China

THP1.PM.2 A PHYSICALLY-BASED APPROACH TO OBSERVE SHIPS IN DUAL-POLARIZED SAR DATA
 Ferdinando Nunziata, Maurizio Migliaccio, Università di Napoli Parthenope, Italy; Carl Emil Brown, Environment Canada, Canada

THP1.PM.3 DETERMINATION OF LAND SURFACE TEMPERATURE FROM AMSR-E DATA FOR BARE SURFACES
 Zeng-Lin Liu, Hua Wu, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Shi Qiu, LSIT, Uds, CNRS; Bld Sebastien Brant, BP10413, 67412 Illkirch, France, France; Yuan-Yuan Jia, Academy of Opto-Electronics, Chinese Academy of Sciences, China; Zhao-Liang Li, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

THP1.PM.4 MODELING MICROWAVE EMISSION AT HIGH FREQUENCY FROM STRATIFIED SNOW USING DENSE MEDIA RADIATIVE TRANSFER THEORY BASED ON THE QUASICRYSTALLINE APPROXIMATION (QCA/DMRT)
 Ding Liang, I.M. Systems Group, United States; Fuzhong Weng, NOAA Satellite Research Laboratory, United States; Banghua Yan, University of Maryland, United States; Leung Tsang, University of Washington, United States

THP1.PM.5 ◇ **FRACTAL MODELS OF FOAM COVERAGE FOR OCEAN MICROWAVE REMOTE SENSING**
 Victor Raizer, Zel Technologies, LLC, United States

THP1.PM.6 SIMULATION AND MEASUREMENT OF RELIEF EFFECTS ON PASSIVE MICROWAVE RADIATION
 Xinlin Li, Lixin Zhang, Lingmei Jiang, Shaojie Zhao, Tianjie Zhao, Beijing Normal University, China

THP1.PM.7 PERFORMANCE OF ROUGHNESS CORRECTION MODELS FOR RETRIEVAL OF SEA SURFACE SALINITY FROM AIR- AND SATELLITE-BORNE L-BAND RADIOMETERS
 Derek Burrage, Joel Wesson, Paul Hwang, David Wang, Naval Research Laboratory, United States

THP1.PM.8 A PARAMETERIZED MICROWAVE MODEL FOR SHORT VEGETATION LAYER
 Linna Chai, Beijing Normal University, China; Jiancheng Shi, University of California, Santa Barbara, United States; Lixin Zhang, Lingmei Jiang, Beijing Normal University, China

THP1.PM.9 ◇ **VEGETATION EFFECTS ON MICROWAVE SIGNALS OBSERVED DURING THE CORN GROWTH CYCLE**
 Alicia Joseph, NASA Goddard Space Flight Center, United States; Rogier van der Velde, International Institute for Geo-Information Science and Earth Observation, Netherlands; Peggy O'Neill, NASA Goddard Space Flight Center, United States; Roger Lang, George Washington University, United States; Timothy Gish, United States Department of Agriculture / Agricultural Research Service, United States

THP1.PM.10 SCATTERING FROM A CLUSTER OF PLANT OR TREE COMPONENTS: ANALYSIS OF THE INTERACTION EFFECT
 Qianyi Zhao, Roger Lang, George Washington University, United States

THP1.PM.11 ELECTROMAGNETIC CHARACTERISTICS OF SIMPLE TARGETS EMBEDDED IN CHIRAL MULTILAYER STRUCTURES
 Sidnei J. S. Sant'Anna, Instituto Nacional de Pesquisas Espaciais, Brazil; J. C. da S. Lacava, David Fernandes, Instituto Tecnológico de Aeronáutica, Brazil

TH2.L01: Thursday, July 29, 10:25 - 12:05**TH2.L01 Remote Sensing of Tsunamis and Other Natural Hazards Using GNSS and Radar Measurements II**

Session Type: Oral-Invited

Time: Thursday, July 29, 10:25 - 12:05

Place: Sea Pearl 1/2/3

Co-Chairs: Michael Hickey, Embry-Riddle Aeronautical University and Attila Komjathy, NASA JPL

10:25 - 10:45

TH2.L01.1 ON THE FEASIBILITY OF TSUNAMI DETECTION USING SATELLITE-BASED SEA SURFACE ROUGHNESS MEASUREMENTS

Benjamin Hamlington, Robert Leben, University of Colorado at Boulder, United States; Oleg Godin, Vladimir Irisov, National Oceanic and Atmospheric Administration, United States

10:45 - 11:05

TH2.L01.2 \diamond TOWARDS OBSERVING TSUNAMIS IN THE IONOSPHERE USING GPS TEC MEASUREMENTS

David Galvan, Attila Komjathy, NASA Jet Propulsion Laboratory, California Institute of Technology, United States; Michael Hickey, Embry-Riddle Aeronautical University, United States; Anthony Mannucci, NASA Jet Propulsion Laboratory, California Institute of Technology, United States

11:05 - 11:25

TH2.L01.3 RAPID GPS-BASED DETERMINATION OF EARTHQUAKE DISPLACEMENT FIELD AND MAGNITUDE FOR TSUNAMI PROPAGATION MODELING AND WARNING

Hans-Peter Plag, Geoff Blewitt, William Hammond, Corne Kreemer, University of Nevada, Reno, United States; Yaaz Bar-Sever, Jet Propulsion Laboratory, United States

11:25 - 11:45

TH2.L01.4 TSUNAMI MONITORING SYSTEM USING GPS BUOY – PRESENT STATUS AND OUTLOOK –

Teruyuki Kato, University of Tokyo, Japan; Yukihiko Terada, Kochi National College of Technology, Japan; Toshihiko Nagai, Port and Airport Research Institute, Japan; Shunichi Koshimura, Tohoku University, Japan

11:45 - 12:05

TH2.L01.5 TSUNAMI DETECTION FROM SPACE USING GNSS REFLECTIONS: RESULTS AND ACTIVITIES FROM GFZ

Ralf Stosius, Georg Beyerle, Maximilian Semmling, Helmholtz-Centre Potsdam German Research Centre for Geosciences GFZ, Germany; Achim Helm, EADS Astrium GmbH, Germany; Andreas Hoehner, Jens Wickert, Jörn Lauterjung, Helmholtz-Centre Potsdam German Research Centre for Geosciences GFZ, Germany

TH2.L02: Thursday, July 29, 10:25 - 12:05**TH2.L02 Ocean Waves and Current**

Session Type: Oral-Contributed

Time: Thursday, July 29, 10:25 - 12:05

Place: Sea Pearl 4/5/6

Co-Chairs: Naoto Ebuchi, Hokkaido University and Roland Romeiser, University of Miami

10:25 - 10:45

TH2.L02.1 PROPAGATION OF SUBINERTIAL VARIATIONS IN THE SOYA WARM CURRENT REVEALED BY HF OCEAN RADARS

Naoto Ebuchi, Yasushi Fukamachi, Kay Ohshima, Hokkaido University, Japan

10:45 - 11:05

TH2.L02.2 MULTI-SENSOR REMOTE SENSING OF UPWELLING NORTHEAST OF TAIWAN

Qing Xu, Hohai University, China; Hui Lin, Chinese University of Hong Kong, Hong Kong SAR of China; Zengrui Rong, Ocean University of China, China; Liming Jiang, Shenzhen Institutes of Advanced Technology, Chinese Academy of science, China; Meixiang Chen, Hohai University, China; Yongcun Cheng, Danish National Space Center, Denmark

11:05 - 11:25

TH2.L02.3 SURFACE CURRENT RETRIEVAL FROM TERRASAR-X DATA USING DOPPLER MEASUREMENTS

Cristian Rossi, Hartmut Runge, Helko Breit, Thomas Fritz, German Aerospace Center (DLR), Germany

11:25 - 11:45

TH2.L02.4 CURRENTS IN RIVERS, COASTAL AREAS, AND THE OPEN OCEAN FROM TERRASAR-X ALONG-TRACK INSAR

Roland Romeiser, University of Miami, United States; Steffen Suchandt, Hartmut Runge, German Aerospace Center (DLR), Germany; Hans Graber, University of Miami, United States

11:45 - 12:05

TH2.L02.5 INFRARED REMOTE SENSING OF RIVER FLOW

Andrew T. Jessup, Chris Chickadel, Ruth Branch, University of Washington, United States

TH2.L03: Thursday, July 29, 10:25 - 12:05

TH2.L03 Electromagnetic Forward and Inverse Scattering Models II

Session Type: Oral-Contributed
 Time: Thursday, July 29, 10:25 - 12:05
 Place: Hibiscus
 Co-Chairs: Ya-Qiu Jin, Fudan Univ and Yang Du, Zhejiang University

10:25 - 10:45

TH2.L03.1 MODELING, SIMULATION, INVERSION AND CHANGE 1 DATA VALIDATION FOR PASSIVE/ACTIVE MICROWAVE REMOTE SENSING OF LUNAR SURFACE MEDIA

Ya-Qiu Jin, Wenzhe Fa, Fudan University, China

10:45 - 11:05

TH2.L03.2 A NUMERICAL STUDY ON THE INFLUENCE OF OCEAN SURFACE WAVES ON GPS-REFLECTED SIGNALS

Maria Paola Clarizia, National Oceanography Centre, Southampton, United Kingdom; Maurizio di Bisceglie, Carmela Galdi, Università degli Studi del Sannio, Italy; Christine Gommenginger, Meric Srokosz, National Oceanography Centre, Southampton, United Kingdom

11:05 - 11:25

TH2.L03.3 FAST SUBSURFACE SAR SIMULATOR BASED ON GEOMETRICAL OPTICS

Adel Elsherbini, Kamal Sarabandi, University of Michigan, United States

11:25 - 11:45

TH2.L03.4 CHARACTERIZATION OF VOLUME SCATTERING OF DRY SAND AT MILLIMETER-WAVE FREQUENCIES

Adib Nashashibi, Kamal Sarabandi, University of Michigan, United States; Fahad Al-Zaid, Sami Alhumaidi, King Abdulaziz City for Science and Technology, Saudi Arabia

11:45 - 12:05

TH2.L03.5 EXPERIMENTAL VALIDATION OF RADAR FORWARD AND INVERSE SCATTERING MODELS FOR LAYERED NONSMOOTH MEDIA

Yuriy Goykhman, Xueyang Duan, Mahta Moghaddam, University of Michigan, United States

TH2.L04: Thursday, July 29, 10:25 - 12:05

TH2.L04 Change Detection and Multitemporal Image Analysis II

Session Type: Oral-Invited
 Time: Thursday, July 29, 10:25 - 12:05
 Place: Kahili
 Co-Chairs: Lorenzo Bruzzone, University of Trento and Jordi Inglada, CNES, France

10:25 - 10:45

TH2.L04.1 LAND-COVER MAPS FROM PARTIALLY CLOUDY MULTI-TEMPORAL IMAGE SERIES: OPTIMAL TEMPORAL SAMPLING AND CLOUD REMOVAL

Jordi Inglada, Sébastien Garrigues, Centre National d'Etudes Spatiales (CNES), France

10:45 - 11:05

TH2.L04.2 A NEARLY LOSSLESS 2D REPRESENTATION AND CHARACTERIZATION OF CHANGE INFORMATION IN MULTISPECTRAL IMAGES

Francesca Bovolo, Silvia Marchesi, Lorenzo Bruzzone, University of Trento, Italy

11:05 - 11:25

TH2.L04.3 AUTOMATIC CHANGE DETECTION IN RAPIDEYE DATA USING THE COMBINED MAD AND KERNEL MAF METHODS

Allan Nielsen, Technical University of Denmark, Denmark; Antje Hecheltnen, Frank Thonfeld, University of Bonn, Germany; Morton J. Canty, Research Center Jülich, Germany

11:25 - 11:45

TH2.L04.4 UNSUPERVISED CHANGE DETECTION WITH VERY HIGH-RESOLUTION SAR IMAGES BY MULTISCALE ANALYSIS AND MARKOV RANDOM FIELDS

Gabriele Moser, Sebastiano B. Serpico, University of Genoa, Italy

11:45 - 12:05

TH2.L04.5 PROGRESSIVE CHANGE DETECTION IN TIME SERIES OF SAR IMAGES

Gregoire Mercier, Institut Telecom; Telecom Bretagne, France

THURSDAY

TH2.L05: Thursday, July 29, 10:25 - 12:05**TH2.L05 Radar Estimation of Vegetation Information**

Session Type: Oral-Contributed
 Time: Thursday, July 29, 10:25 - 12:05
 Place: South Pacific 3
 Co-Chairs: Edson Sano, Embrapa Cerrados and Tishampati Dhar, University of Adelaide

10:25 - 10:45

TH2.L05.1 MONITORING GRASSLANDS WITH RADARSAT 2 QUAD-POL IMAGERY

Joseph Buckley, Royal Military College of Canada, Canada; Anne Smith, Agriculture and Agri-Food Canada, Canada

10:45 - 11:05

TH2.L05.2 ROBUST ESTIMATION OF PASTURE BIOMASS USING DUAL-POLARISATION TERRASAR-X IMAGERY

Stephen McNeill, David Pairman, Stella Belliss, Dawn Dalley, Landcare Research New Zealand, New Zealand; Robyn Dynes, AgResearch, New Zealand

11:05 - 11:25

TH2.L05.3 LARGE AREA MAPPING OF FOREST AND LAND COVER IN THE AMAZON BASIN: A COMPARATIVE ANALYSIS OF ALOS/PALSAR AND LANDSAT TM DATA SOURCES.

Wayne Walker, Claudia Stickler, Josef Kellndorfer, Katie Kirsch, Daniel Nepstad, Woods Hole Research Center, United States

11:25 - 11:45

TH2.L05.4 INTEGRATING OBJECT-ORIENTED IMAGE ANALYSIS AND DECISION TREE ALGORITHM FOR LAND USE AND LAND COVER CLASSIFICATION USING RADARSAT-2 POLARIMETRIC SAR IMAGERY

Zhixin Qi, Anthony Yeh, University of Hong Kong, China; Xia Li, Zheng Lin, Sun Yat-Sen University, China

11:45 - 12:05

TH2.L05.5 TOWARDS FULLY AUTOMATIC GENERATION OF LAND COVER MAPS FROM POLARIMETRIC SAR DATA

Marco Del Greco, Fabio Del Frate, Giovanni Schiavon, Domenico Solimini, Tor Vergata University, Italy

TH2.L06: Thursday, July 29, 10:25 - 12:05**TH2.L06 Laser Technology: Recent Developments and Lessons Learned**

Session Type: Oral-Contributed
 Time: Thursday, July 29, 10:25 - 12:05
 Place: South Pacific 4
 Co-Chairs: George Komar, NASA and Amy Walton, NASA

10:25 - 10:45

TH2.L06.1 NASA'S LASER RISK REDUCTION PROGRAM: A RISK REDUCTION APPROACH FOR TECHNOLOGY DEVELOPMENT

Eduardo Torres-Martinez, William Heaps, Upendra Singh, National Aeronautics and Space Administration, United States

10:45 - 11:05

TH2.L06.2 ONE MICRON LASER TECHNOLOGY ADVANCEMENTS AT GSFC

William Heaps, NASA Goddard, United States

11:05 - 11:25

TH2.L06.3 TWO MICRON LASER TECHNOLOGY ADVANCEMENTS AT NASA LANGLEY RESEARCH CENTER

Upendra Singh, NASA Langley Research Center, United States

11:25 - 11:45

TH2.L06.4 EFFICIENT SWATH MAPPING LASER ALTIMETRY DEMONSTRATION INSTRUMENT INCUBATOR PROGRAM

Anthony Yu, Michael Krainak, David J. Harding, James B. Abshire, Xiaoli Sun, John Cavanaugh, Susan Valett, NASA Goddard Space Flight Center, United States

11:45 - 12:05

TH2.L06.5 HIGH SPECTRAL BRIGHTNESS, ACTIVELY-TRIGGERED, NS-PULSE, MW-PEAK-POWER FIBER-BASED LASER TRANSMITTER FOR SPACE-BASED TERRAIN MAPPING

Fabio Di Teodoro, Michael Hemmat, Joseph Morais, Eric Cheung, Northrop Grumman, United States

TH2.L07: Thursday, July 29, 10:25 - 12:05

TH2.L07 Microwave Radiometer Technology and Instrumentation

Session Type: Oral-Contributed

Time: Thursday, July 29, 10:25 - 12:05

Place: Nautilus

Co-Chairs: Steven C. Reising, Colorado State University and Adriano Camps, Universitat Politècnica de Catalunya

10:25 - 10:45

TH2.L07.1 HIGH-ALTITUDE MMIC SOUNDING RADIOMETER (HAMS R) FOR THE GENESIS AND RAPID INTENSIFICATION PROCESSES (GRIP) FIELD EXPERIMENT

Boon Lim, Shannon Brown, Richard Denning, Pekka Kangaslahti, Bjorn Lambri gtsen, Jordan Tanabe, Alan Tanner, Jet Propulsion Laboratory, United States

10:45 - 11:05

TH2.L07.2 ADVANCED COMPONENT DEVELOPMENT TO ENABLE LOW-MASS, LOW-POWER HIGH-FREQUENCY MICROWAVE RADIOMETERS FOR COASTAL WET-TROPOSPHERIC CORRECTION ON SWOT

Steven C. Reising, Colorado State University, United States; Shannon Brown, Pekka Kangaslahti, Douglas Dawson, Jet Propulsion Laboratory, California Institute of Technology, United States; Alexander Lee, Darrin Albers, Colorado State University, United States; Todd Gaier, Oliver Montes, Daniel Hoppe, Beyrouz Khayatian, Jet Propulsion Laboratory, California Institute of Technology, United States

11:05 - 11:25

TH2.L07.3 MAPIR: AN AIRBORNE POLARIMETRIC IMAGING RADIOMETER IN SUPPORT OF HYDROLOGIC SATELLITE OBSERVATIONS

Charles Laymon, Mohammad Al-Hamdan, William Crosson, Ashutosh Limaye, Jeff McCracken, Paul Meyer, James Richeson, William Sims, Karthik Srinivasan, Kosta Varnavas, NASA Marshall Space Flight Center, United States

11:25 - 11:45

TH2.L07.4 ON-GROUND TEST AND MEASUREMENTS OF THE PASSIVE ADVANCED UNIT SYNTHETIC APERTURE (PAU-SA)

Isaac Ramos-Perez, Xavier Bosch-Lluis, Adriano Camps, Enric Valencia, Nereida Rodriguez-Alvarez, Giuseppe Forte, Universitat Politècnica de Catalunya, Spain

11:45 - 12:05

TH2.L07.5 FOCAL PLANE APPROXIMATION FOR NEAR FIELD INTERFEROMETRIC RADIOMETER IMAGING

Cheng Zhang, Ji Wu, Hao Liu, Jingye Yan, Center for Space Science and Applied Research, Chinese Academy of Sciences, China

THURSDAY

TH2.L08: Thursday, July 29, 10:25 - 12:05**TH2.L08 Sea Ice**

Session Type: Oral-Contributed
 Time: Thursday, July 29, 10:25 - 12:05
 Place: South Pacific 1/2
 Co-Chairs: Thorsten Markus, NASA and Don Perovich, CRREL

10:25 - 10:45

TH2.L08.1 THE POTENTIAL FOR DETERMINING HISTORIC SEA-ICE EXTENT FROM 1960'S NIMBUS HRIR SATELLITE DATA

David Gallaher, University of Colorado, United States; Dennis Wingo, NASA Ames Research Center / Skycorp Incorporated,, United States

10:45 - 11:05

TH2.L08.2 DEVELOPMENT OF A MODIS SEA ICE ALBEDO PRODUCT

Julienne Stroeve, NSIDC/CIRES/University of Colorado, United States; Mark Tschudi, CCAR, University of Colorado at Boulder, United States; Tom Painter, University of Utah, United States

11:05 - 11:25

TH2.L08.3 EFFECTS OF SURFACE ROUGHNESS ON SEA ICE FREEBOARD RETRIEVAL WITH AN AIRBORNE KU-BAND SAR RADAR ALTIMETER

Stefan Hendricks, Alfred-Wegener Institute, Germany; Lars Stenseng, Technical University of Denmark, Denmark; Veit Helm, Alfred-Wegener Institute, Germany; Christian Haas, University of Alberta, Canada

11:25 - 11:45

TH2.L08.4 ULTRA-WIDEBAND RADAR MEASUREMENTS OF SNOW THICKNESS OVER SEA ICE

Ben Panzer, Carl Leuschen, Aqsa Patel, University of Kansas, United States; Thorsten Markus, NASA Goddard Space Flight Center, United States; Prasad Gogineni, University of Kansas, United States

11:45 - 12:05

TH2.L08.5 ICE PRODUCTION AND SALT REJECTION OF LAPTEV SEA POLYNYAS, USING MODEL AND REMOTE SENSING DATA

Thomas Krumpen, Alfred-Wegener Institute, Germany; Thomas Busche, German Aerospace Center (DLR), Germany; Igor. A. Dmitrenko, IFM-GEOMAR, Germany; Rüdiger Gerdes, Alfred-Wegener Institute, Germany; Christian Haas, University of Alberta, Canada; Stefan Hendricks, Jens A. Hölemann, Lasse Rabenstein, Alfred-Wegener Institute, Germany; David Schröder, Sascha Willmes, University Trier, Germany

TH2.L09: Thursday, July 29, 10:25 - 12:05**TH2.L09 Polarimetric RADARSAT2**

Session Type: Oral-Contributed
 Time: Thursday, July 29, 10:25 - 12:05
 Place: Coral 1
 Co-Chairs: Ridha Touzi, Canada Centre for Remote Sensing and Wolfgang-Martin Boerner, UIC-ECE Communications, Sensing & Navigation Laboratory

10:25 - 10:45

TH2.L09.1 MONITORING TREE FARMS AND COASTAL ENVIRONMENTS USING RADARSAT-2 POLSAR DATA

Jong-Sen Lee, Tom Ainsworth, Yanting Wang, Naval Research Laboratory, United States; Kun-Shan Chen, Chih-Tien Wang, National Central University, Taiwan

10:45 - 11:05

TH2.L09.2 AGRICULTURAL LAND COVER FROM SHORT REVISIT SAR DATA – SENTINEL-1 OPERATION SIMULATED BY AIRCRAFT AND SATELLITE SAR DATA

Henning Skriver, Technical University of Denmark, Denmark

11:05 - 11:25

TH2.L09.3 ROTATED DIHEDRAL AND VOLUME SCATTERING BEHAVIOR IN CROSS-POLARIMETRIC SAR

Sang-Hoon Hong, Shimon Wdowinski, University of Miami, United States

11:25 - 11:45

TH2.L09.4 CHARACTERISTIC ANALYSIS OF VEHICLE TARGET IN QUAD-POL RADARSAT-2 SAR IMAGES

Bo Zhang, Hong Zhang, Chao Wang, Fan Wu, Yixian Tang, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

11:45 - 12:05

TH2.L09.5 ASSESSMENT OF POLARIMETRIC RADARSAT-2 DATA QUALITY

Ridha Touzi, Robert Hawkins, Canada Centre for Remote Sensing, Canada; Stephane Côté, Canadian Space Agency, Canada

TH2.L10: Thursday, July 29, 10:25 - 12:05**TH2.L10 ESA's Soil Moisture and Ocean Salinity Mission - Instrument Performance and First Results**

Session Type: Oral-Invited
 Time: Thursday, July 29, 10:25 - 12:05
 Place: Coral 2
 Co-Chairs: Susanne Mecklenburg, ESA and Matthias Drusch, ESA

10:25 - 10:45

TH2.L10.1 SMOS FIRST RESULTS OF THE LEVEL 2 SOIL MOISTURE ALGORITHMS

Yann Kerr, Arnaud Mialon, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Philippe Waldteufel, IPSL-SA, France; François Cabot, Philippe Richaume, Ahmad AlBitar, Elsa Jacquette, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Ali Mahmoodi, ARRAY, Canada; Steven Delwart, European Space Agency, Netherlands; Paolo Ferrazzoli, TVU, Italy; Jean-Pierre Wigneron, INRA, France

10:45 - 11:05

TH2.L10.2 OVERVIEW OF SMOS LEVEL 2 OCEAN SALINITY PROCESSING AND FIRST RESULTS

Jordi Font, Institut de Ciències del Mar CSIC, Spain; Jacqueline Boutin, Institut Pierre-Simon Laplace, Laboratoire d'Océanographie et du Climat-Expérimentation et Approches Numériques (LOCEAN), France; Nicolas Reul, Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER), France; Paul Spurgeon, Andrei Chuprin, ARGANS Limited, United Kingdom; Carolina Gabarró, Jérôme Gourrion, Institut de Ciències del Mar CSIC, Spain; Samantha Lavender, ARGANS Limited, United Kingdom; Nicolas Martin, Institut Pierre-Simon Laplace, Laboratoire d'Océanographie et du Climat-Expérimentation et Approches Numériques (LOCEAN), France; Michael McCulloch, ARGANS Limited, United Kingdom; Ingo Meirold-Mautner, François Petitcolin, ACRI-ST, France; Marcos Portabella, Unitat de Tecnologia Marina CSIC, Spain; Roberto Sabia, Marco Talone, Institut de Ciències del Mar CSIC, Spain; Joseph Tenerelli, CLS - Environment BOOST, France; Antonio Turiel, Institut de Ciències del Mar CSIC, Spain; Jean-Luc Vergely, ACRI-ST, France; Xiaobin Yin, Institut Pierre-Simon Laplace, Laboratoire d'Océanographie et du Climat-Expérimentation et Approches Numériques (LOCEAN), France; Sonia Zine, Université Joseph Fourier, France

11:05 - 11:25

TH2.L10.3 SMOS PAYLOAD PERFORMANCE ASSESSMENT

Manuel Martín-Neira, European Space Agency - ESTEC, Netherlands; Ignasi Corbella, Universitat Politècnica de Catalunya, Spain; François Cabot, Centre d'Etudes Spatiales de la Biosphère (CESBIO) and Centre National d'Etudes Spatiales (CNES), France; Josep Closa, CASA Espacio, Spain; Juha Kainulainen, Helsinki University of Technology, Finland; Fernando Martín-Porto, CEC, ESA/ESAC, Spain; Jose Barbosa, Deimos Engenharia, Portugal; Roger Oliva, Michael Brown, Kevin McMullan, European Space Agency - ESTEC, Netherlands

11:25 - 11:45

TH2.L10.4 SMOS L1 ALGORITHMS

Antonio Gutierrez, Jose Barbosa, Nuno Catarino, Rita Castro, Sofia Freitas, Bruno Lucas, Henrique Candeias, Deimos Engenharia, Portugal; Jose Freitas, Marco Ventura, Critical Software, Portugal; Michele Zundo, European Space Agency, Netherlands

11:45 - 12:05

TH2.L10.5 OVERVIEW ON CALIBRATION AND VALIDATION ACTIVITIES FOR ESA'S SOIL MOISTURE AND OCEAN SALINITY MISSION

Susanne Mecklenburg, Catherine Bouzinac, Steven Delwart, European Space Agency, Italy

TH3.L01: Thursday, July 29, 13:35 - 15:15**TH3.L01 Advanced Methods in Satellite Photo-/Radargrammetry I**

Session Type: Oral-Invited
 Time: Thursday, July 29, 13:35 - 15:15
 Place: Sea Pearl 1/2/3
 Chair: Ayman Habib, University of Calgary

13:35 - 14:15

TH3.L01.1 PHOTOGRAMMETRIC PERSPECTIVES ON CHALLENGES/DEVELOPMENTS IN MAPPING FROM VERY HIGH RESOLUTION IMAGING SATELLITES

Ayman Habib, Ki In Bang, Chang Jae Kim, University of Calgary, Canada

14:15 - 14:35

TH3.L01.3 AUTOMATIC AND GENERIC MOSAICING OF SATELLITE IMAGES

François Bignalet-Cazalet, Simon Baillarin, Daniel Greslou, Chantal Panem, Centre National d'Etudes Spatiales (CNES), France

14:35 - 14:55

TH3.L01.4 BRDF AND ILLUMINATION CALIBRATION FOR VERY HIGH RESOLUTION IMAGING SENSORS

Xiaoliang Wu, Simon Collings, Peter Caccetta, CSIRO, Australia

14:55 - 15:15

TH3.L01.5 PRODUCTION AND VALIDATION OF THE NEW ASTER GLOBAL DIGITAL ELEVATION MODEL

Michael Abrams, Jet Propulsion Laboratory, United States

TH3.L02: Thursday, July 29, 13:35 - 15:15**TH3.L02 SMOS and Ocean Surface Salinity**

Session Type: Oral-Contributed

Time: Thursday, July 29, 13:35 - 15:15

Place: Sea Pearl 4/5/6

Co-Chairs: Adriano Camps, UPC and Jordi Font, Institut de Ciències del Mar CSIC - SMOS Barcelona Expert Centre

13:35 - 13:55

TH3.L02.1 SMOS MEASUREMENTS PRELIMINARY VALIDATION AGAINST MODELED BRIGHTNESS TEMPERATURES AND EXTERNAL-SOURCE SALINITY DATA

Roberto Sabia, Jérôme Gourrion, Carolina Gabarró, Institut de Ciències del Mar CSIC - SMOS Barcelona Expert Centre, Spain; Marco Talone, Universitat Politècnica de Catalunya - SMOS Barcelona Expert Centre, Spain; Marcos Portabella, Unitat de Tecnologia Marina CSIC - SMOS Barcelona Expert Centre, Spain; Joaquim Ballabrera, Alfredo Lopez de Aretxabaleta, Institut de Ciències del Mar CSIC - SMOS Barcelona Expert Centre, Spain; Adriano Camps, Alessandra Moneris, Universitat Politècnica de Catalunya - SMOS Barcelona Expert Centre, Spain; Jordi Font, Institut de Ciències del Mar CSIC - SMOS Barcelona Expert Centre, Spain

13:55 - 14:15

TH3.L02.2 PRELIMINARY VALIDATION OF SMOS PRODUCTS (LEVELS 3 AND 4)

Jérôme Gourrion, Joaquim Ballabrera, Alfredo L. Aretxabaleta, Antonio Turiel, Institut de Ciències del Mar CSIC - SMOS Barcelona Expert Centre, Spain; Baptiste Mourre, NATO Undersea Research Centre, Italy; Sofia Kalaroni, Nina Hoareau, Institut de Ciències del Mar CSIC - SMOS Barcelona Expert Centre, Spain

14:15 - 14:35

TH3.L02.3 IMPROVEMENT OF THE EMPIRICAL ROUGHNESS-INDUCED EMISSIVITY MODEL FOR THE SMOS MISSION

Carolina Gabarró, Institut de Ciències del Mar, Spain; Marcos Portabella, Unitat de Tecnologia Marina CSIC, Spain; Jordi Font, Institut de Ciències del Mar, Spain; Adriano Camps, Universitat Politècnica de Catalunya, Spain; Justino Martínez, Jérôme Gourrion, Institut de Ciències del Mar, Spain; Marco Talone, Universitat Politècnica de Catalunya, Spain; Roberto Sabia, Institut de Ciències del Mar, Spain

14:35 - 14:55

TH3.L02.4 SIMULATIONS OF ROUGHNESS-SALINITY-TEMPERATURE ANOMALIES AT S-L-BANDS

Victor Raizer, Zel Technologies, LLC, United States

14:55 - 15:15

TH3.L02.5 AN IMPROVED WIDE BAND OCEAN EMISSIVITY RADIATIVE TRANSFER MODEL

Salem El-Nimri, W. Linwood Jones, Sonya Crofton, University of Central Florida, United States

TH3.L03: Thursday, July 29, 13:35 - 15:15**TH3.L03 International Open Standards for Geosciences - Standards Development**

Session Type: Oral-Invited

Time: Thursday, July 29, 13:35 - 15:15

Place: Hibiscus

Chair: Siri Jodha Khalsa, University of Colorado

13:35 - 14:15 Overview Talk (40 minutes)

TH3.L03.1 THE IEEE COMMITTEE ON EARTH OBSERVATIONS STANDARDS WORKING GROUP

Siri Jodha Khalsa, University of Colorado, United States; Steven Browdy, OMS Tech, Inc., United States

14:15 - 14:35

TH3.L03.3 OPEN GEOSPATIAL CONSORTIUM (OGC) STANDARDS FOR THE GEOSCIENCES

George Percivall, Open Geospatial Consortium, United States

14:35 - 14:55

TH3.L03.4 INTERNATIONAL STANDARDS FOR GEOGRAPHIC IMAGERY - ISO TC 211

Meixia Deng, Liping Di, George Mason University, United States

14:55 - 15:15

TH3.L03.5 ♦ AIR QUALITY COMMUNITY EXPERIENCES AND PERSPECTIVES ON INTERNATIONAL INTEROPERABILITY STANDARDS

Stefan Falke, Northrop Grumman, United States; Erin Robinson, Washington University in St. Louis, United States

TH3.L04: Thursday, July 29, 13:35 - 15:15

TH3.L04 Optical Imagery for Surface Change Detection: Techniques and Applications I
 Session Type: Oral-Invited
 Time: Thursday, July 29, 13:35 - 15:15
 Place: Kahili
 Co-Chairs: Sébastien Leprince, California Institute of Technology and Andrés Almansa, CNRS TELECOM ParisTech

13:35 - 13:55

TH3.L04.1 REVISITING PAST EARTHQUAKES AND SEISMO-VOLCANIC CRISES USING DECLASSIFIED OPTICAL SATELLITE IMAGERY
 James Hollingsworth, Sébastien Leprince, François Ayoub, Jean-Philippe Avouac, California Institute of Technology, United States

13:55 - 14:15

TH3.L04.2 RIGOROUS ADAPTIVE RESAMPLING FOR HIGH RESOLUTION IMAGE WARPING
 Sébastien Leprince, François Ayoub, Jean-Philippe Avouac, California Institute of Technology, United States

14:15 - 14:35

TH3.L04.3 SUB-PIXEL STEREO MATCHING
 Neus Sabater, Jean-Michel Morel, ENS Cachan, CNRS, UniverSud, France; Andrés Almansa, CNRS & TELECOM ParisTech, France

14:35 - 14:55

TH3.L04.4 PROBABILISTIC SURFACE CHANGE DETECTION AND MEASUREMENT FROM DIGITAL AERIAL STEREO IMAGES
 André Jalobeanu, Cristina Gama, CGE - University of Evora, Portugal; José Alberto Gonçalves, University of Porto, Portugal

14:55 - 15:15

TH3.L04.5 CHANGE DETECTION OF LANDSLIDES AND DEBRIS IN SOUTH TAIWAN AFTER “MORAKOT” TYPHOON BASED ON HJ-1-B SATELLITE IMAGES
 Lili Tang, Deyong Hu, Capital Normal University, China; Xiaojuan Li, Key Laboratory of Integrated Disaster Assessment and Risk Governance of the Ministry of Civil Affairs, China

TH3.L05: Thursday, July 29, 13:35 - 15:15

TH3.L05 Regional Land Cover Change I
 Session Type: Oral-Contributed
 Time: Thursday, July 29, 13:35 - 15:15
 Place: South Pacific 3
 Co-Chairs: Takeo Tadono, JAXA and Bin Tan, Earth Resource Technologies

13:35 - 13:55

TH3.L05.1 FIELD VALIDATION OF BIOMASS RETRIEVED FROM LANDSAT FOR RANGELAND ASSESSMENT AND MONITORING
 Dawn Browning, Debra Peters, U.S. Department of Agriculture, Agriculture Research Service, United States; Caiti Steele, New Mexico State University, United States; Albert Rango, U.S. Department of Agriculture, Agriculture Research Service, United States

13:55 - 14:15

TH3.L05.2 MONITORING LAND USE CHANGES AROUND THE INDIGENOUS LANDS OF THE XINGU BASIN IN MATO GROSSO, BRAZIL
 Damien Arvor, Université Rennes 2 - NEVANTROPIC, France; Margareth Simões Penello Meirelles, Embrapa Labex Europe, Brazil; Rafaela Vargas, IHEAL, France; Ladislau Araújo Skorupa, Embrapa Meio Ambiente, Brazil; Elaine Cristina Cardoso Fidalgo, Embrapa Solos, Brazil; Vincent Dubreuil, Université Rennes 2, France; Isabelle Herlin, Jean-Paul Berroir, INRIA, France

14:15 - 14:35

TH3.L05.3 REMOTE SENSING FOR ANALYZING LANDUSE CHANGE, LAND RE-DISTRIBUTION AND COMMUNAL CONFLICTS IN A PART OF CENTRAL NIGERIA
 Fanan Ujoh, Denen Bernard Ham, University of Abuja, Nigeria; Olarewaju Oluseyi Ifatimehin, Kogi State University, Nigeria; Isa Dlama Kwabe, University of Abuja, Nigeria; John van Genderen, Chinese Academy of Sciences, China

14:35 - 14:55

TH3.L05.4 SPOT 5 HRG TIME SERIES ANALYSIS FOR IDENTIFYING ILLEGAL CANNABIS CULTIVATION
 Alessandra Lisita, Edson Eyji Sano, University of Brasília, Brazil; Laurent Durieux, Institut de Recherche pour le Développement, Brazil

14:55 - 15:15

TH3.L05.5 PARTICULAR AGRICULTURAL LAND COVER CLASSIFICATION CASE STUDY OF TSAGAANNUUR, MONGOLIA
 Erdenee Batzorig, Tana Gegen, Tateishi Ruytara, Chiba University, Japan

THURSDAY

TH3.L06: Thursday, July 29, 13:35 - 15:15**TH3.L06 Change Detection**

Session Type: Oral-Contributed
 Time: Thursday, July 29, 13:35 - 15:15
 Place: South Pacific 4
 Co-Chairs: Francesca Bovolo, University of Trento and Gregoire Mercier, Telecom Bretagne

13:35 - 13:55

TH3.L06.1 ◇ LOGISTIC REGRESSION FOR DETECTING CHANGES BETWEEN DATABASES AND REMOTE SENSING IMAGES

Marie Chabert, Jean-Yves Tourneret, University of Toulouse, France; Vincent Poulain, Jordi Inglada, Centre National d'Etudes Spatiales (CNES), France

13:55 - 14:15

TH3.L06.2 BLOCK-DIAGONAL REPRESENTATIONS FOR COVARIANCE-BASED ANOMALOUS CHANGE DETECTORS

Anna Matsekh, James Theiler, Los Alamos National Laboratory, United States

14:15 - 14:35

TH3.L06.3 INTEGRATING LANDSAT, ASTER AND MODIS DATA FOR FOREST CHANGE DETECTION

Feng Gao, NASA GSFC / ERT Inc., United States; Jeffrey Masek, Robert Wolfe, NASA Goddard Space Flight Center, United States; Bin Tan, NASA GSFC / ERT Inc., United States

14:35 - 14:55

TH3.L06.4 CHANGE DETECTION FOR EARTHQUAKE DAMAGE ASSESSMENT IN BUILT-UP AREAS USING VERY HIGH RESOLUTION OPTICAL AND SAR IMAGERY

Dominik Brunner, Lorenzo Bruzzone, University of Trento, Italy; Guido Lemoine, European Commission, Italy

14:55 - 15:15

TH3.L06.5 EFFICIENT BUILDING CHANGE DETECTION IN SPARSELY POPULATED AREAS USING COUPLED MARKED POINT PROCESSES

Csaba Benedek, Computer and Automation Research Institute, Hungary

TH3.L07: Thursday, July 29, 13:35 - 15:15**TH3.L07 AMSR-E I**

Session Type: Oral-Contributed
 Time: Thursday, July 29, 13:35 - 15:15
 Place: Nautilus
 Co-Chairs: Elena Lobl, The University of Alabama in Huntsville and Akira Shibata, Earth Observation Research Center

13:35 - 13:55

TH3.L07.1 INTERCALIBRATION OF AMSR-E AND WINDSAT BRIGHTNESS TEMPERATURE MEASUREMENTS OVER LAND SCENES

Thomas Meissner, Frank Wentz, Remote Sensing Systems, United States

13:55 - 14:15

TH3.L07.2 GLOBAL MONITORING OF SOIL MOISTURE, SNOW COVER AND VEGETATION BIOMASS BY USING MULTI-FREQUENCY AMSR-E DATA

Simonetta Paloscia, Emanuele Santi, Simone Pettinato, IFAC - CNR, Italy

14:15 - 14:35

TH3.L07.3 THE RELATIONSHIP BETWEEN RAIN AND CLOUD WATER AS OBSERVED FROM THE A-TRAIN

Matthew Lebsack, Christian Kummerow, Colorado State University, United States

14:35 - 14:55

TH3.L07.4 RETRIEVAL OF ATMOSPHERIC WATER VAPOR FROM AMSR-E AND THE APPLICATION FOR NWP AT JMA

Masahiro Kazumori, Takumu Egawa, Japan Meteorological Agency, Japan

14:55 - 15:15

TH3.L07.5 AMSR-E ADVANCED WIND SPEED RETRIEVAL ALGORITHM AND ITS APPLICATION TO MARINE WEATHER SYSTEMS

Leonid Mitnik, Maia Mitnik, V.I. Il'ichev Pacific Oceanological Institute, Far Eastern Branch, Russian Academy of Sciences, Russian Federation

TH3.L08: Thursday, July 29, 13:35 - 15:15

TH3.L08 Arctic Sea Ice Change and Impacts I

Session Type: Oral-Invited
 Time: Thursday, July 29, 13:35 - 15:15
 Place: South Pacific 1/2
 Co-Chairs: Son Nghiem, Jet Propulsion Laboratory and Charles Luther, IEEE Geoscience and Remote Sensing Society

13:35 - 14:15 Overview Talk (40 minutes)

TH3.L08.1 PROGRESS IN ARCTIC SEA ICE REMOTE SENSING

Charles Luther, Geoscience and Remote Sensing Society, United States; Son Nghiem, Jet Propulsion Laboratory, California Institute of Technology, United States; Donald Perovich, U.S. Army Cold Regions Research and Engineering Laboratory, United States; David G. Barber, University of Manitoba, Canada

14:15 - 14:35

TH3.L08.3 THE STATE OF ARCTIC SEA ICE FROM REMOTE SENSING OBSERVATIONS

Son Nghiem, Jet Propulsion Laboratory, California Institute of Technology, United States; Ignatius Rigor, University of Washington, United States; Pablo Clemente-Colón, National Ice Center, United States; Donald Perovich, U.S. Army Cold Regions Research and Engineering Laboratory, United States; Hajo Eicken, University of Alaska, United States; James Overland, NOAA Pacific Marine Environmental Laboratory, United States; Thorsten Markus, NASA Goddard Space Flight Center, United States; David G. Barber, University of Manitoba, Canada; Gregory Neumann, Jet Propulsion Laboratory, California Institute of Technology, United States

14:35 - 14:55

TH3.L08.4 CHANGES IN SEA ICE MELT AND FREEZE-ONSET DERIVED FROM SATELLITE PASSIVE MICROWAVE DATA AND THEIR INTERACTIONS WITH SEA ICE CONCENTRATION, AND OCEAN AND ATMOSPHERE TEMPERATURES

Thorsten Markus, NASA Goddard Space Flight Center, United States; Linette Boisvert, University of Maryland, United States; Jeffrey Miller, NASA Goddard Space Flight Center, United States; Julienne Stroeve, National Snow and Ice Data Center, United States; Claire Parkinson, NASA Goddard Space Flight Center, United States

14:55 - 15:15

TH3.L08.5 RETREAT OF ARCTIC SEA ICE FROM SATELLITES, IN SITU OBSERVATIONS, AND A DRIFT-AGE MODEL

Ignatius Rigor, Mark Wensnahan, Melinda Webster, University of Washington, United States; Ron Kwok, Son Nghiem, California Institute of Technology, United States; Jay Zwally, Donghui Yi, National Aeronautics and Space Administration, United States; Mark Ortmeyer, University of Washington, United States; Gregory Neumann, California Institute of Technology, United States; Christian Haas, University of Alberta, Canada; Stefan Hendricks, Alfred Wegener Institute, Germany; Seymour Laxon, University College London, United Kingdom; Donald Perovich, Jackie Richter-Menge, Cold Regions Research and Engineering Laboratory, United States; Pablo Clemente-Colón, National Ice Center, United States

TH3.L09: Thursday, July 29, 13:35 - 15:15

TH3.L09 RADARSAT I

Session Type: Oral-Invited
 Time: Thursday, July 29, 13:35 - 15:15
 Place: Coral 1
 Co-Chairs: Satish Srivastava, Canadian Space Agency and Tom Lukowski, Defence Research & Development Canada

13:35 - 14:15 Overview Talk (40 minutes)

TH3.L09.1 ◇ **RADARSAT**

Surendra Parashar, Satish Srivastava, Ahmed Mahmood, Guy Séguin, Canadian Space Agency, Canada

14:15 - 14:35

TH3.L09.3 RADARSAT-2 CONTINUING SYSTEM OPERATIONS AND PERFORMANCE

Anthony Hillman, Philippe Rolland, Rene Periard, Tony Luscombe, Marielle Chabot, Charlie Chen, MDA, Canada; Nick Martens, Telesat, Canada

14:35 - 14:55

TH3.L09.4 RADARSAT CONSTELLATION, MOVING TOWARD IMPLEMENTATION

Guy Séguin, Michel Gamache, Canadian Space Agency, Canada

14:55 - 15:15

TH3.L09.5 RADARSAT-2 DATA UTILIZATIONS AND APPLICATIONS

Stéphane Chalifoux, Canadian Space Agency, Canada

THURSDAY

TH3.L10: Thursday, July 29, 13:35 - 15:15

- TH3.L10 The NASA Soil Moisture Active and Passive Mission (SMAP): Data Products, Science and Applications I**
 Session Type: Oral-Invited
 Time: Thursday, July 29, 13:35 - 15:15
 Place: Coral 2
 Co-Chairs: Mahta Moghaddam, University of Michigan and Simon Yueh, Jet Propulsion Laboratory/California Institute of Technology
- 13:35 - 13:55
TH3.L10.1 THE NASA SOIL MOISTURE ACTIVE PASSIVE (SMAP) MISSION: OVERVIEW
 Peggy O'Neill, NASA Goddard Space Flight Center, United States; Dara Entekhabi, Massachusetts Institute of Technology, United States; Eni Njoku, Kent Kellogg, NASA Jet Propulsion Laboratory, United States
- 13:55 - 14:15
TH3.L10.2 THE SOIL MOISTURE ACTIVE PASSIVE (SMAP) MISSION L-BAND RADAR/RADIOMETER INSTRUMENT
 Michael Spencer, Kevin Wheeler, Richard West, Christopher White, Jet Propulsion Laboratory, California Institute of Technology, United States; Jeffrey Piepmeier, Derek Hudson, James Medeiros, NASA Goddard Space Flight Center, United States
- 14:15 - 14:35
TH3.L10.3 RADIO FREQUENCY INTERFERENCE AND THE SMAP RADIOMETER: RISK ASSESSMENT AND REDUCTION
 Joel Johnson, Ohio State University, United States; Jeffrey Piepmeier, NASA Goddard Space Flight Center, United States
- 14:35 - 14:55
TH3.L10.4 SOIL MOISTURE ACTIVE PASSIVE (SMAP) CALIBRATION AND VALIDATION PLAN AND CURRENT ACTIVITIES
 Thomas Jackson, Michael Cosh, Rajat Bindlish, Wade Crow, USDA, United States; Andreas Colliander, Eni Njoku, Kenneth McDonald, NASA Jet Propulsion Laboratory, United States; John Kimball, University of Montana, United States; Stéphane Bélair, Environment Canada, Canada; Jeffrey Walker, Rocco Panciera, University of Melbourne, Australia; Peggy O'Neill, NASA Goddard Space Flight Center, United States
- 14:55 - 15:15
TH3.L10.5 THE SMAP SCIENCE DATA SYSTEM ALGORITHM AND APPLICATION SIMULATION TESTBED
 Wade Crow, USDA ARS, United States; Eni Njoku, Steven Chan, Scott Dunbar, Jet Propulsion Laboratory, California Institute of Technology, United States

THP2.PA: Thursday, July 29, 14:55 - 16:00**THP2.PA Radar Mapping**

Session Type: Poster

Time: Thursday, July 29, 14:55 - 16:00

Place: Poster Area A

Co-Chairs: Leland Pierce, University of Michigan and Alejandro Monsivais-Huerta, Instituto Politecnico Nacional, Mexico City, Mexico

THP2.PA.1 RECENT ADVANCES IN THEORETICAL STUDIES OF L-BAND ACTIVE AND PASSIVE REMOTE SENSING OF FORESTS

Paolo Ferrazzoli, Leila Guerriero, Rachid Rahmoune, Università di Roma Tor Vergata, Italy

THP2.PA.2 COHERENT SCATTERER IN FOREST ENVIRONMENT: DETECTION, PROPERTIES AND ITS APPLICATIONS

Kaichi Iribe, Tohoku University, Japan; Konstantinos Papatthanassiou, Irena Hajnsek, German Aerospace Center (DLR), Germany; Motoyuki Sato, Tohoku University, Japan

THP2.PA.3 POLARIMETRIC AND STRUCTURAL PROPERTIES OF FOREST SCENARIOS AS IMAGED BY LONGER WAVELENGTH SARs

Stefano Tebaldini, Mauro Mariotti d'Alessandro, Andrea Monti Guarnieri, Fabio Rocca, Politecnico di Milano, Italy

THP2.PA.4 ESPRIT-BASED SCATTERING POWER DECOMPOSITION BY USING MODIFIED VOLUME SCATTERING MODEL

Hiroyoshi Yamada, Ryutaro Komaya, Yoshio Yamaguchi, Ryoichi Sato, Niigata University, Japan

THP2.PA.5 TREE HEIGHT RETRIEVAL METHODS USING POLINSAR COHERENCE OPTIMIZATION

Huanmin Luo, University of Electronic Science and Technology of China, China; Erxue Chen, Institute of Forest Resources Information Techniques, Chinese Academy of Forestry, China; Jian Cheng, Xiaowen Li, University of Electronic Science and Technology of China, China

THP2.PA.6 ON THE USE OF SUPPORT VECTOR MACHINES FOR LAND COVER ANALYSIS WITH L-BAND SAR DATA

Nicolas Longépé, Preesan Rakwatin, Osamu Isoguchi, Masanobu Shimada, Japan Aerospace Exploration Agency, Japan; Yumiko Uryu, World Wildlife Fund, Indonesia

THP2.PA.7 ◇ INVESTIGATIONS ON SPACE-BORNE SAR TOMOGRAPHY FOR STRUCTURAL ANALYSIS OF FORESTED AREAS

Boris Jutzi, Antje Thiele, Stefan Hinz, Karlsruhe Institute of Technology (KIT), Germany; Franz Meyer, University of Alaska, Fairbanks, United States

THP2.PA.8 EXTRACTION OF TYPHOON-DAMAGED FORESTS FROM MULTI-TEMPORAL HIGH-RESOLUTION POLARIMETRIC SAR IMAGES

Haipeng Wang, Fudan University, China; Kazuo Ouchi, National Defense Academy, Japan; Ya-Qiu Jin, Fudan University, China

THP2.PA.9 VEGETATION STRUCTURE ANALYSIS AND VISUALIZATION FRAMEWORK FOR MB-POLINSAR DATA IN RAT

Maxim Neumann, Jet Propulsion Laboratory, United States; Andreas Reigber, German Aerospace Center (DLR), Germany

THP2.PA.10 QUANTIFYING THE RESULTS OF WIND AND RAIN ON IFSAR TREE HEIGHT ESTIMATION

Michael Benson, Leland Pierce, Kamal Sarabandi, University of Michigan, United States

THP2.PA.11 ASSESSMENT OF COMPACT POLARIMETRY IN CASE OF DIFFERENT DATASET AND STUDY SITE FOR LAND USE MONITORING OVER TROPICAL ENVIRONMENT

Cedric Lardeux, University of Rennes 1, France; David Niamen, University of Marne la Vallée, France; Jean-Baptiste Routier, Adeline Giraud, Office National des Forêts International, France; Pierre-Louis Frison, University of Marne la Vallée, France; Eric Pottier, University of Rennes 1, France; Jean-Paul Rudant, University of Marne la Vallée, France

THP2.PB: Thursday, July 29, 14:55 - 16:00**THP2.PB Modeling**

Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area B
 Chair: Wenge Ni-Meister, Hunter College of City University of New York

- THP2.PB.1 MODELS FOR ESTIMATING DIFFERENT CROPS LEAF AREA INDEX USING HYPERSPECTRAL DATA**
 Heng Dong, Qiming Qin, Lin You, Xinxin Sui, Jun Li, Hongbo Jiang, Jinliang Wang, Haixia Feng, Peking University, China; Hongmei Sun, Beijing Forestry University, China
- THP2.PB.2 MEASUREMENTS OF CANOPY NONRANDOMNESS AT JARVSELJA RAMI (RADIATION TRANSFER MODEL INTERCOMPARISON) TEST SITES**
 Jan Pisek, Tartu Observatory, Estonia; Mait Lang, Estonian University of Life Sciences, Estonia; Tiit Nilson, Tartu Observatory, Estonia
- THP2.PB.3 MULTILAYERED MULTIPLE-SPECIES FOREST SCATTERING MODEL BASED ON A WAVE THEORY APPROACH**
 Mariko Burgin, Mahta Moghaddam, University of Michigan, United States; Richard Lucas, Aberystwyth University, United Kingdom
- THP2.PB.4 SIMULATION STUDIES ON DATA FUSION ALGORITHMS FOR FOREST STRUCTURE FROM LIDAR AND SAR DATA**
 Guoqing Sun, University of Maryland, United States; Wenjian Ni, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; K. Jon Ranson, NASA Goddard Space Flight Center, United States
- THP2.PB.5 USING A LAND SURFACE MODEL TO SIMULATE NET PRIMARY PRODUCTIVITY IN CHINA COMPARING WITH THE PROCESS MODEL DERIVED BY REMOTE SENSING**
 Liang Zhang, Yaohui Li, Institute of Arid Meteorology, China Meteorological Administration, China; Huqiang Zhang, Centre for Australian Weather and Climate Research, Australia; Jinsong Wang, Institute of Arid Meteorology, China Meteorological Administration, China
- THP2.PB.6 A "MATCHSTICK MODEL" OF MICROWAVE BACKSCATTER FROM A FOREST: A CHANGE OF REGIME.**
 Matthew Brolly, Iain Woodhouse, University of Edinburgh, United Kingdom
- THP2.PB.7 REMOTE SENSING OF INSECT PESTS IN LARCH FOREST BASED ON PHYSICAL MODEL**
 Lei Wang, Huaguo Huang, Youqing Luo, Beijing Forestry University, China
- THP2.PB.8 STUDY OF REMOTE SENSING BASED PARAMETER UNCERTAINTY IN PRODUCTION EFFICIENCY MODELS**
 Rui Liu, Jiu-lin Sun, Juan-le Wang, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Xiaolei Li, Chongqing University of Science and Technology, China; Fei Yang, Peng-fei Chen, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China
- THP2.PB.9 DEVELOPMENT OF VEGETATION STRUCTURE INPUTS FROM ICESAT, SRTM AND MODIS SATELLITE DATA FOR A MIXED CANOPY DYNAMIC GLOBAL TERRESTRIAL ECOSYSTEM MODEL**
 Wenge Ni-Meister, Shihyan Lee, Wenzhe Yang, Hunter College of The City University of New York, United States; Nancy Kiang, NASA Goddard Institute for Space Science, United States
- THP2.PB.10 SIMULATION FOR NPP OF GRASSLAND ECOSYSTEM IN QINGHAI-TIBETAN PLATEAU BASED ON THE PROCESS MODEL**
 Peijuan Wang, Chinese Academy of Meteorological Sciences, China; Donghui Xie, Jinling Song, Beijing Normal University, China; Jiahua Zhang, Chinese Academy of Meteorological Sciences, China; Qijiang Zhu, Beijing Normal University, China
- THP2.PB.11 EVALUATION OF VEGETATION INDICES BASED ON MICROWAVE DATA BY SIMULATION AND MEASUREMENTS**
 Yunqing Li, Lixin Zhang, Lingmei Jiang, Tianjie Zhao, Zhongjun Zhang, Beijing Normal University, China

THP2.PC: Thursday, July 29, 14:55 - 16:00**THP2.PC Next Generation US Operational Environmental Satellite Systems**

Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area C
 Chair: John Furgerson, NOAA

- THP2.PC.1 NPOESS SATELLITES ARE DESIGNED TO SUPPORT MULTIPLE ENVIRONMENTAL OBSERVATION MISSIONS**
 Derrick Day, MaryAnn ChoryAnn, Northrop Grumman, United States; Stan Schneider, National Oceanic and Atmospheric Administration, United States; Jim Nelson, Northrop Grumman, United States
- THP2.PC.2 ARCHITECTURES FOR INDEPENDENT TEST DATA REVIEW ON NPOESS VIIRS**
 Carl Fischer, Ball Aerospace and Technologies Corp., United States; Michael Denning, Integrity Applications Incorporated, United States; Kristin Clark, Massachusetts Institute of Technology Lincoln Laboratory, United States; Bruce Guenther, NPOESS Integrated Program Office, United States
- THP2.PC.3** ◇ **DERIVATION OF UNPOLARIZED EFFECTIVE RELATIVE SPECTRAL RESPONSE FOR OPTICAL CROSSTALK MITIGATION IN VIIRS**
 Clark Snodgrass, Roy Tsugawa, Mau-Song Chou, John C. Donovan, Rushabh Patel, Sid Jackson, James McCarthy, Northrop Grumman Aerospace System, United States
- THP2.PC.4** ◇ **PERFORMANCE ASSESSMENT OF THE NPOESS PREPARATORY PROJECT CROSS-TRACK INFRARED AND MICROWAVE SOUNDER SUITE (CRIMSS) ENVIRONMENTAL DATA RECORDS (EDRS)**
 Lihang Zhou, National Oceanic and Atmospheric Administration, United States
- THP2.PC.5 ASSESSING THE SIDELobe CONTRIBUTION TO THE W-BAND ATMS RADIATIVE MEASUREMENTS**
 Giovanni De Amici, Chunming Wang, Phil Moffa, Bruce Hauss, Northrop Grumman, United States
- THP2.PC.6** ◇ **INTERNATIONAL POLAR ORBITER PROCESSING PACKAGE (IPOP)**
 John Overton, NPOESS Integrated Program Office / The Aerospace Corporation, United States; Patrick Coronado, NASA Goddard Space Flight Center, United States; Liam Gumley, University of Wisconsin / SSEC, United States
- THP2.PC.7 FEATURES OF THE DEPLOYED NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL SATELLITE SYSTEM (NPOESS) GROUND SYSTEM**
 Gary Heckmann, Gary Route, Kerry Grant, Raytheon Co., United States; Joseph Mulligan, National Oceanic and Atmospheric Administration, United States
- THP2.PC.8 NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL SATELLITE SYSTEM (NPOESS) COMMAND, CONTROL AND COMMUNICATIONS SEGMENT (C3S) MCMURDO MULTIMISSION COMMUNICATIONS SYSTEM**
 Joseph Paciaroni, Colleen Higgins, Michael Jamilkowski, Raytheon Co., United States
- THP2.PC.9 NPOESS ENVIRONMENTAL DATA RECORD (EDR) PRODUCTION, QUALITY AND LATENCY**
 Kerry Grant, Raytheon Co., United States; Robert Hughes, NGAS, United States
- THP2.PC.10 NATIONAL POLAR-ORBITING OPERATIONAL ENVIRONMENTAL SATELLITE SYSTEM (NPOESS) TOOLS FOR RAPID ALGORITHM UPDATES**
 Kerry Grant, Raytheon Co., United States; Robert Hughes, NGAS, United States; Bonnie Reed, General Dynamics - AIS, United States; Gary Route, Raytheon Co., United States
- THP2.PC.11 MONITORING TOOL FOR GOES-R L2 PRODUCTS**
 Zhaohui Cheng, Dell Perot Systems, United States; Walter Wolf, NOAA/NESDIS/STAR, United States; Xingpin Liu, Shuang Qiu, Dell Perot Systems, United States; Shanna Sampson, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States; Peter Keehn, Dell Perot Systems, United States; Qingzhao Guo, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States; Mitchell Goldberg, NOAA/NESDIS/STAR, United States
- THP2.PC.12 SATELLITE METEOROLOGY EDUCATION RESOURCES: MULTIMEDIA MODULES AND INITIATIVES**
 Wendy Schreiber-Abshire, University Corporation for Atmospheric Research, United States; Patrick Dills, Bryan Guarente, UCAR/COMET, United States

THP2.PD: Thursday, July 29, 14:55 - 16:00**THP2.PD Urban Remote Sensing Poster II**

Session Type: Poster

Time: Thursday, July 29, 14:55 - 16:00

Place: Poster Area D

Co-Chairs: Masashi Matsuoka, National Institute of Advanced Industrial Science & Technology and Uwe Stilla, Technical University Munich

THP2.PD.1 A TARGET TRACKING METHOD WITH A SINGLE ANTENNA USING TIME-REVERSAL UWB RADAR IMAGING IN A MULTI-PATH ENVIRONMENT

Takuya Sakamoto, Toru Sato, Kyoto University, Japan

THP2.PD.2 MAPPING URBAN SUBSIDENCE WITH TERRASAR-X DATA BY PSI ANALYSIS

Daqing Ge, Yan Wang, Ling Zhang, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Ye Xia, Xiaofang Guo, GeoForschungsZentrumPotsdam, Germany

THP2.PD.3 ANALYSIS OF URBAN HEAT ISLAND (UHI) IN THE BEIJING METROPOLITAN AREA BY TIME-SERIES MODIS DATA

Ji Zhou, University of Electronic Science and Technology of China, China; Jing Li, Jianwei Yue, Beijing Normal University, China

THP2.PD.4 LONGTIME MONITORING OF MINE SUBSIDENCE IN NORTHERN MORAVIA, CZECH REPUBLIC USING DIFFERENT INSAR TECHNIQUES

Milan Lazecky, Eva Jirankova, VSB-TU Ostrava, Czech Republic

THP2.PD.5 RESOLVING SHADOWS IN HIGH RESOLUTION SATELLITE IMAGES FOR ESTIMATING CARBON UPTAKE IN URBAN-SUBURBAN AREAS

Jindong Wu, California State University, Fullerton, United States; Marvin Bauer, University of Minnesota, United States

THP2.PD.6 LAND SUBSIDENCE ANALYSIS AND INUNDATION PREDICTION BASED ON MULTI-TEMPORAL DIGITAL ELEVATION MODEL DATA

Pai-Hui Hsu, National Taiwan University, Taiwan; Wen-Ray Su, National Science & Technology Center for Disaster Reduction, Taiwan; Chung-Hung Tsai, Taiwan Hospitality and Tourism College, Taiwan

THP2.PD.7 URBAN HEAT ISLAND EFFECT IN PRESERVED ZONES OF HISTORY AND CULTURE IN OLD CITY OF BEIJING, CHINA

Mingyi Du, Yanyan Kang, Liang Huo, Guoyin Cai, Beijing University of Civil Engineering and Architecture, China

THP2.PD.8 ESTIMATING IMPERVIOUSNESS USING NDVI AT MULTIPLE RESOLUTIONS FOR URBAN CATCHMENTS IN SYDNEY, AUSTRALIA

Carol Jacobson, Macquarie University, Australia

THP2.PD.9 ESTIMATION OF BUILDING DAMAGE RATIO DUE TO EARTHQUAKES AND TSUNAMIS USING SATELLITE SAR IMAGERY

Masashi Matsuoka, National Institute of Advanced Industrial Science and Technology, Japan; Shunichi Koshimura, Tohoku University, Japan; Nobuoto Nojima, Gifu University, Japan

THP2.PD.10 ALGORITHM RESEARCH OF BUILDING MATERIALS EMISSIVITY EXTRACTING

Yang Hang, Zhang Lifu, Zhang Xia, Fang Junyong, Tong Qingxi, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

THP2.PE: Thursday, July 29, 14:55 - 16:00**THP2.PE Applications: GPR, Geology & Health**

Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area E
 Co-Chairs: Hyoung-sun Youn, University of Hawaii and Xuan Feng, Jilin University

THP2.PE.1 SPATIAL LATENCY REDUCTION IN GPR PROCESSING USING STOCHASTIC SAMPLING
Peter Torriane, Leslie Collins, Duke University, United States**THP2.PE.2 \diamond MULTI-CHANNEL RADAR DEPTH SOUNDER (MCRDS) SIGNAL PROCESSING: A DISTRIBUTED COMPUTING APPROACH**
Je'aime Powell, Linda Hayden, Elizabeth City State University, United States**THP2.PE.3 GROUND PENETRATING RADAR MEASUREMENTS: APPLICATIONS TO SYNTHETIC DATA GENERATION AND TARGET CHARACTERIZATION**
Naomi Schwartz, Amir Zaghoul, Virginia Polytechnic Institute and State University, United States**THP2.PE.4 ROTATION AND SCALE INVARIANT TEMPLATE MATCHING APPLIED TO BURIED OBJECT DISCRIMINATION IN GPR DATA**
Ahmet Burak Yoldemir, Mehmet Sezgin, TUBITAK UEKAE, Turkey**THP2.PE.5 WIDE AREA ASSESSMENT – DEVELOPMENT AND CASE STUDY**
John Foley, Sky Research, Inc., United States; Jerry Hodgson, United States Army Corps of Engineers, United States**THP2.PE.6 ADVANCED CLASSIFICATION OF UXO USING FULLY POLARIMETRIC GPR AND FREQUENCY-POLARIZATION FEATURES**
Hyoung-sun Youn, University of Hawaii, United States; Minh Evans, Raytheon Company, United States; Jill Kobashigawa, Magdy F. Iskander, University of Hawaii, United States**THP2.PE.7 MODEL LEVEL FUSION OF EDGE HISTOGRAM DESCRIPTORS AND GABOR WAVELETS FOR LANDMINE DETECTION WITH GROUND PENETRATING RADAR**
Oualid Missaoui, Hichem Frigui, University of Louisville, United States; Paul Gader, University of Florida, United States**THP2.PE.8 MULTIPLE SUBSURFACE TARGETS LOCALIZATION FROM NEXT-GENERATION EMI SENSOR DATA USING MUSIC ALGORITHM**
Fridon Shubitidze, Dartmouth College, United States; Ben Barrowes, USA ERDC, United States; Irma Shamatava, Sky Research, Inc, United States; Kevin O'Neil, USA ERDC, United States**THP2.PE.9 THERMAL ANOMALY BEFORE BALIN M5.9 EARTHQUAKE OF CHINA**
Guo Guangmeng, Yang Jie, Nanyang Normal University, China**THP2.PE.10 STUDY ON THE ELECTRONIC DENSITY PERTURBATION DETECTED BY DEMETER SATELLITE BEFORE WENCHUAN EARTHQUAKE**
Jing Liu, Institute of Geology and Geophysics, Chinese Academy of Science / Institute of Earthquake Science, China Earthquake Administration, China; Xuemin Zhang, Institute of Earthquake Science, China Earthquake Administration, China; Weixing Wan, Institute of Geology and Geophysics, Chinese Academy of Sciences, China; Xuhui Shen, Xinyan Ouyang, Institute of Earthquake Science, China Earthquake Administration, China; Xinjian Shan, Institute of Geology, China Earthquake Administration, China**THP2.PE.11 AN ATTEMPT TO PREDICT EARTHQUAKE WITH SATELLITE DATA**
Guo Guangmeng, Yang Jie, Nanyang Normal University, China**THP2.PE.12 HYPERSPECTRAL IMAGING PHENOMENOLOGY OF GENETICALLY ENGINEERED PLANT SENTINELS**
Danielle Simmons, John Kerekes, Rochester Institute of Technology, United States; Daniel Rahn, Arnab Shaw, Gitam Technologies, Inc., United States; June Medford, Colorado State University, United States

THP2.PF: Thursday, July 29, 14:55 - 16:00

- THP2.PF Algorithms for sensors and platforms**
 Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area F
 Co-Chairs: Ryuei Nishii, Kyushu University and Fabio Pacifici, DigitalGlobe
- THP2.PF.1 NEW DATA TRANSFORMATION METHOD FOR CBERS-02B MULTI-SPECTRAL IMAGES**
 Chengwen Zhang, Jiakui Tang, Sujuan Mi, Lijun Zhao, Chunlei Wang, Houmao Wang, Yantai Institute of Coastal Zone Research, Chinese Academy of Sciences, China
- THP2.PF.2 MTF CHARACTERIZATION AND DECONVOLUTION OF RAPIDEYE IMAGERY**
 Keith Beckett, Brian Robertson, Joe Steyn, MDA, Canada
- THP2.PF.3 FY-2 AUTOMATIC LANDMARK POSITIONING FOR IMAGE NAVIGATION AND ITS APPLICATION IN FY-2D VISSR IMAGERY**
 Lei Yang, Qiang Guo, Xiaohu Zhang, Feng Lu, Zhiqing Zhang, Jianmin Xu, National Satellite Meteorological Center, China
- THP2.PF.4 IMAGE-BASED SATELLITE ATTITUDE ESTIMATION**
 Régis Perrier, INRIA Rhône Alpes, France; Elise Arnaud, Université Joseph Fourier, France; Peter Sturm, INRIA Rhône Alpes, France; Mathias Orner, EADS Astrium, France
- THP2.PF.5** ♦ **VISUAL INFORMATION MINING AND RANKING USING GRADED RELEVANCE ASSESSMENTS IN SATELLITE IMAGE DATABASES**
 Adrian Barb, Pennsylvania State University, United States; Chi-Ren Shyu, University of Missouri, United States
- THP2.PF.6 ADAPTING THE SIR ALGORITHM TO ASCAT**
 Richard Lindsley, David G. Long, Brigham Young University, United States
- THP2.PF.7** ♦ **GEO-LOCATION ERROR CORRECTION FOR SYNTHETIC APERTURE RADAR IMAGE**
 Sun H. Song, Soo H. Rho, Chul H. Jung, Young K. Kwag, Korea Aerospace University, Republic of Korea
- THP2.PF.8 COMPUTATION OF EARTH SCIENCE PRODUCTS ON SPACEBORNE PLATFORMS**
 Kevin Fisher, NASA Goddard Space Flight Center, United States; J. Anthony Gualtieri, LuxAnalytica LLC, United States; Jacqueline LeMoigne, James Tilton, NASA Goddard Space Flight Center, United States
- THP2.PF.9** ♦ **UTILIZATION OF NASA'S GLORY AEROSOL POLARIMETRIC SENSOR PRODUCTS IN VISUAL AIR QUALITY IMAGE PROCESSING SYSTEM**
 Yahya Golestani, The Aerospace Corporation, United States
- THP2.PF.10 A SYSTEM TRADE MODEL FOR THE MONITORING OF COASTAL VESSELS USING HF SURFACE WAVE RADAR AND SHIP AUTOMATIC IDENTIFICATION SYSTEMS (AIS)**
 John Vesecky, Kenneth Laws, University of California, Santa Cruz, United States; Jeff Paduan, Naval Postgraduate School, United States

THP2.PG: Thursday, July 29, 14:55 - 16:00**THP2.PG Vegetation**

Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area G
 Chair: Alex A. Held, CSIRO

THP2.PG.1 EMPIRICAL COMPARISON OF MACHINE LEARNING TECHNIQUES FOR OBJECT-BASED VEGETATION SPECIES CLASSIFICATION

Zhengrong Li, Ross Hayward, Yuee Liu, Rodney Walker, Queensland University of Technology, Australia

THP2.PG.2 A GENETIC PROGRAMMING APPROACH FOR COFFEE CROP RECOGNITION

Jefersson Alex dos Santos, Fabio Augusto Faria, Rodrigo Tripodi Calumby, Rubens Lamparelli, Ricardo da Silva Torres, University of Campinas, Brazil

THP2.PG.3 LEAF AREA INDEX (LAI) ESTIMATION BASED ON VEHICLE-BASED LASER SCANNING

Yi Lin, Juha Hyyppä, Finnish Geodetic Institute, Finland

THP2.PG.4 EVALUATION OF TWO REGION BASED CLASSIFICATIONS IN TAPAJÓS NATIONAL FOREST USING THE ALOS/PALSAR POLARIMETRIC AND INTERFEROMETRIC COHERENCES

Graziela Scofield, Dutra Luciano, Freitas Corina, Sidnei J. S. Sant'Anna, National Institute for Space Research (INPE), Brazil; Daniel Silva, Quartel General do Exército, Brazil

THP2.PG.5 AN IMPROVED ENSEMBLE APPROACH FOR REDUCTION OF FALSE ALARM RATE IN HARMFUL ALGAL BLOOM DETECTION

Balakrishna Gokaraju, Surya Durbha, Roger L. King, Nicolas Younan, Mississippi State University, United States

THP2.PG.6 EXTRACTION OF FREQUENT GROUPED SEQUENTIAL PATTERNS FROM SATELLITE IMAGE TIME SERIES

Andreea Julea, Nicolas Méger, Université de Savoie, France; Christophe Rigotti, Université de Lyon, CNRS, France; Marie-Pierre Doin, Ecole Normale Supérieure, CNRS, France; Cécile Lasserre, Université Joseph Fourier, CNRS, France; Emmanuel Trouvé, Philippe Bolon, Université de Savoie, France; Vasile Lazarescu, Politehnica University of Bucharest, Romania

THP2.PG.7 COMBINING LIDAR DATA AND GEOREFERENCED MULTISPECTRAL IMAGE FOR VEGETATION CLASSIFICATION IN POWER LINE CORRIDORS

Zhengrong Li, Yuee Liu, Rodney Walker, Ross Hayward, Queensland University of Technology, Australia

THP2.PG.8 ♦ ESTIMATING MORPHOLOGICAL PARAMETERS OF TAMARIX RAMOSISSIMA BY DIGITAL HEMISPHERICAL IMAGE IN THE LOWER REACHES OF HEIHE RIVER, NORTHWEST CHINA

Huanhua Peng, Chuanyan Zhao, Zhaodong Feng, Zhonglin Xu, Lanzhou University, China

THP2.PG.9 ♦ AN APPLICATION OF NOVEL ZERO-ONE INFLATED DISTRIBUTIONS WITH SPATIAL DEPENDENCE FOR THE DEFORESTATION MODELING

Ryuei Nishii, Kyushu University, Japan; Shojiro Tanaka, Shimane University, Japan

THP2.PG.10 TREE IDENTIFICATION USING A DISTRIBUTED K-MEAN CLUSTERING ALGORITHM

K. T. Fan, Y. C. Tzeng, Y. F. Lin, Y. J. Su, National United University, Taiwan; Kun-Shan Chen, National Central University, Taiwan

THP2.PH: Thursday, July 29, 14:55 - 16:00

- THP2.PH Mission Oriented Survey**
 Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area H
 Chair: Masanobu Shimada, JAXA
- THP2.PH.1 X-BAND BACKSCATTER MAP GENERATION USING TERRASAR-X DATA**
 Paola Rizzoli, Benjamin Bräutigam, Steffen Wollstadt, Josef Mittermayer, German Aerospace Center (DLR), Germany
- THP2.PH.2 WAVEMILL: A NOVEL INSTRUMENT FOR OCEAN CIRCULATION MONITORING**
 José Márquez, Giulio Ruffini, Starlab Barcelona SL, Spain; Dave Lancashire, Byron Richards, EADS Astrium Ltd., United Kingdom; Christopher Buck, European Space Agency, Netherlands
- THP2.PH.3 ◇ L-BAND RFI GLOBAL DISTRIBUTION MEASURED BY ALOS/PALSAR**
 Masanobu Shimada, Japan Aerospace Exploration Agency, Japan; Daisuke Sango, RESTEC, Japan; Paul Rosen, Jet Propulsion Laboratory, United States
- THP2.PH.4 SAR PERFORMANCE MONITORING FOR TERRASAR-X MISSION**
 Benjamin Bräutigam, Paola Rizzoli, Carolina González, Mathias Weigt, Dirk Schrank, Daniel Schulze, Marco Schwerdt, German Aerospace Center (DLR), Germany
- THP2.PH.5 TERRASAR X-BAND INSAR OBSERVATIONS IN URBAN AREAS**
 Sang-Wan Kim, Sejong University, Republic of Korea; Shimon Wdowinski, Timothy Dixon, University of Miami, United States
- THP2.PH.6 THE RADARSAT-1 IMAGING PERFORMANCE, 15 YEARS AFTER LAUNCH, AND INDEPENDENT REPORT ON RADARSAT-2 IMAGE QUALITY**
 Satish Srivastava, Stephane Côté, Stephanie Muir, Canadian Space Agency, Canada; Robert Hawkins, Natural Resources Canada, Canada
- THP2.PH.7 PRELIMINARY MODEL FOR WIND ESTIMATION FROM COSMO/SKYMED X BAND SAR DATA**
 Francesco Nirchio, Italian Space Agency, Italy; Sara Venafra, Politecnico di Bari, Italy
- THP2.PH.8 THE MICROASAR EXPERIMENT ON CASIE-09**
 David G. Long, Evan Zaugg, Brigham Young University, United States; Matthew Edwards, Artemis, Inc., United States; James Maslanik, University of Colorado, United States
- THP2.PH.9 THE COSMO-SKYMED BACKGROUND MISSION**
 Giovanni Valentini, Alessandra Coletta, Fabrizio Battazza, Fabio Covello, Gemma Manoni, ASI - Agenzia Spaziale Italiana, Italy; Luca Pietranera, Simone Paoloni, Giorgio Apponi, e-GEOS, Italy

THP2.PI: Thursday, July 29, 14:55 - 16:00

THP2.PI Innovative Radar Sensors

Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area I
 Co-Chairs: Mark Sletten, NRL and V. Chandrasekar, Colorado State University

THP2.PI.1 DISMOUNT MICRO-DOPPLER FOR ISAR
 Dave Tahmouh, Jerry Silvious, US Army Research Laboratory, United States

THP2.PI.2 ◇ DUAL-POLARIZATION PERFORMANCE OF THE PHASE-TILT ANTENNA ARRAY IN A CASA DENSE NETWORK RADAR
 Jorge L. Salazar, Eric J. Knapp, David J. McLaughlin, University of Massachusetts, Amherst, United States

THP2.PI.3 K-SPACE MOSAICKING BY COHERENTLY COMBINING SINGLE-PASS MONOSTATIC AND BISTATIC SAR IMAGES
 Ingo Walterscheid, Andreas R. Brenner, Fraunhofer Institute for High Frequency Physics and Radar Techniques (FHR), Germany

THP2.PI.4 POLARIMETRIC-INTERFEROMETRIC SEA SCATTER RESEARCH USING THE NRL FOPAIR RADAR
 Mark Sletten, Jakov V. Toporkov, Paul Hwang, Naval Research Laboratory, United States

THP2.PI.5 SPACEBORNE-AIRBORNE BISTATIC RADAR FOR UAS NAVIGATION PURPOSES: PRELIMINARY ANALYSIS AND STRAWMAN SYSTEM IDENTIFICATION
 Alfredo Renga, Department of Aerospace Engineering, University of Naples "Federico II", Italy; Maria Daniela Graziano, Marco D'Errico, Department of Aerospace and Mechanical Engineering, Second University of Naples, Italy; Antonio Moccia, Flavio Menichino, Sergio Vetrella, Domenico Accardo, Department of Aerospace Engineering, University of Naples "Federico II", Italy; Federico Corraro, Giuseppe Cuciniello, Francesco Nebula, Italian Aerospace Research Center, Italy; Luca Del Monte, European Space Agency, France

THP2.PI.6 NEXT GENERATION OF MULTI BEAM ROTATING ANTENNA ON SWIM SCATTEROMETER
 Jérôme Lorenzo, Franck Demeestere, Jerome Brossier, Stephane Pouyez, Vivien Enjalras, Laurent Rey, Thales Alenia Space, France; Thierry Amiot, Céline Tison, Patrick Castellan, Centre National d'Etudes Spatiales (CNES), France

THP2.PI.7 ◇ MICROPHYSICAL RETRIEVAL FROM DUAL FREQUENCY PRECIPITATION RADAR ON BOARD GPM
 Minda Le, V. Chandrasekar, S. Lim, Colorado State University, United States

THP2.PI.8 WAVEFORM DESIGN FOR CASA DUAL-POLARIZED X-BAND SOLID STATE WEATHER RADARS
 Cuong Nguyen, V. Chandrasekar, Colorado State University, United States

THP2.PI.9 DEPLOYMENT OF THE ASCAT CALIBRATION TRANSPONDERS
 Alan Fromberg, Eric Pritchard, Nigel Wright, Systems Engineering & Assessment Ltd., United Kingdom; Julian Wilson, Gokhan Kayal, EUMETSAT, Germany

THP2.PI.10 A GROUND-BASED ARC-SCANNING SYNTHETIC APERTURE RADAR (ARCSAR) SYSTEM AND FOCUSING ALGORITHMS
 Hoonyol Lee, Kangwon National University, Republic of Korea; Seong-Jun Cho, Kwang-Eun Kim, Korea Institute of Geoscience & Mineral Resources (KIGAM), Republic of Korea

THURSDAY

THP2.PJ: Thursday, July 29, 14:55 - 16:00

- THP2.PJ Interferometry and Differential SAR Interferometry Poster**
 Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area J
 Co-Chairs: Pau Prats, DLR and Jordi J. Mallorqui, Technical University of Catalunya (UPC)
- THP2.PJ.1 A FILTERING APPROACH TO IMPROVE DEFORMATION ACCURACY USING LARGE BASELINE, LOW COHERENCE DINSAR PHASE IMAGES**
 Abduwasit Ghulam, Reda Amer, Robert Ripperdan, Saint Louis University, United States
- THP2.PJ.2 TARGET DETECTION ABOVE ROUGH SURFACES IN MICROWAVE IMAGING USING COMPRESSIVE SAMPLING**
 Suman K. Gunnala, Luis M. Camacho, Saibun Tjuatja, University of Texas at Arlington, United States
- THP2.PJ.3 DIGITAL ELEVATION MODELING USING TERRASAR-X STEREO PAIRS**
 Simon D. Hennig, Wolfgang Koppe, Nadine Kiefl, Jürgen Janoth, Infoterra GmbH, Germany
- THP2.PJ.4 RESEARCH ON INTERFEROMETRIC DEFORMATION DETECTION FOR GEOSYNCHRONOUS SAR**
 Leilei Kou, Xiaoqing Wang, Jinsong Chong, Maosheng Xiang, Institute of Electronics, Chinese Academy of Sciences, China
- THP2.PJ.5 APPLICATION OF TERRASAR-X DATA TO THE MONITORING OF URBAN SUBSIDENCE IN THE CITY OF MURCIA**
 Daniel Monells, Giuseppe Centolanza, Jordi J. Mallorquí, Sergi Duque, Paco López-Dekker, Universitat Politècnica de Catalunya, Spain; Roberto Tomas, Universitat de Alicante, Spain; Gerardo Herrera, Instituto Geológico y Minero de España (IGME), Spain; Juan Manuel Lopez-Sanchez, Fernando Vicente, Victor D. Navarro-Sanchez, Universitat de Alicante, Spain; Joaquin Mulas, Instituto Geológico y Minero de España (IGME), Spain
- THP2.PJ.6 DETECTION OF RAPID LAND SUBSIDENCE OF CIVIL CONSTRUCTIONS WITH TERRASAR-X INTERFEROMETRY**
 Liming Jiang, Shenzhen Institutes of Advanced Technology, Chinese Academy of science, China; Hui Lin, Chinese University of Hong Kong, China; Baoqiang Xiang, School of Ocean and Earth Science and Technology, University of Hawaii at Manoa, United States
- THP2.PJ.7 INTERFEROMETRIC COHERENCE CHARACTERISTICS WITH HIGH RESOLUTION SATELLITE SYNTHETIC APERTURE RADAR**
 Sang-Hoon Hong, Shimon Wdowski, University of Miami, United States
- THP2.PJ.8 COMPARISON OF BEIJING-TIANJIN INTERCITY RAILWAY DEFORMATION MONITORING RESULTS BETWEEN ASAR AND PALSAR DATA**
 Li Tao, Hong Zhang, Chao Wang, Yixian Tang, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China
- THP2.PJ.9 INTERFEROMETRIC PROCESSING ALGORITHMS OF TANDEM-X DATA**
 Nestor Yague-Martinez, Cristian Rossi, Marie Lachaise, German Aerospace Center (DLR), Germany; Fernando Rodriguez-Gonzalez, Technische Universitaet Muenchen, Germany; Thomas Fritz, Helko Breit, German Aerospace Center (DLR), Germany
- THP2.PJ.10 SAR CLINOMETRY- AND INTERFEROMETRY-DERIVED DEM RECONSTRUCTION**
 Zheng Xiang, Zhenlin Wang, Kaizhi Wang, Xingzhao Liu, Wenxian Yu, Shanghai Jiao Tong University, China; Guozhong Chen, Junli Chen, Shanghai Institute of Satellite Engineering, China
- THP2.PJ.11 MERGING MULTI-TRACK PSI RESULT FOR LAND SUBSIDENCE MAPPING OVER VERY EXTENDED AREA**
 Daqing Ge, Ling Zhang, Yan Wang, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Ye Xia, GeoForschungsZentrumPotsdam, Germany; Xiaofang Guo, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China

THP2.PK: Thursday, July 29, 14:55 - 16:00**THP2.PK NWP and Data Assimilation**

Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area K
 Chair: Robert Aune, Cooperative Institute for Meteorological Satellite Studies

THP2.PK.1 ASSIMILATION STUDY OF MICROWAVE SENSOR WATER VAPOR SOUNDING CHANNELS IN NCEP GLOBAL FORECAST SYSTEM

Banghua Yan, University of Maryland / Earth System Science Interdisciplinary Center (ESSIC), United States; Fuzhong Weng, NOAA/NESDIS/Center for Satellite Applications and Research, United States; John Derber, NOAA/National Centers for Environmental Prediction, United States

THP2.PK.2 EVALUATION OF DATA ASSIMILATION ON NUMERICAL WEATHER PREDICTION FOR EGYPT

H. S. Badr, National Authority for Remote Sensing and Space Sciences (NARSS), Egypt; B. M. Elhadidi, A. O. Sherif, Faculty of Engineering - Cairo University, Egypt

THP2.PK.3 ♦ THE HELSINKI TESTBED: A MESOSCALE MEASUREMENT, RESEARCH, AND SERVICE PLATFORM

Jarkko Koskinen, Jani Poutiainen, David Schultz, Jarmo Koistinen, Elena Saltikoff, Erik Gregow, Finnish Meteorological Institute, Finland; Dmitri Moisseev, University of Helsinki, Finland; Heikki Pohjola, Heikki Turtiainen, Vaisala Inc, Finland

THP2.PK.4 IMPACT OF A HYDROMETEOR BACKGROUND COVARIANCE MATRIX STRATIFIED BY PRECIPITATION TYPE ON A 1D-VAR PHYSICAL-BASED RETRIEVAL SYSTEM

Flavio Iturbide-Sanchez, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States; Sid-Ahmed Boukabara, NOAA/NESDIS Center for Satellite Applications and Research, United States; Kevin Garrett, Christopher Grassotti, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States; Wanchun Chen, P.S.G.S. at NOAA/NESDIS Center for Satellite Applications and Research, United States; Fuzhong Weng, NOAA/NESDIS Center for Satellite Applications and Research, United States

THP2.PK.5 COMBINING MSG THERMAL CHANNELS WITH METEOROLOGICAL DATA FOR FOG FORECASTING AND MAPPING OVER DESERT AREAS IN THE UAE

Abdulla Hamad Bushahab, Emirates Institution for Advanced Science & Technology, United Arab Emirates; Hosni Ghedira, American University in Dubai, United Arab Emirates; Khalid Mubarak, Hussain Al-Ahmad, Ali Dawood, Khalifa University of Science, Technology and Research (KUSTAR), United Arab Emirates

THP2.PK.6 IMPROVING FORECAST SKILL BY ASSIMILATION OF AIRS TEMPERATURE SOUNDINGS

Joel Susskind, Oreste Reale, NASA, United States

THP2.PK.7 APPLICATION OF REMOTELY SENSED WIND MEASUREMENTS TO OCEAN SURFACE WIND ANALYSIS

Robert Atlas, National Oceanic and Atmospheric Administration, United States

THP2.PK.8 IMPACT OF HIGH RESOLUTION SST DATA ON REGIONAL WEATHER FORECASTS

Gary Jedlovec, NASA, United States; Jonathon Case, ENSCO, United States; Frank LaFontaine, Raytheon, United States; Jorge Vazquez, Jet Propulsion Laboratory, United States; Craig Mattocks, University of North Carolina at Chapel Hill, United States

THP2.PK.9 GLOBAL ATMOSPHERIC AND IONOSPHERIC DISTURBANCES CAUSED BY THE SUMATRA TSUNAMI

Min-Chang Lee, Boston University / MIT, United States; Rezy Pradipta, Massachusetts Institute of Technology, United States; Willaim Burke, Air Force Research Laboratory, United States; Anthea Coster, Anna Labno, Laura Burton, Joel Cohen, Seth Dorfman, Massachusetts Institute of Technology, United States; Michael Sulzer, Craig Tepley, Sixto Gonzalez, Nestor Aponte, Arecibo Observatory, United States; Spencer Kuo, Polytechnic University, United States

THP2.PK.10 ♦ COMMUNITY REMOTE SENSING SCHEME FOR SEVERE WEATHER ALERTS USING DOPPLER WEATHER RADAR DATA ON MOBILE PLATFORM

Viswanathan G, Aryabhatta Research Institute of Observational Sciences, India; Pradeep Kumar C, RDA ISTRAC ISRO, India; Uday Bhaskar M, Venkatesh Rao I, Spanwave Technology Solutions Pvt Ltd, India

THP2.PK.11 MULTI-INSTRUMENT IONOSPHERIC DISTURBANCE DETECTION OVER THE EASTERN MEDITERRANEAN REGION

Haris Haralambous, Frederick University, Cyprus; Ayman Mahrous, Helwan University, Egypt; Photis Vrionides, Frederick University, Cyprus; Amira Shimeis, Helwan University, Egypt

THP2.PL: Thursday, July 29, 14:55 - 16:00

- THP2.PL Microwave Scattering III**
 Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area L
 Chair: Ya-Qiu Jin, Fudan University
- THP2.PL.1 COMPOSITE SCATTERING FROM ELECTRIC-LARGE TARGET OVER RANDOMLY ROUGH SURFACE USING FAST COMPUTATION OF BART**
 Ya-Qiu Jin, Feng Xu, Fudan University, China
- THP2.PL.2** ◇ **THE BISTATIC ELECTROMAGNETIC SIGNATURE OF HETEROGENEOUS SEA SURFACE: STUDY OF THE HYDRODYNAMIC PHENOMENA**
 Slahedine Ben Khadra, Ali Khenchaf, ENSIETA, France
- THP2.PL.3 TARGET DETECTION PERFORMANCE ANALYSIS FOR AIRBORNE PASSIVE BISTATIC RADAR**
 Danny Kai Pin Tan, Marc Lesturgie, SONDRRA, TL@NTU, France; Hongbo Sun, Yilong Lu, TL@NTU, Singapore
- THP2.PL.4 LAND SURFACE EMISSIVITY ESTIMATION AT 89 AND 150 GHZ FROM AMSU-B MEASUREMENTS**
 James R. Wang, Science Systems and Applications Inc., United States; Gail Skofronick-Jackson, NASA Goddard Space Flight Center, United States; Benjamin Johnson, Goddard Earth Science and Technology / University of Maryland at Baltimore County, United States
- THP2.PL.5 CONTRIBUTION OF SMALL-SCALE CORRELATED FLUCTUATIONS OF MICROSTRUCTURAL PROPERTIES OF A SPATIALLY EXTENDED GEOPHYSICAL TARGET UNDER THE ASSESSMENT OF RADAR BACKSCATTER**
 Boris Yurchak, University of Maryland, Baltimore County, United States
- THP2.PL.6 SIGNAL ANALYSIS AND MODELING OF WIND TURBINE CLUTTER IN WEATHER RADARS**
 Kumar Vijay Mishra, V. Chandrasekar, Colorado State University, United States
- THP2.PL.7** ◇ **UWB ELECTROMAGNETIC BOREHOLE LOGGING TOOL**
 Mikhail Epov, Trofimuk Institute of Petroleum Geology and Geophysics, Russian Federation; Valery Mironov, Konstantin Muzalevskiy, Kirensky Institute of Physics, Russian Federation; Igor Yeltsov, Trofimuk Institute of Petroleum Geology and Geophysics, Russian Federation
- THP2.PL.8 IMPROVED DETECTION OF A TARGET ON A RANDOM ROUGH SURFACE USING ANGULAR CORRELATION FUNCTION**
 Sermasak Jaruwatanadilok, Jet Propulsion Laboratory, California Institute of Technology, United States; Sumit Roy, Yasuo Kuga, University of Washington, United States
- THP2.PL.9 SEPARATION OF BUILT-UP AREAS USING POLARIZATION ORIENTATION FROM POLARIMETRIC SAR IMAGES**
 Hiroshi Kimura, Gifu University, Japan

THP2.PM: Thursday, July 29, 14:55 - 16:00**THP2.PM Optical and Infrared Modeling Poster**

Session Type: Poster
 Time: Thursday, July 29, 14:55 - 16:00
 Place: Poster Area M
 Chair: Andreas Hueni, University of Zurich

THP2.PM.1 SEA SURFACE TEMPERATURE RETRIEVAL FROM IRAS/FY-3A DATA
Geng-Ming Jiang, Fudan University, China; Suhong Liu, Beijing Normal University, China**THP2.PM.2 AN ALGORITHM FOR RETRIEVING LAND-SURFACE TEMPERATURE FROM MODIS DATA — A CASE STUDY OF NORTHERN HEBEI, CHINA**
Dandan Wei, Xiaobing Li, Hanwei Liang, Yun Bao, Jingjing Yu, Beijing Normal University, China**THP2.PM.3 RETRIEVING AND EVALUATING WATER VAPOR CONTENT FROM MODIS DATA BY NEURAL NETWORK**
Kebiao Mao, Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China; Deyong Hu, College of Resource Environment and Tourism, China; Lipeng Jiang, National Meteorological Information Center, China; Shuwen Zhang, Wu Zhang, Yuzhi Liu, Lanzhou University, China**THP2.PM.4 SIMULATION OF URBAN OPTICAL IMAGES FROM SPECTRAL AND SPATIAL RESOLUTION MULTI-ANGULAR AIRBORNE ACQUISITIONS**
Stéphanie Doz, Xavier Briottet, ONERA, France; Florence Porez-Nadal, Sophie Lachérade, Centre National d'Etudes Spatiales (CNES), France**THP2.PM.5 DETECTION AND IDENTIFICATION OF EXPLOSIVES AND ILLICIT DRUGS BY TERAHERTZ SPECTROSCOPY TECHNOLOGY**
Wen-Tao Liu, Jing-wen Li, Beihang University, China; Chun-yan Du, Chinese Academy of Sciences, China; Zhi-hui Sun, Beijing Institute of Technology, China**THP2.PM.6 A COMPARISON OF TWO STREAM APPROXIMATION FOR THE DISCRETE ORDINATE METHOD AND THE SOS METHOD**
Weizhen Hou, Institute of Remote Sensing Applications Chinese Academy of Sciences; Graduate School of Chinese Academy of Sciences, China; Qiu Yin, Shanghai Center for Satellite Remote Sensing Applications, China; Hua Xu, Institute of Remote Sensing Applications Chinese Academy of Sciences; Graduate School of Chinese Academy of Sciences, China; Li Li, Zhenghua Chen, Institute of Remote Sensing Applications Chinese Academy of Sciences, China**THP2.PM.7** \diamond **RESEARCH ON 3D CANOPY'S REFLECTANCE MODEL OF SEMI-ARID GRASSLAND**
Yuan Sun, Xingfa Gu, Tao Yu, Feng Zhao, Xing-feng Chen, Hai-liang Gao, Juan Li, State Key Laboratory of Remote Sensing Science, Jointly Sponsored by the Institute of Remote Sensing Applications of Chinese Academy of Sciences and Beijing Normal University, China**THP2.PM.8 MEASURING THE ERROR BETWEEN ACTUAL AND ESTIMATED ATMOSPHERICS AND THE EFFECT ON ESTIMATING REFLECTANCE PROFILES**
Allan Yarbrough, Michael Mendenhall, Steven Fiorino, Air Force Institute of Technology, United States**THP2.PM.9 LIDAR MODELING WITH THE DART 3D MODEL**
Jeremy Rubio, University of Maryland / CESBIO, United States; Eloi Grau, Jean Philippe Gastellu Etchegorry, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Guoqing Sun, University of Maryland, United States; K. Jon Ranson, NASA / GSFC, United States**THP2.PM.10 SUSPENDED PARTICULATE MATTER (SPM) CONCENTRATIONS INVERSION FROM REMOTE SENSING DATA BASED ON ANALYTIC MODEL**
Yuxia Li, Ling Tong, University of Electronic Science and Technology of China, China; Yuanzhi Zhang, Bo Pang, Chinese University of Hong Kong, China

TH4.L01: Thursday, July 29, 15:40 - 17:20**TH4.L01 Advanced Methods in Satellite Photo-/Radargrammetry II**

Session Type: Oral-Invited
 Time: Thursday, July 29, 15:40 - 17:20
 Place: Sea Pearl 1/2/3
 Chair: Ayman Habib, University of Calgary

15:40 - 16:00

TH4.L01.1 DSM GENERATION FROM VERY HIGH RESOLUTION OPTICAL AND RADAR SENSORS: PROBLEMS AND POTENTIALITIES ALONG THE ROAD FROM THE 3D GEOMETRIC MODELING TO THE SURFACE MODEL

Mattia Crespi, Paola Capaldo, Francesca Fratarcangeli, Andrea Nascetti, Francesca Pieralice, Università di Roma, Italy

16:00 - 16:20

TH4.L01.2 \diamond RPC MODELING FOR SPACEBORNE SAR AND ITS APPLICATION IN RADARGRAMMETRY

Xueyan He, Xiaohong Wei, Lu Zhang, Timo Balz, Mingsheng Liao, Wuhan University, China

16:20 - 16:40

TH4.L01.3 RADARGRAMMETRIC IMPROVEMENTS: A MULTI-WINDOW APPROACH.

Franck Fayard, Stephane Meric, Eric Pottier, European University of Brittany, France

16:40 - 17:00

TH4.L01.4 SAR MAPPING TECHNOLOGY AND ITS APPLICATION IN DIFFICULT TERRAIN AREA

Jixian Zhang, Chinese Academy of Surveying and Mapping, China; Shucheng Yang, Wuhan University, China; Zheng Zhao, Guoman Huang, Chinese Academy of Surveying and Mapping, China

17:00 - 17:20

TH4.L01.5 GROUND TOPOGRAPHY ESTIMATION OVER FORESTS CONSIDERING POLARIMETRIC SAR INTERFEROMETRY

Carlos López-Martínez, Universitat Politècnica de Catalunya, Spain; Konstantinos Papathanassiou, German Aerospace Center (DLR), Germany; Xavier Fabregas, Alberto Alonso-González, Universitat Politècnica de Catalunya, Spain

TH4.L02: Thursday, July 29, 15:40 - 17:20**TH4.L02 SAR and Altimetry**

Session Type: Oral-Contributed
 Time: Thursday, July 29, 15:40 - 17:20
 Place: Sea Pearl 4/5/6
 Co-Chairs: Jean Tournadre, IFREMER and Roberto Sabia, CSIC

15:40 - 16:00

TH4.L02.1 A GNSS-BASED TIDE GAUGE FOR LOCAL SEA LEVEL MONITORING

Johan Löfgren, Rüdiger Haas, Jan Johansson, Chalmers University of Technology, Sweden

16:00 - 16:20

TH4.L02.2 THE LOW-FREQUENCY VARIABILITY OF THE SOUTHERN HEMISPHERE CIRCULATION

Emanuel Giarolla, Ricardo Matano, Oregon State University, United States

16:20 - 16:40

TH4.L02.3 THE PROOF OF CONCEPT FOR 3-CM ALTIMETRY USING THE PARIS INTERFEROMETRIC TECHNIQUE

Oleguer Nogués-Correig, Serni Ribó, Juan Carlos Arco, Estel Cardellach, Antonio Rius, Institut de Ciències de l'Espai (ICE-CSIC/IEEC), Spain; Enric Valencia, Adriano Camps, Universitat Politècnica de Catalunya, Spain; Hans van der Marel, Delft University of Technology, Netherlands; Manuel Martín-Neira, European Space Agency - ESTEC, Netherlands

16:40 - 17:00

TH4.L02.4 ANALYTICAL MODEL OF THE ELECTROMAGNETIC BIAS USING THE PHYSICAL OPTICS SCATTERING THEORY

Praphun Naenna, Joel Johnson, Gregory Baker, C. K. Shum, Ohio State University, United States

17:00 - 17:20

TH4.L02.5 HIGH RESOLUTION IMAGING OF THE OCEAN SURFACE BACKSCATTER BY INVERSION OF ALTIMETER WAVEFORMS

Jean Tournadre, Bertrand Chapron, Nicolas Reul, Yves Quilfen, IFREMER, France

TH4.L03: Thursday, July 29, 15:40 - 17:20

TH4.L03 International Open Standards for Geosciences - Standards Applications

Session Type: Oral-Invited
 Time: Thursday, July 29, 15:40 - 17:20
 Place: Hibiscus
 Chair: George Percivall, Open Geospatial Consortium

15:40 - 16:00

TH4.L03.1 ONEGEOLOGY: A PRAGMATIC APPROACH TO INTERNATIONAL STANDARDS
 Ian Jackson, British Geological Survey, United Kingdom

16:00 - 16:20

TH4.L03.2 OPEN STANDARDS IN THE INTEGRATED OCEAN OBSERVING SYSTEM (IOOS)
 Jeff de La Beaujardière, National Oceanic and Atmospheric Administration, United States

16:20 - 16:40

TH4.L03.3 UNITED STATES NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA) USE OF INTERNATIONAL STANDARDS FOR UAVS
 Donald Sullivan, National Aeronautics and Space Administration, United States

16:40 - 17:00

TH4.L03.4 A DISTRIBUTED DATA SHARING SYSTEM FOR INTERDISCIPLINARY ECOSYSTEM SERVICES MODELING
 Min Feng, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Chengquan Huang, University of Maryland, United States; Zhiliang Zhu, U.S. Geological Survey, United States

17:00 - 17:20

TH4.L03.5 ♦ **A DISTRIBUTED LIDAR PROCESSING MODEL BASED ON OWS AND BPEL**
 Lingjun Kang, Qunyong Wu, Fuzhou University, China; Ying Yuan, Xiamen University of Technology, China

TH4.L04: Thursday, July 29, 15:40 - 17:20

TH4.L04 Optical Imagery for Surface Change Detection: Techniques and Applications II

Session Type: Oral-Invited
 Time: Thursday, July 29, 15:40 - 17:20
 Place: Kahili
 Co-Chairs: Sébastien Leprince, California Institute of Technology and Bodo Bookhagen, University of California, Santa Barbara

15:40 - 16:00

TH4.L04.1 GEOMETRIC IMPROVEMENT FOR EARTH OBSERVATION APPLICATIONS
 Jean-Marc Delvit, Daniel Greslou, Christophe Latry, Laurent Lebegue, Vincent Martin, Sylvia Sylvander, Centre National d'Etudes Spatiales (CNES), France

16:00 - 16:20

TH4.L04.2 TOWARD A CONCEPT OF SPACE-BASED OPTICAL SEISMOMETER
 Rémi Michel, Commissariat à l'Energie Atomique, France; Sébastien Leprince, California Institute of Technology, United States; Serge Primet, Institut d'Optique Théorique et Appliqué, France; Renaud Binet, Commissariat à l'Energie Atomique, France; Jean-Philippe Avouac, California Institute of Technology, United States

16:20 - 16:40

TH4.L04.3 PERFORMANCE AND APPLICATION OF DIFFERENT IMAGE MATCHING ALGORITHMS FOR INVESTIGATING GLACIER AND ICE-SHELF FLOW, PERMAFROST CREEP AND LANDSLIDES
 Torborg Haug, Misganu Debella-Gilo, Jonas Karstensen, Andreas Käab, University of Oslo, Norway

16:40 - 17:00

TH4.L04.4 ♦ **USING REMOTELY-SENSED PRECIPITATION AND GLACIAL VELOCITIES AS CLIMATIC INDICATORS IN THE HIMALAYA**
 Bodo Bookhagen, University of California, Santa Barbara, United States; Dirk Scherler, Universität Potsdam, Germany

17:00 - 17:20

TH4.L04.5 SAR AND OPTICAL SATELLITE IMAGES FOR CO-SEISMIC HORIZONTAL OFFSETS ESTIMATE AND FAULT TRACE MAPPING USING PHASE-CORR TECHNIQUE
 Marco Chini, Istituto Nazionale di Geofisica e Vulcanologia, Italy; Pablo Gonzalez, Instituto de Astronomia y Geodesia, Spain; Salvatore Stramondo, Istituto Nazionale di Geofisica e Vulcanologia, Italy; Jose Fernandez, Instituto de Astronomia y Geodesia, Spain

THURSDAY

TH4.L05: Thursday, July 29, 15:40 - 17:20**TH4.L05 Regional Land Cover Change II**

Session Type: Oral-Contributed
 Time: Thursday, July 29, 15:40 - 17:20
 Place: South Pacific 3
 Chair: Erika Podest, Jet Propulsion Laboratory/California Institute of Technology

15:40 - 16:00

TH4.L05.1 COMBINATION OF HARD AND SOFT CLASSIFICATION METHOD BASED ON ADAPTIVE THRESHOLD

T.G. Hu, Y.Z. Pan, J.S. Zhang, W.F. Ma, G.N. Sun, L. Li, Beijing Normal University, China

16:00 - 16:20

TH4.L05.2 CASE STUDIES OF AUTOMATIC CHANGE DETECTION USING AVNIR-2 ONBOARD ALOS

Shutaro Hashimoto, Masahiko Onosato, Hokkaido University, Japan; Takeo Tadono, Masahiro Hori, Takashi Moriyama, Japan Aerospace Exploration Agency, Japan

16:20 - 16:40

TH4.L05.3 ◊ PRELIMINARY ASSESSMENT OF THE LAND USE AND LAND COVER CHANGES IN CASPIAN SEA BASIN USING MODIS DATA

Ali Nouri, University of California, Los Angeles, United States; Sassan Saatchi, NASA Jet Propulsion Laboratory, United States; Qiang Fu, University of California, Los Angeles, United States

16:40 - 17:00

TH4.L05.4 USING GRADIENT PATTERN ANALYSIS FOR LAND USE AND LAND COVER CHANGE DETECTION

Ramon Marais de Freitas, Reinaldo Roberto Rosa, Yosio Edemir Shimabukuro, Instituto Nacional de Pesquisas Espaciais, Brazil

17:00 - 17:20

TH4.L05.5 VALIDATION OF THE MODIS BURNED-AREA PRODUCTS ACROSS DIFFERENT BIOMES IN SOUTH AFRICA

Philemon Tsela, Paul vanHelden, University of Pretoria, South Africa; Philip Frost, Konrad Wessels, Council for Scientific and Industrial Research, South Africa

TH4.L06: Thursday, July 29, 15:40 - 17:20**TH4.L06 Data Fusion**

Session Type: Oral-Contributed
 Time: Thursday, July 29, 15:40 - 17:20
 Place: South Pacific 4
 Co-Chairs: Jocelyn Chanussot, Grenoble Institute of Technology and Jenny Du, Mississippi State University

15:40 - 16:00

TH4.L06.1 WEIGHTED DECISION FUSION FOR SUPERVISED AND UNSUPERVISED HYPERSPECTRAL IMAGE CLASSIFICATION

He Yang, Qian Du, Ben Ma, Mississippi State University, United States

16:00 - 16:20

TH4.L06.2 BUILDING HEIGHT RETRIEVAL IN URBAN AREAS IN THE FRAMEWORK OF HIGH RESOLUTION OPTICAL AND SAR DATA FUSION

Helene Sportouche, Florence Tupin, Institut Telecom; Telecom ParisTech, France; Leonard Denise, Thales Communications; Land and Joint, France

16:20 - 16:40

TH4.L06.3 ASSIMILATION OF D-INSAR AND SUB-PIXEL IMAGE CORRELATION DISPLACEMENT MEASUREMENTS FOR COSEISMIC FAULT PARAMETER ESTIMATION

Yajing Yan, Emmanuel Trouvé, Virginie Pinel, Université de Savoie, France; Erwan Pathier, Université Joseph Fourier, France; Amory Bisserier, Gilles Mauris, Sylvie Galichet, Université de Savoie, France

16:40 - 17:00

TH4.L06.4 ASSIMILATION OF SVM-BASED ESTIMATES OF LAND SURFACE TEMPERATURE FOR THE RETRIEVAL OF SURFACE ENERGY BALANCE COMPONENTS

Giorgio Boni, Federica Martina, CIMA Research Foundation, Italy; Gabriele Moser, Sebastiano B. Serpico, University of Genoa, Italy

17:00 - 17:20

TH4.L06.5 MULTI-RESOLUTION SPATIAL UNMIXING FOR MERIS AND LANDSAT IMAGE FUSION

Julia Amorós, Luis Gómez-Chova, Luis Guanter, Luis Alonso, Jose Moreno, Gustavo Camps-Valls, Universitat de València, Spain

TH4.L07: Thursday, July 29, 15:40 - 17:20

TH4.L07 AMSR-E II

Session Type: Oral-Contributed
 Time: Thursday, July 29, 15:40 - 17:20
 Place: Nautilus
 Co-Chairs: Akira Shibata, Earth Observation Research Center and Elena Lobl, The University of Alabama in Huntsville

15:40 - 16:00

TH4.L07.1 SEA ICE SCIENCE USING AQUA AMSR-E DATA: RETRIEVAL OF SEA ICE PARAMETERS AND SCIENTIFIC ACCOMPLISHMENTS

Thorsten Markus, Joey Comiso, Donald Cavalieri, NASA, United States

16:00 - 16:20

TH4.L07.2 TOWARD AN IMPROVED NASA AMSR-E SWE PRODUCT: VALIDATION AND REFINEMENT

Marco Tedesco, CUNY, United States; Parag Narvekar, City College of New York, United States; James Foster, NASA, United States; Richard Kelly, University of Waterloo, Canada; Bhaskar Choudhury, NASA, United States

16:20 - 16:40

TH4.L07.3 RADIATIVE FEEDBACK SIGNATURES IN AMSR-E SEA SURFACE TEMPERATURES VERSUS TROPOSPHERIC TEMPERATURES

William D. Braswell, Roy W. Spencer, University of Alabama, Huntsville, United States

16:40 - 17:00

TH4.L07.4 CORRECTION ON AMSR-E AND WINDSAT SST FOR LONG TERM TREND

Akira Shibata, Japan Aerospace Exploration Agency, Japan

17:00 - 17:20

TH4.L07.5 INTER-SATELLITE CALIBRATION OF MICROWAVE SOUNDERS FOR CLIMATE TREND MONITORING

Cheng-Zhi Zou, NOAA/NESDIS, United States

TH4.L08: Thursday, July 29, 15:40 - 17:20

TH4.L08 Arctic Sea Ice Change and Impacts II

Session Type: Oral-Invited
 Time: Thursday, July 29, 15:40 - 17:20
 Place: South Pacific 1/2
 Co-Chairs: Son Nghiem, Jet Propulsion Laboratory and Charles Luther, IEEE Geoscience and Remote Sensing Society

15:40 - 16:00

TH4.L08.1 IMPACTS OF ARCTIC SEA ICE CHANGE ON ICE-ALBEDO FEEDBACK AND SURFACE ENERGY BALANCE

Donald Perovich, ERDC - CRREL, United States

16:00 - 16:20

TH4.L08.2 CHANGES IN CIRCULATION OF THE UPPER ARCTIC OCEAN FROM REMOTE SENSING AND TRADITIONAL OBSERVATIONS

James Morison, Cecilia Peralta-Ferriz, University of Washington, United States; Ron Kwok, Jet Propulsion Laboratory, United States; Ignatius Rigor, University of Washington, United States

16:20 - 16:40

TH4.L08.3 IMPACTS OF AN ICE-DIMINISHING ARCTIC ON NAVAL AND MARITIME OPERATIONS

Pablo Clemente-Colón, U.S. National Ice Center, United States

16:40 - 17:00

TH4.L08.4 REMOTE SENSING OF BROMINE MONOXIDE IN RELATION TO BOUNDARY-LAYER HALOGEN CHEMISTRY

William Simpson, Deanna Donohoue, Daniel Carlson, University of Alaska, Fairbanks, United States; Ross Salawitch, Tim Canty, University of Maryland, United States; Thomas Kurosu, Kelly Chance, Harvard-Smithsonian Center of Astrophysics, United States

17:00 - 17:20

TH4.L08.5 SENSING HABITAT USE BY ICE-ASSOCIATED SEALS; FROM DOG NOSES TO SATELLITE OBSERVATIONS

Brendan Kelly, Peter Boveng, Michael Cameron, National Oceanic and Atmospheric Administration, United States

THURSDAY

TH4.L09: Thursday, July 29, 15:40 - 17:20**TH4.L09 RADARSAT II**

Session Type: Oral-Invited

Time: Thursday, July 29, 15:40 - 17:20

Place: Coral 1

Co-Chairs: Satish Srivastava, Canadian Space Agency and Tom Lukowski, Defence Research & Development Canada

15:40 - 16:00

TH4.L09.1 ♦ GEOLOGICAL AND GEOHAZARD APPLICATIONS OF RADARSAT-2

Vern Singhroy, Francois Charboneau, Goran Pavlic, Kevin Murnaghan, Canada Centre for Remote Sensing, Canada

16:00 - 16:20

TH4.L09.2 ADVANTAGES OF RADARSAT-2 FOR OPERATIONAL ICE MONITORING

Roger De Abreu, Matthew Arkett, Tom Zagon, Gaëtan Langlois, Canadian Ice Service, Canada

16:20 - 16:40

TH4.L09.3 INTEGRATION OF RADARSAT-2, TERRASAR-X AND ALOS PALSAR DATA FOR IN-SEASON CROP ACREAGE ESTIMATES: A CANADIAN EXAMPLE

Jiali Shang, Heather McNairn, Xianfeng Jiao, Catherine Champagne, Agriculture and Agri-Food Canada, Canada

16:40 - 17:00

TH4.L09.4 RADARSAT-2 SUPPORT TO CANADIAN FORCES OPERATIONS: TRANSFORMATIONAL LEADERSHIP BY PROJECT POLAR EPSILON

Robert Quinn, Canadian Armed Forces, Canada

17:00 - 17:20

TH4.L09.5 POLARISATION AND MODE COMBINATIONS FOR SHIP DETECTION USING RADARSAT-2

Hannevik Tonje Nanette Arnesen, Norwegian Defence Research Establishment, Norway

TH4.L10: Thursday, July 29, 15:40 - 17:20**TH4.L10 The NASA Soil Moisture Active and Passive Mission (SMAP): Data Products, Science and Applications II**

Session Type: Oral-Invited

Time: Thursday, July 29, 15:40 - 17:20

Place: Coral 2

Co-Chairs: Joel Johnson, Ohio State University and Wade Crow, USDA/ARS

15:40 - 16:00

TH4.L10.1 SMOS SMAP SYNERGISMS FOR THE RETRIEVAL OF SOIL MOISTURE

Yann Kerr, François Cabot, Philippe Richaume, Ahmad AlBitar, Elsa Jacqueline, Arnaud Mialon, Claire Gruhier, Silvia Juglea, Delphine Leroux, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Ali Mahmoodi, ARRAY, Canada; Jean-Pierre Wigneron, INRA, France

16:00 - 16:20

TH4.L10.2 SMAPEX: SOIL MOISTURE ACTIVE PASSIVE REMOTE SENSING EXPERIMENT FOR SMAP ALGORITHM DEVELOPMENT

Jeffrey Walker, Rocco Panciera, Dongryeol Ryu, University of Melbourne, Australia; Doug Gray, University of Adelaide, Australia; Thomas Jackson, United States Department of Agriculture, United States

16:20 - 16:40

TH4.L10.3 COMBINED PASSIVE AND ACTIVE MICROWAVE OBSERVATIONS OF SOIL MOISTURE DURING SMAPVEX08

Rajat Bindlish, SSAI, USDA ARS Hydrology and Remote Sensing Lab, United States; Thomas Jackson, Michael Cosh, USDA ARS Hydrology and Remote Sensing Lab, United States; Simon Yueh, Steve Dinardo, Jet Propulsion Laboratory, United States

16:40 - 17:00

TH4.L10.4 ASSIMILATION OF BRIGHTNESS TEMPERATURES FROM THE SOIL MOISTURE ACTIVE AND PASSIVE (SMAP) MISSION: IMPACT STUDIES ON SHORT-RANGE NUMERICAL WEATHER PREDICTION.

Stéphane Bélair, Marco Carrera, Bernard Bilodeau, Lily Ioannidou, Sheena Solomon, Martin Charron, Environment Canada, Canada; Christophe Lavaysse, McGill University, Canada

17:00 - 17:20

TH4.L10.5 THE SMAP LEVEL 4 SURFACE AND ROOT-ZONE SOIL MOISTURE PRODUCT

Rolf Reichle, NASA Goddard Space Flight Center, United States; Wade Crow, USDA/ARS, United States; Randal Koster, NASA Goddard Space Flight Center, United States; John Kimball, University of Montana, United States

FR1.L01: Friday, July 30, 08:20 - 10:00**FR1.L01 Pollution and Contamination**

Session Type: Oral-Contributed
 Time: Friday, July 30, 08:20 - 10:00
 Place: Sea Pearl 1/2/3
 Co-Chairs: Tomoaki Miura, University of Hawaii at Manoa and Paul Gader, University of Florida

08:20 - 08:40

FR1.L01.1 HYPERSPECTRAL IMAGING FOR LARGE-AREA MONITORING OF CARBON DIOXIDE GEOLOGIC SEQUESTRATION SITES

Gabriel Bellante, Scott Powell, Rick Lawrence, Kevin Repasky, Tracy Dougher, Montana State University, United States

08:40 - 09:00

FR1.L01.2 MONITORING OF VEGETATION GROWING ENVIRONMENT IN THE MINING AREA OF THE MOUNT LYELL USING HYMAP IMAGES

Bing Zhang, Di Wu, Quanjun Jiao, Qingting Li, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

09:00 - 09:20

FR1.L01.3 INVERSION OF SOIL CU CONCENTRATION BASED ON BAND SELECTION OF HYPERSPECTRAL DATA

Xia Zhang, Changping Huang, Bo Liu, Qingxi Tong, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

09:20 - 09:40

FR1.L01.4 MERGED APPLICATION OF MULTI-FREQUENCY SAR IMAGES AND SIMULATION SAR IMAGES FOR OIL SPILL MONITORING

Chan-Su Yang, Seong-Min Park, KORDI, Republic of Korea; Kazuo Ouchi, National Defense Academy, Japan; Yisok Oh, Hongik University, Republic of Korea

09:40 - 10:00

FR1.L01.5 OIL-SLICK OBSERVATION USING SINGLE LOOK COMPLEX TERRASAR-X DUAL-POLARIZED DATA

Domenico Velotto, German Aerospace Center (DLR), Germany; Maurizio Migliaccio, Ferdinando Nunziata, Università di Napoli Parthenope, Italy; Susanne Lehner, German Aerospace Center (DLR), Germany

FR1.L02: Friday, July 30, 08:20 - 10:00**FR1.L02 Ocean Biology I**

Session Type: Oral-Contributed
 Time: Friday, July 30, 08:20 - 10:00
 Place: Sea Pearl 4/5/6
 Co-Chairs: Gerhard Meister, Futuretech Corp and Selima Ben Mustapha, Université de Sherbrooke

08:20 - 08:40

FR1.L02.1 CORRECTIONS TO THE CALIBRATION OF MODIS AQUA OCEAN COLOR BANDS DERIVED FROM SEAWIFS DATA

Gerhard Meister, Futuretech Corporation, United States; Bryan Franz, NASA, United States; Ewa Kwiatkowska, SAIC, United States; Charles McClain, NASA, United States

08:40 - 09:00

FR1.L02.2 COMBINING SATELLITE-DERIVED CHLOROPHYLL-A DATA AND HIGH-RESOLUTION DUBAISAT-1 DATA TO DETECT AND MONITOR RED TIDE OUTBREAKS IN THE ARABIAN GULF

Ammar Al Muhairi, Emirates Institution for Advanced Science & Technology, United Arab Emirates; Hosni Ghedira, MASDAR Institute/MIT, United Arab Emirates; Ali Shaheen, Emirates Institution for Advanced Science & Technology, United Arab Emirates

09:00 - 09:20

FR1.L02.3 INLAND WATER CONSTITUENT RETRIEVAL WITH THE APEX IMAGING SPECTROMETER

Daniel Odermatt, University of Zurich, Switzerland; Els Knaeps, Dries Raymaekers, TAP-VITO, Belgium; Thomas Heege, EOMAP, Germany; Sindy Sterckx, TAP-VITO, Belgium; Matthias Kneubühler, Michael Schaeppman, University of Zurich, Switzerland

09:20 - 09:40

FR1.L02.4 DOES AVHRR-SEA SURFACE TEMPERATURE FRONTS IN THE BEAUFORT SEA, REVEALS BIOLOGICAL HOTSPOTS ?

Selima Ben Mustapha, Université de Sherbrooke, Canada; Pierre Larouche, Fisheries and oceans canada, Canada

09:40 - 10:00

FR1.L02.5 PRELEMINARY ANALYSIS OF DATA PROCESSING FOR GEOSTATIONARY OCEAN COLOR REMOTE SENSING DATA FROM GOCI/COMS

Hee-Jeong Han, Joo-Hyung Ryu, Chan-Su Yang, Seongjick Cho, Yu-Hwan Ahn, Korea Ocean Research & Development Institute, Republic of Korea

FR1.L03: Friday, July 30, 08:20 - 10:00**FR1.L03 Ship Detection with Radar and SAR**

Session Type: Oral-Contributed

Time: Friday, July 30, 08:20 - 10:00

Place: Hibiscus

Co-Chairs: Jochen Horstmann, NURC, Italy and Farid Melgani, University of Trento

08:20 - 08:40

FR1.L03.1 SHIP DETECTION WITH RADARSAT-2 QUAD-POL SAR DATA USING A NOTCH FILTER BASED ON PERTURBATION ANALYSIS

Armando Marino, University of Edinburgh, United Kingdom; Nick Walker, eOsphere Ltd, United Kingdom; Iain Woodhouse, University of Edinburgh, United Kingdom

08:40 - 09:00

FR1.L03.2 MORPHOLOGICAL-BASED SOURCE EXTRACTION METHOD FOR HFSW RADAR SHIP DETECTION

Samuel Grosdidier, Alexandre Baussard, Ali Khenchaf, e3i2 Laboratory, France

09:00 - 09:20

FR1.L03.3 AUTOMATIC SHIP DETECTION IN SAR IMAGES USING AEGIR

Tonje Nanette Arnesen Hannevik, Norwegian Defence Research Establishment, Norway

09:20 - 09:40

FR1.L03.4 EVALUATION OF HF-RADAR SHIP DETECTION ALGORITHM BY COMPARISON TO AIS AND SAR DATA

Jochen Horstmann, Raffaele Grasso, Matthew Coffin, NATO Undersea Research Center, Italy; Klaus-Werner Gurgel, Thomas Schlick, University of Hamburg, Germany

09:40 - 10:00

FR1.L03.5 IMPROVEMENT OF SHIP DETECTION ACCURACY BY SAR MULTI-LOOK CROSS-CORRELATION TECHNIQUE USING ADAPTIVE CFAR

Kazuo Ouchi, Seong-In Hwang, National Defense Academy, Japan

FR1.L04: Friday, July 30, 08:20 - 10:00**FR1.L04 New Machine Learning Methods for Remote Sensing Data Analysis I**

Session Type: Oral-Invited

Time: Friday, July 30, 08:20 - 10:00

Place: Kahili

Co-Chairs: Gustavo Camps-Valls, University of Valencia and Devis Tuia, University of Lausanne

08:20 - 09:00 Overview Talk (40 minutes)

FR1.L04.1 RECENT TRENDS IN CLASSIFICATION OF REMOTE SENSING DATA: ACTIVE AND SEMISUPERVISED MACHINE LEARNING PARADIGMS

Lorenzo Bruzzone, Claudio Persello, University of Trento, Italy

09:00 - 09:20

FR1.L04.3 MAHALANOBIS KERNEL FOR THE CLASSIFICATION OF HYPERSPECTRAL IMAGES

Mathieu Fauvel, INRIA, MISTIS Team-Project, France; Alberto Villa, GIPSA-lab, Grenoble INP & University of Iceland, France; Jocelyn Chanussot, GIPSA-lab, Grenoble INP, France; Jon Atli Benediktsson, University of Iceland, Iceland

09:20 - 09:40

FR1.L04.4 CONTEXTUAL REMOTE-SENSING IMAGE CLASSIFICATION BY SUPPORT VECTOR MACHINES AND MARKOV RANDOM FIELDS

Gabriele Moser, Sebastiano B. Serpico, University of Genoa, Italy

09:40 - 10:00

FR1.L04.5 USING SUPPORT VECTOR MACHINES FOR ANOMALOUS CHANGE DETECTION

Ingo Steinwart, James Theiler, Daniel Llamocca, Los Alamos National Laboratory, United States

FR1.L05: Friday, July 30, 08:20 - 10:00

FR1.L05 Satellite Observations of Vegetation and Temperature

Session Type: Oral-Contributed
 Time: Friday, July 30, 08:20 - 10:00
 Place: South Pacific 3
 Co-Chairs: Gegen Tana, Chiba University and Michele Lazzarini, Tor Vergata University

08:20 - 08:40

FR1.L05.1 VEN μ S (VEGETATION AND ENVIRONMENT MONITORING ON A NEW MICRO SATELLITE)
 Pierrick Ferrier, Centre National d'Etudes Spatiales (CNES), France; Philippe Cr ebassol, G erard Dedieu, Oliver Hagolle, Aim e Meygret, Francesc Tinto, Centre National d'Etudes Spatiales, France; Yoram yaniv, IAI, Israel; jacob Herscovitz, RAFAEL, Israel

08:40 - 09:00

FR1.L05.2 SENTINEL-2 OPTICAL HIGH RESOLUTION MISSION FOR GMES LAND OPERATIONAL SERVICES
 Claudia Isola, Ferran Gascon, Matthias Drusch, Philippe Martimort, Umberto del Bello, Francois Spoto, Omar Sy, European Space Agency, Netherlands

09:00 - 09:20

FR1.L05.3 \diamond COMPARISON OF GLOBAL LAND COVER PRODUCTS: THE USE OF COMMUNITY REMOTE SENSING TO VALIDATE AREAS OF HIGH DISAGREEMENT
 Steffen Fritz, Ian McCallum, International Institute for Applied Systems Analysis, Austria; Linda See, University of Leeds, United Kingdom; Florian Kraxner, Michael Obersteiner, International Institute for Applied Systems Analysis, Austria

09:20 - 09:40

FR1.L05.4 NASA'S UPCOMING HYSPIRI MISSION – PRECISION VEGETATION MAPPING WITH LIMITED GROUND TRUTH
 Saurabh Prasad, Lori Bruce, Sathishkumar Samiappan, Mississippi State University, United States

09:40 - 10:00

FR1.L05.5 \diamond DEVELOPING LAND SURFACE TEMPERATURE PRODUCT FROM GOES IMAGER DATA
 Yunyue Yu, NOAA/NESDIS, United States; Donglian Sun, George Mason University, United States

FR1.L06: Friday, July 30, 08:20 - 10:00

FR1.L06 Hyperspectral Missions and Techniques

Session Type: Oral-Contributed
 Time: Friday, July 30, 08:20 - 10:00
 Place: South Pacific 4
 Co-Chairs: Andrew Blanchard, University of Texas at Dallas and David Goodenough, Canadian Forest Service

08:20 - 08:40

FR1.L06.1 ONBOARD INSTRUMENT PROCESSING CONCEPTS FOR THE HYSPIRI MISSION
 Steve Chien, Dorothy Silverman, Ashley Davies, David McLaren, Jet Propulsion Laboratory, California Institute of Technology, United States; Daniel Mandl, NASA Goddard Space Flight Center, United States; Jerry Hengemihle, Microtel LLC, United States

08:40 - 09:00

FR1.L06.2 THE HYPERSPECTRAL IMAGER FOR THE COASTAL OCEAN (HICO) ENVIRONMENTAL LITTORAL IMAGING FROM THE INTERNATIONAL SPACE STATION
 Michael Corson, Robert Lucke, U.S. Naval Research Laboratory, United States; Curtiss Davis, Oregon State University, United States; Daniel Korwan, William Snyder, Jeffrey Bowles, Davidson Chen, U.S. Naval Research Laboratory, United States; Steven Butcher, Norman McGlothlin, Daniel Wood, Praxis, Inc., United States

09:00 - 09:20

FR1.L06.3 JAPANESE HYPER-MULTI SPECTRAL MISSION
 Nagamitsu Ohgi, JAROS, Japan; Akira Iwasaki, University of Tokyo, Japan; Takahiro Kawashima, Hitomi Inada, NEC Corporation, Japan

09:20 - 09:40

FR1.L06.4 NOISE ADJUSTED HYBRID SUBPIXEL DETECTION ALGORITHM
 Mary Soules, Joshua Broadwater, The Johns Hopkins University Applied Physics Laboratory, United States; Reuven Meth, James Ahn, SET Corporation, United States

09:40 - 10:00

FR1.L06.5 ENVIRONMENTAL CONTROLS ON FOREST CHEMISTRY: EVALUATING AND REFINING FOLIAR CHEMISTRY FROM IMAGE SPECTROSCOPY
 David Goodenough, Natural Resources Canada, Canada; Olaf Niemann, University of Victoria, Canada; Geoff Quinn, Ashley Gross, Natural Resources Canada, Canada; Kelsey Lang, University of Victoria, Canada

FRIDAY

FR1.L07: Friday, July 30, 08:20 - 10:00**FR1.L07 Microwave Radiometer Calibration I**

Session Type: Oral-Contributed

Time: Friday, July 30, 08:20 - 10:00

Place: Nautilus

Co-Chairs: Andreas Colliander, Jet Propulsion Laboratory and Darren McKague, University of Michigan

08:20 - 08:40

FR1.L07.1 CALIBRATION OF MICROWAVE RADIOMETERS: AN OVERVIEW

Andreas Colliander, Jet Propulsion Laboratory, California Institute of Technology, United States; Darren McKague, University of Michigan, United States

08:40 - 09:00

FR1.L07.2 SOME RESULTS ON SMOS-MIRAS CALIBRATION AND IMAGING

Ignasi Corbella, Francesc Torres, Nuria Duffo, Veronica Gonzalez-Gambau, Israel Duran, Miriam Pablos, Universitat Politècnica de Catalunya, Spain; Manuel Martín-Neira, European Space Agency, Netherlands

09:00 - 09:20

FR1.L07.3 ON-BOARD CALIBRATION NOISE SOURCES FOR THE GLOBAL PRECIPITATION MEASUREMENT (GPM) MICROWAVE IMAGER (GMI)

Jeffrey Piepmeier, Jeffrey Jaso, Joseph Knuble, Jared Lucey, Michael Triesky, Sergey Krimchansky, NASA Goddard Space Flight Center, United States

09:20 - 09:40

FR1.L07.4 SPURIOUS SIGNAL IN MEASUREMENT OF THE THIRD STOKES PARAMETER FROM SPACE AT L-BAND

David Le Vine, Goddard Space Flight Center, United States; Emmanuel Dinnat, S. Daniel Jacob, UMBC/GEST, United States; Saji Abraham, RS Information System, United States; Paolo de Mattheis, UMBC/GEST, United States

09:40 - 10:00

FR1.L07.5 NEW ARCHITECTURE FOR THE GEOSTATIONARY SYNTHETIC THINNED ARRAY RADIOMETER (GEOSTAR)

Alan Tanner, Pekka Kangaslahti, Bjorn Lambrigtsen, Boon Lim, Todd Gaier, Jet Propulsion Laboratory, California Institute of Technology, United States

FR1.L08: Friday, July 30, 08:20 - 10:00**FR1.L08 Microwave Remote Sensing of Terrestrial Snow**

Session Type: Oral-Invited

Time: Friday, July 30, 08:20 - 10:00

Place: South Pacific 1/2

Co-Chairs: Jiancheng Shi, University of California, Santa Barbara and Leung Tsang, University of Washington

08:20 - 08:40

FR1.L08.1 DENSE MEDIA RADIATIVE TRANSFER THEORY FOR ACTIVE REMOTE SENSING AND APPLICATIONS TO SWE RETRIEVAL

Xiaolan Xu, Leung Tsang, University of Washington, United States; Simon Yueh, Jet Propulsion Laboratory, United States

08:40 - 09:00

FR1.L08.2 DUAL-FREQUENCY POLARIMETRIC REMOTE SENSING RADAR OBSERVATIONS OF DEEP SNOWPACK IN GRAND MESA, COLORADO

Simon Yueh, Steve Dinardo, Jet Propulsion Laboratory, California Institute of Technology, United States; Kelly Elder, United State Forest Service, United States; Irena Hajsek, German Space Center, Germany

09:00 - 09:20

FR1.L08.3 A METHOD TO ESTIMATE SNOW WATER EQUIVELANT USING MULTI-ANGLE X-BAND RADAR OBSERVATIONS

Jinyang Du, Jiancheng Shi, Chuan Xiong, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

09:20 - 09:40

FR1.L08.4 A PRE-OPERATIONAL ALGORITHM FOR THE RETRIEVAL OF SNOW DEPTH AND SOIL MOISTURE FROM AMSR-E DATA

Emanuele Santi, Simone Pettinato, Marco Brogioni, Giovanni Macelloni, Francesco Montomoli, Simonetta Paloscia, Paolo Pampaloni, Institute of Applied Physics - National Research Council, Italy

09:40 - 10:00

FR1.L08.5 A MICROWAVE RADIANCE ASSIMILATION STUDY FOR A TUNDRA SNOWPACK

Edward Kim, NASA, United States; Michael Durand, Ohio State University, United States; Steve Margulis, University of California, Los Angeles, United States; Anthony England, University of Michigan, United States

FR1.L09: Friday, July 30, 08:20 - 10:00

FR1.L09 Radar Processing

Session Type: Oral-Contributed
 Time: Friday, July 30, 08:20 - 10:00
 Place: Coral 1
 Co-Chairs: Masanobu Shimada, JAXA and Yunling Lou, JPL

08:20 - 08:40

FR1.L09.1 ENVIRONMENTAL MONITORING WITH THE IMAGING MIMO RADARS MIRA-CLE AND MIRA-CLE X

Jens Klare, Olaf Saalman, Helmut Wilden, Andreas R. Brenner, Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR, Germany

08:40 - 09:00

FR1.L09.2 ONBOARD RADAR PROCESSING CONCEPTS FOR THE DESDYNI MISSION

Yunling Lou, Steve Chien, Duane Clark, Joshua Doubleday, Jet Propulsion Laboratory, United States

09:00 - 09:20

FR1.L09.3 SAR TOMOGRAPHIC FOCUSING BY COMPRESSIVE SAMPLING: EXPERIMENTS ON REAL DATA

Alessandra Budillon, Università di Napoli Parthenope, Italy; Annarita Evangelista, Università di Cassino, Italy; Gilda Schirinzi, Università di Napoli Parthenope, Italy

09:20 - 09:40

FR1.L09.4 PREDICTIVE QUANTIZATION OF DECHIRPED SPOTLIGHT-MODE SAR RAW DATA IN TRANSFORM DOMAIN

Takeshi Ikuma, Mort Naraghi-Pour, Louisiana State University, United States; Thomas Lewis, Air Force Research Laboratory, United States

09:40 - 10:00

FR1.L09.5 RADAR AND AIS SENSORS CONSTELLATION FOR GLOBAL MARITIME SURVEILLANCE

Sophie Ramongossie, Nicolas Taveneau, Thibaud Calmettes, Jacques Richard, Remi Challamel, Olivier Autran, Thales Alenia Space, France; Valerie Foix, Philippe Durand, Centre National d'Etudes Spatiales (CNES), France

FR1.L10: Friday, July 30, 08:20 - 10:00

FR1.L10 SMOS: The Beginning of a L-band Generation of Global Remote Sensed Soil Moisture Observations I

Session Type: Oral-Invited
 Time: Friday, July 30, 08:20 - 10:00
 Place: Coral 2
 Co-Chairs: Yann Kerr, CESBIO, CNES and Jordi Font, Institut de Ciències del Mar/CSIC

08:20 - 08:40

FR1.L10.1 OVERVIEW OF SMOS RETRIEVALS OVER LAND

Yann Kerr, François Cabot, Philippe Richaume, Ahmad AlBitar, Elsa Jacqueline, Arnaud Mialon, Claire Gruhier, Silvia Juglea, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Paolo Ferrazzoli, TVU, Italy; Ali Mahmoodi, ARRAY, Canada; Steven Delwart, European Space Agency, Netherlands; Jean-Pierre Wigneron, INRA, France

08:40 - 09:00

FR1.L10.2 CALIBRATION OF LOCALIZATION BIASES FOR SMOS

François Cabot, Centre d'Etudes Spatiales de la Biosphère (CESBIO) and Centre National d'Etudes Spatiales (CNES), France; Yann Kerr, Philippe Richaume, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Philippe Waldteufel, IPSL/SA, France

09:00 - 09:20

FR1.L10.3 FIRST RESULTS FROM TAKELIMGAN DESERT CAMPAIGN FOR SMOS CAL/VAL

Weiguo Zhang, Ji Wu, Huguang Liu, Hao Liu, Center for Space Science and Applied Research, Chinese Academy of Sciences, China

09:20 - 09:40

FR1.L10.4 GROUND-BASED L-BAND EMISSION MEASUREMENTS AT DOME-C ANTARCTICA : DOMEX-2 A CONTRIBUTION TO SMOS CALIBRATION

Giovanni Macelloni, Marco Brogioni, Simone Pettinato, IFAC - CNR, Italy; Renato Zasso, Andrea Crepez, CVA-ARPAV, Italy; Jonathan Zaccaria, PNRA, Italy; Mark Drinkwater, European Space Agency - ESTEC, Netherlands

09:40 - 10:00

FR1.L10.5 SMOS SOIL MOISTURE VALIDATION: STATUS AT THE UPPER DANUBE CAL/VAL SITE EIGHT MONTHS AFTER LAUNCH

Johanna Dall'Amico, University of Munich, Germany; Alexander Loew, Max-Planck-Institute for Meteorology, Germany; Florian Schlenz, Wolfram Mauser, University of Munich, Germany

FRIDAY

FRP1.PA: Friday, July 30, 09:40 - 10:45

- FRP1.PA GNSS Reflectometry and Occultations: Theory and Applications**
 Session Type: Poster
 Time: Friday, July 30, 09:40 - 10:45
 Place: Poster Area A
 Chair: Adriano Camps, Universitat Politècnica Catalunya
- FRP1.PA.1 GNSS-R DELAY-DOPPLER MAPS OVER LAND: PRELIMINARY RESULTS OF THE GRAJO FIELD EXPERIMENT**
 Enric Valencia, Adriano Camps, Merce Vall-Hlossera, Alessandra Moneris, Xavier Bosch-Lluis, Nereida Rodriguez-Alvarez, Isaac Ramos-Perez, Juan Fernando Marchan-Hernandez, Universitat Politècnica de Catalunya, Spain; José Martínez-Fernández, Nilda Sánchez-Martín, Carlos Pérez-Gutiérrez, Universidad de Salamanca, Spain
- FRP1.PA.2 A SIMULATOR PROTOTYPE OF DELAY-DOPPLER MAPS FOR GNSS REFLECTIONS FROM BARE AND VEGETATED SOILS**
 Marco Brogioni, IFAC - CNR, Italy; Alejandro Egido, STARLAB, Spain; Nicolas Floury, European Space Agency - ESTEC, Netherlands; Roberto Giusto, Sapienza University of Rome, Italy; Leila Guerriero, Tor Vergata University of Rome, Italy; Nazzareno Pierdicca, Sapienza University of Rome, Italy
- FRP1.PA.3 STUDY OF MAIZE PLANTS EFFECTS IN THE RETRIEVAL OF SOIL MOISTURE USING THE INTERFERENCE PATTERN GNSS-R TECHNIQUE**
 Nereida Rodriguez-Alvarez, Xavier Bosch-Lluis, Rene Acevo-Herrera, Albert Aguasca, Adriano Camps, Merce Vall-Hlossera, Isaac Ramos-Perez, Enric Valencia, Polytechnical University of Catalonia (UPC), Spain
- FRP1.PA.4 IMPACT OF RECEIVER'S FREQUENCY RESPONSE IN GNSS REFLECTOMETERS**
 Adriano Camps, Xavier Bosch-Lluis, Hyuk Park, Universitat Politècnica de Catalunya, Spain
- FRP1.PA.5 A TRACKING ALGORITHM FOR GNSS REFLECTED SIGNALS ON SEA SURFACE**
 Sarah Tay, TELECOM Bretagne, France; Arnaud Coatanhay, ENSIETA, France; Frederic Maussang, Rene Garello, TELECOM Bretagne, France
- FRP1.PA.6 COSMIC-2: THE FUTURE OF GLOBAL NAVIGATION SATELLITE SYSTEM – REMOTE OBSERVATION (GNSS-RO) SENSING**
 Kendra Cook, C2 International, United States; Peter Wilczynski, National Oceanic and Atmospheric Administration, United States
- FRP1.PA.7 OCEAN SURFACE WINDS MEASUREMENT USING REFLECTED GNSS SIGNALS**
 Pengfei Yin, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Qiu Yin, Shanghai Center for Satellite Remote Sensing Applications, China; Ziwei Li, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Yiqiang Zhang, Beihang University, China; Hua Xu, Xingfeng Chen, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Shangguo Ning, Beijing BDSat Navigation Co., Ltd, China
- FRP1.PA.8 ALTIMETRY STUDY PERFORMED USING AN AIRBORNE GNSS-REFLECTOMETER**
 Nereida Rodriguez-Alvarez, Rene Acevo-Herrera, Albert Aguasca, Enric Valencia, Adriano Camps, Merce Vall-Hlossera, Xavier Bosch-Lluis, Isaac Ramos-Perez, Polytechnical University of Catalonia (UPC), Spain
- FRP1.PA.9 MONITORING SEA ICE AND DRY SNOW WITH GNSS REFLECTIONS**
 Fran Fabra, Estel Cardellach, Oleguer Nogués-Correig, Santi Oliveras, Serni Ribó, Antonio Rius, Institut de Ciències de l'Espai (ICE-IEEC/CSIC), Spain; Maria Belmonte-Rivas, Koninkrijk Nederlands Meteorologisch Instituut (KNMI), Netherlands; Maximilian Semmling, Deutsches GeoForschungsZentrum (GFZ), Germany; Giovanni Macelloni, Simone Pettinato, Istituto di Fisica Applicata "Nello Carrara" (IFAC-CNR), Italy; Renato Zasso, CVA-ARPAV, Italy; Salvatore D'Addio, European Space Agency - ESTEC, Netherlands
- FRP1.PA.10 POLARIMETRIC GNSS RADIO-OCCULTATIONS FOR HEAVY RAIN DETECTION**
 Estel Cardellach, Antonio Rius, Institut de Ciències de l'Espai (ICE-CSIC/IEEC), Spain; Fernando Cereza, Miguel Angel Garcia-Primo, HISDESAT, Spain; Manuel de la Torre-Juárez, Jet Propulsion Laboratory, California Institute of Technology, United States; Lidia Cucurull, Dave Ector, National Oceanic and Atmospheric Administration, United States

FRP1.PB: Friday, July 30, 09:40 - 10:45

- FRP1.PB Remote Sensing of Soil and Vegetation: Applications I**
 Session Type: Poster
 Time: Friday, July 30, 09:40 - 10:45
 Place: Poster Area B
 Chair: Eni Njoku, Jet Propulsion Laboratory/California Institute of Technology
- FRP1.PB.1 REMOTE SENSING FOR SOIL DEGRADATION USING HYPERSPECTRAL REMOTE SENSING TECHNOLOGY**
 Eyal Ben-Dor, Tel-Aviv University, Israel; Naftaly Goldshleger, Ministry of Agriculture, Israel; Ido Livne, Rachel Lugassi, Tel-Aviv University, Israel; Gil Eshel, Ministry of Agriculture, Israel
- FRP1.PB.2** ◇ **QUANTITATIVE MODELING OF SOIL EROSION BY WATER IN LARGE-SCALE RIVER BASIN USING REMOTELY SENSED DATA**
 Qiang Zhu, China Three Gorges Project Corporation; Peking University, China; Xiuwan Chen, Peking University, China; Qixiang Fan, Heping Jin, China Three Gorges Project Corporation, China
- FRP1.PB.3 SOIL ORGANIC MATTER CONTENT RETRIEVAL FROM HYPERSPECTRAL REMOTE SENSING IN WESTERN JILIN, CHINA**
 Yangjing Wu, Kaishan Song, Dianwei Liu, Zongming Wang, Jia Du, Xiaochun Lei, Xuguang Tang, Yuandong Wang, Lihong Zeng, Bai Zhang, Northeast Institute of Geography and Agricultural Ecology, Chinese Academy of Sciences, China
- FRP1.PB.4 THE COMPONENT-BASED DESIGN AND DEVELOPMENT OF REMOTE SENSING SYSTEM FOR DROUGHT MONITORING**
 Lin You, Qiming Qin, Heng Dong, Jun Li, Jinliang Wang, Xuebin Yang, Peking University, China
- FRP1.PB.5** ◇ **DROUGHT MONITORING USING THERMAL INERTIA MODEL FROM MODIS DATA IN THE HENAN PROVINCE, CHINA**
 Guoyin Cai, Mingyi Du, Guang Zhu, Yang Liu, Yanyan Kang, Beijing University of Civil Engineering and Architecture, China
- FRP1.PB.6 IMPACT OF SATELLITE-BASED SOIL MOISTURE INDEX ON HYDROLOGICAL SIMULATION FOR FLOODS PREDICTION**
 Giorgio Boni, CIMA Research Foundation, Italy; Lorenzo Campo, University of Florence, Italy; Laura Candela, Italian Space Agency, Italy; Francesca Caparrini, Eumechanos, Italy; Fabio Castelli, University of Florence, Italy; Davide Delogo, Simone Gabellani, CIMA Research Foundation, Italy; Davide Persi, Intecno-DHI, Italy; Roberto Rudari, CIMA Research Foundation, Italy
- FRP1.PB.7 ESTIMATION OF SOIL MOISTURE CONTENT OF BARE SOILS FROM THEIR SPECTRAL OPTICAL PROPERTIES IN THE 0.4 - 12 μm SPECTRAL DOMAIN**
 Audrey Lesaignoux, Sophie Fabre, Xavier Briottet, ONERA, France; Albert Olioso, INRA, France
- FRP1.PB.8 GLOBAL LAND SURFACE EVAPORATION FROM SATELLITE-BASED OBSERVATIONS**
 Diego Miralles, Richard De Jeu, Vrije Universiteit Amsterdam, Netherlands; Thomas Holmes, USDA Agricultural Research Service, United States; John Gash, Centre for Ecology and Hydrology, United Kingdom; Han Dolman, Vrije Universiteit Amsterdam, Netherlands
- FRP1.PB.9 DATA ASSIMILATION APPROACH FOR MERGING OF SOIL TEMPERATURE OBSERVATIONS FROM MULTIPLE SATELLITES**
 Thomas Holmes, Thomas Jackson, Wade Crow, USDA-ARS, United States
- FRP1.PB.10 A TEMPORAL VARIATIONAL DATA ASSIMILATION METHOD SUITABLE FOR DEEP SOIL MOISTURE RETRIEVALS USING PASSIVE MICROWAVE RADIOMETER DATA**
 Andrew Jones, Colorado State University, United States; James Cogan, Army Research Laboratory, United States; George Mason, Engineer Research and Development Center, United States; Gary McWilliams, Army Research Laboratory, United States
- FRP1.PB.11 ASSIMILATION OF MICROWAVE BRIGHTNESS AT L-BAND TO ESTIMATE ROOT ZONE SOIL MOISTURE IN A GROWING SEASON OF CORN**
 Alejandro Monsivais-Huertero, Instituto Politecnico Nacional, Mexico; Jasmeet Judge, Karthik Nagarajan, University of Florida, United States

FRP1.PC: Friday, July 30, 09:40 - 10:45

- FRP1.PC Remote Sensing of Soil and Vegetation: Applications II**
 Session Type: Poster
 Time: Friday, July 30, 09:40 - 10:45
 Place: Poster Area C
 Chair: Reza Khanbilvardi, City University of New York
- FRP1.PC.1 SURFACE SOIL MOISTURE ESTIMATION FROM SEVIRI DATA ONBOARD MSG SATELLITE**
 Wei Zhao, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, France; Jelila Labeled, LSIT, University of Strasbourg, France; Xiaoyu Zhang, ShanXi University, China; Zhao-Liang Li, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, France
- FRP1.PC.2 AN IMPROVED TWO-DIMENSIONAL SPECTRAL SPACE BASED MODEL FOR DROUGHT MONITORING AND ITS APPLICATIONS**
 Qiming Qin, Chuan Jin, Ning Zhang, Peking University, China
- FRP1.PC.3 DOWN-SCALING OF SATELLITE HYPERSPECTRAL IMAGES FOR MONITORING CROPLANDS**
 Eunoung Chae, SukYoung Hong, YiHyun Kim, National Academy of Agricultural Science, Republic of Korea
- FRP1.PC.4 MAPPING VARIATION IN SOIL VOLUMETRIC SHRINKAGE USING ASTER IMAGERY**
 Fekerte Arega Yitagesu, Freek Van der Meer, Harald Van der Werff, International Institute for Geo-information Science and Earth Observation, ITC, Netherlands
- FRP1.PC.5 RETRIEVE SOIL MOISTURE FROM MIXED-PIXELS BASED ON SCALE TRANSFORMATION USING HYPERSPECTRAL DATA**
 Daihui Wu, Binyan Yan, Yaokui Cui, Wenjie Fan, Xiru Xu, Institute of Remote Sense and Geographic Information System, Peking University, China
- FRP1.PC.6 VALIDATION OF WATERSHED SCALE SOIL MOISTURE DERIVED FROM MODIS REMOTE SENSING DATA: A CASE STUDY IN THE YIHE BASIN OF CHINA**
 Wanchang Zhang, Jiongfeng Chen, Nanjing University, China; Kexin Zhang, Xuemei Lv, Linyi Meteorological Bureau, China
- FRP1.PC.7 COMPARISON OF VEGETATION WATER CONTENT ESTIMATES FROM WINDSAT AND MODIS**
 E. Raymond Hunt Jr., USDA-ARS, United States; Li Li, Naval Research Laboratory, United States; M. Tugrul Yilmaz, George Mason University, United States; Thomas Jackson, USDA-ARS, United States
- FRP1.PC.8 USING MODIS LAND PRODUCTS TO ESTIMATE REGIONAL EVAPOTRANSPIRATION**
 Yujiu Xiong, Sun Yat-Sen University, China; Guoyu Qiu, Shenzhen Graduate School of Peking University, China
- FRP1.PC.9 EFFECTS OF SPATIAL HETEROGENTITY OF SOIL AND VEGETATION PARAMETERS ON SOIL MOISTURE RETRIEVAL FROM PASSIVE MICROWAVE REMOTE SENSING**
 Tao Zhang, Lixin Zhang, Lingmei Jiang, Tianjie Zhao, Beijing Normal University, China
- FRP1.PC.10 ◇ RESEARCH ON DYNAMIC CHANGE AND TREND OF GUYUAN SOIL EROSION BASED ON RS AND GIS**
 Jianming Liu, Wenji Zhao, Zhuowei Hu, Zhiheng Wang, Capital Normal University, China; Nakagoshi Nobukazu, Hiroshima University, Japan
- FRP1.PC.11 USING AMSR-E LAND PRODUCT TO MONITOR THE DROUGHT PROCESS IN CHINA**
 Shengli Wu, Xiaoxiang Zhu, National Satellite Meteorological Center, China

FRP1.PD: Friday, July 30, 09:40 - 10:45**FRP1.PD Urban Remote Sensing Poster III**

Session Type: Poster
 Time: Friday, July 30, 09:40 - 10:45
 Place: Poster Area D
 Chair: Fabio Pacifici, DigitalGlobe

FRP1.PD.1 RECOGNITION AND EXTRACTION OF THE ANCIENT SITES COVERED BY THICK VEGETATION IN HAINAN PROVINCE OF CHINA

Peng Jia, Yueping Nie, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Lin Yang, National Museum of China, China

FRP1.PD.2 DEVELOPMENT OF THE LIDAR DATA PROCESSING SYSTEM FOR THE RAPID GENERATION OF THE TERRESTRIAL INFORMATION

SeungJoan Kwon, SungWoong Shin, Electronics and Telecommunications Research Institute, Republic of Korea

FRP1.PD.3 \diamond SEARCHING TSUNAMI AFFECTED AREA BY INTEGRATING NUMERICAL MODELING AND REMOTE SENSING

Shunichi Koshimura, Tohoku University, Japan; Masashi Matsuoka, National Institute of Advanced Industrial Science and Technology, Japan; Hideomi Gokon, Tohoku University, Japan; Yuichi Namegaya, National Institute of Advanced Industrial Science and Technology, Japan

FRP1.PD.4 APPLICATION OF REMOTE SENSING TECHNOLOGIES TO TIME SERIES ANALYSES OF SURFACE TEMPERATURES IN DAEGU CITY

Jin A. Lee, University of Science & Technology, Republic of Korea; Sung Soon Lee, Geoscience Information Department, Korea Institute of Geoscience and Mineral Resources, Republic of Korea; Kwang Hoon Chi, Korea-Japan Cooperation Foundation for Industry and Technology, Republic of Korea

FRP1.PD.5 IDENTIFICATION OF TREES IN THE SHADE OF HOUSES IN RESIDENTIAL AREAS USING AIRBORNE MULTI-SPECTRAL IMAGES

Haruki Oshio, Jiang He, Akira Hoyano, Tokyo Insutitute of Technology, Japan

FRP1.PD.6 DVB-T PASSIVE RADAR FOR VEHICLES DETECTION IN URBAN ENVIRONMENT

Amerigo Capria, CNIT-RaSS Center, Italy; Dario Petri, Marco Martorella, Michele Confi, Enzo Dalle Mese, Fabrizio Berizzi, University of Pisa, Italy

FRP1.PD.7 \diamond EVALUATING THE ECOLOGICAL CONDITION IN SHENZHEN CITY, CHINA, USING A QUANTITATIVE MODEL

Shiqiang Du, Deyong Yu, Peijun Shi, Bin Xun, Beijing Normal University, China

FRP1.PD.8 \diamond HEAT - HOME ENERGY ASSESSMENT TECHNOLOGIES: RESIDENTIAL WASTE HEAT MONITORING WITH HIGH-RESOLUTION AIRBORNE THERMAL IMAGERY

Geoffrey J. Hay, Bharanidharan Hemachandran, Gang Chen, Christopher Kyle, University of Calgary, Canada

FRP1.PD.9 A STUDY ON DIFFERENT PS-LIKE METHODS FOR SUBSIDENCE IN TIANJIN, CHINA

Hongli Zhao, Huanhuan Liu, China University of Geosciences (Beijing), China; Jinghui Fan, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Guang Liu, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Xiaofang Guo, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Jianping Chen, China University of Geosciences (Beijing), China; Peidong Jin, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Lu Zhang, Yubao Qiu, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

FRP1.PD.10 A FULLY POLARIMETRIC BOREHOLE RADAR BASED NUMERICAL MODELING: FULLY POLARIMETRIC RESPONSE TO SYNTHETIC NATURAL FRACTURES AND "FLUID SUBSTITUTION"

Jian-guo Zhao, China University of Petroleum / State Key Lab of Petroleum Resources and Prospecting / Key Lab of Geophysical Prospecting, CNPC, China; Motoyuki Sato, Center for Northeast Asian Studies, Tohoku University, Japan

FRP1.PD.11 UNDERSTANDING THE RELATIONSHIP BETWEEN URBAN LAND SURFACE TEMPERATURE AND LANDSCAPE HETEROGENEITY AND SOCIAL STRUCTURE

Ganlin Huang, Weiqi Zhou, M. L. Cadenasso, University of California, Davis, United States

FRP1.PD.12 UTILIZATION OF AIRBORNE MULTI-ASPECT INSAR DATA FOR THE GENERATION OF URBAN ORTHO-IMAGES

Michael Schmitt, Uwe Stilla, Technische Universitaet Muenchen, Germany

FRP1.PE: Friday, July 30, 09:40 - 10:45**FRP1.PE Geophysics and Seismic Applications**

Session Type: Poster
 Time: Friday, July 30, 09:40 - 10:45
 Place: Poster Area E
 Chair: Tom Farr, JPL(NASA), Caltech

FRP1.PE.1 SEISMIC QUALITY FACTOR ESTIMATION USING CONTINUOUS WAVELET TRANSFORM

Yanhui Zhou, Xi'an Jiaotong University, China; Wei Zhao, CNOOC, China; Yan Ge, Jinghui Gao, Xiaokai Wang, Chenyang Ge, Xi'an Jiaotong University, China

FRP1.PE.2 ON THE METHOD OF DETECTING THE DISCONTINUITY OF SEISMIC DATA VIA 3D WAVELET TRANSFORM

Xiaokai Wang, Jinghui Gao, Wenchao Chen, Xi'an Jiaotong University, China; Erhua Zhang, Exploration and Development Research Institute of Daqing Oilfield Company Ltd, China

FRP1.PE.3 \diamond METHOD FOR RECOGNITION OF MAGNETIC ANOMALIES BASED ON HYDROCARBON SEEPAGE THEORY

Tianyao Hao, Lili Zhang, Institute of Geology and Geophysics, Chinese Academy of Sciences, China; Baimin Zhao, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Chuanchuan Lv, Institute of Geology and Geophysics, Chinese Academy of Sciences, China

FRP1.PE.4 \diamond CORRECTION OF SPECTRAL CURVATURE EFFECT(SMILE)IN HYPERION DATASETS BY USE OF DERIVATIVE CALCULATIONS AND MINIMUM NOISE FRACTION(MNF) TRANSFORMATION

Alon Dadon, Arnon Karnieli, Ben-Gurion University of the Negev, Israel; Eyal Ben-Dor, Tel-Aviv University, Israel

FRP1.PE.5 RESEARCH AND DEVELOPMENT OF FIELD DATA COLLECTING SYNCHRONOUSLY SYSTEM OF MINING AREA

Min Ji, Yong Sun, Fengxiang Jin, Tao Jiang, Jian Wang, Xiaojing Yao, Shandong University of Science and Technology, China

FRP1.PE.6 DESIGNING AN ILLEGAL MINING DETECTION SYSTEM BASED ON DINSAR

Zhe Hu, Linlin Ge, Xiaojing Li, Chris Rizos, Cooperative Research Centre for Spatial Information & School of Surveying and Spatial Information Systems, University of New South Wales, Australia

FRP1.PE.7 REMOTE SENSING OF THE HYDROLOGIC HISTORY OF SOUTHERN EGYPT

Thomas Farr, Ronald Blom, Jet Propulsion Laboratory, United States; Philippe Paillou, Observatoire Aquitain des Sciences de l'Univers, France

FRP1.PE.8 CRINSAR FOR LANDSLIDE DEFORMATION MONITORING: A CASE IN THREEGORGE AREA

Jinghui Fan, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Hongli Zhao, China University of Geosciences (Beijing), China; Pengfei Tu, China Three Gorge University, China; Yi Wang, Xiaofang Guo, Daqing Ge, China Aero Geophysical Survey & Remote Sensing Center for Land and Resources (AGRS), China; Guang Liu, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

FRP1.PE.9 LANDSLIDE DETECTION BY INDICES OF LIDAR POINT-CLOUD DENSITY

Jin-King Liu, Wei-Chen Hsu, National Chiao-Tung University and Industrial Technology Research Institute, Taiwan; Mon-Shieh Yang, National Cheng Kung University, Taiwan; Yu-Chung Shieh, Central Geological Survey, Taiwan; Tian-Yuan Shih, National Chiao-Tung University, Taiwan

FRP1.PE.10 LIDAR DETECTION OF BELOW-CANOPY CAVE OPENINGS IN THE ANCIENT MAYA KARSTIC LANDSCAPE AROUND CARACOL, BELIZE

John Weishampel, Ryan Patrick, Jessica Hightower, Arlen Chase, Diane Chase, University of Central Florida, United States

FRP1.PF: Friday, July 30, 09:40 - 10:45

FRP1.PF GIS Techniques and Standards I

Session Type: Poster
Time: Friday, July 30, 09:40 - 10:45
Place: Poster Area F
Co-Chairs: Surya Durbha, Mississippi State University and Liping Di, George Mason University

FRP1.PF.1 NON-RIGID CONFLATION FOR VECTOR DATA-SETS USING EM ALGORITHM AND MIXTURE OF GAUSSIAN APPROACH

Ganesh Krishnamurthy, Venkat Devarajan, Irinel Dragan, University of Texas, United States

FRP1.PF.2 DEM-BASED SLOPE ANALYSIS METHOD USING COMPUTING GRID

Weifeng Ma, Xiaorui Wang, China University of Geosciences (Wuhan), China

FRP1.PF.3 AN INTEGRATION FRAMEWORK OF ECOLOGICAL MODELS

Zemeng Fan, Tian-Xiang Yue, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Qin Dai, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

FRP1.PF.4 CALCULATION OF HORIZONTAL AND VERTICAL COMPONENTS FOR POSITIONING STANDARD DEVIATION IN ABSOLUTE GPS POSITIONING

Zhanqiang Chang, Huili Gong, Capital Normal University, China

FRP1.PF.5 THE RESEARCH ON SEMANTIC SEARCH OF URBAN FEATURES BASED ON ORACLE SEMANTIC TECHNOLOGY

Jian Li, Hong Fan, Wu Du, Wuhan University, China

FRP1.PF.6 IMPROVEMENT OF SPATIAL PRECIPITATION INTERPOLATION METHOD BY CONSIDERING GEOGRAPHIC AND TOPOGRAPHIC INFLUENCES

Wenxia Gan, Xiaoling Chen, Xiaobin Cai, Wuhan University, China; Jian Zhang, Huazhong Agricultural University, China

FRP1.PF.7 AN AUTOMATIC SERVICE COMPOSITION ALGORITHM FOR CONSTRUCTING THE GLOBAL OPTIMAL SERVICE TREE BASED ON QOS

Wu Du, Hong Fan, Wuhan University, China

FRP1.PF.8 ◇ A NOVEL APPROACH FOR GEOSPATIAL COMPUTATIONAL TASK PROCESSING IN GRID ENVIRONMENT

Zhou Huang, Yu Fang, Peking University, China

FRP1.PF.9 THE KEY TECHNOLOGIES TO IMPLEMENT GEOGRAPHICAL MARKER ON 3D GEOGLOBE PLATFORM

Hao Feng, Hong Fan, Wuhan University, China

FRP1.PG: Friday, July 30, 09:40 - 10:45**FRP1.PG GIS Techniques and Standards II**

Session Type: Poster

Time: Friday, July 30, 09:40 - 10:45

Place: Poster Area G

Co-Chairs: Liping Di, George Mason University and Surya Durbha, Mississippi State University

- FRP1.PG.1 THE DESIGN OF A UNIFIED ADDRESSING SCHEMA AND THE MATCHING MODE OF CHINA**
Li Fang, Beijing Normal University, China; Zhuo Yuan Yu, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; Xiang Zhao, Beijing Normal University, China
- FRP1.PG.2 ◇ DESIGN AND REALIZATION OF MULTI-SOURCE T-LEVEL IMAGES DATABASE MANAGEMENT PLATFORM**
Liang Huo, Guihong Liu, Beijing University of Civil Engineering and Architecture, China
- FRP1.PG.3 ORACLE SEMANTIC TECHNOLOGY ENABLE SMART DISCOVERY OF SPATIAL SERVICES**
Hong Fan, Wu Du, Yao Zhang, Wuhan University, China
- FRP1.PG.4 EMBEDDED MOBILE GIS NATURAL RESOURCE INFORMATION SERVICE SYSTEM**
Yuanyao Lu, North China University of Technology, China; Xinzhe Yuan, National Satellite Ocean Application Service Center, China; Fanfeng Zeng, Jingzhong Wang, North China University of Technology, China
- FRP1.PG.5 THE DESIGN AND IMPLEMENTATION OF GIS APPLICATIONS BASED ON SOA**
Xiaolin Wang, Xiao Pang, Yingwei Luo, Peking University, China
- FRP1.PG.6 AN IMPLICIT AND GPU BASED APPROACH FOR SOLVING CRACKS IN TERRAIN VISUALIZATION**
Wei Cao, Fuzhou Duan, Huili Gong, Wenji Zhao, Capital Normal University, China
- FRP1.PG.7 AN ISOLINE RENDERING METHOD UNDER MULTIPLE CONSTRAINTS**
Xiaoping Rui, State Key Laboratory of Urban and Regional Ecology, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, China; Xianfeng Song, College of Resources and Environment, Graduate University of Chinese Academy of Sciences, China
- FRP1.PG.8 ONE RASTERIZATION APPROACH TO SPATIAL PREDICATE**
Hui Dong, Zhenlin Cheng, Yanwei Zhao, Jinyun Fang, Institute of Computing Technology, Chinese Academy of Sciences, China
- FRP1.PG.9 REGULAR HEXAHEDRON TESSELLATION ALGORITHM FOR 3D COMPLEX ENTITY MODELS WITH INSIDE CAVITIES**
Jiateng Guo, Northeastern University, China; Lixin Wu, Beijing Normal University, China; Hongbin Ma, Yizhou Yang, Northeastern University, China

FRP1.PH: Friday, July 30, 09:40 - 10:45

FRP1.PH Polarimetric Methods and Applications

Session Type: Poster
Time: Friday, July 30, 09:40 - 10:45
Place: Poster Area H
Chair: Jean-Claude Souyris, CNES

FRP1.PH.1 PRELIMINARY RESULT OF POLARIZATION PROPERTY ANALYSIS USING FULLY POLARIMETRIC GB-SAR IMAGES

Moon-Kyung Kang, Kwang-Eun Kim, Korea Institute of Geoscience & Mineral Resources (KIGAM), Republic of Korea; Hoonyal Lee, Kangwon National University, Republic of Korea; Seong-Jun Cho, Jae-Hee Lee, Korea Institute of Geoscience & Mineral Resources (KIGAM), Republic of Korea

FRP1.PH.2 BURST MODE TO STRIP-MAP MODE SAR INTERFEROMETRY OF ALOS PALSAR

Cunren Liang, Qiming Zeng, Xiai Cui, Jian Jiao, Peking University, China

FRP1.PH.3 OBLIQUE POLARIMETRIC SAR PROCESSOR BASED ON SIGNAL AND INTERFERENCE SUBSPACE MODELS

Frédéric Brigui, Laetitia Thirion-Lefevre, SONDRASupelec, France; Guillaume Ginolhac, Philippe Forster, SATIE / UniverSud, France

FRP1.PH.4 MAXIMUM LIKELIHOOD TEXTURE TRACKING IN HIGHLY HETEROGENEOUS POLSAR CLUTTER

Olivier Harant, Lionel Bombrun, Gabriel Vasile, GIPSA-Lab, France; Laurent Ferro-Famil, Institute of Electronics and Telecommunications, France; Michel Gay, GIPSA-Lab, France

FRP1.PH.5 A NEW BAYESIAN SOURCE SEPARATION APPROACH TO BLIND DECORRELATION OF SAR DATA

Alexander Wong, Paul Fieguth, University of Waterloo, Canada

FRP1.PH.6 POLSAR IMAGES CHARACTERIZATION THROUGH BLIND SOURCES SEPARATION TECHNIQUES

Felix Totir, Gabriel Vasile, Lionel Bombrun, Michel Gay, GIPSA-lab, France

FRP1.PH.7 FILTERING AND SEGMENTATION OF POLARIMETRIC SAR IMAGES WITH BINARY PARTITION TREES

Alberto Alonso-González, Carlos López-Martínez, Philippe Salembier, Universitat Politècnica de Catalunya, Spain

FRP1.PH.8 EXTENSION OF THE TARGET SCATTERING VECTOR MODEL TO THE BISTATIC CASE

Lionel Bombrun, GIPSA-lab / Grenoble INP, France

FRP1.PH.9 EXTRACTION OF AREA-AVERAGED ORIENTATION ANGLE FROM POLSAR MEASUREMENT

Yusuke Komatsu, Tokyo Metropolitan University, Japan; Yuichiro Aso, Japan Airlines Corporation, Japan; Hajime Fukuchi, Tokyo Metropolitan University, Japan

FRP1.PI: Friday, July 30, 09:40 - 10:45

- FRP1.PI Radar Processing Poster**
 Session Type: Poster
 Time: Friday, July 30, 09:40 - 10:45
 Place: Poster Area I
 Chair: Vito Pascazio, Università di Napoli "Parthenope"
- FRP1.PI.1 SHADOW REGION IMAGING ALGORITHM USING ARRAY ANTENNA BASED ON APERTURE SYNTHESIS OF MULTIPLE SCATTERED WAVES FOR UWB RADARS**
 Shouhei Kidera, University of Electro-Communication, Japan
- FRP1.PI.2 TAXI: A VERSATILE PROCESSING CHAIN FOR EXPERIMENTAL TANDEM-X PRODUCT EVALUATION**
 Pau Prats, Marc Rodriguez-Cassola, Luca Marotti, Matteo Naninni, Gerhard Krieger, Andreas Reigber, German Aerospace Center (DLR), Germany
- FRP1.PI.3 SCANSAR IMAGE QUALITY ENHANCEMENT USING FITTED-GEOMETRY DOPPLER SURFACE**
 Woogyung Lee, Jung-Hwan Song, Sung-Uk Hwang, Korea Aerospace University, Republic of Korea
- FRP1.PI.4 2D UESPRIT SUPERRESOLUTION SAR IMAGING ALGORITHM**
 Ping Zhang, Zhen Li, Quan Chen, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China
- FRP1.PI.5 SAR FOCUSING OF P-BAND ICE SOUNDING DATA USING BACK-PROJECTION**
 Anders Kusk, Jørgen Dall, Technical University of Denmark, Denmark
- FRP1.PI.6 ANALYSIS AND COMPENSATION FOR MOTION ERRORS IN FMCW SAR DATA**
 Robert Wang, Otmar Löfgren, Holger Nies, University of Siegen, Germany; Manfred Hügelen, Helmut Essen, Fraunhofer Institute for High Frequency Physics and Radar Techniques (FHR), Germany
- FRP1.PI.7 A NEW SCALLOPING FILTER ALGORITHM FOR SCANSAR IMAGES**
 Roland Romeiser, University of Miami, United States; Jochen Horstmann, NATO Undersea Research Center, Italy; Hans Graber, University of Miami, United States
- FRP1.PI.8 POSSIBLE REAL-TIME FAST BACK PROJECTION ALGORITHM USING GRAPHICAL PROCESSING UNITS**
 Aaron Rogan, Richard Carande, David Cohen, Neva Ridge Technologies, United States
- FRP1.PI.9 PROGRESSIVE SAR IMAGING TECHNIQUE**
 Kaizhi Wang, Xingzhao Liu, Wenxian Yu, Shanghai Jiao Tong University, China; Junli Chen, Guozhong Chen, Shanghai Institute of Satellite Engineering, China
- FRP1.PI.10 A NOVEL THREE-STEP FOCUSING ALGORITHM FOR TOPSAR IMAGE FORMATION**
 Wei Yang, Chunsheng Li, Jie Chen, Pengbo Wang, Beijing University of Aeronautics and Astronautics, China

FRP1.PJ: Friday, July 30, 09:40 - 10:45**FRP1.PJ Bistatic / GMTI SAR**

Session Type: Poster
 Time: Friday, July 30, 09:40 - 10:45
 Place: Poster Area J
 Chair: Marwan Younis, DLR

FRP1.PJ.1 SOFTWARE-DEFINED RADAR TESTBED FOR MIMO SAR APPLICATIONS

Mark Frankford, Joel Johnson, Ohio State University, United States

FRP1.PJ.2 ◇ ANALYSIS AND FOCUSING FOR BISTATIC FORWARD-LOOKING SAR IN SPACEBORNE/ STATIONARY CONFIGURATION

Robert Wang, Otmor Löfgren, Holger Nies, University of Siegen, Germany

FRP1.PJ.3 SPATIAL SPECTRUM OF BISTATIC SAR WITH ONE FIXED STATION

Junjie Wu, Jianyu Yang, Yulin Huang, Haiguang Yang, University of Electronic Science and Technology of China, China

FRP1.PJ.4 BISTATIC SAR ALONG TRACK INTERFEROMETRY WITH MULTIPLE FIXED RECEIVERS

Sergi Duque, Universitat Politècnica de Catalunya, Spain; Paco López-Dekker, Deutschen Zentrum für Luft- und Raumfahrt (DLR), Germany; Juan Carlos Merlano, Jordi J. Mallorquí, Universitat Politècnica de Catalunya, Spain

FRP1.PJ.5 ISAR IMAGING OF AN AIRCRAFT TARGET USING ISDB-T DIGITAL TV BASED PASSIVE BISTATIC RADAR

Kei Suwa, Shohei Nakamura, Shinichi Morita, Toshio Wakayama, Hisakazu Maniwa, Tadashi Oshima, Ryoji Maekawa, Shoji Matsuda, Mitsubishi Electric Corporation, Japan; Takanori Tachihara, Mitsubishi Electric Micro-Computer Application Software Co, Ltd, Japan

FRP1.PJ.6 INTEGRATING SPACE-TIME PROCESSING INTO TIME-DOMAIN BACKPROJECTION PROCESS FOR DETECTION AND IMAGING MOVING OBJECTS

Viet Thuy Vu, Thomas Sjögren, Mats Pettersson, Blekinge Institute of Technology, Sweden

FRP1.PJ.7 MOVING TARGET REFOCUSING ALGORITHM FOR SYNTHETIC APERTURE RADAR IMAGES

Thomas Sjögren, Viet Thuy Vu, Mats Pettersson, Blekinge Institute of Technology, Sweden

FRP1.PJ.8 ◇ METHOD FOR MEASURING TWO-DIMENSIONAL VELOCITIES OF MOVING-TARGETS USING ATI AND MAI INTERFEROMETRIES

Hyung-Sup Jung, University of Seoul, Republic of Korea; Zhong Lu, U.S. Geological Survey, United States

FRP1.PJ.9 KNOWLEDGE-AIDED IMAGING OF MOVING TARGETS WITH SYNTHETIC APERTURE RADAR

Richard Naething, Sean Buckley, University of Texas at Austin, United States

FRP1.PJ.10 ANALYSIS OF THE CORRELATION PROPERTIES OF DIGITAL SATELLITE SIGNALS AND THEIR APPLICABILITY IN BISTATIC REMOTE SENSING

Rashmi Shah, James Garrison, Purdue University, United States; Michael Grant, NASA Langley Research Center, United States; Stephen Katzberg, South Carolina State University, United States; Geng Tian, Purdue University, United States

FRP1.PJ.11 APPLICATION OF THE MOVING TARGET DETECTION BY FOCUSING TECHNIQUE IN CIVIL TRAFFIC MONITORING

Viet Thuy Vu, Thomas Sjögren, Mats Pettersson, Blekinge Institute of Technology, Sweden; Paulo Marques, Instituto Superior de Engenharia de Lisboa, Portugal

FRP1.PK: Friday, July 30, 09:40 - 10:45

- FRP1.PK Clouds and Precipitation**
 Session Type: Poster
 Time: Friday, July 30, 09:40 - 10:45
 Place: Poster Area K
 Co-Chairs: Dmitri Moisseev, University of Helsinki and Huan Meng, NOAA/NESDIS
- FRP1.PK.1 FAST JACOBIAN MIE LIBRARY FOR TERRESTRIAL HYDROMETEORS**
 Srikumar Sandeep, Al Gasiewski, University of Colorado at Boulder, United States
- FRP1.PK.2 Z-R RELATION FOR SNOWFALL USING TWO SMALL DOPPLER RADARS AND SNOW PARTICLE IMAGES**
 Toru Shiina, Toyama National College of Technology, Japan; Mamoru Kubo, Ken-ichiro Muramoto, Kanazawa University, Japan
- FRP1.PK.3 EVALUATION OF THE SELF-CONSISTENCY PRINCIPLE FOR CALIBRATION OF THE CASA RADAR NETWORK USING PROPERTIES OF THE OBSERVED MEDIUM**
 Jorge M. Trabal, University of Massachusetts, Amherst, United States; V. Chandrasekar, Colorado State University, United States; Eugenio Gorgucci, Istituto di Scienze dell' Atmosfera e del Clima, Italy; David J. McLaughlin, University of Massachusetts, Amherst, United States
- FRP1.PK.4 A COMPARISON BETWEEN SATELLITE AND AIRCRAFT OBSERVATIONS FOR WINTERTIME NON-PRECIPIATING MIXED-PHASE CLOUDS**
 Yoo-Jeong Noh, Curtis Seaman, Thomas H. Vonder Haar, Colorado State University, United States
- FRP1.PK.5 RETRIEVAL OF RAINDROP SHAPE-SIZE RELATION USING DUAL POLARIZATION RADAR MEASUREMENTS**
 Eugenio Gorgucci, Luca Baldini, Consiglio Nazionale delle Ricerche, Italy; V. Chandrasekar, Colorado State University, United States
- FRP1.PK.6 CASA DUAL-DOPPLER SYSTEM**
 V. Chandrasekar, Matthew Martinez, Sean Zhang, Colorado State University, United States
- FRP1.PK.7 INTERCOMPARISON OF OSTM/AMR AND AMSR-E CLOUD LIQUID RETRIEVAL ALGORITHMS**
 Sharmila Padmanabhan, Shannon Brown, Jet Propulsion Laboratory, United States
- FRP1.PK.8 INVESTIGATION OF CIRRUS CLOUDS USING THE CALIPSO LIDAR DATA**
 Sydney Paul, Hampton University, United States
- FRP1.PK.9 HYDROMETEOR IDENTIFICATION FROM W-BAND POLARIMETRIC MEASUREMENTS**
 Mengistu Wolde, Natural Resources Canada, Canada; Samuel Haimov, University of Wyoming, United States; Dave Marcotte, Natural Resources Canada, Canada; George Isaac, Environment Canada, Canada; Jothiram Vivekanandan, National Center for Atmospheric Research, United States; Alexi Korolev, Environment Canada, Canada
- FRP1.PK.10 DYNAMIC THRESHOLD CLOUD DETECTION ALGORITHM IMPROVEMENT FOR AVHRR AND SEVIRI IMAGES**
 Gabriele Poli, Giulia Adembri, Monica Gherardelli, Maurizio Tommasini, University of Florence, Italy
- FRP1.PK.11 A NEW BISTATIC DOPPLER MEASUREMENT SYSTEM WITH REDUCED CONTAMINATION BY SIDELobe ECHOES**
 Seiji Kawamura, Hiroshi Hanado, Shigeo Sugitani, Katsuhiro Nakagawa, National Institute of Information and Communications Technology, Japan

FRP1.PL: Friday, July 30, 09:40 - 10:45

FRP1.PL Ocean Surface Winds and Currents I

Session Type: Poster
Time: Friday, July 30, 09:40 - 10:45
Place: Poster Area L
Chair: David Weissman, Hofstra University

FRP1.PL.1 WIND MAPPING BY OCEAN ACOUSTIC INTERFEROMETRY
Alexander Voronovich, Cecile Penland, NOAA/Earth System Research Laboratory, United States

FRP1.PL.2 STUDIES OF THE INFLUENCE OF RAINFALL UPON SCATTEROMETER ESTIMATES FOR SEA SURFACE STRESS: APPLICATIONS TO BOUNDARY LAYER PARAMETERIZATION AND DRAG COEFFICIENT MODELS WITHIN TROPICAL CYCLONE ENVIRONMENTS
David Weissman, Hofstra University, United States; Henry Winterbottom, Mark Bourassa, Florida State University, United States

FRP1.PL.3 OCEAN WIND MEASUREMENTS WITH GPS MULTISTATIC RADAR FROM HIGH-ALTITUDE AIRCRAFT
Valery Zavorotny, NOAA/Earth System Research Laboratory, United States; Dennis Akos, University of Colorado at Boulder, United States; Edward Walsh, NOAA/Earth System Research Laboratory, United States

FRP1.PL.4 ON SURFACE WIND SPEED RETRIEVAL FROM SAR IMAGERY IN WEST PACIFIC OCEAN
Hui Shen, Institute of Oceanology, Chinese Academy of Sciences, China; Will Perrie, Bedford Institute of Oceanography, Canada; Yijun He, Institute of Oceanology, Chinese Academy of Sciences, China

FRP1.PL.5 AUTOMATED TYPHOON IDENTIFICATION FROM QUIKSCAT WIND DATA
Juhong Zou, National Satellite Ocean Application Service, China; Mingsen Lin, Xuetong Xie, NSOAS, China; Shuyan Lang, Songxue Cui, National Satellite Ocean Application Service, China

FRP1.PL.6 DEPENDENCY OF BACKSCATTERING FROM OCEAN SURFACE ON WIND DIRECTION BY USING AIRBORNE SAR – LOW WIND SPEED CASE –
Akitsugu Nadai, Toshihiko Umehara, Takeshi Matsuoka, Makoto Satake, Tatsuharu Kobayashi, Seiho Uratsuka, National Institute of Information and Communications Technology, Japan

FRP1.PL.7 CHANGES IN THE CLIMATE RECORD DUE TO CHANGES IN THE OCEAN OBSERVING SYSTEM
Mark Bourassa, Florida State University, United States

FRP1.PL.8 FUSION OF QUIKSCAT SCATTEROMETER AND RADARSAT-1 SAR DATA FOR WIND SPEED DISTRIBUTION ESTIMATION USING A BAYESIAN APPROACH.
Audrey Lessard-Fontaine, Monique Bernier, Karem Chokmani, Gaëtan Lafrance, INRS, Canada; Salaheddine El Adlouni, INSEA, Morocco

FRP1.PL.9 A NEW ALGORITHM FOR WIND SPEED AT LOW INCIDENCE ANGLES USING TRMM PRECIPITATION RADAR DATA
Xiaoqing Chu, Yijun He, Gengxin Chen, Institute of Oceanology, Chinese Academy of Sciences, China

FRIDAY

FRP1.PM: Friday, July 30, 09:40 - 10:45

- FRP1.PM Ocean Surface Winds and Currents III**
 Session Type: Poster
 Time: Friday, July 30, 09:40 - 10:45
 Place: Poster Area M
 Chair: Mark Bourassa, Florida State University
- FRP1.PM.1 DEVELOPMENT OF A SIGNAL PROCESSING SUBSYSTEM FOR A SPACEBORNE ROTATING, FAN-BEAM SCATTEROMETER**
 Wenming Lin, Center for Space Science and Applied Research, Chinese Academy of Sciences; Graduate University of Chinese Academy of Sciences, China; Xiaolong Dong, Di Zhu, Center for Space Science and Applied Research, Chinese Academy of Sciences, China
- FRP1.PM.2 ACCURACY AND SPATIAL RESOLUTION ANALYSIS OF HY-2 SCATTEROMETERS**
 Shuyang Lang, Bin Zou, Yarong Zou, Bo Mu, National Satellite Ocean Application Service, China; Jingye Yan, Center for Space Science and Applied Research, Chinese Academy of Sciences, China; Youguang Zhang, Jianqiang Liu, National Satellite Ocean Application Service, China
- FRP1.PM.3 PERFORMANCE STATUS OF THE WAVE SCATTEROMETER SWIM**
 Céline Tison, Thierry Amiot, Centre National d'Etudes Spatiales (CNES), France; Vivien Enjalras, Thalès Alenia Space, France; Danièle Hauser, UVSQ, CNRS, LATMOS-IPSL, France; Rey Laurent, Thalès Alenia Space, France; Souyris Jean-Claude, Patrick Castillan, Centre National d'Etudes Spatiales (CNES), France
- FRP1.PM.4 DIRECT AND REMOTE SENSING MEASUREMENTS DURING A SERIES OF EXPERIMENTS CAPMOS'05-07-09 ON AN OFFSHORE PLATFORM**
 Michael N. Pospelov, Natalia Y. Komarova, Space Research Institute, Russian Federation; Alexander S. Kuznetsov, Marine Hydrophysical Institute, Ukraine
- FRP1.PM.5 ◇ FETCH LIMITED SEA SCATTERING SPECTRAL MODEL FOR HF-OTH SKYWAVE RADAR**
 Riccardo Paladini, Enzo Dalle Mese, Fabrizio Berizzi, University of Pisa, Italy; Andrea Garzelli, University of Siena, Italy; Marco Martorella, Amerigo Capria, University of Pisa, Italy
- FRP1.PM.6 OCEAN SURFACE BACKSCATTERING AT EXTREMELY LOW GRAZING ANGLES OBSERVED BY C-BAND POLARIMETRIC DOPPLER WEATHER RADAR: DOPPLER SPECTRUM ANALYSIS**
 Makoto Satake, Seiji Kawamura, National Institute of Information and Communications Technology, Japan; Yukari Shusse, Nagoya University, Japan; Katsuhiko Nakagawa, Toshio Iguchi, National Institute of Information and Communications Technology, Japan
- FRP1.PM.7 ESTIMATE OF SHORT WAVE CURVATURE FROM ANGULAR RADIOMETRIC MEASUREMENTS**
 Michael N. Pospelov, Alexey V. Kuzmin, Ilya N. Sadovsky, Space Research Institute, Russian Federation
- FRP1.PM.8 A C-BAND MULTI-POLARIMETRIC SAR FLIGHT EXPERIMENT ON OCEAN APPLICATION**
 Xinzhe Yuan, Chunhua Xie, National Satellite Ocean Application Service, China; Yunkai Deng, Yuanyao Lu, Institute of Electronic of Chinese Academy of Science, China
- FRP1.PM.9 NUMERICAL SIMULATION OF WAVE BREAKING**
 Vladimir Irisov, ZelTech/NOAA, United States; Alexander Voronovich, National Oceanic and Atmospheric Administration, United States
- FRP1.PM.10 A MODIFIED WIND VECTOR RETRIEVAL ALGORITHM FOR POLARIMETRIC SCATTEROMETER**
 Xuetang Xie, Mingsen Lin, Zhou Huang, Juhong Zou, Dongxuan Tian, Lixia Liu, Xiaoning Wang, Shiwei Dong, National Satellite Ocean Application Service, China

FR2.L01: Friday, July 30, 10:25 - 12:05**FR2.L01 UXO and Landmine Remediation**

Session Type: Oral-Contributed

Time: Friday, July 30, 10:25 - 12:05

Place: Sea Pearl 1/2/3

Co-Chairs: Paul Gader, University of Florida and Tomoaki Miura, University of Hawaii at Manoa

10:25 - 10:45

FR2.L01.1 MODELING THE MEASURED EM INDUCTION RESPONSE OF TARGETS AS A SUM OF DIPOLE TERMS EACH WITH A DISCRETE RELAXATION FREQUENCY

Waymond Scott, Gregg Larson, Georgia Institute of Technology, United States

10:45 - 11:05

FR2.L01.2 CONTEXT-DEPENDENT LANDMINE DETECTION WITH GROUND-PENETRATING RADAR USING A HIDDEN MARKOV CONTEXT MODEL

Christopher Ratto, Peter Torriano, Kenneth Morton, Leslie Collins, Duke University, United States

11:05 - 11:25

FR2.L01.3 AN SVM CLASSIFIER WITH HMM-BASED KERNEL FOR LANDMINE DETECTION USING GROUND PENETRATING RADAR

Anis Hamdi, Oualid Missaoui, Hichem Frigui, University of Louisville, United States

11:25 - 11:45

FR2.L01.4 A MULTIMODAL MATCHING PURSUITS DISSIMILARITY MEASURE APPLIED TO LANDMINE/ CLUTTER DISCRIMINATION

Taylor Glenn, Joseph Wilson, K.C. Ho, University of Florida, United States

11:45 - 12:05

FR2.L01.5 3D VELOCITY MODEL AND RAY TRACING OF ANTENNA ARRAY GPR

Xuan Feng, Wenjin Liang, Qi Lu, Cai Liu, Lili Li, Lilong Zou, Jilin University, China; Motoyuki Sato, Tohoku University, Japan

FR2.L02: Friday, July 30, 10:25 - 12:05**FR2.L02 Ocean Biology II**

Session Type: Oral-Contributed

Time: Friday, July 30, 10:25 - 12:05

Place: Sea Pearl 4/5/6

Co-Chairs: Rivo Uiboupin, Tallinn University of Technology and Seongick CHO, Korea Ocean R&D Institute

10:25 - 10:45

FR2.L02.1 THE SENTINEL-3 MISSION OVERVIEW

Bernd Seitz, Constantiu Mavrocordatos, Helge Rebhan, Jens Nieke, Ulf Klein, Frank Borde, Bruno Berruti, European Space Agency - ESTEC, Netherlands

10:45 - 11:05

FR2.L02.2 STUDY OF SNOWMELT IMPACT ON SST AND TSM FIELDS IN THE COASTAL ZONE OF BARENTS SEA

Rivo Uiboupin, Tallinn University of Technology, Estonia; Olivier Arino, European Space Agency, Italy

11:05 - 11:25

FR2.L02.3 ◇ DETECTION OF "RED-TIDE" BY USING SATELLITE DATA

Obaid Al Shaer, Khalid Mubarak, Ali Dawood, Raed M Shubair, Khalifa University of Science, Technology and Research (KUSTAR), United Arab Emirates

11:25 - 11:45

FR2.L02.4 ◇ INITIAL IN-ORBIT RADIOMETRIC CALIBRATION RESULT OF GEOSTATIONARY OCEAN COLOR IMAGER

Seongick Cho, Yu-Hwan Ahn, Hee-Jeong Han, Joo-Hyung Ryu, Korea Ocean Research & Development Institute, Republic of Korea

11:45 - 12:05

FR2.L02.5 THE POSSIBILITY ON ESTIMATION OF CONCENTRATION OF HEAVY METALS IN COASTAL WATERS FROM REMOTE SENSING DATA

Chuqun Chen, Fenfen Liu, Quanjun He, South China Sea Institute of Oceanology, Chinese Academy of Sciences, China

FR2.L03: Friday, July 30, 10:25 - 12:05**FR2.L03 GIS Applications**

Session Type: Oral-Contributed

Time: Friday, July 30, 10:25 - 12:05

Place: Hibiscus

Co-Chairs: Hampapuram Ramapriyan, NASA Goddard Space Flight Center and Meixia Deng, George Mason University

10:25 - 10:45

FR2.L03.1 LANDSLIDE SUSCEPTIBILITY MAPPING IN A HIMALAYAN ROAD CORRIDOR USING BAYESIAN LOGISTIC REGRESSION MODELS

Iswar Das, Alfred Stein, Norman Kerle, ITC, Netherlands; Vinay K. Dadhwal, IIRS, India

10:45 - 11:05

FR2.L03.2 ◆ PILOT RESEARCH ON CENSUS MAPPING BASED ON SATELLITE IMAGERY AND WEB-GIS

Li Hongsheng, Wang Yingjie, Yu Zhuoyuan, Luo Bin, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China

11:05 - 11:25

FR2.L03.3 RESEARCH ON EVALUATION OF LOCATION PLANNING FOR URBAN PUBLIC SERVICE FACILITIES BASED ON GIS SPATIAL ANALYSIS

Xianjuan Kong, Beijing Tsinghua Urban Planning and Design Institute, China; Anrong Dang, Tsinghua University, China; Gongli Li, Beijing Tsinghua Urban Planning and Design Institute, China

11:25 - 11:45

FR2.L03.4 GEODATABASE DEVELOPMENT TO SUPPORT HYPERSPECTRAL IMAGERY EXPLOITATION

Robert Fusina, US Naval Research Lab, United States; John Fry, Reid Nichols, Marine Information Resources Corp, United States; Charles Bachmann, Rong-Rong Li, US Naval Research Lab, United States; Jon Sellars, Christopher Parrish, National Oceanic and Atmospheric Administration, United States; Marcos Montes, Carl Gross, US Naval Research Lab, United States; Stephen White, National Oceanic and Atmospheric Administration, United States; Krista Lee, Christopher Jones, US Naval Postgraduate School, United States

11:45 - 12:05

FR2.L03.5 HIGH RESOLUTION DSM GENERATION FROM ALOS PRISM - PROCESSING STATUS AND INFLUENCE OF ATTITUDE FLUCTUATION -

Junichi Takaku, Remote Sensing Technology Center of Japan, Japan; Takeo Tadono, Japan Aerospace Exploration Agency, Japan

FR2.L04: Friday, July 30, 10:25 - 12:05**FR2.L04 New Machine Learning Methods for Remote Sensing Data Analysis II**

Session Type: Oral-Invited

Time: Friday, July 30, 10:25 - 12:05

Place: Kahili

Co-Chairs: Gustavo Camps-Valls, University of Valencia and Devis Tuia, University of Lausanne

10:25 - 10:45

FR2.L04.1 MULTIPLE INSTANCE LEARNING FOR HYPERSPECTRAL IMAGE ANALYSIS

Jeremy Bolton, Paul Gader, University of Florida, United States

10:45 - 11:05

FR2.L04.2 SPARSE BAND SELECTION FOR SUPPORT VECTOR DATA DESCRIPTION APPLICATIONS

Amit Banerjee, Joshua Broadwater, Philippe Burlina, Johns Hopkins University, United States

11:05 - 11:25

FR2.L04.3 KERNEL PARAMETER DEPENDENCE IN SPATIAL FACTOR ANALYSIS

Allan Nielsen, Technical University of Denmark, Denmark

11:25 - 11:45

FR2.L04.4 MANIFOLD COORDINATE REPRESENTATIONS OF HYPERSPECTRAL IMAGERY: IMPROVEMENTS IN ALGORITHM PERFORMANCE AND COMPUTATIONAL EFFICIENCY

Charles Bachmann, Tom Ainsworth, Robert Fusina, US Naval Research Lab, United States; Rusty Topping, Tell Gates, Celestech, United States

11:45 - 12:05

FR2.L04.5 SEMISUPERVISED GAUSSIAN PROCESS REGRESSION FOR BIOPHYSICAL PARAMETER ESTIMATION

Yakoub Bazi, King Saud University, Saudi Arabia; Farid Melgani, University of Trento, Italy

FR2.L05: Friday, July 30, 10:25 - 12:05

FR2.L05 Optical Monitoring of Forests

Session Type: Oral-Contributed

Time: Friday, July 30, 10:25 - 12:05

Place: South Pacific 3

Co-Chairs: K. Jon Ranson, NASA's Goddard Space Flight Center and Wayne Walker, Woods Hole research Center

10:25 - 10:45

FR2.L05.1 DISCRIMINATING C3 AND C4 PLANTS FROM HYPERSPECTRAL DATA

Liangyun Liu, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

10:45 - 11:05

FR2.L05.2 VEGETATION HEIGHT, BIOMASS AND CARBON MAPPED IN THE CONTERMINOUS UNITED STATES FROM OPTICAL AND INSAR SATELLITE AND FOREST INVENTORY DATA

Josef Kellndorfer, Wayne Walker, Katie Kirsch, Jesse Bishop, Greg Fiske, Woods Hole Research Center, United States; Elizabeth LaPointe, USDA Forest Service, United States

11:05 - 11:25

FR2.L05.3 A PHYSICALLY BASED APPROACH IN RETRIEVING VEGETATION LEAF AREA INDEX FROM LANDSAT SURFACE REFLECTANCE DATA

Sangram Ganguly, Ramakrishna R. Nemani, Weile Wang, Hirofumi Hashimoto, Petr Votava, Andrew Michaelis, Cristina Milesi, Jennifer L. Dungan, Forrest Melton, NASA Ames Research Center, United States; Ranga B. Myneni, Boston University, United States

11:25 - 11:45

FR2.L05.4 MAPPING VEGETATION LEAF AREA INDEX USING LANDSAT/GLOBAL LAND SURVEY DATA

Ramakrishna R. Nemani, NASA Ames Research Center, United States; Sangram Ganguly, BAERI/NASA Ames Research Center, United States; Weile Wang, CSUMB/NASA Ames Research Center, United States; Feng Gao, NASA Goddard Space Flight Center, United States; Petr Votava, Andrew Michaelis, Jennifer L. Dungan, Forrest Melton, Hirofumi Hashimoto, Cristina Milesi, CSUMB/NASA Ames Research Center, United States; Ranga B. Myneni, Boston University, United States

11:45 - 12:05

FR2.L05.5 INDIVIDUAL TREE CROWN DELINEATION USING MULTI-SCALE SEGMENTATION OF AERIAL IMAGERY

Linhai Jing, Baoxin Hu, Jili Li, York University, Canada

FR2.L06: Friday, July 30, 10:25 - 12:05**FR2.L06 Hyperspectral Missions**

Session Type: Oral-Contributed

Time: Friday, July 30, 10:25 - 12:05

Place: South Pacific 4

Co-Chairs: Forrest Hall, NASA GSFC/UMBC and Antonio Plaza, University of Extremadura

10:25 - 10:45

FR2.L06.1 USING EO-1 HYPERION IMAGES TO PROTOTYPE ENVIRONMENTAL PRODUCTS FOR HYSPIRI

Elizabeth Middleton, NASA Goddard Space Flight Center, United States; Petya Campbell, Joint Center for Earth Systems Technology, United States; Qingyuan Zhang, Goddard Earth Science and Technology Center, United States; Yen-Ben Cheng, Earth Resources Technology, Inc., United States; Karl Huemrich, Joint Center for Earth Systems Technology, United States; Lawrence Ong, Science Systems and Applications Inc., United States; Stephen Ungar, Goddard Earth Science and Technology Center, United States

10:45 - 11:05

FR2.L06.2 SPECTRAL CALIBRATIONS OF HICO DATA USING ATMOSPHERIC BANDS AND RADIANCE ADJUSTMENT BASED ON HICO AND MODIS DATA COMPARISONS

Bo-Cai Gao, Rong-Rong Li, Naval Research Laboratory, United States

11:05 - 11:25

FR2.L06.3 HJ-1A/B MULTISPECTRAL IMAGERS RADIOMETRIC STABILITY IN THE FIRST YEAR

Zhengchao Chen, Bing Zhang, Wenjuan Zhang, Hao Zhang, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

11:25 - 11:45

FR2.L06.4 THE USER INTERFACE OF THE ENMAP SATELLITE MISSION

Uta Heiden, Nicole Pinnel, German Aerospace Center (DLR), Germany; Joerg Gredel, EOS-Consulting, Germany; Isabelle Pengler, Helmut Mühle, Isabelle Pengler, German Aerospace Center (DLR), Germany; Katja Reissig, IB Reissig, Germany; Daniele Dietrich, Torsten Heinen, Tobias Storch, Sabrina Eberle, German Aerospace Center (DLR), Germany; Hermann Kaufmann, GFZ German Research Centre for Geosciences, Germany

11:45 - 12:05

FR2.L06.5 OVERVIEW OF THE FOURIER TRANSFORM HYPERSPECTRAL IMAGER (HSI) BOARDED ON HJ-1A SATELLITE

Xiang Zhao, Beijing Normal University, China; Q. Kang, China Center for Resource Satellite Data and Applications, China; Q. Li, Satellite Environmental Application Centre of the Ministry of Environmental Protection of China, China; L. Fang, Y.H. Chen, Beijing Normal University, China

FR2.L07: Friday, July 30, 10:25 - 12:05**FR2.L07 Microwave Radiometer Calibration II**

Session Type: Oral-Contributed

Time: Friday, July 30, 10:25 - 12:05

Place: Nautilus

Co-Chairs: Darren McKague, University of Michigan and Andreas Colliander, Jet Propulsion Laboratory

10:25 - 10:45

FR2.L07.1 PERFORMANCE VERIFICATION AND CALIBRATION OF SUPERCONDUCTING SUBMILLIMETER-WAVE LIMB-EMISSION SOUNDER (SMILES)

Satoshi Ochiai, Yoshihisa Irimajiri, National Institute of Information and Communications Technology, Japan; Kenichi Kikuchi, Toshiyuki Nishibori, Takuki Sano, Ryota Sato, Japan Aerospace Exploration Agency, Japan; Takeshi Manabe, Osaka Prefecture University, Japan; Hiroyuki Ozeki, Toho University, Japan; Masato Shiotani, Kyoto University, Japan

10:45 - 11:05

FR2.L07.2 PHASED ARRAY RADIOMETER CALIBRATION USING A RADIATED NOISE SOURCE

Karthik Srinivasan, Ashutosh Limaye, Universities Space Research Association, United States; Charles Laymon, Paul Meyer, NASA Marshall Space Flight Center, United States

11:05 - 11:25

FR2.L07.3 ERROR BUDGETING FOR RADIOMETER THERMAL VACUUM TEST

Justin Bobak, Peter W. Gaiser, Naval Research Laboratory, United States

11:25 - 11:45

FR2.L07.4 COMPARISON OF MICROWAVE BLACK-BODY TARGET RADIOMETRIC MEASUREMENTS

David K. Walker, Dazhen Gu, Katherine MacReynolds, Randy Direen, James Randa, Amanda E. Cox, Derek Houtz, Robert L. Billinger, NIST, United States

11:45 - 12:05

FR2.L07.5 CHINA LUNAR PROBE CHANG'E-1 MICROWAVE SOUNDER — DESIGN AND SOME RESULTS

Jingshan Jiang, Zhenzhan Wang, Xiaohui Zhang, Yun Li, Xue Fei Wang, Tao Wang, Center for Space Science and Applied Research, Chinese Academy of Sciences, China

FR2.L08: Friday, July 30, 10:25 - 12:05**FR2.L08 Calibration and Performance Evaluation of Advanced Passive Microwave Instruments**

Session Type: Oral-Contributed

Time: Friday, July 30, 10:25 - 12:05

Place: South Pacific 1/2

Co-Chairs: Ignasi Corbella, Universitat Politècnica de Catalunya and Christopher Ruf, University of Michigan

10:25 - 10:45

FR2.L08.1 EXPERIMENTAL VALIDATION OF THE CORBELLA'S VISIBILITY FUNCTION USING HUT-2D AND MIRAS

Fernando Martín-Portuerras, European Space Agency, Spain; Juha Kainulainen, Helsinki University of Technology, Finland; Manuel Martín-Neira, European Space Agency, Netherlands; Ignasi Corbella, Polytechnic University of Catalonia, Spain; Roger Oliva, European Space Agency, Netherlands; Rita Castro, Jose Barbosa, Antonio Gutierrez, Deimos Engenharia, Portugal

10:45 - 11:05

FR2.L08.2 THE HURRICANE IMAGING RADIOMETER WIDE SWATH SIMULATION AND WIND SPEED RETRIEVALS

Ruba A. Amarin, W. Linwood Jones, James Johnson, University of Central Florida, United States; Christopher Ruf, University of Michigan, United States; Timothy Miller, NASA Marshall Space Flight Center, United States; Eric Uhlhorn, NOAA/AOML/Hurricane Research Division, United States

11:05 - 11:25

FR2.L08.3 CAPABILITIES AND IMPACT ON WIND ANALYSES OF THE HURRICANE IMAGING RADIOMETER (HIRAD)

Timothy Miller, NASA Marshall Space Flight Center, United States; Ruba A. Amarin, University of Central Florida, United States; Robert Atlas, NOAA/AOML, United States; M.C. Bailey, Self employed, United States; Peter Black, SAIC/Naval Research Laboratory, United States; Courtney Buckley, Universities Space Research Association, United States; Mark James, NASA Marshall Space Flight Center, United States; James Johnson, W. Linwood Jones, University of Central Florida, United States; Christopher Ruf, University of Michigan, United States; David Simmons, University of Alabama, Huntsville, United States; Eric Uhlhorn, NOAA/AOML, United States

11:25 - 11:45

FR2.L08.4 END-TO-END SIMULATOR FOR GLOBAL NAVIGATION SATELLITE SYSTEM REFLECTOMETRY SPACE MISSION

Hyuk Park, Juan Fernando Marchan-Hernandez, Nereida Rodriguez-Alvarez, Enric Valencia, Isaac Ramos-Perez, Xavier Bosch-Lluis, Adriano Camps, Remote Sensing Laboratory, Universitat Politècnica de Catalunya (UPC), Spain

11:45 - 12:05

FR2.L08.5 ◇ FPIR DEMONSTRATOR

Jingye Yan, Ji Wu, Center for Space Science and Applied Research, Chinese Academy of Sciences, China; Manuel Martín-Neira, European Space Agency - ESTEC, Netherlands; Hao Liu, Huguang Liu, Jingshan Jiang, Center for Space Science and Applied Research, Chinese Academy of Sciences, Netherlands

FR2.L09: Friday, July 30, 10:25 - 12:05

FR2.L09 Active Microwave Sensors and Applications

Session Type: Oral-Contributed

Time: Friday, July 30, 10:25 - 12:05

Place: Coral 1

Co-Chairs: Jiancheng Shi, University of California, Santa Barbara and Tom Ainsworth, Naval research lab

10:25 - 10:45

FR2.L09.1 ◇ **SWIM, A NEW KU-BAND SCATTEROMETER DEDICATED TO WAVES OBSERVATION**

Vivien Enjalras, Laurent Rey, Jérôme Lorenzo, Thales Alenia Space, France; Thierry Amiot, Céline Tison, Patrick Castellan, Centre National d'Etudes Spatiales (CNES), France

10:45 - 11:05

FR2.L09.2 PROCESSING OF MEMPHIS MILLIMETER WAVE MULTI-BASELINE INSAR DATA

Christophe Magnard, Erich Meier, David Small, University of Zurich, Switzerland; Helmut Essen, Thorsten Brehm, Fraunhofer Institute for High Frequency Physics and Radar Techniques (FHR), Germany

11:05 - 11:25

FR2.L09.3 APPLYING PSI AND TOMOGRAPHIC TECHNIQUES TO RADARSAT-2 SPOTLIGHT DATA; A CASE STUDY FOR EDMONTON AREA

Valentin Poncos, University of Calgary, Canada; John Dehls, Alberta Geological Survey, Canada; Gianfranco Fornaro, Diego Reale, Institute for Electromagnetic Sensing of the Environment, Italy

11:25 - 11:45

FR2.L09.4 PROCESSING AND ANALYSIS OF AIRBORNE SYNTHETIC APERTURE RADAR IMAGERY ACQUIRED OVER MAYA SETTLEMENTS IN CENTRAL AMERICA

Bruce Chapman, Ronald Blom, Jet Propulsion Laboratory, United States; Thomas Garrison, Brown University, United States; Scott Hensley, Jet Propulsion Laboratory, United States; Stephen Houston, Brown University, United States; Charles Golden, Brandeis University, United States; Sassan Saatchi, Jet Propulsion Laboratory, United States

11:45 - 12:05

FR2.L09.5 BIOMASS ESTIMATION FROM SAR POLARIMETRY AND INTERFEROMETRY SEPARATING GROUND AND VOLUME CONTRIBUTIONS

Maxim Neumann, Sassan Saatchi, Jet Propulsion Laboratory, United States

FR2.L10: Friday, July 30, 10:25 - 12:05**FR2.L10 SMOS: The Beginning of a L-band Generation of Global Remote Sensed Soil Moisture Observations II**

Session Type: Oral-Invited

Time: Friday, July 30, 10:25 - 12:05

Place: Coral 2

Co-Chairs: Jordi Font, Institut de Ciències del Mar/CSIC and Yann Kerr, CESBIO, CNES

10:25 - 10:45

FR2.L10.1 MONITORING SMOS BRIGHTNESS TEMPERATURES AT GLOBAL SCALE. A PRELIMINARY OVERALL QUALITY ASSESSMENT.

Joaquín Muñoz Sabater, Patricia de Rosnay, Mohamed Dahoui, European Centre for Medium-Range Weather Forecasts, United Kingdom; Matthias Drusch, Steven Delwart, European Space Agency - ESTEC, Netherlands; Norrie Wright, European Space Agency - ESRIN, Italy

10:45 - 11:05

FR2.L10.2 VALIDATION OF SMOS: SOME FIRST RESULTS

Jeffrey Walker, Sandy Peischl, Mahdi Allahmoradi, Christoph Rüdiger, Dongryeol Ryu, Nan Ye, University of Melbourne, Australia; Damian Barrett, University of Queensland, Australia; Robert Gurney, University of Reading, United Kingdom; Yann Kerr, Centre d'Études Spatiales de la Biosphère (CESBIO), France; Edward Kim, NASA Goddard Space Flight Center, United States; John Le Marshall, Centre for Australian Weather and Climate Research, Australia

11:05 - 11:25

FR2.L10.3 TOWARDS VALIDATION OF SMOS LAND PRODUCTS USING THE SYNERGY BETWEEN MODELS, AIRBORNE AND GROUND-BASED DATA OVER THE VALENCIA ANCHOR STATION. DEFINITION OF MATCHING-UP POINTS TO SMOS OBSERVATIONS

Ernesto Lopez-Baeza, University of Valencia, Spain; Ahmad AlBitar, Centre d'Études Spatiales de la Biosphère (CESBIO), France; M. Carmen Antolin, Center for Desertification Research (CIDE), Spain; Jan Balling, Technical University of Denmark, Denmark; Fernando Belda, Agencia Estatal de Meteorología, Spain; Catherine Bouzinac, European Space Agency - ESTEC, Netherlands; Alejandro Buil, University of Valencia, Spain; Fernando Camacho, Aurelio Cano, EOLAB-Spain, Spain; Ester Carbo, Center for Desertification Research (CIDE), Spain; J. Cernicharo, EOLAB-Spain, Spain; M. Amparo Coll, University of Valencia, Spain; Malcolm Davidson, Steven Delwart, European Space Agency - ESTEC, Netherlands; Arancha Fidalgo, Júcar River Basin Authority, Spain; Achim Hahne, European Space Agency - ESTEC, Netherlands; Silvia Juglea, Yann Kerr, Centre d'Études Spatiales de la Biosphère (CESBIO), France; Beatriz Martínez, University of Valencia, Spain; Christian Mätzler, University of Bern, Switzerland; Susanne Mecklenburg, European Space Agency - ESRIN, Italy; Arnaud Mialon, Centre d'Études Spatiales de la Biosphère (CESBIO), France; Cristina Millan, Center for Desertification Research (CIDE), Spain; Cecilia Narbon, University of Valencia, Spain; Mickael Parde, CETP-CNRS, France; Fernando Requena, Center for Desertification Research (CIDE), Spain; Kauzar Saleh, University of Cambridge, United Kingdom; Mike Schwank, Swiss Federal Research Institute WSL, Switzerland; Niels Skou, Sten S. Søbjaerg, Technical University of Denmark, Denmark; Jorge Tamayo, Agencia Estatal de Meteorología, Spain; I Torralba, EOLAB-Spain, Spain; Elena Torre, Center for Desertification Research (CIDE), Spain; Ingo Voelksch, Swiss Federal Research Institute WSL, Switzerland; Jean-Pierre Wigneron, INRA, France; Patrick Wursteisen, European Space Agency - ESTEC, Netherlands; Mehrez Zribi, CETP-CNRS, France

11:25 - 11:45

FR2.L10.4 DEVELOPMENT OF AN ENSEMBLE KALMAN FILTER FOR LAND SURFACE DATA ASSIMILATION OF SOIL MOISTURE BRIGHTNESS TEMPERATURES

Marco Carrera, Stéphane Bélair, Bernard Bilodeau, Sheena Solomon, Environment Canada, Canada

11:45 - 12:05

FR2.L10.5 SMOS BRIGHTNESS TEMPERATURES VALIDATION: FIRST RESULTS AFTER THE COMMISSIONING PHASE.

Marco Talone, Remote Sensing Laboratory, Universitat Politècnica de Catalunya - SMOS Barcelona Expert Centre, Spain; Jérôme Gourrion, Roberto Sabia, Carolina Gabarró, Institut de Ciències del Mar CSIC - SMOS Barcelona Expert Centre, Spain; Veronica Gonzalez, Adriano Camps, Ignasi Corbella, Alessandra Moneris, Remote Sensing Laboratory, Universitat Politècnica de Catalunya - SMOS Barcelona Expert Centre, Spain; Jordi Font, Institut de Ciències del Mar CSIC - SMOS Barcelona Expert Centre, Spain

FR3.L01: Friday, July 30, 13:35 - 15:15**FR3.L01 Ground Penetrating Radar Detection of Subsurface Contaminants and Hazards I**

Session Type: Oral-Invited

Time: Friday, July 30, 13:35 - 15:15

Place: Sea Pearl 1/2/3

Co-Chairs: Carey M. Rappaport, Northeastern University and Motoyuki Sato, Tohoku University

13:35 - 14:15 Overview Talk (40 minutes)

FR3.L01.1 IMPACT OF THE WAVE NUMBER ESTIMATION IN UNDERGROUND FOCUSING SAR IMAGES

Fernando Quivira, Jose Angel Martinez-Lorenzo, Carey M. Rappaport, Northeastern University, United States

14:15 - 14:35

FR3.L01.3 GROUND PENETRATING RADAR FOR TUNNEL DETECTION

Mustafa Kuloglu, Chi-Chih Chen, Ohio State University, United States

14:35 - 14:55

FR3.L01.4 ROAD SURFACE QUALITY MEASUREMENT USING INEXPENSIVE RADAR

Carey M. Rappaport, Northeastern University, United States; David Holbrook, Chris Adams, Walleye Technologies, Inc., United States; Daniel Busuioac, Jeffrey Doughty, Northeastern University, United States

14:55 - 15:15

FR3.L01.5 GPR EVALUATION TEST FOR HUMANITARIAN DEMINING IN CAMBODIA

Motoyuki Sato, Tohoku University, Japan

FR3.L02: Friday, July 30, 13:35 - 15:15**FR3.L02 Ocean Radar Remote Sensing at Grazing Incidence I**

Session Type: Oral-Invited

Time: Friday, July 30, 13:35 - 15:15

Place: Sea Pearl 4/5/6

Co-Chairs: Jochen Horstmann, NATO Undersea Research Center and Dennis Trizna, Imaging Science Research, Inc.

13:35 - 13:55

FR3.L02.1 EXTRACTION OF COASTAL WAVEFIELD PROPERTIES FROM X-BAND RADAR

Katrin Gisela Hessner, OceanWaveS GmbH, Germany; Jeffrey L. Hanson, US Army Corps of Engineers, United States

13:55 - 14:15

FR3.L02.2 SHALLOW WATER BATHYMETRY WITH AN INCOHERENT X-BAND RADAR USING SMALL (SMALLER) SPACE-TIME IMAGE CUBES

Ron Abileah, jOmegak, United States; Dennis Trizna, Imaging Science Research, Inc., United States

14:15 - 14:35

FR3.L02.3 SUBMERGED DUNES AND BREAKWATER EMBAYMENTS MAPPED USING WAVE INVERSIONS OF SHORE-MOUNTED MARINE X-BAND RADAR DATA

Paul Bell, Proudman Oceanographic Laboratory, United Kingdom

14:35 - 14:55

FR3.L02.4 A MARINE RADAR BASED OCEAN SURFACE FEATURE MONITORING SYSTEM

Jochen Horstmann, Mathew Coffin, NATO Undersea Research Center, Italy

14:55 - 15:15

FR3.L02.5 ◇ APPLICATION OF CONVENTIONAL MARINE RADARS FOR MEASURING OCEAN WAVE FIELDS IN SHALLOW WATER CONDITIONS

Jose Carlos Nieto-Borge, David Mata-Moya, Pilar Jarabo-Amores, Universidad de Alcalá, Spain; Konstanze Reichert, OceanWaveS Pacific Ltd, New Zealand; Katrin Gisela Hessner, OceanWaveS GmbH, Germany

FR3.L03: Friday, July 30, 13:35 - 15:15**FR3.L03 Geographic Information Science: Techniques**

Session Type: Oral-Contributed

Time: Friday, July 30, 13:35 - 15:15

Place: Hibiscus

Co-Chairs: Surya Durbha, Mississippi State University and Liping Di, George Mason University

13:35 - 13:55

FR3.L03.1 A PARALLEL-PROCESSING PLATFORM FOR HJ-SATELLITE DATA

Fengbin Zheng, Shenshen Li, Computer and Information Engineering College, Henan University, China; Dong Han, Baohu He, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Jibao Lai, Computer and Information Engineering College, Henan University, China

13:55 - 14:15

FR3.L03.2 INTEGRATION FLOOD FORECASTING WITH WEB-BASED SPATIAL DECISION SUPPORT SERVICES IN THE OAK RIDGES MORaine AREA

Lei Wang, Qiuming Cheng, York University, Canada

14:15 - 14:35

FR3.L03.3 GENERATION OF DEM BY RADARGRAMMETRIC TECHNIQUES

Franck Fayard, Stephane Meric, Eric Pottier, European University of Brittany, France

14:35 - 14:55

FR3.L03.4 OBJECT BASED ANALYSIS OF HIGH SPATIAL RESOLUTION IMAGERY FOR MAPPING LARGE CORAL REEF SYSTEMS IN THE WEST PACIFIC AT GEOMORPHIC AND BENTHIC COMMUNITY SPATIAL SCALES

Chris Roelfsema, Stuart Phinn, University of Queensland, Australia; Stacy Jupiter, Wildlife Conservation Society, Fiji; James Comley, University of South Pacific, Fiji; Maria Berger, University of Queensland, Australia; Eric Paterson, Victoria University, Australia

14:55 - 15:15

FR3.L03.5 A METHOD OF INTELLIGENT 3D AIDED PLANNING FOR LAND CONSOLIDATION

Ruoming Shi, Can Chen, Beijing University of Civil Engineering and Architecture, China; Ling Zhu, Xihan Mu, Beijing Normal University, China

FR3.L04: Friday, July 30, 13:35 - 15:15**FR3.L04 Hyperspectral Methods for Difficult Target Detection I**

Session Type: Oral-Invited

Time: Friday, July 30, 13:35 - 15:15

Place: Kahili

Co-Chairs: James Theiler, Los Alamos National Laboratory and Alan Schaum, Naval Research Laboratory

13:35 - 14:15 Overview Talk (40 minutes)

FR3.L04.1 AUTOMATED HYPERSPECTRAL TARGET DETECTION AND CHANGE DETECTION FROM AN AIRBORNE PLATFORM: PROGRESS AND CHALLENGES

Michael Eismann, Joseph Meola, Air Force Research Laboratory, United States; Alan Stocker, Space Computer Corporation, United States

14:15 - 14:35

FR3.L04.3 ROBUST HYPERSPECTRAL DETECTION WITH ALGORITHM FUSION

Steven Adler-Golden, Patrick Conforti, Spectral Sciences Incorporated, United States

14:35 - 14:55

FR3.L04.4 SPARSE MATRIX TRANSFORM FOR FAST PROJECTION TO REDUCED DIMENSION

James Theiler, Los Alamos National Laboratory, United States; Guangzhi Cao, GE Healthcare Technologies, United States; Charles A. Bouman, Purdue University, United States

14:55 - 15:15

FR3.L04.5 HYPERSPECTRAL APPLICATIONS OF CONTINUUM FUSION

Alan Schaum, Naval Research Laboratory, United States

FR3.L05: Friday, July 30, 13:35 - 15:15**FR3.L05 Lidar in Forestry**

Session Type: Oral-Contributed
 Time: Friday, July 30, 13:35 - 15:15
 Place: South Pacific 3
 Co-Chairs: Qi Chen, University of Hawaii and Melba Crawford, Purdue

13:35 - 13:55

FR3.L05.1 RETRIEVING VEGETATION HEIGHT OF FORESTS AND WOODLANDS OVER MOUNTAINOUS AREAS IN THE PACIFIC COAST REGION USING SATELLITE LASER ALTIMETRY

Qi Chen, University of Hawaii at Manoa, United States

13:55 - 14:15

FR3.L05.2 BIOMASS ESTIMATION FOR BOREAL FORESTS USING FIELD, LIDAR AND L-BAND SAR DATA

D. K. Atwood, University of Alaska, Fairbanks, United States; Hans-Erik Andersen, USDA Forest Service, United States

14:15 - 14:35

FR3.L05.3 3D SURFACE RECONSTRUCTION OF TERRESTRIAL LASER SCANNER DATA FOR FORESTRY

Hongjoo Park, Samsung Lim, John Trinder, University of New South Wales, Australia; Russell Turner, NSW Department of Primary Industries, Australia

14:35 - 14:55

FR3.L05.4 INTEGRATION OF WAVEFORM LIDAR AND HYPERSPECTRAL DATA TO ESTIMATE STRUCTURAL ATTRIBUTES OF TROPICAL FORESTS

Jinha Jung, Melba Crawford, Purdue University, United States

14:55 - 15:15

FR3.L05.5 EFFECTS OF FOREST DISTURBANCES ON FOREST STRUCTURAL PARAMETERS RETRIEVAL FROM LIDAR WAVEFORM DATA

K. Jon Ranson, NASA Goddard Space Flight Center, United States; Guoqing Sun, University of Maryland College Park, United States

FR3.L06: Friday, July 30, 13:35 - 15:15**FR3.L06 Hyperspectral Methods**

Session Type: Oral-Contributed
 Time: Friday, July 30, 13:35 - 15:15
 Place: South Pacific 4
 Co-Chairs: David Goodenough, Canadian Forest Service and Olaf Niemann, University of Victoria

13:35 - 13:55

FR3.L06.1 DETECTION OF LEAFY SPURGE USING HYPER-SPECTRAL-SPATIAL-TEMPORAL IMAGERY

Steven Jay, Rick Lawrence, Kevin Repasky, Lisa Rew, Montana State University, United States

13:55 - 14:15

FR3.L06.2 DIMENSIONALITY REDUCTION OF HYPERSPECTRAL DATA: ASSESSING THE PERFORMANCE OF AUTOASSOCIATIVE NEURAL NETWORKS

Giorgio Licciardi, Fabio Del Frate, Giovanni Schiavon, Domenico Solimini, Tor Vergata University, Italy

14:15 - 14:35

FR3.L06.3 ONBOARD PROCESSING OF MULTISPECTRAL AND HYPERSPECTRAL DATA OF VOLCANIC ACTIVITY FOR FUTURE EARTH-ORBITING AND PLANETARY MISSIONS

Ashley Davies, Steve Chien, Daniel Tran, Joshua Doubleday, Jet Propulsion Laboratory, California Institute of Technology, United States

14:35 - 14:55

FR3.L06.4 LIDAR INTEGRATED AIRBORNE IMAGING SPECTROSCOPY FOR ROOT DISEASE DETECTION AND MEASUREMENT OF FOLIAR CHEMISTRY

Geoffrey Quinn, Olaf Niemann, University of Victoria, Canada; David Goodenough, Natural Resources Canada, Canada

14:55 - 15:15

FR3.L06.5 MODELING AND MEASUREMENT OF OPTICAL POLARIMETRIC IMAGE PHENOMENOLOGY IN A COMPLEX URBAN ENVIRONMENT

Michael Presnar, John Kerekes, Rochester Institute of Technology, United States

FR3.L07: Friday, July 30, 13:35 - 15:15**FR3.L07 COSMO/Skymed I**

Session Type: Oral-Contributed
 Time: Friday, July 30, 13:35 - 15:15
 Place: Nautilus
 Co-Chairs: Alessandro Coletta, ASI and Fabrizio Battazza, ASI

13:35 - 13:55

FR3.L07.1 ASI DATA EXPLOITATION OF THE COSMO-SKYMED MISSION

Fabrizio Battazza, Giuseppe Bianco, Alessandro Coletta, Fabio Covello, Ettore Lopinto, Gemma Manoni, Giovanni Valentini, ASI - Agenzia Spaziale Italiana, Italy

13:55 - 14:15

FR3.L07.2 CONTRIBUTION OF ASI COSMO-SKYMED MISSION TO THE SPACE TASK GROUP FOR THE INTERNATIONAL POLAR YEAR

Fabrizio Battazza, Giuseppe Bianco, ASI - Agenzia Spaziale Italiana, Italy; Achille Ciappa, e-GEOS, Italy; Alessandro Coletta, ASI - Agenzia Spaziale Italiana, Italy; Luca Pietranera, e-GEOS, Italy

14:15 - 14:35

FR3.L07.3 STATUS, RESULTS, POTENTIALITY AND EVOLUTION OF COSMO-SKYMED, THE ITALIAN EARTH OBSERVATION CONSTELLATION FOR RISK MANAGEMENT AND SECURITY

Francesco Caltagirone, Giuseppe De Luca, Fabio Covello, Agenzia Spaziale Italiana, Italy; Graziano Marano, Italian Ministry of Defense, Italy; Giuseppe Angino, Matteo Piemontese, Thales Alenia Space Italia, Italy

14:35 - 14:55

FR3.L07.4 ONE-DAY INTERFEROMETRY RESULTS WITH THE COSMO-SKYMED CONSTELLATION

Fabio Covello, Fabrizio Battazza, Alessandro Coletta, Gemma Manoni, Giovanni Valentini, ASI - Agenzia Spaziale Italiana, Italy

14:55 - 15:15

FR3.L07.5 COSMO-SKYMED DATA FOR OPERATIONAL CRISIS MANAGEMENT DURING EARTHQUAKES: DEMONSTRATION THROUGH THE ASI-SIGRIS PILOT PROJECT

Marco Chini, Stefano Salvi, Istituto Nazionale di Geofisica e Vulcanologia, Italy; Stefano Vignoli, Advanced Computer Systems, Italy; Marco Serra, Simona Zoffoli, Agenzia Spaziale Italiana, Italy; Vittorio Bosi, Dipartimento della Protezione Civile, Italy

FR3.L08: Friday, July 30, 13:35 - 15:15**FR3.L08 Millimeter-wave Technology and Sensors for Earth Science Radar Remote Sensing I**

Session Type: Oral-Invited
 Time: Friday, July 30, 13:35 - 15:15
 Place: South Pacific 1/2
 Chair: Delwyn Moller, Remote Sensing Solutions Inc.

13:35 - 14:15 Overview Talk (40 minutes)

FR3.L08.1 FROM SRTM TO SWOT AND BEYOND: THE LIMITS OF RADAR INTERFEROMETRY

Ernesto Rodriguez, Jet Propulsion Laboratory, California Institute of Technology, United States

14:15 - 14:35

FR3.L08.3 KA-BAND SAR INTERFEROMETRY STUDIES FOR THE SWOT MISSION

Daniel Esteban-Fernandez, Lee-Lueng Fu, Ernesto Rodriguez, Shannon Brown, Richard Hodges, Jet Propulsion Laboratory, United States

14:35 - 14:55

FR3.L08.4 THE KA-BAND SWOT PHENOMENOLOGY AIRBORNE RADAR

Delwyn Moller, James R. Carswell, Remote Sensing Solutions, United States

14:55 - 15:15

FR3.L08.5 THE GLACIER AND ICE SURFACE TOPOGRAPHY INTERFEROMETER: FIRST RESULTS FROM GREENLAND

Scott Hensley, Jet Propulsion Laboratory, United States; Delwyn Moller, Remote Sensing Solutions, United States; Thierry Michel, Greg Sadowy, Jet Propulsion Laboratory, United States

FR3.L09: Friday, July 30, 13:35 - 15:15**FR3.L09 Interferometry and Differential SAR Interferometry**

Session Type: Oral-Contributed

Time: Friday, July 30, 13:35 - 15:15

Place: Coral 1

Co-Chairs: Fabrizio Lombardini, University of Pisa and Gianfranco Fornaro, CNR-IREA

13:35 - 13:55

FR3.L09.1 MULTI BEAM JOINED ESTIMATION FOR PERSISTENT SACTTERER INTERFEROMETRY

Nico Adam, German Aerospace Center (DLR), Germany; Stefan Gernhardt, Technische Universität München, Germany; Michael Eineder, Richard Bamler, German Aerospace Center (DLR), Germany

13:55 - 14:15

FR3.L09.2 REDUCING IONOSPHERIC DECORRELATION EFFECTS IN INSAR DATA USING ACCURATE COREGISTRATION

Albert Chen, Howard Zebker, Stanford University, United States

14:15 - 14:35

FR3.L09.3 ITERATIVE APPROACH FOR HIGH RESOLUTION INSAR SUBSURFACE FOCUSING AND COREGISTRATION IN ARID REGIONS

Adel Elsherbini, Kamal Sarabandi, University of Michigan, United States

14:35 - 14:55

FR3.L09.4 ITERATIVE CALIBRATION OF RELATIVE PLATFORM POSITION: A NEW METHOD FOR SAR BASELINE ESTIMATION

Tiangang Yin, Emmanuel Christophe, Soo Chin Liew, Sim Heng Ong, National University of Singapore, Singapore

14:55 - 15:15

FR3.L09.5 MULTIBASELINE GRADIENT AMBIGUITY RESOLUTION TO SUPPORT MINIMUM COST FLOW PHASE UNWRAPPING

Marie Lachaise, Richard Bamler, German Aerospace Center (DLR), Germany; Fernando Rodriguez-Gonzalez, Technische Universität München (TUM), Germany

FR3.L10: Friday, July 30, 13:35 - 15:15**FR3.L10 SMOS Soil Moisture Science and Products**

Session Type: Oral-Contributed

Time: Friday, July 30, 13:35 - 15:15

Place: Coral 2

Co-Chairs: Yann Kerr, CESBIO and Andreas Colliander, Jet Propulsion Laboratory/California Institute of Technology

13:35 - 13:55

FR3.L10.1 SCIENTIFIC AND OPERATIONAL EXPLOITATION OF GLOBAL SMOS OBSERVATIONS: ESA'S SUPPORTING ACTIVITIES

Matthias Drusch, Achim Hahne, Catherine Bouzinac, Steven Delwart, Susanne Mecklenburg, Norrie Wright, European Space Agency, Netherlands

13:55 - 14:15

FR3.L10.2 MULTI-ORBIT INVERSION OF SMOS SURFACE SOIL MOISTURE

Ahmad AlBitar, Elsa Jacqueline, Olivier Merlin, Yann Kerr, Arnaud Mialon, François Cabot, Philippe Richaume, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Arnaud Quesney, Capgemini Sud, France; Jean-Luc Vergely, ACRI-ST, France

14:15 - 14:35

FR3.L10.3 USING MICROWAVE VEGETATION INDICES FOR SOIL MOISTURE RETRIEVALS FROM PASSIVE MICROWAVE RADIOMETRY

Liang Chen, Kerr Yann, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Jiancheng Shi, Institute for Computational Earth System Sciences, University of California, Santa Barbara, United States; Jean-Pierre Wigneron, EPHYSE - INRA, France

14:35 - 14:55

FR3.L10.4 SMOS SOIL MOISTURE VALUES EVALUATION OVER SAHELIAN AREA

Claire Gruhier, Yann Kerr, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Thierry Pellarin, LTHE, France; Patricia de Rosnay, European Centre for Medium-Range Weather Forecasts, United Kingdom; Manuela Grippa, LMTG, France

14:55 - 15:15

FR3.L10.5 BOREAL FOREST SOIL MOISTURE MEASUREMENTS USING HUT-2D SYNTHETIC APERTURE RADIOMETER

Jaakko Seppänen, Juha Kainulainen, Kimmo Rautiainen, Martti Hallikainen, Helsinki University of Technology, Finland; Juha Lemmetyinen, Marko Mäkynen, Finnish Meteorological Institute, Finland

FRP2.PA: Friday, July 30, 14:55 - 16:00

- FRP2.PA** **Soil Moisture and Vegetation Characterization Using Microwave I**
 Session Type: Poster
 Time: Friday, July 30, 14:55 - 16:00
 Place: Poster Area A
 Chair: Brian Hornbuckle, Iowa State University
- FRP2.PA.1** **ON THE POTENTIAL OF THE AMSR-E BASED POLARIZATION RATIO VARIATION INDEX (PRVI) FOR SOIL WETNESS VARIATIONS MONITORING**
 Teodosio Lacava, Irina Coviello, Institute of Methodologies for Environmental Analysis - National Research Council, Italy; Giuseppe Mazzeo, University of Basilicata, Italy; Nicola Pergola, Institute of Methodologies for Environmental Analysis - National Research Council, Italy; Valerio Tramotoli, University of Basilicata, Italy
- FRP2.PA.2** **POTENTIAL OF MAPPING SOIL MOISTURE BY COMBINING RADAR BACKSCATTER MODELING AND POLSAR DECOMPOSITION**
 Amine Merzouki, Heather McNairn, Anna Pacheco, Agriculture and Agri-Food Canada, Canada
- FRP2.PA.3** **THE PROCESS OF UNFROZEN WATER FREEZING WITH DECREASING TEMPERATURE STUDIED BY DIELECTRIC MEASUREMENT IN THE CASE OF AN ARCTIC SOIL**
 Valery Mironov, Institute of Physics SB RAS, Russian Federation; Roger De Roo, University of Michigan, United States; Igor Savin, Institute of Physics SB RAS, Russian Federation
- FRP2.PA.4** **SOIL MOISTURE PERFORMANCE PREDICTION FOR THE NPOESS MICROWAVE IMAGER/SOUNDER(MIS)**
 Li Li, Andy Jones, U.S. Naval Research Laboratory, United States; Gary McWilliams, U.S. Army Research Laboratory, United States
- FRP2.PA.5** **FURTHER VALIDATION OF PASSIVE MICROWAVE REMOTE SENSING SOIL MOISTURE PRODUCTS IN THE YIHE BASIN OF CHINA**
 Jiongfang Chen, Wanchang Zhang, Nanjing University, China; Kexin Zhang, Xuemei Lv, Linyi Meteorological Bureau, China
- FRP2.PA.6** **TOWARDS MULTI-INCIDENCE ANGLE PASSIVE MICROWAVE RETRIEVAL OF SOIL MOISTURE**
 Sandy Peischl, Jeffrey Walker, Dongryeol Ryu, The University of Melbourne, Australia; Yann Kerr, Biospheric Processes, CESBIO, France; Christoph Rüdiger, University of Melbourne, Australia
- FRP2.PA.7** **OVERVIEW OF SMOS CATDS LEVEL 3 SOIL MOISTURE PRODUCTS**
 Elsa Jacqueline, Ahmad AlBitar, Yann Kerr, Arnaud Mialon, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Arnaud Quesney, Copgemini Sud, France; François Cabot, Philippe Richaume, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France
- FRP2.PA.8** **WINDSAT SOIL MOISTURE AND VEGETATION WATER CONTENT OBSERVATIONS ASSOCIATED WITH THE 2003 EUROPEAN HEAT WAVE**
 Li Li, U.S. Naval Research Laboratory, United States; Sonia Seneviratne, Institute for Atmospheric and Climate Science ETH, Switzerland; Peter W. Gaiser, Gerald Nedoluha, U.S. Naval Research Laboratory, United States
- FRP2.PA.9** **TRIPLE COLLOCATION – A NEW TOOL TO DETERMINE THE ERROR STRUCTURE OF GLOBAL SOIL MOISTURE PRODUCTS**
 Klaus Scipal, European Space Agency, Netherlands; Wouter Dorigo, Vienna University of Technology, Austria; Richard De Jeu, Vrije Universiteit Amsterdam, Netherlands

FRP2.PB: Friday, July 30, 14:55 - 16:00

- FRP2.PB** **Soil Moisture and Vegetation Properties in Remote Sensing**
 Session Type: Poster
 Time: Friday, July 30, 14:55 - 16:00
 Place: Poster Area B
 Co-Chairs: Jeffrey Walker, University of Melbourne and Rajat Bindlish, USDA/ARS
- FRP2.PB.1** **SALINITY EFFECTS ON L-BAND MICROWAVE REMOTE SENSING OF SOIL MOISTURE**
 Kaighin McColl, Dongryeol Ryu, Vjekoslav Matic, Jeffrey Walker, The University of Melbourne, Australia
- FRP2.PB.2** **◇ STATISTICAL ERROR FOR THE MOISTURES RETRIEVED WITH THE SMOS RADIOBRIGHTNESS DATA, AS INDUCED BY IMPERFECTNESS OF A DIELECTRIC MODEL USED**
 Valery Mironov, Kirensky Institute of Physics, Siberian State Aerospace University, Russian Federation; Yann Kerr, Center for the Study of the BIOSphère from Space, France; Jean-Pierre Wigneron, EPHYSE INRA, France; Lyudmila Kosolapova, Kirensky Institute of Physics, Russian Federation; François Demontoux, Clément Duffour, Bordeaux University, France
- FRP2.PB.3** **THE EFFECT OF CLAY AND ORGANIC MATTER CONTENT ON THE DIELECTRIC PERMITTIVITY OF SOILS AND GROUNDS AT THE FREQUENCY RANGE FROM 10 MHZ TO 1 GHZ**
 Pavel Bobrov, Omsk State Pedagogical University, Russian Federation; Valery Mironov, Kirensky Institute of Physics, SB RAS, Russian Federation; Olga Kondratyeva, Andrey Repin, Omsk State Pedagogical University, Russian Federation
- FRP2.PB.4** **CHARACTERISTICS OF ROUGH SURFACE PARAMETERS ESTIMATED FROM MEASURED SURFACE PROFILE OF FINITE LENGTH**
 Masahiko Nishimoto, Kumamoto University, Japan
- FRP2.PB.5** **MERGING THERMAL AND MICROWAVE SATELLITE OBSERVATIONS FOR A HIGH-RESOLUTION SOIL MOISTURE DATA PRODUCT**
 Xiwu Zhan, NOAA-NESDIS Center for Satellite Applications and Research, United States; Martha Anderson, USDA-ARS Hydrology and Remote Sensing Laboratory, United States; Jicheng Liu, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States
- FRP2.PB.6** **CHARACTERIZATION OF FULL SURFACE ROUGHNESS IN AGRICULTURAL SOILS USING GROUND-BASED LIDAR**
 Juan Carlos Fernandez-Diaz, Jasmeet Judge, K. Clint Slatton, Ramesh Shrestha, William Carter, David Bloomquist, University of Florida, United States
- FRP2.PB.7** **STUDY OF THE SPECTRAL GRADIENT OF FROZEN SOIL**
 Shaojie Zhao, Lixin Zhang, Beijing Normal University, China; Weipo Xing, Tianjin Maritime Safety Administration, China; Zhiyu Zhang, Beijing Normal University, China
- FRP2.PB.8** **INTERPOLATION OF GEOPHYSICAL DATA USING SPATIO-TEMPORAL (3D) BLOCK SINGULAR VALUE DECOMPOSITION**
 Anish Turlapaty, Nicolas Younan, Valentine Anantharaj, Mississippi State University, United States
- FRP2.PB.9** **SOIL MOISTURE FROM POINT TO FOOTPRINT SCALE: SPATIO-TEMPORAL VARIABILITY, TIME STABILITY, AND PHYSICAL CONTROLS**
 Binayak Mohanty, Champa Joshi, Texas A&M University, United States
- FRP2.PB.10** **ANALYZING THE “EAR” FEATURE OF A DRIED UP LAKE BASED ON VOLUME SCATTERING MODELLING**
 Zhihong Gao, Yun Shao, Huaze Gong, Zi Wan, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- FRP2.PB.11** **RADAR RETRIEVAL OF SUBSURFACE PARAMETERS FOR LAYERED MEDIA WITH NONSMOOTH INTERFACES**
 Yuriy Goykhman, Mahta Maghaddam, University of Michigan, United States

FRP2.PC: Friday, July 30, 14:55 - 16:00

- FRP2.PC** **Soil Moisture and Vegetation Characterization Using Microwave II**
 Session Type: Poster
 Time: Friday, July 30, 14:55 - 16:00
 Place: Poster Area C
 Co-Chairs: Kyle McDonald, Jet Propulsion Laboratory/California Institute of Technology and Alejandro Monsivais, University of Florida
- FRP2.PC.1** **MICROWAVE CHARACTERISTICS OF CORN AT HIGHER FREQUENCIES BY MODELING AND EXPERIMENTS VALIDATION**
 Zhongjun Zhang, Lixin Zhang, Xianchuan Yu, Beijing Normal University, China; Jiancheng Shi, University of California, Santa Barbara, United States
- FRP2.PC.2** **COMBINED ACTIVE AND PASSIVE MEASUREMENTS OF SNOW, BARE AND VEGETATED SOILS MICROWAVE REFLECTIVE AND EMISSIVE CHARACTERISTICS BY KA-BAND, COMBINED SCATTEROMETER-RADIOMETER SYSTEM**
 Artashes Arakelyan, Melanya Grigoryan, Astghik Hambaryan, Arsen Arakelyan, ECOSERV Remote Observation Centre Company, Armenia
- FRP2.PC.3** **MULTI-FREQUENCY AND POLARIMETRIC MEASUREMENTS OF BARE AND VEGETATED SOILS MICROWAVE REFLECTION AND EMISSION BY C- AND KU-BAND, COMBINED SCATTEROMETER-RADIOMETER SYSTEMS**
 Astghik Hambaryan, Artashes Arakelyan, Vardan Hambaryan, Vanik Karyan, Mushegh Manukyan, Melanya Grigoryan, Gagik Hovhannisyann, Arsen Arakelyan, Sargis Darbinyan, ECOSERV Remote Observation Centre Company, Armenia
- FRP2.PC.4** **C- AND KU-BAND (AT 5.6GHZ AND 13.6GHZ), DUAL-FREQUENCY, MULTI-POLARIZATION, SHORT PULSE, COMBINED SCATTEROMETER-RADIOMETER SYSTEM FOR LOW ALTITUDE PLATFORM, VESSEL AND AIRCRAFT APPLICATIONS**
 Artashes Arakelyan, Astghik Hambaryan, Vanik Karyan, Gagik Hovhannisyann, Melanya Grigoryan, Arsen Arakelyan, Marine Simonyan, ECOSERV Remote Observation Centre Company, Armenia; Tigran Poghosyan, Nubar Poghosyan, Institute of Radiophysics and Electronics of ANAS, Armenia
- FRP2.PC.5** **VEGETATION EFFECTS AT FROZEN ENVIRONMENT BY SIMULATION AND TRUCK-MOUNTED MICROWAVE RADIOMETER**
 Zhongjun Zhang, Lixin Zhang, Shaojie Zhao, Xin Liu, Beijing Normal University, China; Guoqing Sun, University of Maryland, United States
- FRP2.PC.6** **THE MAXIMUM BOUND WATER CONTENT MEASUREMENT BY DIELECTRIC AND NMR TECHNIQUE**
 Valery Mironov, Andrey Andreevich Suhovskiy, Yuri Ivanovich Lukin, Inga Petrovna Aleksandrova, L.V. Kirensky Institut of Physics SB RAS, Russian Federation
- FRP2.PC.7** **TERRESTRIAL FREEZE-THAW MONITORING ON THE TIBET PLATEAU USING PASSIVE MICROWAVE REMOTE SENSING**
 Liying Li, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, China; Jiancheng Shi, Jinyang Du, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- FRP2.PC.8** **THE RADIOBRIGHTNESS AND DEPTH OF FROZEN SOIL DURING CYCLES OF FREEZING AND THAWING**
 Pavel Bobrov, Omsk State Pedagogical University, Russian Federation; Valery Mironov, Kirensky Institute of Physics, SB RAS, Russian Federation; Alexander Yashchenko, Omsk State Pedagogical University, Russian Federation
- FRP2.PC.9** **THE USE OF GNSS SIGNALS FOR ESTIMATING SOIL MOISTURE: THE LEIMON EXPERIMENT**
 Marco Brogioni, Institute of Applied Physics - National Research Council, Italy; Marco Caparrini, Alejandro Egidio, Esteban Farres, STARLAB, Spain; Nicolas Floury, European Space Agency - ESTEC, Netherlands; Leila Guerriero, University of Tor Vergata, Rome, Italy; Erwan Motte, STARLAB, Spain; Enrico Palchetti, Simonetta Paloscio, Paolo Pampaloni, Institute of Applied Physics - National Research Council, Italy; Nazzareno Pierdicca, University La Sapienza of Rome, Italy; Emanuele Santi, Institute of Applied Physics - National Research Council, Italy
- FRP2.PC.10** **SOIL WETNESS VARIATIONS MONITORING BY MULTI-TEMPORAL PASSIVE MICROWAVE SATELLITE DATA ANALYSIS**
 Wei Zheng, Shengli Wu, National Satellite Meteorological Center of China Meteorological Administration, China; Haixia Feng, Peking University, China
- FRP2.PC.11** **IN-SITU BROADBAND SOIL MEASUREMENTS: DIELECTRIC AND MAGNETIC PROPERTIES**
 Hyoung-sun Youn, Loon Yip Lee, Magdy F. Iskander, University of Hawaii, United States

FRP2.PD: Friday, July 30, 14:55 - 16:00**FRP2.PD Earth Observation Applications**

Session Type: Poster

Time: Friday, July 30, 14:55 - 16:00

Place: Poster Area D

Co-Chairs: Tom Farr, JPL(NASA), Caltech and Bin Zou, Harbin Institute of Technology

FRP2.PD.1 A MERGED GLOBAL DIGITAL TOPOGRAPHIC DATA SET

Michael Kobrick, Thomas Farr, Robert Crippen, Jet Propulsion Laboratory, United States

FRP2.PD.2 SATELLITE OIL SPILL DETECTION AND MONITORING IN THE OPTICAL RANGE

Caterina Sara Livia Grimaldi, University of Basilicata, Italy; Daniele Casciello, ARPA Lombardia, Italy; Irina Coviello, Teodosio Lacava, Nicola Pergola, National Research Council (CNR), Italy; Valerio Tramutoli, University of Basilicata, Italy

FRP2.PD.3 EAST-CHINA GEOCHEMISTRY DATABASE (ECGD): A NEW NETWORKING DATABASE

Xiaorui Wang, Weifeng Ma, China University of Geosciences (Wuhan), China

FRP2.PD.4 UN-MIXING OF REFLECTANCE SPECTRA: NATURAL SURFACES SCENARIOS.

Ekaterina Carmina, Véronique Carrère, Nantes University, France

FRP2.PD.5 IONOSPHERIC DISTURBANCES ASSOCIATED WITH TONGA MW7.9 EARTHQUAKE—RESULTS FROM LANGMUIR PROBE INSTRUMENT ONBOARD DEMETER SATELLITE

Ze Ren Zhi Ma, Xue Min Zhang, Xu Hui Shen, Liu Jing, Xiong Pan, Institute of Earthquake Science, China Earthquake Administration, China; Chunli Kang, China Earthquake Networks Center, China

FRP2.PD.6 APPLICATIONS OF POLARIMETRIC DECOMPOSITION TECHNOLOGY IN A DRIED UP LAKE EVOLUTION

Yun Shao, Huaze Gong, Guojun Wang, Aimin Cai, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

FRP2.PD.7 TROPOSPHERIC CORRECTION FOR INSAR USING INTERPOLATED ECMWF DATA AND GPS ZENITH TOTAL DELAY FROM THE SOUTHERN CALIFORNIA INTEGRATED GPS NETWORK

Johan Löfgren, Fredrik Björndahl, Chalmers University of Technology, Sweden; Angelyn Moore, Frank Webb, Eric Fielding, Evan Fishbein, Jet Propulsion Laboratory, California Institute of Technology, United States

FRP2.PD.8 LINEAR DUNES ON TITAN AND REMOTE SENSING COMPARISONS WITH EARTH

Jani Radebaugh, Brigham Young University, United States; R.D. Lorenz, Johns Hopkins University Applied Physics Laboratory, United States; C. J. Savage, Brigham Young University, United States; N. Lancaster, Desert Research Institute, United States; Thomas Farr, S. D. Wall, Jet Propulsion Laboratory, United States; E. R. Stofan, Proxemy Research, United States; P. Paillou, University of Bordeaux, France; J.I. Lunine, University of Arizona, United States; R. L. Kirk, USGS, United States; R.M.C. Lopes, Cassini Radar Team, Jet Propulsion Laboratory, United States

FRP2.PD.9 MINING METALLOGENIC ASSOCIATION RULES COMBINING CLOUD MODEL WITH APRIORI ALGORITHM

Ying Cui, Binbin He, Jianhua Chen, Zhonghai He, University of Electronic Science and Technology of China, China; Yue Liu, College of Geology Science, Chengdu University of Technology, China

FRP2.PE: Friday, July 30, 14:55 - 16:00

- FRP2.PE Hydrocarbon and Mineral Applications**
 Session Type: Poster
 Time: Friday, July 30, 14:55 - 16:00
 Place: Poster Area E
 Chair: Tom Farr, JPL(NASA), Caltech
- FRP2.PE.1 WEIGHTS-OF-EVIDENCE MODELLING OF SEDIMENTARY PHOSPHORITE DEPOSITS IN BRAZIL**
 Washington Franca-Rocha, UEFS, Brazil; Aroldo Misi, UFBA, Brazil; Ardemirio Silva, UEFS, Brazil
- FRP2.PE.2 HYPERSPECTRAL REMOTE SENSING OF SERPENTINE ROCKS AND ASBESTOS BEARING ROOFING SLATE**
 Chang-Uk Hyun, Hyeong-Dong Park, Seoul National University, Republic of Korea
- FRP2.PE.3 OFFSHORE HYDROCARBON SEEPAGE CHARACTERIZATION THROUGH SPECTROSCOPY, MULTIVARIATE STATISTICS AND OPTICAL REMOTE SENSING**
 Talita Lammoglia, Carlos Roberto Souza Filho, University of Campinas, Brazil
- FRP2.PE.4 REMOTE SENSING APPLICATIONS FOR PETROLEUM RESOURCE EXPLORATION IN OFFSHORE BASINS OF CHINA**
 Xiaoxia Huang, Zhenhai Zhu, Hongga Li, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China
- FRP2.PE.5 HYDROTHERMAL ALTERATION MAPPING USING ASTER DATA IN EAST KUNLUN MOUNTAINS, CHINA**
 Zhonghai He, Binbin He, Ying Cui, University of Electronic Science and Technology of China, China
- FRP2.PE.6 EXTRACTION OF MINERAL ALTERATION ANOMALY ZONE FROM ASTER DATA IN MANZHOU LI, CHINA**
 Zhaoqiang Huang, Institute of Mineral Resources, China Metallurgical Geology Bureau, China
- FRP2.PE.7 PRIMARY ANALYSIS ON DISTRIBUTION CHARACTERISTICS OF PERMAFROST IN THE UPPER AREA OF THE SHULE RIVER WATERSHED, ON THE NORTHEASTERN EDGE OF THE QINGHAI-TIBETAN PLATEAU**
 Yu Sheng, Jing Li, Huijun Jin, Jichun Wu, Baisheng Ye, Jie Wang, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences, China
- FRP2.PE.8 ON RADAR SOUNDING APPLICATIONS FOR ENCELADAN ICE**
 Catherine C. Walker, Christopher D. Parkinson, Michael W. Liemohn, University of Michigan, United States
- FRP2.PE.9 ECOSYSTEM HEALTH ASSESSMENT BY USING REMOTE SENSING DERIVED DATA: A CASE STUDY OF TERRESTRIAL REGION ALONG THE COAST IN ZHEJIANG PROVINCE**
 Zhenghua Chen, Chinese Academy of Sciences, China; Qiu Yin, Shanghai Center for Satellite Remote Sensing Applications, China; Li Li, Hua Xu, Chinese Academy of Sciences, China
- FRP2.PE.10 MICROWAVE REMOTE SENSING FOR MARINE MONITORING AN EXAMPLE OF ENTEROMORPHA PROLIFERA BLOOM MONITORING**
 Shiang Wang, Fengli Zhang, Yun Shao, Wei Tian, Huaze Gong, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China

FRIDAY

FRP2.PF: Friday, July 30, 14:55 - 16:00

- FRP2.PF** **Geographic Information Science: Applications**
 Session Type: Poster
 Time: Friday, July 30, 14:55 - 16:00
 Place: Poster Area F
 Co-Chairs: Hampapuram Ramapriyan, NASA Goddard Space Flight Center and Meixia Deng, George Mason University
- FRP2.PF.1** ◇ **STUDY ON ROAD DAMAGE ASSESSMENT BASED ON RS AND GIS**
 Jun Li, Qiming Qin, Peking University, China; Haijian Ma, China Earthquake Administration, China; Weilin Yuan, Peking University, China
- FRP2.PF.2** **MODIS-NDVI-BASED FAST EXTRACTION OF MULTI-CROP PLANTING AREAS IN CHINA AGRICULTURE REMOTE SENSING MONITORING SYSTEM**
 Qing Huang, Huajun Tang, Chinese Academy of Agricultural Sciences, China; Xianlin Qin, Chinese Academy of Forestry, China; Guixia Yang, Jianqiang Ren, Chinese Academy of Agricultural Sciences, China
- FRP2.PF.3** **THE DEVELOPMENT OF RESERVOIR-INDUCED SEISMICITY AND RISK ASSESSMENT SYSTEM**
 Xiang Ding, Xiaoqing Wang, Youhua Zheng, Feiyu Zhang, Long Wang, Institute of Earthquake Science, China
- FRP2.PF.4** **STUDY ON THE RELATIONSHIP BETWEEN THE VARIATION OF LAKES IN QINGHAI-TIBETAN PLATEAU AND GLOBAL CLIMATE CHANGE**
 Guozhuang Shen, Huadong Guo, Jingjuan Liao, Li Zhang, Center for Earth Observation and Digital Earth, Chinese Academy of Sciences, China
- FRP2.PF.5** **USING LIDAR TO ESTIMATE THE CAPACITY FOR STORM WATER RECYCLING AND SOLAR ENERGY COLLECTION**
 David Conway, Samsung Lim, University of New South Wales, Australia, Australia
- FRP2.PF.6** **IDENTIFICATION OF AREAS PRONE TO SHALLOW LANDSLIDE IN PARQUE NACIONAL DA SERRA DOS ÓRGÃOS (BRAZIL) CONSIDERING SEASONAL RAINFALL**
 Roberto Gomes, Renato Guimarães, Osmar Abílio Carvalho Júnior, Aline Menke, Univerisdade de Brasília, Brazil; Éder Martins, Embrapa Cerrados, Brazil; Sandro Oliveira, Univerisdade de Brasília, Brazil; Nelson Fernandes, Univerisdade Federal do Rio de Janeiro, Brazil
- FRP2.PF.7** **SELF-SERVICE FOLK TOURISM GUIDING TECHNOLOGY ON MOBILE TERMINAL WITH MULTI-MODE: APPLICATION OF GPS AND ELECTRONIC MAP**
 Zhuowei Hu, Zhiheng Wang, Hongqi Liu, Hongxia Bie, Capital Normal University, China

FRP2.PG: Friday, July 30, 14:55 - 16:00

- FRP2.PG DEM**
Session Type: Poster
Time: Friday, July 30, 14:55 - 16:00
Place: Poster Area G
Co-Chairs: Uwe Soergel, University of hannover and Jinhai Cai, Queensland University of Technology
- FRP2.PG.1 ELEVATION EXTRACTION AND OBJECT RECOGNITION FROM AERIAL STEREO IMAGES**
Hongwei Zhu, Frank Scarpace, University of Wisconsin-Madison, United States
- FRP2.PG.2 DEM QUALITY IMPACT ON PIXEL LOCATION ACCURACY OF TERRASAR-X ORTHORECTIFIED IMAGERY – AN ASSESSMENT OF CURRENT GLOBAL DEMS AND TERRASAR-X STEREO DEMS**
Wolfgang Koppe, Nadine Kiefl, Simon D. Hennig, Jürgen Janoth, Infoterra GmbH, Germany
- FRP2.PG.3 MODEL-BASED ESTIMATION OF SURFACE GEOMETRY USING PASSIVE POLARIMETRIC IMAGING**
Charles Creusere, Ketan Mehta, David Voelz, New Mexico State University, United States
- FRP2.PG.4 THE ANALYSIS OF SURFACE DEFORMATION BASED ON TWO-PASS AND THREE-PASS D-INSAR**
Ning-ning Qu, Guang Zhu, Xi-an Zhao, Chang-feng Jing, Jing-guo Lv, Beijing University of Civil Engineering and Architecture, China
- FRP2.PG.5 3D VISUALIZATION COMPUTING IN FAST DESIGN AND CONSTRUCTION**
Xiaoping Du, Xiangtao Fan, Bing Zhang, Rendong Nan, Junjie Zhu, Jian Tan, Shuo Liu, Chinese Academy of Sciences, China
- FRP2.PG.6 3D GEOLOGICAL MODELLING USING LASER AND HYPERSPECTRAL DATA**
Juan Nieto, University of Sydney, Australia; Diego Viejo, University of Alicante, Spain; Sildomar Monteiro, University of Sydney, Australia
- FRP2.PG.7 EARTHQUAKE RISK EVALUATION USING LANDFORMS PROCESSED BY UNSUPERVISED CLASSIFICATION METHOD**
Masafumi Hosokawa, National Research Institute of Fire and Disaster, Japan; Byeong-pyo Jeong, Osamu Takizawa, National Institute of Information and Communications Technology, Japan
- FRP2.PG.8 ◇ ROBUST SUB-PIXEL DISPARITY ESTIMATION AND ITS REFINEMENT AROUND DEPTH DISCONTINUITY AND FEATURELESS AREAS**
Hongshi Yan, Jian Guo Liu, Imperial College London, United Kingdom
- FRP2.PG.9 CHALLENGE OF ASTER DIGITAL ELEVATION MODEL**
Akira Iwasaki, Masaru Koga, Hiroto Kanno, Naoto Yokoya, Tetsuya Okuda, Kojiro Saito, University of Tokyo, Japan

FRP2.PH: Friday, July 30, 14:55 - 16:00

- FRP2.PH SAR Techniques and Applications**
 Session Type: Poster
 Time: Friday, July 30, 14:55 - 16:00
 Place: Poster Area H
 Co-Chairs: Irena Hajnsek, ETH Zurich and Florence Tupin, Telecom-ParisTech
- FRP2.PH.1 TROPICAL CYCLONE WIND ESTIMATION USING SYNTHETIC APERTURE RADAR**
 Silvia Falchetti, Jochen Horstmann, NATO Undersea Research Center, Italy
- FRP2.PH.2 QUANTIFICATION OF THE TOPOGRAPHIC SLOPE FROM RADAR SATELLITE IMAGERY**
 Damien Dhont, Emmanuel Pajot, University of Pau, France; Jean-Paul Rudant, University Paris-Est Marne-la-Vallée, France
- FRP2.PH.3 INTEGRATION OF INSAR AND GIS FOR AN ESTIMATION OF GROUND SUBSIDENCE SUCCEPTIBILITY**
 Jong-Kuk Choi, Korea Ocean Research & Development Institute, Republic of Korea; Joong-Sun Won, Yonsei University, Republic of Korea; Sang-Wan Kim, Sejong University, Republic of Korea; Ki-Dong Kim, National Institute of Environmental Research, Republic of Korea; Joo-Hyung Ryu, Hong-Rhyong Yoo, Korea Ocean Research & Development Institute, Republic of Korea
- FRP2.PH.4 3D SUBSURFACE VISUALIZATION BY SUPPRESSING GROUND REFLECTION AND DIRECT WAVE WITH BISTATIC GPR**
 Naoki Hayashi, Motoyuki Sato, Tohoku University, Japan
- FRP2.PH.5 OPTIMAL SAR PROCESSING BEAMWIDTH FOR HIGH ALTITUDE AIRBORNE RADAR DEPTH SOUNDER DATA**
 Logan Smith, Carl Leuschen, Prasad Gogineni, Center for the Remote Sensing of Ice Sheets, United States
- FRP2.PH.6 CHANGE DETECTION FOR URBAN AREAS IN HIGH RESOLUTION SAR IMAGES USING SECOND KIND STATISTICS BASED GO DISTRIBUTION**
 Zili Shan, Chao Wang, Hong Zhang, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China
- FRP2.PH.7 PS-INSAR TIME SERIES ANALYSIS FOR MEASURING SURFACE DEFORMATION BEFORE THE L'AQUILA EARTHQUAKE**
 Bin Liu, Institute of Engineering Mechanics, China Earthquake Administration, China; Yi Luo, Jingfa Zhang, Lixia Gong, Wenliang Jiang, Institute of Crustal Dynamics, China Earthquake Administration, China; Liyan Ren, China University of Mining and Technology, China
- FRP2.PH.8 GNSS ILLUMINATOR BASED HIGH RESOLUTION IMAGING ALGORITHM IN SPACE-SURFACE BISTATIC SAR**
 Jie Zhen, Xidian University, China; Zhenhua Zhang, Chinese Aerospace Science and Technology Corp., China
- FRP2.PH.9 INVESTIGATING CO-SEISMIC DEFORMATION OF THE 2008 WENCHUAN EARTHQUAKE WITH ALOS SCANSAR INTERFEROMETRIC OBSERVATIONS**
 Xiai Cui, Qiming Zeng, Cunren Liang, Jian Jiao, Peking University, China
- FRP2.PH.10 USING SAR TO ESTIMATE SPATIAL AND TEMPORAL VARIABILITY OF OIL OUTPUT FROM NATURAL HYDROCARBON SEEP FORMATIONS**
 Oscar Garcia-Pineda, Ian MacDonald, Florida State University, United States; William Pichel, NOAA/NESDIS, United States; Xiaofeng Li, I.M. Systems Group at NOAA/NESDIS Center for Satellite Applications and Research, United States; Beate Zimmer, Texas A&M University-Corpus Christi, United States; Laura Lapham, Florida State University, United States

FRP2.PI: Friday, July 30, 14:55 - 16:00**FRP2.PI SAR Processing Techniques**

Session Type: Poster
 Time: Friday, July 30, 14:55 - 16:00
 Place: Poster Area I
 Chair: Pascale Dubois-Fernandez, ONERA

FRP2.PI.1 THE EXTENDED SBAS TECHNIQUE FOR GENERATING FULL RESOLUTION ERS/ENVISAT DEFORMATION TIME-SERIES

Manuela Bonano, Università 'La Sapienza', Italy; Michele Manunta, IREA - CNR, Italy; Maria Marsella, Università 'La Sapienza', Italy; Riccardo Lanari, IREA - CNR, Italy

FRP2.PI.2 POSE ESTIMATION FOR ISAR IMAGE CLASSIFICATION

Mohamed Nabil Saidi, Abdelmalek Toumi, Brigitte Hoeltzener, Ali Khenchaf, ENSIETA, France; Driss Aboutajdine, Mohamed V University, Morocco

FRP2.PI.3 RANDOM NOISE SAR BASED ON COMPRESSED SENSING

Hai Jiang, Bingchen Zhang, Yueguan Lin, Wen Hong, Yirong Wu, Jin Zhan, Institute of Electronics, Chinese Academy of Sciences, China

FRP2.PI.4 ANALYSIS OF THE EFFECT OF RADIO FREQUENCY INTERFERENCE ON INTERFEROMETRIC PHASE

Bin Ding, Maosheng Xiang, Xing-dong Liang, Institute of Electronics, Chinese Academy of Sciences, China

FRP2.PI.5 GROUND MOVING TARGET DETECTABILITY IN THE STAP BASED SPACEBORNE ARRAY RADAR

Jung S. Jung, Korea Ocean Research & Development Institute, Republic of Korea; Young K. Kwag, Korea Aerospace University, Republic of Korea

FRP2.PI.6 INVESTIGATION ON MOVING TARGET DETECTION AND VELOCITY ESTIMATION WITH TRIPLE-CHANNEL MIMO-SAR

Han Gao, Jingwen Li, BeiHang University, China

FRP2.PI.7 AUTOREGRESSIVE MODELING OF DECHIRPED SPOTLIGHT-MODE SAR RAW DATA IN TRANSFORM DOMAIN

Takeshi Ikuma, Mort Naraghi-Pour, Louisiana State University, United States; Thomas Lewis, Air Force Research Laboratory, United States

FRP2.PI.8 SIMULATION OF (M_1, M_2) -DEPENDENT RANDOM FIELDS WITH K-DISTRIBUTED MARGINALS

Anika Maresch, Fraunhofer Institute for High Frequency Physics and Radar Techniques (FHR), Germany

FRP2.PI.9 EFFECT OF SQUINT IMAGING ON BEAM POSITION DESIGN OF SPACE BORNE SAR

Zhiqian Wang, Chunsheng Li, Ze Yu, BeiHang University, China; Yongqiang Zhang, Beijing Institute of Tracking and Telecommunication Technology, China

FRP2.PI.10 MIMO SAR PROCESSING WITH AZIMUTH NONUNIFORM SAMPLING

Yueguan Lin, Bingchen Zhang, Hong Wen, Yirong Wu, Yang Li, Institute of Electronics, Chinese Academy of Sciences, China

FRP2.PJ: Friday, July 30, 14:55 - 16:00**FRP2.PJ SAR Applications and Processing**

Session Type: Poster
 Time: Friday, July 30, 14:55 - 16:00
 Place: Poster Area J
 Co-Chairs: Carlos López-Martínez, Polytechnical University of Catalonia (UPC) and Mahta Moghaddam, University of Michigan

FRP2.PJ.1 A NOVEL RANGE MIGRATION ALGORITHM OF GEO SAR ECHO DATA

Feifeng Liu, Cheng Hu, Tao Zeng, Teng Long, Beijing Institute of Technology, China; Lihua Jin, China Academy of Space Technology, China

FRP2.PJ.2 CHARACTERIZATION OF AFFECTED AREAS OF THE 2008 IWATE-MIYAGI, JAPAN, EARTHQUAKE USING SAR INTENSITY IMAGES

Fumio Yamazaki, Hisamitsu Inoue, Wen Liu, Chiba University, Japan

FRP2.PJ.3 ◇ SNOW WETNESS RETRIEVAL INVERSION MODEL DEVELOPMENT FOR C-BAND AND X-BAND MULTI-POLARIZATION SAR DATA

G. Singh, G. Venkataraman, IIT Bombay, India

FRP2.PJ.4 PROCESSING FOR AIRBORNE INTERFEROMETRIC SAR DATA WITH HIGH SQUINT

Lideng Wei, Songtao Han, Maosheng Xiang, Institute of Electronics, Chinese Academy of Sciences, China

FRP2.PJ.5 A DUAL-FREQUENCY SAR MOSAIC OF THE AMAZON

Leland Pierce, University of Michigan, United States; Oton Barros, INPE, Brazil

FRP2.PJ.6 A HIGH ACCURACY METHOD FOR INTERFERENCE FRINGES SUPPRESSION IN SAR DISTRIBUTED TARGETS' RAW DATA SIMULATION

Dazhi Zeng, Hanwei Sun, Tao Zeng, Teng Long, Beijing Institute of Technology, China

FRP2.PJ.7 MODIFICATION OF SLANT RANGE MODEL AND IMAGING PROCESSING IN GEO SAR

Cheng Hu, Feifeng Liu, Wenfu Yang, Tao Zeng, Teng Long, Beijing Institute of Technology, China

FRP2.PJ.8 ◇ RECIPROCAL SPECTRUM ALGORITHM FOR RADAR IMAGING WITH FREQUENCY SAMPLING WAVEFORM

Gaohuan Lv, Kaizhi Wang, Xingzhao Liu, Wenxian Yu, Shanghai Jiao Tong University, China; Guozhong Chen, Junli Chen, Shanghai Institute of Satellite Engineering, China

FRP2.PK: Friday, July 30, 14:55 - 16:00**FRP2.PK Clouds and Precipitation Applications**

Session Type: Poster
 Time: Friday, July 30, 14:55 - 16:00
 Place: Poster Area K
 Chair: Kenneth Tobin, Texas A&M International University

FRP2.PK.1 DYNAMICAL ANALYSIS OF PRECIPITATION AND TEMPERATURE CHANGE OVER ARID CENTRAL ASIA IN RECENT 50 YEARS

Jinsong Wang, Institute of Arid Meteorology, China Meteorological Administration, China

FRP2.PK.2 REMOTE SENSING OF SURFACE AND CLOUD-TOP PRESSURE FROM MERIS MEASUREMENTS IN THE OXYGEN A BAND

Rasmus Lindstrat, Juergen Fischer, Rene Preusker, Freie Universität Berlin, Germany

FRP2.PK.3 A NEW APPROACH TO FORECAST THE TYPHOON'S ACCUMULATED RAINFALL IN TAIWAN BY USING SATELLITE DATA

Chung-Chih Liu, Sung-Ching Chi, Hsin-Chia Yang, Minghsin University of Science and Technology, Taiwan

FRP2.PK.4 ♦ SATCAM: AN IPHONE APPLICATION FOR COMMUNITY PARTICIPATION IN SATELLITE CLOUD PRODUCT VALIDATION

Liam Gumley, Robert Holz, David Parker, Bruce Flynn, Bill Bellon, University of Wisconsin-Madison, United States

FRP2.PK.5 Q2: A NATIONAL MULTI-SENSOR QPE SYSTEM

Jian Zhang, Kenneth Howard, Steven Vasiloff, Carrie Langston, Brian Kaney, National Severe Storms Lab, United States

FRP2.PK.6 NOWCASTING FOR RAINFALL ACCUMULATION PREDICTION

Evan Ruzanski, V. Chandrasekar, Colorado State University, United States

FRP2.PK.7 VALIDATION OF SATELLITE PRECIPITATION ADJUSTMENT METHODOLOGY

Kenneth Tobin, Marvin Bennett, Texas A&M International University, United States

FRP2.PK.8 ♦ VALIDATION OF RADAR BASED IDENTIFICATION OF HIGH-IMPACT WEATHER PHENOMENA BY SOCIAL MEDIA REPORTS

Dmitri Moisseev, University Of Helsinki, Finland; Otto Hyvärinen, Elena Saltikoff, Finnish Meteorological Institute, Finland; V. Chandrasekar, Colorado State University, United States

FRP2.PK.9 COMPARISONS OF RAIN RATE AND REFLECTIVITY BETWEEN TRMM PRECIPITATION RADAR AND GOSAN S-BAND RADAR

Jun-Dong Park, Mi-Lim Ou, Korea Meteorological Administration, Republic of Korea; Kenneth Robert Morris, Mathew Schwaller, National Aeronautics and Space Administration, United States

FRP2.PK.10 THE INFLUENCE OF ARCTIC SEA ICE EXTENT ON POLAR CLOUD FRACTION AND VERTICAL STRUCTURE AND IMPLICATIONS FOR REGIONAL CLIMATE

Stephen Palm, Science Systems and Applications Inc., United States; James Spinhirne, University of Arizona, United States; Thorsten Markus, NASA, United States

FRP2.PK.11 SPATIO-TEMPORAL VARIABILITY OF PRECIPITATION IN SOUTHEAST ASIA ANALYZED USING THE EMPIRICAL ORTHOGONAL FUNCTION (EOF) TECHNIQUE

Soo Chin Liew, Aik Song Chia, Leong Keong Kwoh, National University of Singapore, Singapore

FRP2.PL: Friday, July 30, 14:55 - 16:00**FRP2.PL Ocean Surface Winds and Currents II**

Session Type: Poster
 Time: Friday, July 30, 14:55 - 16:00
 Place: Poster Area L
 Chair: Chris Chickadel, Applied Physics Laboratory, University of Washington

FRP2.PL.1 SEMIDIURNAL TIDAL CURRENTS MEASURED WITH OCEAN SURFACE RADAR AROUND ISAHAYA BAY MOUTH IN ARIAKE SOUND, JAPAN

Takaki Tsubono, Takumi Yoshii, Masafumi Matsuyama, Shin'ichi Sakai, Central Research Institute of Electric Power Industry, Japan; Akihide Tada, Nagasaki University, Japan

FRP2.PL.2 TRACKING FRESHWATER PLUME USING OCEAN RADAR IN ARIAKE BAY, JAPAN

Takumi Yoshii, Takaki Tsubono, Shin'ichi Sakai, Masafumi Matsuyama, Central Research Institute of Electric Power Industry, Japan; Akihide Tada, Takehiro Nakamura, Nagasaki University, Japan

FRP2.PL.3 THE PROPAGATING SPEED OF INTERNAL SOLITARY WAVES INVESTIGATED BY X-BAND RADAR NEAR DONGSHA ISLAND

Haibin Lv, Yijun He, Hui Shen, Limin Cui, Institute of Oceanology, Chinese Academy of Sciences, China; Chang-e Dou, Huai Hai Institute of Technology, China

FRP2.PL.4 ON SAR REMOTE SENSING OF OCEANIC INTERNAL WAVES IN SOUTH CHINA SEA WITH COMPARISON OF LONG TIME IN-SITU ADCP MEASUREMENTS

Hui Shen, Yijun He, Institute of Oceanology, Chinese Academy of Sciences, China

FRP2.PL.5 ♦ OBSERVATIONS OF SEA SURFACE WAVES IN WIDE WAVELENGTH RANGE WITH OPTICAL SYSTEM

Victor Titov, Aleksandr Luchinin, Emma Zuikova, Institute of Applied Physics, Russian Federation

FRP2.PL.6 NESTED-SCALE VELOCIMETRY IN A RIVER USING INFRARED

Chris Chickadel, Andrew T. Jessup, University of Washington, United States

FR4.L01: Friday, July 30, 15:40 - 17:20**FR4.L01 Ground Penetrating Radar Detection of Subsurface Contaminants and Hazards II**

Session Type: Oral-Invited
 Time: Friday, July 30, 15:40 - 17:20
 Place: Sea Pearl 1/2/3
 Co-Chairs: Carey M. Rappaport, Northeastern University and Ann Rappaport, Northeastern University

15:40 - 16:00

FR4.L01.1 AN APPLICATION OF RECIPROCITY TO THE NUMERICAL MODELING OF A GPR SYSTEM

Michael McFadden, Waymond Scott, Georgia Institute of Technology, United States

16:00 - 16:20

FR4.L01.2 THE SEMI-ANALYTIC MODE MATCHING ALGORITHM FOR GPR WAVE SCATTERING FROM MULTIPLE COMPLEX OBJECTS BURIED IN A DIELECTRIC SOIL HALF SPACE

Ann Morgenthaler, Carey M. Rappaport, Northeastern University, United States

16:20 - 16:40

FR4.L01.3 ♦ SUBSURFACE DAMAGE DETECTION OF A MULTI-LAYER LOSSY MEDIUM USING SIMULATED MONOSTATIC GPR RESPONSES

Tzu-Yang Yu, Sebahattin Eker, University of Massachusetts, Lowell, United States

16:40 - 17:00

FR4.L01.4 ELECTROMAGNETIC INFRASTRUCTURE MONITORING: THE EXPLOITATION OF GPR DATA AND NEURAL NETWORKS FOR MULTI-LAYERED GEOMETRIES

Salvatore Caorsi, Mattia Stasolla, University of Pavia, Italy

17:00 - 17:20

FR4.L01.5 USE OF 2D FDTD SIMULATION AND THE DETERMINATION OF THE GPR TRAVEL PATH ANGLE FOR OBLIQUE B-SCANS OF 2D GEOMETRIES

Kimberly Belli, Carey M. Rappaport, Christopher Udall, Margery Hines, Sara Wadia-Fascetti, Northeastern University, United States

FR4.L02: Friday, July 30, 15:40 - 17:20

FR4.L02 Ocean Radar Remote Sensing at Grazing Incidence II

Session Type: Oral-Invited
 Time: Friday, July 30, 15:40 - 17:20
 Place: Sea Pearl 4/5/6
 Co-Chairs: Dennis Trizna, Imaging Science Research, Inc and Jochen Horstmann, NATO Undersea Research Center

15:40 - 16:00

FR4.L02.1 OCEAN WAVE FIELD MEASUREMENTS USING COHERENT AND NONCOHERENT RADARS AT LOW GRAZING ANGLES

David Lyzenga, Okey Nwogu, University of Michigan, United States; Dennis Trizna, Imaging Science Research, Inc., United States

16:00 - 16:20

FR4.L02.2 DUAL-POLARIZED, COHERENT MICROWAVE BACKSCATTER FROM ROUGH WATER SURFACES AT LOW GRAZING ANGLES

William Plant, University of Washington, United States

16:20 - 16:40

FR4.L02.3 DOPPLER PROCESSING OF COHERENT RADAR BACKSCATTER FOR OCEAN SURFACE WAVE MEASUREMENTS

Paul Hwang, Mark Sletten, Jakov V. Toporkov, Dennis Trizna, Naval Research Laboratory, United States

16:40 - 17:00

FR4.L02.4 A COHERENT MARINE RADAR FOR MEASUREMENT OF PROPERTIES OF OCEAN WAVES AND CURRENTS

Dennis Trizna, Imaging Science Research, Inc., United States

17:00 - 17:20

FR4.L02.5 DETECTION OF SALIENT FEATURES IN SURFACE CURRENT MAPS FROM DOPPLERIZED X-BAND RADAR

Joerg Seemann, Marius Cysewski, Friedwart Ziemer, Martina Heineke, Rolf Riethmueller, GKSS Research Center, Germany

FR4.L03: Friday, July 30, 15:40 - 17:20

FR4.L03 GIS Techniques and Standards

Session Type: Oral-Contributed
 Time: Friday, July 30, 15:40 - 17:20
 Place: Hibiscus
 Co-Chairs: Liping Di, George Mason University and Surya Durbha, Mississippi State University

15:40 - 16:00

FR4.L03.1 VISUAL ASSISTANCE TOOLS FOR INTERACTIVE VISUALIZATION OF REMOTE SENSING DATA

Martin Lambers, Andreas Kolb, University of Siegen, Germany

16:00 - 16:20

FR4.L03.2 SEMANTIC REGISTRATION OF GEOSCIENTIFIC DATA THROUGH ESIP SEMANTIC WEB TESTBED

Wenwen Li, Chaowei Yang, George Mason University, United States; Rob Raskin, NASA Jet Propulsion Laboratory, United States

16:20 - 16:40

FR4.L03.3 OWL-BASED SEMANTIC MODEL FOR SPATIO-TEMPORAL GEOGRAPHIC ONTOLOGY

Zhaoqiang Huang, Institute of Mineral Resources, China Metallurgic Geology Bureau, China

16:40 - 17:00

FR4.L03.4 EARTH SCIENCE DATA RECORDS SHARING SUPPORTED BY THE SPATIAL WEB PORTAL

Lizhi Miao, Paul Houser, Chaowei Yang, Huayi Wu, George Mason University, United States

17:00 - 17:20

FR4.L03.5 WEB SERVICE ENCAPSULATION OF FORTRAN-BASED GEOGRAPHICAL MODEL

Xiaolin Wang, Haibo Wang, Hao Deng, Yingwei Luo, Peking University, China

FRIDAY

FR4.L04: Friday, July 30, 15:40 - 17:20**FR4.L04 Hyperspectral Methods for Difficult Target Detection II**

Session Type: Oral-Invited

Time: Friday, July 30, 15:40 - 17:20

Place: Kahili

Co-Chairs: Alan Schaum, Naval Research Laboratory and James Theiler, Los Alamos National Laboratory

15:40 - 16:00

FR4.L04.1 HYPERSPECTRAL MATCHED FILTERS WITH FALSE ALARM MITIGATION

Robert DiPietro, Dimitris Manolakis, Massachusetts Institute of Technology Lincoln Laboratory, United States; Thomas Cooley, Ronald Lockwood, John Jacobson, Air Force Research Laboratory, United States

16:00 - 16:20

FR4.L04.2 IMPROVING HYPERSPECTRAL CHANGE DETECTION PERFORMANCE

Alan Stocker, Space Computer Corporation, United States

16:20 - 16:40

FR4.L04.3 DETECTION OF SMALL CHANGES IN COMPLEX URBAN AND INDUSTRIAL SCENES USING IMAGING SPECTROSCOPY

Michal Shimoni, Roel Heremans, Christiaan Perneel, SIC-RMA, Belgium

16:40 - 17:00

FR4.L04.4 THE IMPACT OF BAND SELECTION ON HYPERSPECTRAL POINT TARGET DETECTION ALGORITHMS

Stanley Rotman, Moti Vortman, Cobi Biton, Ben-Gurion University of the Negev, Israel

17:00 - 17:20

FR4.L04.5 STATISTICS FOR CHARACTERIZING DATA ON THE PERIPHERY

James Theiler, Don Hush, Los Alamos National Laboratory, United States

FR4.L05: Friday, July 30, 15:40 - 17:20**FR4.L05 Forest Monitoring with Radar**

Session Type: Oral-Contributed

Time: Friday, July 30, 15:40 - 17:20

Place: South Pacific 3

Co-Chairs: Bruce Chapman, JPL and Stefan Sauer, DLR

15:40 - 16:00

FR4.L05.1 A BIOMASS ESTIMATE OVER THE HARVARD FOREST USING FIELD MEASUREMENTS WITH RADAR AND LIDAR DATA

Razi Ahmed, Paul Siqueira, University of Massachusetts, Amherst, United States; Kathleen Bergen, University of Michigan, Ann Arbor, United States; Bruce Chapman, Scott Hensley, Jet Propulsion Laboratory, United States

16:00 - 16:20

FR4.L05.2 POLINSAR FORESTRY APPLICATIONS IMPROVED BY MODELING HEIGHT-DEPENDENT TEMPORAL DECORRELATION

Marco Lavalle, Eric Pottier, University of Rennes 1, Italy; Domenico Solimini, Tor Vergata University, Italy

16:20 - 16:40

FR4.L05.3 TOPOGRAPHIC CORRECTION FOR BIOMASS RETRIEVAL FROM P-BAND SAR DATA IN BOREAL FORESTS

Maciej J. Soja, Gustaf Sandberg, Chalmers University of Technology, Sweden; Lars M. H. Ulander, Swedish Defence Research Agency (FOI), Sweden

16:40 - 17:00

FR4.L05.4 3D FOREST STRUCTURE DERIVED FROM POLARIMETRIC MULTIBASELINE INSAR DATA AND ITS RELATION TO BIOMASS

Stefan Sauer, Florian Kugler, Seung-Kuk Lee, Konstantinos Papatthanassiou, German Aerospace Center (DLR), Germany

17:00 - 17:20

FR4.L05.5 EIGEN DECOMPOSITION PARAMETER BASED FOREST MAPPING USING RADARSAT-2 POLSAR DATA

Yang Li, Wen Hong, Fang Cao, National Key Laboratory of Microwave Imaging Technology, China; Erxue Chen, Institute of Forest Resources Information Techniques, Chinese Academy of Forestry, China; David Goodenough, Hao Chen, Ashlin Richardson, Pacific Forestry Centre, Natural Resources Canada, Canada

FR4.L06: Friday, July 30, 15:40 - 17:20

FR4.L06 Spectral Methods

Session Type: Oral-Contributed

Time: Friday, July 30, 15:40 - 17:20

Place: South Pacific 4

Co-Chairs: Olaf Niemann, University of Victoria and John Kerekes, Rochester Institute of Technology

15:40 - 16:00

FR4.L06.1 ◇ **SURFACE BRDF-BASED ALBEDO FROM MULTIPLE VIEW ANGLE AIRBORNE IMAGERY SPECTROMETRY**

Hassan Khavarian Nehzak, Ted Milton, Peter Atkinson, University of Southampton, United Kingdom

16:00 - 16:20

FR4.L06.2 SPECTRAL SIGNATURE OF LEAVES OF AMAZON RAINFOREST TREE SPECIES

Egídio Araj, Gabriel Pereira, Samuel Coura, Francielle Cardozo, Yasio Shimabukuro, Elisabete Moraes, Ramon Freitas, Fernando Espirito-Santo, INPE, Brazil

16:20 - 16:40

FR4.L06.3 ESTIMATING TERRESTRIAL GROSS PRIMARY PRODUCTIVITY WITH THE ENVISAT MEDIUM RESOLUTION IMAGING SPECTROMETER (MERIS) TERRESTRIAL CHLOROPHYLL INDEX (MTCI)

Samuel Almond, Bournemouth University, United Kingdom; Doreen Boyd, University of Nottingham, United Kingdom; Jadunandan Dash, University of Southampton, United Kingdom; Paul Curran, Ross Hill, Bournemouth University, United Kingdom; Giles Foody, University of Nottingham, United Kingdom

16:40 - 17:00

FR4.L06.4 USING IMAGING SPECTROSCOPY TO ESTIMATE INTEGRATED MEASURES OF FORAGE QUALITY FOR BROWSING HERBIVORES

Kara Youngentob, Australian National University, Australia; Luigi Renzullo, Alex A. Held, Commonwealth Scientific and Industrial Research Organization, Australia; Xiuping Jia, Australian Defense Force Academy, Australia; David Lindenmayer, William Foley, Australian National University, Australia

17:00 - 17:20

FR4.L06.5 SPECTRAL SAMPLING TOOLS FOR VEGETATION BIOPHYSICAL PARAMETERS (BP) AND FLUX MEASUREMENTS IN EUROPE: THE NEW EUROPEAN ES0903 COST ACTION

Loris Vescovo, Damiano Gianelle, Matteo Sottocornola, Fondazione Mach, Italy

FRIDAY

FR4.L07: Friday, July 30, 15:40 - 17:20**FR4.L07 COSMO/SkyMed II**

Session Type: Oral-Contributed
 Time: Friday, July 30, 15:40 - 17:20
 Place: Nautilus
 Co-Chairs: Fabrizio Battazza, ASI and Alessandro Coletta, ASI

15:40 - 16:00

FR4.L07.1 A FUZZY-LOGIC-BASED APPROACH FOR FLOOD DETECTION FROM COSMO-SKYMED DATA
 Nazzareno Pierdicca, Luca Pulvirenti, Sapienza University of Rome, Italy; Marco Chini, Istituto Nazionale di Geofisica e Vulcanologia, Italy; Leila Guerriero, Paolo Ferrazzoli, Tor Vergata University of Rome, Italy

16:00 - 16:20

FR4.L07.2 CONTRIBUTION OF COSMO/SKYMED DATA INTO PRIMI: A PILOT PROJECT ON MARINE OIL POLLUTION. RESULTS AFTER ONE YEAR OF OPERATIONS

Francesco Nirchio, Italian Space Agency, Italy; Gianfranco Pandiscia, Giovanni Ruggieri, Telespazio, Italy; Rosalia Santoleri, CNR-ISAC, Italy; Francesco Tataranni, Innova, Italy; Paolo Trivero, Università Piemonte Orientale, Italy; Nadia Pinardi, INGV, Italy; Andrea Masini, Chiara Castellani, flyby, Italy

16:20 - 16:40

FR4.L07.3 THE COSMO SKYMED CONSTELLATION TURN ON THE L'AQUILA EARTHQUAKE: DINSAR RESULTS OF THE MORFEO PROJECT

Fabio Bovenga, ISSIA-CNR, Italy; Laura Candela, Italian Space Agency (ASI), Italy; Francesco Casu, Gianfranco Fornaro, IREA - CNR, Italy; Fausto Guzzetti, IRPI - CNR, Italy; Riccardo Lanari, IREA - CNR, Italy; Davide Oscar Nitti, Politecnico di Bari, Italy; Raffaele Nutricato, Geophysical Applications Processing s.r.l, Italy; Diego Reale, IREA - CNR, Italy

16:40 - 17:00

FR4.L07.4 THE SIASGE SYSTEM: JOINT X-L SAR BANDS FOR EMERGENCY MANAGEMENT

Paolo Castracane, Gaetano Pace, Advanced Computer Systems, Italy; Ettore Lopinto, ASI - Agenzia Spaziale Italiana, Italy; Simonetta Paloscia, Emanuele Santi, IFAC - CNR, Italy; Davide D'Aria, ARESYS, Italy; Chaira Giannico, TRE EUROPA, Italy; Fabio Dell'Acqua, Massimiliano Aldrighi, UNIPV, Italy; Nazzareno Pierdicca, Fabrizio Pelliccia, UNIRM, Italy; Stefano Tebaldini, Politecnico Milano, Italy

17:00 - 17:20

FR4.L07.5 PROCESSING AND SEGMENTATION OF COSMO-SKYMED IMAGES FOR FLOOD MONITORING

Silvana Dellepiane, Elena Angiati, Gianni Vernazza, Department of Biophysical and Electronic Engineering (DIBE) - Università di Genova, Italy

FR4.L08: Friday, July 30, 15:40 - 17:20**FR4.L08 Millimeter-wave Technology and Sensors for Earth Science Radar Remote Sensing II**

Session Type: Oral-Invited
 Time: Friday, July 30, 15:40 - 17:20
 Place: South Pacific 1/2
 Chair: Ernesto Rodriguez, Jet Propulsion Laboratory, California Institute of Technology

15:40 - 16:00

FR4.L08.1 A PORTABLE 35 GHZ CROSS-TRACK INTERFEROMETER FOR TOPOGRAPHIC AND SURFACE CHANGE MEASUREMENTS

Paul Siqueira, Harish Vedantham, Tony Swachak, University of Massachusetts, United States

16:00 - 16:20

FR4.L08.2 REALIZATION OF THE NASA DUAL-FREQUENCY DUAL-POLARIZED DOPPLER RADAR (D3R)

Manuel Vega, NASA, United States; James R. Carswell, Remote Sensing Solutions, United States; V. Chandrasekar, Colorado State University, United States; Mathew Schwaller, NASA, United States

16:20 - 16:40

FR4.L08.3 A CLOUD AND PRECIPITATION RADAR SYSTEM CONCEPT FOR THE ACE MISSION

Stephen Durden, Simone Tanelli, Larry Epp, Daniel Esteban-Fernandez, Houfei Fang, Vahraz Jamnejad, Raul Perez, Aluizio Prata, Lorene Samoska, Jet Propulsion Laboratory, United States

16:40 - 17:00

FR4.L08.4 QUANTIFYING THE UNCERTAINTY IN 35GHZ+94GHZ SPACE-BORNE RADAR RETRIEVALS OF RAIN

Ziad Haddad, Jet Propulsion Laboratory, California Institute of Technology, United States; Kyung-Won Park, Joint Institute For Regional Earth System Science and Engineering, UCLA, United States; Simone Tanelli, Steve Durden, Jet Propulsion Laboratory, California Institute of Technology, United States

17:00 - 17:20

FR4.L08.5 NEW APPLICATIONS IN COMMERCIAL REMOTE SENSING ENABLED BY RECENT ADVANCEMENTS IN MILLIMETER-WAVE TECHNOLOGY AND SENSORS

James R. Carswell, Remote Sensing Solutions, United States

FR4.L09: Friday, July 30, 15:40 - 17:20

FR4.L09 Interferometric SAR and Applications

Session Type: Oral-Contributed
Time: Friday, July 30, 15:40 - 17:20
Place: Coral 1
Co-Chairs: Michael Eineder, DLR and Marcus Schwaebisch, Intermap Technologies

15:40 - 16:00

FR4.L09.1 OPTIMAL SENSOR POSITIONING FOR ISAR IMAGING
Marco Martorella, University of Pisa, Italy

16:00 - 16:20

FR4.L09.2 KARIN – THE KA-BAND RADAR INTERFEROMETER ON SWOT: MEASUREMENT PRINCIPLE, PROCESSING AND DATA SPECIFICITIES
Roger Fjartoft, Jean-Marc Gaudin, Nadine Pourthie, Christine Lion, Alain Mallet, Jean-Claude Souyris, Centre National d'Etudes Spatiales (CNES), France; Christian Ruiz, CapGemini, France; Fifamé Koudogbo, Javier Duro, Patrick Ordoqui, Alain Arnaud, Altamira Information, Spain

16:20 - 16:40

FR4.L09.3 QUANTITATIVE ASSESSMENT ON THE REQUIREMENTS OF DESDYNI MISSION FOR CRUSTAL DEFORMATION STUDY
Sang-Ho Yun, Frank Webb, Paul Lundgren, Eric Fielding, NASA - JPL, United States; Shizhuo Liu, Delft University of Technology, Netherlands; Zhen Liu, Scott Hensley, Paul Rosen, Jay Parker, NASA - JPL, United States

16:40 - 17:00

FR4.L09.4 IMAGING GEODESY WITH TERRASAR-X
Michael Eineder, German Aerospace Center (DLR), Germany; Cong Xiaoying, Technische Universität München, Germany; Minet Christian, German Aerospace Center (DLR), Germany; Peter Steigenberger, Technische Universität München, Germany; Thomas Fritz, German Aerospace Center (DLR), Germany

17:00 - 17:20

FR4.L09.5 THREE DIMENSIONAL RECONSTRUCTION OF URBAN AREAS USING JOINTLY PHASE AND AMPLITUDE MULTICHANNEL IMAGES
Aymen Shabou, Florence Tupin, TELECOM ParisTech, France; Giampaolo Ferraioli, Vito Pascazio, Università di Napoli Parthenope, Italy

FRIDAY

FR4.L10: Friday, July 30, 15:40 - 17:20**FR4.L10 Surface Roughness and Vegetation Effects on Soil Moisture Estimation**

Session Type: Oral-Contributed

Time: Friday, July 30, 15:40 - 17:20

Place: Coral 2

Co-Chairs: Andreas Colliander, Jet Propulsion Laboratory/California Institute of Technology and Susanne Mecklenburg, ESA

15:40 - 16:00

FR4.L10.1 L-BAND EMISSION OF A BARE SOIL ROUGH SURFACE AND A ROUGH SOIL SURFACE COVERED WITH A GRASS LITTER LAYER: COMPARISON BETWEEN EXPERIMENTAL DATA AND A NUMERICAL MODELING APPROACH

Heather Lawrence, University of Bordeaux 1 and Institut National de la Recherche Agronomique (INRA), France; François Demontoux, University of Bordeaux 1, France; Jean-Pierre Wigneron, Institut National de la Recherche Agronomique (INRA), France; Arnaud Mialon, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France; Clément Duffour, University of Bordeaux 1 and Institut National de la Recherche Agronomique (INRA), France; Alain Kruszewski, Institut National de la Recherche Agronomique (INRA), France; Valery Mironov, Lyudmila Kosolapova, Kirensky Institute of Physics, Russian Federation; Yann Kerr, Centre d'Etudes Spatiales de la Biosphère (CESBIO), France

16:00 - 16:20

FR4.L10.2 A MICROWAVE SCATTERING MODEL OF VEGETATED SURFACES BASED ON BOR/DDA AND NMM3D FOR SMAP MISSION

Xiaolan Xu, Leung Tsang, Shaowu Huang, University of Washington, United States; Eni Njoku, Jet Propulsion Laboratory, United States

16:20 - 16:40

FR4.L10.3 HOW DOES DEW AFFECT L-BAND BACKSCATTER? ANALYSIS OF PALS DATA AT THE IOWA VALIDATION SITE AND IMPLICATIONS FOR SMAP

Brian Hornbuckle, Tracy Rowlandson, Eric Russell, Amy Kaleita, Iowa State University, United States; Sally Logsdon, USDA Agricultural Research Service, United States; Anton Kruger, University of Iowa, United States; Simon Yueh, NASA, United States; Roger De Roo, The University of Michigan, United States

16:40 - 17:00

FR4.L10.4 FORWARD SIMULATIONS OF PASSIVE MICROWAVE OBSERVATIONS FOR THE SOIL MOISTURE ACTIVE/PASSIVE (SMAP) MISSION

Steven Chan, Eni Njoku, Scott Dunbar, NASA Jet Propulsion Laboratory, United States

17:00 - 17:20

FR4.L10.5 SURFACE PARAMETERS ESTIMATION USING RADARSAT-2 POLARIMETRIC DATA OVER WHEAT COVERED AREA

Quan Chen, Zhen Li, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China; Aimin Cai, Institute of Remote Sensing Applications, Chinese Academy of Sciences, China; Bangsen Tian, Center for Earth Observation & Digital Earth, Chinese Academy of Sciences, China

Paper Identifiers

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 - L03 ▶ Hibiscus.....Kalia Conference Center
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Community Remote Sensing-related

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