

2016 AGU Fall Meeting

NASA Earth Science Technology Office (ESTO)

ESTO-Funded and ESTO-Affiliated Presentations, Posters, and Events



Monday, December 12

Poster A11I-0134 (8:00-12:20, Moscone South Poster Hall)
The RAVAN CubeSat Mission: A Pathfinder for a New Measurement of Earth's Radiation Budget - William Swartz

Poster IN11B-1617 (8:00-12:20, MS Poster Hall)
Data Container Study for Handling Array-based Data Using Rasdaman, Hive, Spark, and MongoDB - Mengchao Xu (Yang)

Poster IN11B-1621 (8:00-12:20, MS Poster Hall)
Quantifying How Climate Affects Vegetation in the Amazon Rainforest - Kamalika Das

Poster IN11B-1632 (8:00-12:20, MS Poster Hall)
A Rules-Based Service for Suggesting Visualizations to Analyze Earth Science Phenomena - Anirudh Prabhu (Ramachandran)

Poster IN11D-1640 (8:00-12:20, MS Poster Hall)
Image Registration and Data Assimilation as a QUBO on the D-Wave Quantum Annealer - Craig Pelissier(Lemoigne-Stewart)

Poster NH11B-1729 (8:00-12:20, MS Poster Hall)
Fluid Lensing based Machine Learning for Augmenting Earth Science Coral Datasets - Alan Li (Ved Chirayath)

Poster G11B-1070 (8:00-12:20, MS Poster Hall)
Transient Volcano Deformation Event Detection over Variable Spatial Scales in Alaska - Justin Li (Pankratius)

Presentation IN12A-04 (11:05, Moscone West 2000)
OceanXtremes: Scalable Anomaly Detection in Oceanographic Time-Series - Brian D Wilson (Huang)

Poster C13C-0838 (1:40-6:00, MS Poster Hall)
Monitoring Ice Sheets and Glaciers with GPS Interferometric Reflectometry - Kristine M. Larson

Poster IN13B-1658 (1:40-6:00, MS Poster Hall)
Benchmark Comparison of Cloud Analytics Methods Applied to Earth Observations - Christopher Lynnes

Poster IN13B-1659 (1:40-6:00, MS Poster Hall)
Performance Comparison of Big Data Analytics with NEXUS and Giovanni - Joseph Jacob (Huang and Lynnes)

Poster IN13B-1660 (1:40-6:00, MS Poster Hall)
Analytics and Visualization Pipelines for Big Data on the NASA Earth Exchange (NEX) and OpenNEX - Aashish Chaudhary

Presentation IN13D-05 (2:40, Moscone West 2000)
Educational and Scientific Applications of Climate Model Diagnostic Analyzer - Seungwon Lee

Presentation IN13E-06 (1:40-6:00, Moscone West 2002)
Assessing the maturity and re-usability of NASA's Advanced Information System Technology (AIST) Projects - Michael Little

Presentation IN14A-02 (4:00, Moscone West 2000)
A Knowledge Discovery framework for Planetary Defense - Yongyao Jiang (Yang)

Presentation IN14A-06 (5:15, Moscone West 2000)
Riding the Hype Wave: Evaluating new AI Techniques for their Applicability in Earth Science - Rahul Ramachandran

NASA Exhibit Hands-On Demo (6:00-8:00pm, NASA Exhibit)
Experiencing Climate Data with Virtual Reality - Shayna Skolnik

Tuesday, December 13

Poster Session IN21B (8:00-12:20, MS Poster Hall)
Enabling Cloud Applications for Earth Science Data I
(Conveners: Beaujardiere, Little, Kearns, Law)

• **IN21B-1728:** *Using Cloud-based Storage Technologies for Earth Science Data* - Andrew Michaelis (John Readey)

• **IN21B-1731:** *AIST Managed Cloud Environment* - Shelby Cook

• **IN21B-1734:** *Hybrid Cloud Computing Environment for EarthCube and Geoscience Community* - Chaowei Phil Yang

Poster IN21C-1745 (8:00-12:20, MS Poster Hall)
Enhancing SAMOS Data Access in DOMS via a Neo4j Property Graph Database - Adam Stallard (Smith)

Presentation IN21D-06 (09:15-09:30, Moscone West 2000)
Advancing Geoscience Resource Discovery with Cutting-Edge Cyberinfrastructure Technologies - Chaowei Yang

Poster PA21A-2194 (8:00-12:20, MS Poster Hall)
Communicating Science through Data-Driven Story Telling Posters - Shayna Skolnik

Presentation A21H-03 (8:30, Moscone West 3004)
Orbital Angular Momentum Measurements for Turbulence Characterization - Yong Hu (Carl Weimer)

Presentation A21H-06 (9:00 Moscone West 3004)
The feasibility of water vapor sounding inside clouds or precipitation using a differential absorption radar technique - Luis Millan Valle (Livesey)

Poster A23C-0242 (1:40-6:00, MS Poster Hall)
A Study on Airborne Radio Occultation's and their Impact on Hurricane Karl (2010) - Shu-Hua Chen (Haase)

Poster IN23B-1772 (1:40-6:00, MS Poster Hall)
Mining and Utilizing Dataset Relevancy from Oceanographic Dataset (MUDROD) Metadata - Yun Li (Yang)

Poster IN23B-1774 (1:40-6:00, MS Poster Hall)
Computer-Aided Discovery Tools for Volcano Deformation Studies with InSAR and GPS - Victor Pankratius

Presentation A23N-06 (3:10, Moscone West 3012)
Atmospheric Methane measurements with an IPDA LIDAR - Haris Riris

Presentation H23K-07 (3:10, Moscone West 3020)
Inferring Large-Scale Terrestrial Water Storage through GRACE and GPS Data Fusion in Cloud Computing Environments - Cody Rude (Pankratius)

Session IN24A (4:00-6:00, Moscone West 2000)
Enabling Cloud Applications for Earth Science Data II
(Conveners: Beaujardiere, Little, Kearns, Law)

• **IN24A-01** (4:06): *On the Large-Scaling Issues of Cloud-based Applications for Earth Science Data* - Hook Hua

• **IN24A-08** (5:46): *A Hybrid Cloud Computing Service for Earth Sciences* - Chaowei Phil Yang

Presentation A24D-02 (4:15, Moscone West 3012)
New Capability for Ozone DIAL Profiling Measurements in the Troposphere and Lower Stratosphere from Aircraft - John Hair

Wednesday, December 14

Poster A31G-0118 (8:00-12:20, MS Poster Hall)
2- μ m Triple-Pulse Integrated Path Differential Absorption Airborne Lidar for Simultaneous CO₂ and H₂O measurements - Tamer F. Refaat

Continued on reverse...

Poster A31G-0119 (8:00-12:20, MS Poster Hall)
Feasibility Study of Space-based CO₂ Remote Sensing Using Pulsed 2-micron Integrated Path Differential Absorption Lidar
- Upendra N Singh

Poster A31G-0126 (8:00-12:20, MS Poster Hall)
The NASA Langley High Altitude Lidar Observatory (HALO)
- Amin Nehrir

Poster IN31D-1791 (8:00-12:20, MS Poster Hall)
Tackling the Four V's with NEXUS - Frank Greguska

Poster GC31F-1170 (8:00-12:20, MS Poster Hall)
Evaluation of Climate Model Output Against Observations in a Hypothesis Testing Framework - Braverman / Quam

Poster H31G-1473 (8:00-12:20, MS Poster Hall)
Verification of Regression-Based Upscaling Technique for Calibration/Validation of Space-Based Soil Moisture Products with Sparse In-Situ Data - Mahta Moghaddam

Session A33P (1:40-3:40, Moscone West 3002)
The Rise of Small Satellite Constellations for Earth Observation I
(Conveners: Swartz, Norton, Millar, Klumpar)

- **A33P-02** (1:55): *The TROPICS smallsat tropical cyclone mission* - William J Blackwell
- **A33P-05** (2:40): *CYGNSS Observations of Surface Wind Speeds in Oceanic Tropical and Extratropical Cyclones* - Derek J Posselt
- **A33P-07** (3:10): *A Constellation of CubeSat InSAR Sensors for Rapid-Revisit Surface Deformation Studies* - Lauren Wye

NASA Exhibit Flash Talk (1:50)
The TIRCS Instrument: Hyperspectral Imaging from Small Satellites
- Robert Wright

NASA Exhibit Flash Talk (2:20)
Introducing the Microwave Radiometer Technology Acceleration Mission (MiRaTA) - Kerri Cahoy

NASA Exhibit Hands-On Demo (1:00-5:00, NASA Exhibit)
Experiencing Climate Data with Virtual Reality - Shayna Skolnik

Thursday, December 15

Poster H41B-1310 (8:00-12:20, MS Poster Hall)
A numerical analyzes on how climate change affects riverine flooding
- Albert J. Kettner

Poster Session A41H (8:00-12:20, MS Poster Hall): **The Rise of Small Satellite Constellations for Earth Observation II Posters**
(Conveners: Swartz, Norton, Millar, Klumpar)

- **A41H-0146**: *Evaluation of the Use of CubeSat's in Atmospheric Profiling* - Jon P. Olson (C. Chandra)
- **A41H-0150**: *The CubeSat Infrared Atmospheric Sounder (CIRAS): Demonstrating key technologies for a future constellation to improve temporal sampling* - Tom Pagano
- **A41H-0152**: *Optimizing the Attitude Control of Small Satellite Constellations* - Sreeja Nag
- **A41H-0155**: *The CubeSat radiometer radio frequency interference technology validation (CubeRRT) mission* - Sidharth Misra
- **A41H-0157**: *Trade-space Analysis for Constellations* - Jacqueline Le Moigne
- **A41H-0159**: *Enabling High Spectral Resolution Thermal Imaging from CubeSat and MicroSatellite Platforms Using Uncooled Microbolometers and Fabry-Perot Interferometer* - Robert Wright
- **A41H-0160**: *Measuring Earth's Radiation Imbalance using Cubesat Constellations* - Sasha Courtade (Lars Dyrud)

• **A41H-0162**: *Remote Sensing of Precipitation from 6U-Class Small Satellite Constellations: Temporal Experiment for Storms and Tropical Systems Technology Demonstration (TEMPEST-D)*
- Steven C. Reising

• **A41H-0163**: *TEMPEST-D MM-Wave Radiometer*
- Sharmila Padmanabhan (Reising)

• **A41H-0166**: *Signals of Opportunity Earth Reflectometry (SoOp-ER): Enabling new microwave observations from small satellites*
- Jim Garrison

Poster GC41A-1064 (8:00-12:20, MS Poster Hall)
Sequential processing of GNSS-R delay-Doppler maps (DDM's) for ocean wind retrieval - Jim Garrison

Presentation T43F-01 (1:45, Moscone South 306)
Using remotely piloted aircraft and onboard processing to optimize and expand data collection - Matthew Fladeland

Presentation EP43E-02 (1:55, Moscone West 2003)
Advances in Measuring Soil Moisture using Global Navigation Satellite Systems Interferometric Reflectometry (GNSS-IR)
- Angelyn Moore (Larson)

NASA Exhibit Flash Talk (1:50)
RAVAN: CubeSat, Carbon Nanotubes, and Climate - William Swartz

Friday, December 16

Poster Session IN53A (8:00-12:20, MS Poster Hall)
Exploiting Big Earth Data: GIS and Beyond II
(Conveners: Little, Duffy, Wright, Law)

- **IN53A-1873**: *New Dimensions of GIS Data: Exploring Virtual Reality (VR) Technology for Earth Science* - Shayna Skolnik
- **IN53A-1876**: *GeoNotebook: Browser based Interactive analysis and visualization workflow for very large climate and geospatial datasets* - Doruk Ozturk (Aashish Chaudhary)

NASA Exhibit Hands-On Demo (9:30-1:30, NASA Exhibit)
Experiencing Climate Data with Virtual Reality - Shayna Skolnik

Presentation GC51H-08 (9:45, Moscone West 3001)
Global sampling of the seasonal changes in vegetation biophysical properties and associated carbon flux dynamics: using the synergy of information captured by spectral time series
- Petya Campbell

Session IN52A (10:20-12:20, Moscone West 2000)
Exploiting Big Earth Data: GIS and Beyond II
(Conveners: Little, Duffy, Wright, Law)

- **IN52A-04** (11:20): *Deep Learning-Powered Insight from Dark Resources* - Manil Maskey
- **IN52A-07** (11:56): *SciSpark: In-Memory Map-Reduce for Earth Science Algorithms* - Paul Ramirez (Mattmann)

Presentation A52E-05 (11:20, Moscone West 3012)
The NASA CYGNSS Satellite Constellation for Tropical Cyclone Observations - Chris Ruf

Presentation IN52A-04 (11:20, Moscone West 2000)
Deep Learning-Powered Insight from Dark Resources
- Manil Maskey

Poster C53A (1:40-6:00, MS Poster Hall)
Mapping Greenland's firn aquifer using L-band microwave radiometry - Julie Miller (Johnson)

Presentation C43D-02 (1:55, Moscone West 3007)
A Bayesian retrieval of Greenland ice sheet internal temperature from ultra-wideband software-defined microwave radiometer (UWBRAD) measurements - Yuna Duan (Johnson)