2017 AGU Fall Meeting
NASA Earth Science Technology Office (ESTO)
ESTO-Funded and ESTO-Affiliated Presentations, Posters, and Events

Monday, December 11

Session IN11E (8:00-10:00, Room 228-230)
Deep Learning to Solve Geoscience Challenges
(Conveners: Klump, Little, Lin, Bhatia)

- **IN11E-01:** ***Deep Learning for Discovery of Atmospheric Mountain Waves in MODIS and GPS Data*** - Victor Pankratius
- **IN11E-04:** ***Large-scale Labeled Datasets to Fuel Earth Science Deep Learning Applications*** - Manil Maskey
- **IN11E-07:** ***Simplify and Accelerate Earth Science Data Preparation to Systemize Machine Learning*** - Kwo-Sen Kuo

Poster A11C-1888 (8:00-12:20, Poster Hall D-F)
Evaluating Satellite Retrievals of Smoke Aerosol above Clouds using Airborne High Spectral Resolution Lidar Measurements during ORACLES - Richard Ferrare (Hostetler/Hair)

Poster A11C-1890 (8:00-12:20, Poster Hall D-F)
A Summary of Rainfall and Stratocumulus Cloud Properties During the 2016 ORACLES Deployment - Andrew Dzambo (Tanelli/Durden)

Poster A11F-1940 (8:00-12:20, Poster Hall D-F)
Coincident Retrieval of Ocean Surface Roughness and Salinity Using Airborne and Satellite Microwave Radiometry and Reflectometry Measurements during the Carolina Offshore (Caro) Experiment - Derek M Burrage (James Garrison)

Poster A11F-1945 (8:00-12:20, Poster Hall D-F)
Development of a Forward Model for the Assimilation of Delay-Doppler Maps (DDMs) - Feixiong Huang (James Garrison)

Poster IN11B-0037 (8:00-12:20, Poster Hall D-F)
Bit-Grooming: Shave Your Bits with Razor-sharp Precision - Charlie Zender

Poster OS11A1119 (8:00-12:20, Poster Hall D-F)
Coastal Application of Altimetric Measurement using Wideband Signals of Opportunity Reflectometry - James Garrison

Poster P11E-2541 (8:00-12:20, Poster Hall D-F)
A Geospatial Data Recommender System based on Metadata and User Behaviour - Yun Li (Thomas Huang)

Session IN12C (10:20-12:20, Room 228-230
Machine Learning, Quantum Computing, and Big Data Platforms
(Conveners: Klump, Little, Lin, Bhatia)

- **IN12C-01:** ***Evaluation of Deep Learning Models for Predicting CO2 Flux*** - Milton Halem
- **IN12C-04:** ***Quantum Assisted Learning for Registration of MODIS Images*** - Craig Pelissier (Jacqueline Le Moigne)
- **IN12C-05:** ***Multiplatform Mission Planning and Operations Simulation Environment for Adaptive Remote Sensors*** - Graeme Smith

Poster Session IN13B (1:40-6:00, Poster Hall D-F)
Rapid magnitude estimation from time-dependent displacement amplitude measured with seismogeodetic instrumentation
(Conveners: Klump, Little, Lin, Bhatia)

- **IN13B-0066:** ***NeMO-Net – The Neural Multi-Modal Observation & Training Network for Global Coral Reef Assessment*** - Alan Sheng (Ved Chirayath)
- **N13B-0071:** ***End-to-End Trade-space Analysis for Designing Constellation Missions*** - Jacqueline Le Moigne
- **IN13B-0073:** ***Towards Finding the Global Minimum of the D-Wave Objective Function for Improved Neural Network Regressions*** - John Dorband
- **IN13B-0074:** ***Comparisons of a Quantum Annealing and Classical Computer Neural Net Approach for Inferring Global Annual CO2 Fluxes over Land*** - Milton Halem

Presentation IN13D-06 (2:55, Room 231-232)
Building a better search engine for earth science data - Edward M Armstrong (Thomas Huang)

Presentation A14A-08 (5:45, Room 391)
A14A-08 Coupled retrieval of water cloud and above-cloud aerosol properties using the Airborne Multiangle SpectroPolarimetric Imager (AirMSPI) - Feng Xu (David Diner)

Tuesday, December 12

Presentation G41A-01 (8:00, Room 222)
Production and Uses of Multi-Decade Geodetic Earth Science Data Records - Sharon Kedar (Yehuda Bock)

Poster A21B-2154 (8:00-12:20, Poster Hall D-F)
Evaluation of AirMSPI photopolarimetric retrievals of smoke properties with in-situ observations collected during the ImPACT-PM field campaign - Olga Kalashnikova (David Diner)

Poster IN21B-0033 (8:00-12:20, Poster Hall D-F)
Guiding Users to Sea Level Change Data Through Content - Nga Quach (Thomas Huang)

Poster IN21B-0044 (8:00-12:20, Poster Hall D-F)
Optimizing Earth Data Search Ranking using Deep Learning and Real-time User Behavior - Yongyao Jiang (Thomas Huang)

Presentation A21M-05 (9:10, Room 391)
Lidar characterizations of atmospheric aerosols and clouds - Richard Ferrare (Hostetler/Hair)

Presentation IN22B-01 (10:20, Room 231-232)
Near Real Time Structural Health Monitoring with Multiple Sensors in a Cloud Environment - Yehuda Bock

Presentation S22C-05 (11:25, Room 217-219)
Rapid magnitude estimation from time-dependent displacement amplitude measured with seismogeodetic instrumentation - Dara Goldberg (Yehuda Bock)

NASA Earth Science Division Town Hall
(12:30-1:30, Room 203-205)

Presentation A23H-01 (1:40, Room 391)
Developments Towards a Space-Based Adaptive Lidar - Carl Weimer

Lightning Talk: U23B-04 (1:52, eLightning Area)
Improvement of real-time seismic magnitude estimation by combining seismic and geodetic instrumentation - Dara Goldberg (Yehuda Bock)

Poster A23C-2358 (1:40-6:00, Poster Hall D-F)
Comparison of Carbon Dioxide Airborne Measurement over Land and Ocean using 2-μm Double-Pulse Integrated Path Differential Absorption Lidar - Upendra Singh

Poster IN23A-0078 (1:40-6:00, Poster Hall D-F)
A Functional Approach to Hyperspectral Image Analysis in the Cloud - Anne Wilson

Poster IN23B-0084 (1:40-6:00, Poster Hall D-F)
Experiments with Analytic Centers: A confluence of data, tools and help in using them - Michael Little

Poster IN23B-0094 (1:40-6:00, Poster Hall D-F)
The AMCE (AIST Managed Cloud Environment) - Michael Little

Continues on reverse...

Poster V23E-0509 (1:40-6:00, Poster Hall D-F)
Analysis of Volcanic Processes at Kilauea Volcano Using an Airborne Imaging Interferometer - Robert Wright

Poster V23E-0511 (1:40-6:00, Poster Hall D-F)
Imaging volcanic CO2 and SO2 - Andrea Gabrieli (Robert Wright)

Presentation N23F-06 (2:55. Room 228-230)
Design Patterns to Achieve 300x Speedup for Oceanographic Analytics in the Cloud - Joseph Charles Jacob (Thomas Huang)

Session IN24B (4:00-6:00, Room 228-230)
Exploiting Big Earth Data: GIS and Beyond II
(Conveners: Little and Duffy)

- **IN24B-02:** ***A Big Data Platform for Storing, Accessing, Mining and Learning Geospatial Data*** - Chaowei Phil Yang
- **IN24B-07:** ***Automated protocols for spaceborne sub-meter resolution "Big Data" products for Earth Science*** - Christopher Neigh
- **IN24B-08:** ***Open-source web-enabled data management, analyses, and visualization of very large data in geosciences using Jupyter, Apache Spark, and community tools*** - Aashish Chaudhary

Presentation IN23E-03 (4:10, Room 231-232)
Architectural Strategies for Enabling Data-Driven Science at Scale - Daniel Crichton (Little)

Wednesday, December 13

Poster A31G-2266 (8:00-12:20, Poster Hall D-F)
Triple-frequency radar retrievals of snowfall properties from the OLYMPEX field campaign - Jussi Leinonen (Tanelli/Lebsock/Durden)

Poster H31G-1591 (8:00-12:20, Poster Hall D-F)
A 3D Active Learning Application for NeMO-Net, the NASA Neural Multi-Modal Observation and Training Network for Global Coral Reef Assessment - Jarrett van den Bergh (Ved Chirayath)

Poster IN31A-0069 (8:00-12:20, Poster Hall D-F)
Efficient Method for Scalable Registration of Remote Sensing Images - Roy Prouty (Jacqueline Le Moigne)

Lightning Session IN32C (10:20-12:20, eLightning Area)
New Approaches to Analyze Big Geoscientific Data Sets
(Convener: Charlie Zender)

Session A33M (1:40-3:40, Room 391)
Science Observations Enabled by New Advances in Small-Satellite Capability and Technology I
(Conveners: Norton, Swartz, Millar, and Klumpar)

- **A33M-01:** ***The NASA CYGNSS Small Satellite Constellation*** - Christopher Ruf
- **A33M-02:** ***Upper-Tropospheric Cloud Ice from IceCube*** - Dong Wu
- **A33M-03:** ***RAVAN CubeSat Results: Technologies and Science Demonstrated On Orbit*** - William Swartz
- **A33M-05:** ***MISTiC Winds, a Micro-Satellite Constellation Approach to High Resolution Observations of the Atmosphere using Infrared Sounding and 3D Winds Measurements*** - Kevin Maschhoff

Poster A33G-2448 (1:40-6:00, Poster Hall D-F)
Mid-wave Infrared Hyperspectral Imaging of Kilauea's Active Halema'uma'u Pit Crater - Casey Honniball (Robert Wright)

NASA Exhibit Flash Talk (2:10-2:17)
From Bits to Qubits: Discover the Next Holy Grail of Quantum Computing - Milton Halem

Presentation A33J-04 (2:25, Room 398-399)
Multi-Spectral Stereo Atmospheric Remote Sensing (STARS) for Retrieval of Cloud Properties and Cloud-Motion Vectors - Michael Kelly

NASA Exhibit Flash Talk (2:30-2:37)
Photonic HSI Imaging: Guiding Light as The World Turns - Stephanie Sandor-Leahy

Presentation A33J-05 (2:40, Room 398-399)
Differential Absorption Radar: An Emerging Technology for Remote Sounding of Water Vapor Within Clouds - Matthew Lebsock

Presentation A33J-07 (3:10, Room 398-399)
Airborne Remote sensing of the OH tropospheric column with an Integrated Path Differential LIDAR - Thomas F. Hanisco

Presentation IN33E-05 (2:40, Room 228-230)
NASA Sea Level Change Portal – It not just another portal site - Thomas Huang

Session A34E (4:00-6:00, Room 391)
Science Observations Enabled by New Advances in Small-Satellite Capability and Technology II
(Conveners: Norton, Swartz, Millar, and Klumpar)

Thursday, December 14

Poster Session A41I (8:00-12:20, Poster Hall D-F)
Science Observations Enabled by New Advances in Small-Satellite Capability and Technology III
(Conveners: Norton, Swartz, Millar, and Klumpar)

- **A41I-2399:** ***Impact of the CubeSat Radiometer Radio Frequency Interference Technology Validation (CubeRRT) mission on future science missions*** - Christopher Ball (Joel Johnson)
- **A41I-2405:** ***Development of the Multi-Angle Stratospheric Aerosol Radiometer (MASTAR) Instrument*** - Matthew T DeLand
- **A41I-2412:** ***Enabling Global Observations of Clouds and Precipitation on Fine Spatio-Temporal Scales from CubeSat Constellations: Temporal Experiment for Storms and Tropical Systems Technology Demonstration (TEMPEST-D)*** - Steven C Reising

Poster IN41A-0018 (8:00-12:20, Poster Hall D-F)
Sensor Webs to Constellations - Marge Cole

Poster IN41B-0031 (8:00-12:20, Poster Hall D-F)
Introducing the VISAGE project – Visualization for Integrated Satellite, Airborne, and Ground-based data Exploration - Helen Conover

NASA Exhibit Flash Talk (2:00 - 2:07)
Signals of Opportunity (SoOp): Opening the Electromagnetic Spectrum for Earth Observation - James Garrison

Friday, December 15

Poster A51E-2117 (8:00-12:00, Poster Hall D-F)
A Stabilizing Feedback Between Cloud Radiative Effects and Greenland Surface Melt: Verification From Multi-year Automatic Weather Station Measurements - Charlie Zender

Poster EP53B-1706 (1:40-6:00, Poster Hall D-F)
From Landsat through SLI: Ball Aerospace Instrument Architecture for Earth Surface Monitoring - Angelo Scotty Gilmore (Paula Wamsley)

Poster H51E-1304 (8:00-12:00, Poster Hall D-F)
Global Snow from Space: Development of a Satellite-based, Terrestrial Snow Mission Planning Tool - Bart Forman