2018 AGU Fall Meeting
NASA Earth Science Technology Office (ESTO)
ESTO-Funded and ESTO-Affiliated Presentations, Posters, and Events

Monday, December 10

Poster Session IN11C (8:00-12:20, Poster Hall)
Application of Information and Data Science Methods and Technologies to Climate Research and Energy–Water Knowledge Discovery
Conveners: Melissa Allen, Thomas Huang, Michael Little

Poster IN11C-0639 (8:00-12:20, Poster Hall)
Uncovering signals for hurricane rapid intensification and motivating machine-learning discoveries - Svetla M Hristova-Veleva

Presentation IN11A-02 (8:16, 209A-C)
Convergence Challenges the Culture of Science
- Michael M Little

Presentation A12A-04 (11:05–11:20, 151B)
Boundary-Layer Water Vapor Profiling Inside of Clouds Using Differential Absorption Radar - Richard Roy

Presentation A13A-01 (13:40, 151B)
A Cubesat-Scale Instrument for Observing Stratospheric Aerosols
- Matthew DeLand

NASA Exhibit FlashTalk (13:30-13:37, Exhibit Hall)
The SNoOPI CubeSat: SigNals of Opportunity P-band Investigation
- James Garrison

NASA Exhibit Demo (13:00-14:00, Exhibit Hall)
Hot & sPyC: Enabling Software Developers to Target Heterogeneous On-board Computing Accelerators - Matthew French

Poster GC13F-1084 (13:40-18:00, Poster Hall)
GC13F-1084 Structure and Function of Ecosystems – a Smallsat Compliment to SBG - Dan Mandl

Presentation IN13B-03 (14:10, 101)
Earth Science Technology Office New Observing Strategies (NOS)
- Michael Little, Jacqueline Le Moigne, and Marge Cole

Presentation IN13B-04 (14:25, 101)
Autonomous Moisture Continuum Sensing Network: Intelligent and Energy Efficient in situ Wireless Sensor Networks for Earth Sciences
- Ruzbeh Akbar

Presentation IN13B-07 (15:10, 101)
Game changing antenna technologies enabling new class of Earth science and interplanetary missions
- Nacer Eddine Chahat

Presentation IN14A-06 (17:15, 209A-C)
Convolutional autoencoders for earthquake anomaly detection in InSAR - Guillaume Rongier (Victor Pankratius)

Tuesday, December 11

Poster C21E-1399 (8:00-12:20, Poster Hall)
ntegrating machine learning and brightness temperature assimilation to improve snow estimates over High Mountain Asia
- Jawairia Ashfaq Ahmad (Bart Forman)

Poster IN21E-0753 (8:00-12:20, Poster Hall)
Development of High Performance Detector Technology for UV, SWIR, and MWIR Applications - Ashok Sood

Poster OS21C-1583 (8:00-12:20, Poster Hall)
An information technology foundation for fostering interdisciplinary oceanographic research and analysis - Ed Armstrong

Town Hall TH23E (12:30-13:30, Marriott Marquis Capitol/Congress)
NASA Earth Science Division Town Hall
Presenters: Michael Freilich, Sandra Cauffman, Eric Ianson, Lawrence Friedl, Pamela Millar, and Patricia Jacobberger-Jellison

Wednesday, December 12

eLightning Presentation IN31B-12 (8:34, eLightning Theater II)
A Flexible, Complete JavaScript Object Notation for netCDF
- Charlie Zender

Poster A31G-2913 (8:00-12:20, Poster Hall)
A New Approach to Stereo Observations of Clouds
- Michael Kelly

Poster H31H-1984 (8:00-12:20, Poster Hall)
Prediction of C-band SAR backscatter over snow-covered terrain using machine learning - Jongmin Park (Bart Forman)

Poster H31I-2020 (8:00-12:20, Poster Hall)
Towards Synthetic Passive Microwave Brightness Temperature Assimilation over Snow-Covered Terrain in Western Colorado
- Lizhao Wang (Bart Forman)

Poster H31I-2021 (8:00-12:20, Poster Hall)
Synthetic Study of Spaceborne LiDAR Snow Depth Retrieval Assimilation within the NASA Land Information System
- Yonghwan Kwon (Bart Forman)

Presentation OS32B-06 (11:35, 102AB)
Observations of Submesoscale Surface Currents and Winds with a Doppler Scatterometer - Ernesto Rodriguez

Presentation IN33A-02 (13:40, 209A-C)
Lessons Learned in Creating Big Science Data Analysis Solutions for the Cloud - Thomas Huang

NASA Exhibit FlashTalk (14:00-14:07, Exhibit Hall)
Photonic Integrated Circuits: Enabling Sensors in Space on Small Platforms
- Jonathan Klamkin

NASA Exhibit FlashTalk (14:30-14:37, Exhibit Hall)
The HARP Polarimeter Family: A Round Trip from Large Satellites to CubeSats and Back - Vanderlei Martins

Thursday, December 13

eLightning Session IN41B (8:00-10:00, eLightning Theater II)
Advances in Quantum Computing for the Geophysical Sciences I
- Michael Little, Milton Halem, Tsengdar Lee, Craig Pelisser, Conveners

IN41B-04: *Learning Image Registration and Quantum Annealing Statistics* - Craig Pelissier

Poster Session A41K (8:00-12:20, Poster Hall)
Small Satellites Have Scientific Value, but Where Do They Fit In? I
Conveners: William Swartz, David Klumpar, Pamela Millar, and Charles Norton

Poster A41K-3104 (8:00-12:20, Poster Hall)
Measureing Earth's Energy Budget from a CubeSat
- William Swartz

Poster A41K-3105 (8:00-12:20, Poster Hall)
From Technology Demonstration to Science Mission: MicroMAS-2 and TROPICS - William Blackwell

Poster A41K-3107 (8:00-12:20, Poster Hall)
High-Resolution Hyperspectral Imaging of Dilute Gases from CubeSat Platforms - Steven Love

Poster A41K-3108 (8:00-12:20, Poster Hall)
MISTiC Winds, a Micro-Satellite Constellation Approach to High Resolution Observations of the Atmosphere using Infrared Sounding and 3D Winds Measurements-Airborne Demonstration
- Kevin Maschhoff

Thursday, continued

Poster A41K-3110 (8:00-12:20, Poster Hall)
TOMCAT: A SmallSat Lidar for Cloud/Aerosol Profiling and Hazard Events - Matthew Mcgill

Poster A41K-3111 (8:00-12:20, Poster Hall)
Stratospheric Aerosol and Gas Experiment IV Pathfinder Instrument - Charles Anthony Hill, Robert P Damadeo and Michael D Obland

Poster G41B-0695 (8:00-12:20, Poster Hall)
Transfer Learning of InSAR Atmospheric Effects for Earthquake Characterization - Victor Pankratius

NASA Exhibit Demo (12:00-13:00, Exhibit Hall)
Hot & sPyC: Enabling Software Developers to Target Heterogeneous On-board Computing Accelerators - Matthew French

NASA Exhibit FlashTalk (13:00-13:07, Exhibit Hall)
Taking the Earth's Temperature: The InVEST HyTI Mission - Robert Wright

NASA Exhibit FlashTalk (13:50-13:57, Exhibit Hall)
Introducing the Computational Reconfigurable Imaging Spectrometer (CRISP) - Adam Milstein

Poster C43D-1815 (13:40-18:00, Poster Hall)
A Bayesian retrieval of Greenland ice sheet internal temperature from ultra-wideband software-defined microwave radiometer (UWBRAD) measurements - Mike Durand (Joel Johnson)

Poster C43D-1818 (13:40-18:00, Poster Hall)
Information Embedded in the Finely Resolved UWBRAD Tb Spectra of Polar Ice Sheets - Shurun Tan (Joel Johnson)

Poster C43D-1821 (13:40-18:00, Poster Hall)
Measurement of Ice Sheet Internal Temperature Profiles with Ultra-Wideband Microwave Radiometry - Joel Johnson

Presentation B44A-05 (16:32, 143A-C)
Investigating Technologies for Future Landsat Missions: SLI-T - Philip Dabney

Presentation B44A-11 (17:20, 143A-C)
Smallsat Constellations for Future Diurnal Observations of Terrestrial Ecosystems Structure and Function - Jon Ranson

Presentation A44E-07 (17:30, 151B)
Carbon Balance Observatory (CARBO) instrument overview - Shannon Zareh (Charles Miller)

Session A44G (16:00-18:00, 152A)
Small Satellites Have Scientific Value, but Where Do They Fit In? II
Conveners: William Swartz, David Klumpar, Pamela Millar, and Charles Norton

Presentation A44G-05 (17:00, 152A)
Temporal Experiment for Storms and Tropical Systems Technology Demonstration (TEMPEST-D) Mission: Early Results and Potential Science Capabilities - Steven C. Reising

Presentation A44G-06 (17:15, 152A)
A Small Sat Constellation for Aerosol and Cloud Measurements - Jose Vanderlei Martins

Presentation A44G-08 (17:45, 152A)
NASA's Strategic Goals for SmallSat/CubeSat Science - Charles D Norton

Town Hall TH45A (18:15, Marriott: Independence A-C)
Data Science and a New Scientific Frontier in Space Science
(Presenters include: Thomas Zurbuchen, Michael Little, and Thomas Huang)

Friday, December 14

Poster A51P-0212 (8:00-12:20, Poster Hall)
Foehn Winds on Larsen C Ice Shelf During Polar Night: Impacts on the Surface Energy Budget and Melt - Matthew Laffin (Charlie Zender)

Poster Session IN51B (8:00-12:20, Poster Hall)
Enabling Cloud Applications for Earth Science Data Posters
Conveners: Jeff de la Beaujardiere, Kenneth Casey, Michael Little

Poster IN51B-0579 (8:00-12:20, Poster Hall)
Hylatis, a Cloud-Based Hyperspectral Image Analysis Toolkit - Anne Wilson

Poster IN51D-1310 (8:00-12:20, Poster Hall)
Interactive Visualizationof Diverse Datasets Using 3D Tile Point Clouds - Ajinkya Kulkarni (Helen Conover)

Presentation A52B-04 (10:20, 152A)
Spatial Discrepancies in Cloud Radiative Effects Between Large-scale Datasets and In-situ Measurements over Greenland - Wenshan Wang (Charlie Zender)

Poster A53I-2609 (13:40-18:00, Poster Hall)
Impacts of spectrally resolved emissivity on the surface energy balance and state of Arctic sea ice - Zachary Wolff (Charlie Zender)

Session IN54A (16:00-18:00, 209A-C)
Enabling Cloud Applications for Earth Science Data I
Conveners: Jeff de la Beaujardiere, Kenneth Casey, Michael Little

Presentation IN54A-03 (16:30, 209A-C)
Lessons Learned from Getting Ready For NISAR: Large-Scale Science Data Systems with Machine Learning and Disasters Response from the Cloud - Hook Hua

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For more on NASA ESTO and its technology investments, visit esto.nasa.gov