The 2017 Workshop at MOISST: Integrating Diverse Sources of Soil Moisture Information
Tuesday-Thursday, May 23-25, 2017
Oklahoma State University, Stillwater, Oklahoma
Jones Seminar Room, ConocoPhillips OSU Alumni Center

Tuesday, May 23rd

Name	Institution	Presentation Title	Time
Welcome Session			
Tyson Ochsner	Oklahoma State Univ.	Welcome, orientation, and introductions	8:30 a.m.
Ray Huhnke	Oklahoma State Univ.	Oklahoma NSF EPSCoR Project	8:55 a.m.
New Advances in Soil Moisture Monitoring			
Chadi Sayde	North Carolina State University	Toward Multi-Scale Tracking of Water Movement Across the Soil-Plant-Atmosphere Continuum Using Fiber Optic Distributed Temperature Sensing	9:00 a.m.
Mie Andreasen	University of Copenhagen	Cosmic-ray neutron soil moisture estimation	9:25 a.m.
Brian Hornbuckle	Iowa State University	Is the Thermal to Fast Neutron Ratio Correction for the Effect of Vegetation on Cosmic-ray Neutron Sensors Independent of Crop Type?	9:50 a.m.
Mid-morning break (snacks and beverages provided)			
Jared Entin	NASA	Soil moisture remote sensing at NASA – present and future	*10:45 a.m.
Mike Lewis	US Army CEERD GRL	A variable method of downscaling SMAP data using Landsat	11:15 a.m.
Morteza Sadeghi	Utah State University	A New Optical Trapezoid Model for Remote Sensing of Soil Moisture	11:40 a.m.
Group photo then lunch break (lunch on your own off site)			
Integrating Diverse Sources of Soil Moisture Information			
Mike Cosh	USDA-ARS Beltsville, MD	Ongoing research at the Marena, Oklahoma, In Situ Sensor Testbed (MOISST)	1:30 p.m.
Steven Quiring	Ohio State University	Towards a Harmonized Soil Moisture Database for the South Central United States: Evaluating Methods for Depth Standardization and Quality Control	1:55 p.m.
Abdul Salam	University of Nebraska-Lincoln	Internet of Underground Things in Smart Agriculture: Communication Principles and Soil Moisture Sensing Experiences from the Field	2:20 p.m.
Mid-afternoon break (snacks and beverages provided)			
Yohannes Yimam	Texas A&M University	How good are SCAN long term soil moisture data? Effect of soil structure on Hydra Probe calibration	3:15 p.m.
Peter Goble	Colorado Climate Center	The Launch of CoCoRaHS Soil Moisture Reporting. A Progress Update	3:40 p.m.
Andres Patrignani	Kansas State University	State of in-situ soil moisture monitoring at the Kansas Mesonet	4:05 p.m.
Mike Cosh	USDA-ARS Beltsville, MD	Daily wrap-up and plans for Wednesday	4:30 p.m.

** = invited talk with 30 minute time slot; all other talks have a 25 minute time slot; **all speakers are expected to allocate <u>at least 10 minutes</u> of their time slot for discussion***

Wednesday, May 24

Innovative Applications of Soil Moisture Data

Trenton Franz	University of Nebraska-Lincoln	Welcome and orientation for the day	8:30 a.m.
Trent Ford	Southern Illinois Univerity	Applying Multiple, Diverse Sources of Soil Moisture to Better Understand Soil Moisture-Precipitation Coupling in the Central United States	8:40 a.m.
Eric Jones	NOAA-NWS ABRFC	River Forecast Center Soil Moisture Products	9:05 a.m.
Rob Hale	iteris	Soil moisture modeling and monitoring: an agricultural perspective	9:30 a.m.
Mid-morning break (snacks and beverages provided)			
Trenton Franz	University of Nebraska	Soil property estimation using a cosmic-ray neutron rover	10:25 a.m.
Saleh Taghvaeian	Oklahoma State University	Using soil moisture sensors to schedule irrigation	10:50 a.m.
J.D. Carlson	Oklahoma State University	Comparison of KBDI (Keetch-Byram Drought Index) and In-Situ Measured Soil Moisture as Predictors of Large Wildfires in Oklahoma	11:15 a.m.
Tyson Ochsner	Oklahoma State University	Soil moisture research in Oklahoma: Progress and Prospects	11:40
lunch break (lunch on your own off site)			

Student Poster Session (details last page)   1:30 – 2:45 p.m.

National Soil Moisture Network – History, Status, and Vision

Mike Strobel	NRCS National Water and Climate Center	History and Origin of the National Soil Moisture Network Initiative	3:00 p.m.
Jessica Lucido	USGS Office of Water Information	Outcomes of the National Soil Moisture Network Pilot Project	3:25 p.m.
Steven Quiring	Ohio State University	Vision and Opportunities for the National Soil Moisture Network	3:50 p.m.
Youlong Xia	NOAA NCEP	Interaction of North American Land Data Assimilation System and National Soil Moisture Network: Soil Products and Beyond	4:15 p.m.
Steven Quiring	Ohio State University	Daily wrap-up, announcement of poster winners, plans for the evening and for Thursday	4:40 p.m.
Group dinner at Tokyo Pot, 108 W 10th Ave. – 5:45 p.m.			

All speakers are expected to allocate <u>at least 10 minutes</u> of their time slot for discussion.

National Soil Moisture Network Planning			
Mike Strobel	NRCS National Water and Climate Center	Goals and methods for this planning session	8:30 a.m.
Working group breakouts		Session 1—choose one of groups 1-3 described below	8:50-9:20 a.m.
Working group breakouts		Session 2—chose one of groups 4-6 described below	9:20-9:50 a.m.
Jessica Lucido, Steven Quiring, and Mike Strobel		Wrap up session (each group reports and next steps)	9:50-10:20 a.m.
Mid-morning break (snacks and beverages provided)			
Mike Cosh and Tyson Ochsner		Field trip to MOISST ***(RSVP for van transportation)***	10:30-12:00
		Lunch at Katie's Diner in Guthrie	12:30-1:30 p.m.
Chris Fiebrich		Tour of the National Weather Center and Oklahoma Mesonet headquarters in Norman	2:30-4:00 p.m.
		Return to Stillwater	5:30 p.m.
End of workshop			

*We can arrange a van to take people to the OKC airport after the Mesonet tour if needed.

Working group topics for National Soil Moisture Network planning breakouts. Participants should self-select two topics of interest and participate in one of the two 30-minute discussion sessions for that topic. Participants will be notified when it is time to rotate to their second group.

Group	Topic	Facilitator	Secretary
1	In situ data collection standards, specifications, and data format	Deb Harms	
2	Citizen science and private industry involvement	Peter Goble	
3	Bringing together in situ data, remote sensing, and models	Mike Cosh	
4	Users of data - applications and gaps	Jessica Lucido	
5	Gridded products and tools	Tyson Ochsner	
6	Operations - data storage and delivery and web services	Steven Quiring	

Display boards for posters are 3' high and 4' wide. Use this page to vote for the top student poster presentation. All participants are encouraged to vote, but only vote once. **Circle the name and poster number of what you consider to be the best poster presentation.** Submit your vote at the registration table at the end of the poster session. The winners will be recognized at the end of the day on Wednesday.

Student Poster Session			
Poster #	**Name**	**Institution**	**Presentation Title**
1	Tara Bongiovanni	University of Texas at Austin	Recharge Estimates Using Eddy Covariance and Remote Sensing Observations in Central Texas
2	Geano Dong	Oklahoma State University	Evaluating the Oklahoma high resolution soil moisture mapping system using a cosmic-ray neutron rover
3	Justin Gibson	University of Nebraska	Using observed subfield soil moisture patterns to bracket near surface water retention functions and inform smart-sensor-placement algorithms
4	Xijia Han	Oklahoma State University	Modeling soil moisture in Oklahoma using a dynamic spline method
5	Laura Clemente-Harding	USACE ERDC-GRL and Penn State Univ.	Verification of Land Surface Model Output Using Cosmic Ray Neutron Probes
6	Zack Leasor	Ohio State University	Improvements in Monthly Temperature Forecasts Utilizing Antecedent Soil Moisture in the South-Central U.S.
7	Candice Medina	Texas A&M University	Calibrating a COSMOS Rover in a Skeletal Soil for Soil Moisture Mapping
8	Jonathan Nunez	University of Puerto Rico	Test and Validation of Different Methods for Soil Moisture Estimation in Puerto Rico Soils
9	Gregory Rouze	Texas A&M University	Use of thermal and multispectral imaging for assessing cotton water status: recent progress and future outlook
10	Sonisa Sharma	Oklahoma State University	Estimating grassland fuel moisture conditions using soil moisture and weather information
11	Jacob Stivers	Oklahoma State University	Field Comparison of Soil Moisture Sensors
12	Ryann Wakefield	University of Oklahoma	SMAP downscaling
13	Briana Wyatt	Oklahoma State University	Integration of remote sensing and in-situ data to estimate soil moisture across mixed land cover types
14	(Jacky) Chen Xu	University of Oklahoma	Evaluation of remotely sensed soil moisture data using Oklahoma's environmental monitoring network — Mesonet
15	Ning Zhang	Ohio State University	Improvement on Quality Control of In Situ Soil Moisture using POLARIS soil properties data
16	Chen Zhao	Ohio State University	Sensitivity analysis of the soil moisture interpolation methods in US