

**Draft Agenda for Healthy Soils for Healthy Waters Workshop –
Sensing Technologies and Applications for Soil Health
March 23-24, 2020**

Workshop Objectives

- Discuss the latest sensing technologies for detection of soil health attributes and knowledge gaps and concerns needing to be addressed.
- Assess ag. practitioners' perspectives on sensor technology use, barriers, and challenges.
- Address ways that measurement of soil moisture, carbon, and nutrients can provide meaningful data for determining soil health and best management practices and can be used by agricultural practitioners for their own use and comparison with others.
- Explore how sustainable ag. practitioners can monitor/measure benefits of their practices.

Workshop Outcomes

- Share knowledge gained from workshop among participants, and other stakeholders (e.g., producers, researchers, and industry: sensor technology, grain/food, supply chain).
- Build new partnerships to collaborate on proposals and tackle research, logistics, deployment, and field trial questions about sensor use in agriculture.
- Establish new and continuing collaborations to further the work on quantifying best practices and their benefits to compensate farmers for reduced GHG emissions, nutrients, and water.
- Conduct future workshops/webinars on agricultural practices and development of technology that assist with sustainable practices beneficial to environmental and human health.
- Develop report/white paper and knowledge library to further discussion and collaboration.

Day 1 - March 23 (All Times Central)

9:30 – 9:50 am – Welcome (John Andersen), info, and aims of workshop, and **Introductions**

9:50 – 10:45 am – Soil Moisture – Panel Discussion on Research on Sensor Networks and Use

Moderator: Michelle Wander (Univ. of Illinois); Panelists: Jennie Atkins (Univ. of Illinois), Trent Ford (Illinois State Climatologist), and Kaiyu Guan (Univ. of Illinois)

10:45 – 11 am - Break

11 am – 11:45 am - Soil Moisture – Panel Discussion on Existing and Emerging Sensing Technologies

Moderator: Jennie Atkins; Panelists: Tyson Ochsner (Oklahoma State Univ.), Ken Sudduth (USDA-ARS and Univ. of Missouri), and Keith Bellingham (Stevens Water)

11:45 am – 12:30 pm – Lunch Break

12:30 – 1:15 pm – Soil Moisture – Panel Discussion on Uses, Barriers, and Needs for Sensing

Technologies by Agriculture Practitioners – Moderator: Jennie Atkins; Panelists: Mitchell Curtis (Illinois producer), Austin Omer (IL Farm Bureau), and Dennis Bowman (U of I Extension)

1:15 – 2:15 pm – Soil Moisture – Best Ways Forward on Sensing Technologies/Data/ Partnerships Needed – Moderator: Nancy Holm; Panelists: John Cassel (Wolfram), and Mike Komp (CTIC)

2:15 – 2:30 pm – General Wrap-up (John Andersen)

Day 2 - March 24 (All Times Central)

8:30 – 8:50 am – Welcome (Warren Dick) **and introductions** attendees

8:50 – 9:35 am – Organic Matter/Carbon – Panel Discussion on Organic Matter/Carbon and Soil Health – Moderator: Michelle Wander; Panelists: Ben Gramig (Univ. of Illinois), Keith Paustian (Colorado State Univ.), and Ryan Anderson (Nori)

9:35 – 10:15 am – Organic Matter/Carbon – Panel Discussion on University/Industry Researchers on Sensing Technologies – Moderator: Michelle Wander; Panelists: Jason Ackerson (Purdue University), and Rahim Rahimi (Purdue University)

10:15 – 10:30 am - Break

10:30 – 11:15 am – Organic Matter/Carbon – Panel Discussion on Uses, Barriers, and Needs for Sensing Technologies by Agriculture Practitioners – Moderator: Jennie Atkins; Panelists: Eric Rund (Illinois producer), Ron Collman (USDA-NRCS), and Jack Cornell (Soil Health Partnership)

11:15 – 11:45 am – Organic Matter/Carbon – Discussion on Next Steps – Mod.: Michelle Wander

11:45 am – 12:30 pm – Lunch Break

12:30 – 1:30 pm – Organic Matter/Nutrients – Panel on Uses, Barriers, and Needs for Sensing Technologies by Agricultural Practitioners – Moderator: Warren Dick; Panelists: Reid Christianson (Univ. of Illinois); Maria Boerngen (IL State Univ.), and Michael Ganschow (IL Producer)

1:30 – 1:45 pm - Organic Matter/Nutrients – Discussion on Next Steps – Moderator: Warren Dick

1:45 pm – 2 pm - General Wrap Up and Continuance – John Andersen