

**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 how soil health and water/nutrient attributes provide understandable data 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 assists 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 – 1:15 pm – Organic Matter/Nutrients – Panel Discussion on University/Industry Research on Sensing Technologies and Modeling – Moderator: Warren Dick; Panelists: Tony Grift (Univ. of Illinois), Jonathan Claussen and Carmen Gomes (Iowa State Univ.)

1:15 – 2:15 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)

2:15 – 2:45 pm - Organic Matter/Nutrients – Discussion on Next Steps – Moderator: Warren Dick

2:45 pm – 3 pm - General Wrap Up and Continuance – John Andersen