



Managing Soil Organic Carbon for Climate Change Mitigation

**August 28-September 01, 2023
Overview Schedule**

**Monday, August 28, 2023
Sharp Lecture Hall - Arms Building (Building #25) - Caltech**

**Short Course: Understanding and Empowering Soil Management as a Climate Mitigation Option
Introductory Lectures - Open to all interested students, researchers and faculty**

Time	Event	Speaker
8:15 - 8:45	Coffee and Refreshments	
8:45 - 9:00	Introductions	Jessica Neu Keith Paustian
9:00 - 9:45	Climate, GHG mitigation and CO2 removal – a role for soils?	David Schimel
9:45 - 10:30	Dynamics of soil organic C and soil GHG emission in agriculture – environmental and management drivers	Hanna Poffenberger
10:30 - 11:00	Break	
11:00 - 11:45	Measurement and modeling of soil C and soil GHGs?	Stephen Ogle
11:45 - 12:30	Earth observation of C dynamics of agricultural landscapes	Christian Frankenberg
12:30 - 1:30	Short Course Ends: Informal Lunch is provided outside short course location	

**Invitation-Only Workshop Begins
Keck Center - Think Tank, Room 155**

1:30 - 1:45	Walk to Keck Center, pick up badge and welcome packet, find seat in the Think Tank	
1:45 - 2:30	Introduction to KISS and Workshop Logistics	Jessica Neu Janet Seid
2:30 - 3:00	Participant Introductions	KISS/ Team Leads
3:00 - 3:30	Study vision and goals for this workshop	Keith Paustian
3:30 - 4:00	Break	
4:00 - 5:00	Finalize study vision and workshop goals via plenary discussion - discuss potential high impact opinion publication from workshop outcomes	Team Leads
5:15 - 5:30	Solicitation of Lightning Talks	Team Leads
5:30 - 6:00	Pack up and walk to the Athenaeum	All
6:00	Dinner at the Athenaeum	

Tuesday, August 29, 2023 - Keck Center - Think Tank, Room 155

Time	Event	Speaker
8:00 - 8:30	Institute Opens - FREE THINK TIME	
8:30 - 9:00	Coffee and Refreshments at Keck Center	
9:00 - 9:15	Logistics and Team Lead Goals for the Day	Bethany Ehlmann Janet Seid Christian Frankenberg
9:15 - 10:00	Remote sensing for informing on soil C and GHG dynamics - current capabilities and future needs	Kaiyu Guan
10:00 - 10:30	Potential Lightning Talks - e.g., near-surface systems, capabilities for direct RS of soil C, RS of management variables	TBD by participants
10:30 - 11:00	Break	
11:00 - 11:15	Selection of Breakout Groups and Topics	All
11:15 - 12:30	Breakout Groups	Groups
12:30 - 2:00	Group Picture and Lunch at the Athenaeum	
2:00 - 2:45	Report outs from breakout groups (15 mins each)	Groups
2:45 - 3:15	Lightning Talks (2-3)	TBD by participants
3:15 - 3:30	Selection of Breakout Groups and Topics	All
3:30 - 4:00	Break	
4:00 - 5:30	Breakout Groups Meet	Groups
5:30 - 7:30	POSTER SESSION and Informal food truck dinner at the Keck Center (dinner starts at 6:30 pm)	

Wednesday, August 30, 2023 - Keck Center - Think Tank, Room 155

8:00 - 8:30	Institute Opens - FREE THINK TIME	
8:30 - 9:00	Coffee and Refreshments at Keck Center	
9:00 - 9:15	Logistics and Team Lead Goals for the Day	Janet Seid Steven Mirsky
9:15 - 9:45	Report Outs from Breakout Groups (10 mins each)	Groups
9:45 - 10:30	Model-based systems for soil carbon and GHG quantification	Bruno Basso Sabine Grunwald
10:30 - 11:00	Break	
11:00 - 11:45	Potential Lightning Talks - e.g., knowledge-guided machine learning, data assimilation methods, incorporation of new theoretical insights, digital twin technology	TBD by participants
11:45 - 12:30	Selection of Breakout Groups and Breakout Groups meet	All
12:30 - 2:00	Lunch at the Athenaeum	
2:00 - 3:30	Breakout Groups Meet	All
3:30 - 4:00	Break	
4:00 - 4:45	Report outs from breakout groups (15 mins each)	Groups
4:45 - 5:30	Plenary Discussion on Participant Wants and Needs Selection of Next Day's Breakout Groups	All
5:30	Workshop Day #3 Ends	All
6:00	Dinner on your own	

Thursday, August 31, 2023 - Keck Center - Think Tank, Room 155

8:00 - 8:30	Institute Opens - FREE THINK TIME	
8:30 - 9:00	Coffee and Refreshments at Keck Center	
9:00 - 9:15	Logistics and Team Lead Goals for the Day	Janet Seid David Schimel
9:15 - 10:00	An integrated quantification system – requirements and design	Keith Paustian Ed Riedel
10:00 - 10:30	Potential Lightning Talks - e.g., implementing cross-scale uncertainty assessment, digital soil modeling to improve estimates of soil property driving variables, ground-truthing methods for soil C quantification	TBD by participants
10:30 - 11:00	Break	
11:00 - 12:30	Break Out Sessions	Groups
12:30 - 2:00	Lunch on your own	
2:00 - 2:30	FREE THINK TIME (individual, or self organizing small groups)	All
2:30 - 3:15	Report outs from breakout groups (15 mins each)	Groups
3:15 - 3:30	Plenary Discussion, Selection of Breakout Groups	All
3:30 - 4:00	Break	
4:00 - 5:30	Break Out Sessions	Groups
5:30	Workshop Day #4 Ends	All
6:00	Dinner at the Athenaeum	

Friday, September 1, 2023 - Keck Center - Think Tank, Room 155

Time	Event	Speaker
8:00 - 8:30	Institute Opens - FREE THINK TIME	
8:30 - 9:00	Coffee and Refreshments at Keck Center	
9:00 - 9:15	Logistics and Team Lead Goals for the Day	Janet Seid Bruno Basso
9:15 - 10:00	Breakout Groups Report Out	All
10:00 - 10:30	Open Discussion of Breakout Group Recommendations and Path Forward to the Second Workshop	All
10:30 - 11:00	Break	
11:00 - 12:15	Open Discussion of Breakout Group Recommendations and Path Forward to the Second Workshop - action items assigned, etc.	All
12:15 - 12:30	Workshop Closeout	Janet Seid Keith Paustian Bruno Basso Christian Frankenberg Steven Mirsky David Schimel
12:30	Formal Workshop Concludes	
12:30 - 1:30	Informal Lunch Box in the Courtyard	
1:30 - 5:00	INFORMAL WORKSHOP SMALL GROUP COLLABORATION TIME - Planning team for 2nd workshop; core writing team for opinion piece	
5:00	Institute Closes	