



**Forging Community Consensus for an Integrated GHG and Winds Mission**

**Date October 7-11, 2024  
Initial Schedule**

**Monday, October 7, 2024  
Chen 100 Lecture Hall - Caltech**

**Short Course: Quantifying Emissions through Green House Gases and Transport  
Introductory Lectures - Open to all interested students, researchers and faculty**

<b>Time</b>	<b>Event</b>	<b>Speaker</b>
8:15 - 8:45	Coffee and Refreshments	
8:45 - 9:00	Logistics / Introduction	Harriet Brettle Team Leads
9:00 - 9:45	Estimating fluxes in the carbon cycle	Anna Michalak
9:45 - 10:30	Observing meteorology across scales	Derek Posselt
10:30 - 11:00	Break	
11:00 - 11:45	Observed co-variance of carbon exchange and meteorology	Ken Davis
11:45 - 12:30	Inversions: bias in priors, transport, and observations	Junjie Liu
12:30 - 1:30	Short Course Ends: Informal Lunch provided outside the Chen Institute	

**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	Workshop Logistics and Introduction to KISS	Harriet Brettle
2:30 - 3:00	Participant Introductions	Harriet Brettle
3:00 - 3:30	Study vision and goals for this workshop	Team Leads
3:30 - 4:00	Break	
4:00 - 5:00	Finalize study vision and workshop goals via plenary discussion	Team Leads
5:00 - 5:30	Solicitation of Lightning Talks	Team Leads
5:30 - 6:00	Pack up and walk to dinner	All
6:00	Dinner at local Pasadena Restaurant	

## Tuesday, October 8, 2024 - Keck Center - Think Tank, Room 155

Time	Event	Speaker
8:00 - 8:30	Institute Opens - print out problem/solution space cards.	
8:30 - 9:00	Coffee and Refreshments at Keck Center	
9:00 - 9:15	Logistics and Team Lead Goals for the Day	Harriet Brettle Team Leads
9:15 - 9:45	<b>Plenary Discussion</b> building on 1/5/20 year objectives to define priority topics of discussion and report outline	Speaker
9:45 - 10:30	<b>Lightning Talks:</b> - Wind priorities in the Decadal Survey (why should wind people care about GHG) - Derek Posselt - Winds on different scales (can we understand wind without thermodynamics) - Louise Nuijens - Can we do direct measurements of winds and GHG together - what would be useful? What meteorology products do we need to calculate fluxes? - Nick Parazoo	Derek Posselt Louise Nuijens Nick Parazoo
10:30 - 11:00	Break	
11:00 - 11:15	Introduction to Breakout Groups and Topics	All
11:15 - 12:30	<b>Breakout Groups - Session 1:</b> Providing actionable information from gridded carbon fluxes across different scales - Local Scale - Country Scale - Countinental / Global Scale	Groups
12:30 - 2:00	Lunch at the Athenaeum	
2:00 - 2:45	Report outs from breakout groups (15 mins each)	Groups
2:45 - 3:15	<b>Lightning Talks:</b> - Horizontal winds vs. vertical mixing (large scale) - Andrew Schuh - Example of an OSSE showing the impact of winds on flux, how to compute the sensitivity of transport errors on meteorology, can we express the sources of uncertainties in flux estimates coming from and how big - Junjie Lin	Andrew Schuh Junjie Lin
3:15 - 3:30	Selection of Breakout Groups Topics	All
3:30 - 4:00	Break	
4:00 - 5:30	<b>Breakout Groups - Session 2:</b> - Combining wind technologies - What can be gained from GHG + other variables - Capabilities of GHG measurements	Groups
5:30 - 7:30	POSTER SESSION and Informal dinner at the Keck Center (dinner starts at 6:30 pm)	

### Wednesday, October 9, 2024 - 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	Harriet Brettle Team Leads
9:15 - 10:00	Report Outs from Breakout Groups 2 (10 mins each)	Groups
10:00 - 10:30	Plenary - Moderated Discussion on the the current/near future state of wind observations and trace gas observations including report outline	Nick Parazoo Mary Whelan
10:30 - 11:00	Break	
11:00 - 11:30	<b>Group Pulse:</b> What have you gained so far? What do you want to accomplish by Friday?	
11:30 - 12:30	<b>Breakout Groups 3: Writing Sprint Sessions</b>	All
12:30 - 2:00	Lunch at the Keck Center	
2:00 - 4:00	Walk and Talk at the Huntington Library and Gardens	All
4:00 - 5:00	Optional Seminar in Sharpe Lecture Hall: NASA's New Orbital Imaging Spectrometers	David Thompson, JPL
5:00 - 5:10	Return to the Keck Center	
5:10 - 5:40	Feedback on the drafting sessions	All
5:40 - 6:00	Plenary Discussion on Participant Wants and Needs. Revisit Problem/Solution Space. Selection of Next Day's Lightning Talks	All
6:00	Workshop Day #3 Ends	All
6:00	OPTIONAL: No-Host Dinner in Pasadena	

## Thursday, October 10, 2024 - 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	Harriet Brettle Team Leads
9:15 - 10:30	<b>Moderated Plenary Discussion on:</b> - How to marry wind and trace gas observations in a modeling framework. - Workshop Findings and Report outline - Review of ideas and next steps	Team Leads
10:30 - 11:00	Break	
11:00 - 12:00	<b>Lightning Talks:</b> - Thermal - SWIR - Vijay Natraj - Vertical properties of trace gases (regional/global), different processes (vertical), in the boundary layer and why we care, how can we apply wind measurements to interpret GHGs direct observations vs. reanalysis - Ken Davies - How can we use ML / new tech? - Dan Sheldon + Nikhil Dadheech - Carbon-I - Christian Frankenberg	Vijay Natraj Ken Davies Dan Sheldon + Nikhil Dadheech Christian Frankenberg
12:00 - 12:30	<b>KISS Outputs</b> - Final Report and Stakeholders - The Importance of Illustrations - KISS Gallery	All
12:30 - 2:00	Lunch on your own	
2:00 - 2:30	FREE THINK TIME (individual, or self organizing small groups)	All
2:30 - 3:30	<b>Breakout Group Session 4</b> - Small Group Writing Sessions	All
3:30 - 4:00	Break	
4:00 - 5:30	<b>Breakout Group Session 5</b> - Report Drafting and illustrations	Groups
5:30	Workshop Day #4 Ends	All
6:00	Closing Dinner at the Athenaeum	

**Friday, October 11, 2024 - 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	Harriet Brettle Team Leads
9:15 - 9:45	Plenary Discussion of Exec Summary and Key Messages	
9:45 - 10:30	Illustration Consensus	All
10:30 - 11:00	Break	
11:00 - 12:30	Making Thinking Visible - Illustration Session	All
12:30 - 2:00	Lunch at the Keck Center	
2:00 - 2:45	<b>Breakout Session:</b> Tailoring Key Messages to Stakeholder Groups	
2:45 - 3:30	Making Thinking Visible - Writing Session	All
3:30 - 4:00	Break	
4:00 - 5:00	Workshop Closeout	Harriet Brettle
5:00	Institute Closes	