



Sample Return from all across the Solar System

Date September 9-13, 2024

Overview Schedule

**Monday, September 9, 2024
Hameetman Auditorium - Caltech**

**Short Course: Sample Return from Across the Solar System
Introductory Lectures - Open to all interested students, researchers and faculty**

Time	Event	Speaker
8:15 - 8:45	Coffee and Refreshments	
8:45 - 9:00	Logistics / Introduction	Harriet Brettle Team Leads
9:00 - 9:35	Short Course Lecture #1 - Past Sample Return Missions and Major Achievements	Michael Zolensky
9:35 - 10:10	Short Course Lecture #2 - Linking the Protosolar Disk with the Inner Solar System	Francois Tissot
10:10 - 10:45	Dynamical Evolution	Karen Meech
10:45 - 11:15	Break	
11:15 - 11:50	Short Course Lecture #4 - Ocean Worlds and Habitability	Jonathan Lunine
11:50 - 12:30	Short Course Lecture #5 - Ices in the Outer Solar System and their Connection to the Protoplanetary Disk	Mike Brown
12:30 - 1:30	Short Course Ends: Informal Lunch is provided outside on the Cahill Patio	

**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 and Bethany Elhmann
2:30 - 3:00	Participant Introductions	Harriet Brettle
3:00 - 3:15	Study vision and goals for the workshop	Team Leads
3:15 - 3:45	Break	
3:45 - 4:45	Plenary Discussion: Feasibility of Sample Return from all across the Solar System	Tony Freeman
4:45 - 5:15	Feedback on study vision, goals, inputs template	All
5:15 - 5:30	Solicitation for Lightning Talks: - Lessons learned from past sample return missions (Apollo, Genesis, Stardust, Hayabusa1 and Hayabusa2, OSIRIS-REx) - Lessons learned from sample return mission concepts (comets, Io, Ceres, Mars Sample Return, Endurance)	All
5:30 - 6:00	Pack up and walk to dinner	All
6:00	Dinner at a local Pasadena restaurant	

Tuesday, September 10, 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 and Team Leads
9:15 - 10:30	Lightning talks (5) + Discussion: Lessons learned from past sample return missions & missions concepts (I)	TBD by participants
10:30 - 11:00	Break	
11:00 - 12:00	Lightning talks (4) + Discussion: Lessons learned from past sample return missions & missions concepts (II)	TBD by participants
12:00 - 12:30	Plenary Discussion: Updates to the inputs template based on lessons learned as needed	All
12:30 - 2:00	Group Picture and Lunch in Keck Center Courtyard	
2:00 - 2:15	Introduction to KISS Breakout Groups	Harriet Brettle and Team Leads
2:15 - 3:30	Breakout Session 1: - Mercury - Uranus and Neptune - Comets	Groups
3:30 - 4:00	Break	
4:00 - 5:30	Breakout Session 2: - Io (surface and/or plume) - Jupiter and Saturn - Europa	Groups
5:30 - 7:30	POSTER SESSION and Informal dinner at the Keck Center (dinner starts at 6:30 pm)	

Wednesday, September 11, 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 and Team Leads
9:15 - 10:00	Report Outs from Breakout Groups (5 mins + 2 min discussion each)	Groups
10:00 - 10:30	Group Pulse - what have we learnt? What works or doesn't work?	All
10:30 - 11:00	Break	
11:00 - 12:30	Breakout Session 3: - Venus (surface and atmosphere) - Pluto and Triton - Enceladus	Groups
12:30 - 2:00	Lunch at the Athenaeum	
2:00 - 3:30	Breakout Session 4: - Asteroids - Centaurs & KBOs - Titan	Groups
3:30 - 4:00	Break	
4:00 - 4:45	Report Outs from Breakout Groups (5 mins + 2 min discussion each)	Groups
4:45 - 5:30	"Delta" break-outs or individual / collaborative work on inputs as needed	Groups
5:30	Workshop Day #3 Ends	All
6:00	OPTIONAL: No-Host Dinner in Pasadena	

Thursday, September 12, 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 and Team Leads
9:15 - 9:45	FREE THINK TIME / Collaborative work	All
9:45 - 10:30	"State of the Workshop": Where are we at on inputs for measurements and high-level sample requirements? Identify and capture work to go achievable within workshop vs. requires further work during study period	All
10:30 - 11:00	Break	
11:00 - 12:30	Breakout Session 5: Sample integrity and analysis requirements - Refractory samples (rocks and "refractory" organics) - Atmospheric samples - Icy samples	Groups
12:30 - 2:00	Lunch on your own	
2:30 - 3:00	Report outs from breakout groups (10 mins each)	Groups
3:00 - 3:30	Plenary Discussion, harmonization of inputs for sample integrity, curation, and analysis	All
3:30 - 4:00	Break	
4:00 - 5:30	Plenary Discussion on engineering and technology needs: mission design, sample acquisition, sample transfer, recovery, processing, analysis, curation?	All
5:30	Workshop Day #4 Ends	All
6:00	Closing Dinner at the Athenaeum	

Friday, September 13, 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 and Team Leads
9:15 - 10:00	Plenary Discussion on sample integrity and analysis requirements & engineering and technology needs (continued)	All
10:00 - 10:30	Open Discussion of Recommendations and Path Forward to the Second Workshop	All
10:30 - 11:00	Break	
11:00 - 12:15	Open Discussion of Recommendations and Path Forward to the Second Workshop - action items assigned, start working on Google Doc outline of report	All
12:15 - 12:30	Workshop Closeout	Harriet Brettle
12:30	Formal Workshop Concludes	
12:30 - 5:00	INFORMAL WORKSHOP SMALL GROUP COLLABORATION TIME	
5:00	Institute Closes	