

**Nebulae: Deep-Space Computing Clouds** 

August 31 - September 1, 2020 Overview Schedule

## Monday, August 31, 2020 https://caltech.zoom.us/j/98895371873

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Time in PDT	Event			Speaker	
8:45 - 9:00	Welcome to the workshop! Please get yourself settled in early to leave plenty of time for unexpected technical hitches (test your mic, perfect your video background, grab some coffee or tea), and informally get to know your fellow participants as we all get ready to start at the top of the hour.				
9:00 - 10:00	Logistics Review study vision Goals and expectations for workshop #2 - introduce the three tracks Workshop #1 - recap and update			Michele Judd Team Leads	
10:00 - 10:30	Spend some time with other great minds who think alike in one of the watercooler topic rooms - getting to know partipicants is a highlight of KISS workshops! Or use this time for a screen break and back ready to go at 10:30 AM.				
10:30 - 10:45	Breakout discussion and rules			All	
10:45 - 11:55	SYSTEMS DESIGN Track 1 Pragmatics  Understand/expand the draft long-term roadmaps LM & NVIDIA will bring to the session; identify driving needs per mission	SCIENCE Track 2 Driver  Discuss broad aims and overlaps (a) exploring the inner solar system (including the sun) (b) exploring the outer solar system and (c) astrophyics (radio, cosmology, etc.). Identify key driving questions from the community and decadal survey white papers to focus workshop discussions.	RETROSPECTIVE Track 3 Value Proposition  1) Identify small set of space missions to apply retrospective analysis. Ideally cover Planetary, Earth, Astrophysics. Ideally cover Earth/Lunar, Mars, Outer Planets. 2) Characterize resource envelopes (computing, networking, storage) available to those missions.	All	
11:55 - Noon	Solicit lightning talks for morning of Day 2 (don't worry we will fill you in on what a lightning talk is!)			Team Leads	
NOON	Grab lunch! Breakout rooms will stay open for people to keep going, other rooms will open up if you want to suggest a topic, or if you already have a couple of folks with whom you want to meet.				
1:30 - 5:00 PM	Open Zoom Rooms (Main Track Rooms + Sub Rooms) Homework & Research (group / individual activity) Additional rooms will be opened so you can continue conversations/collaborations.				

Tuesday, September 1 2020 https://caltech.zoom.us/j/98895371873				
Time in PDT	Event			Speaker
8:45 - 9:00	Welcome back! Log in early to continue social conversations, make sure your tech is working as expected, and get settled in for the day.			
9:00 - 9:05	Overview of day			Team Leads
9:05 - 9:20	Brief report outs from br	reakout groups		Breakout Leads
9:20 - 9:50	Lightning talks requested from Day 1 / Assigning people and outline components			TBD
9:50 - 10:00	Breakout discussion and reminder of the rules			All
10:00 - 10:30	Break - head to a room for good conversation with someone who is interested in the same thing as you are			
10:30 - 11:55	SYSTEMS DESIGN Track 1 Pragmatics  Roughly categorize the emerging missions; define set(s) of roadmaps desired to support all missions (and keep refining them as we go)	SCIENCE Track 2 Driver  Understand what is available and what is not. What are the must have's, and what are optional. What are the bottlenecks for the mushaves.	RETROSPECTIVE Track 3 Value Proposition  2) continue (as needed) 3) Project and summarize expanded resource envelopes (computing, networking, storage) available under Nebulae 4) head start (if possible)	All
11:55 - Noon	Solicit lightning talks for morning of Day 3 (don't worry we will fill you in on what a lightning talk is!)			Team Leads
NOON	Grab lunch! Breakout rooms will stay open for people to keep going, other rooms will open up if you want to suggest a topic, or if you already have a couple of folks with whom you want to meet.			
1:30 - 5:00 PM	Open Zoom Rooms (Main Track Rooms + Sub Rooms) Homework & Research (group / individual activity) Additional rooms will be opened so you can continue conversations/collaborations.			

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Wednesday, September 2, 2020 https://caltech.zoom.us/j/98895371873				
Time in PDT	Event			Speaker
8:45 - 9:00	It's almost routine by now! Log in early to avoid technical glitches, say hi and get settled in to be ready to go at 9 AM Pacific.			
9:00 - 9:05	Overview of day			Team Leads
9:05 - 9:20	Brief report outs from breakout groups			Breakout Leads
9:20 - 9:50	Lightning talks requested from Day 2 / Outline and artwork			TBD
9:50 - 10:00	Breakout discussion and	Breakout discussion and reminder of the rules		
10:00 - 10:30	Break - head to a room for good conversation with someone who is interested in the same thing as you are			
10:30 - 11:55	SYSTEMS DESIGN Track 1 Pragmatics  Identify the gaps that if funded would either accelerate the timeline significantly or increase science significantly, or both; Refine roadmaps with additional information from attendees  An outline of draft components and something specific about figures is expected	SCIENCE Track 2 Driver  Delve deeper into the bottlenecks of must have's taking into consideration from Tracks A and C.  An outline of draft components and something specific about figures is expected	RETROSPECTIVE Track 3 Value Proposition  4) Reconceive original mission science objectives as to how they would have utililized/expoited the expanded Nebulae resource envelopes: a) via scaling, b) via phase change. (What is now possible?)  An outline of draft components and something specific about figures is expected	All
11:55 - Noon	Solicit lightning talks for morning of Day 4 (OK - by now, you should know what a lightning talk is)  Team Leads			Team Leads
NOON	Grab lunch! Breakout rooms will stay open for people to keep going, other rooms will open up if you want to suggest a topic, or if you already have a couple of folks with whom you want to meet.			
1:30 - 5:00 PM	Open Zoom Rooms (Main Track Rooms + Sub Rooms) Homework & Research (group / individual activity) Additional rooms will be opened so you can continue conversations/collaborations.			
5:00 - 6:00 PM	Robotic Exploration of Titan with Dragonfly - An Overview of the Lander Mobility System - register at link below: https://www.kiss.caltech.edu/lectures/2020_Dragonfly.html			Doug Adams

Thursday, September 3, 2020 https://caltech.zoom.us/j/98895371873				
Time in PDT	Event			Speaker
8:45 - 9:00	Good morning! Settle in early, chat with new colleagues, and get ready for another productive day.			
9:00 - 9:05	Overview of day Team Leads			
9:05 - 9:20	Brief report outs from breakout groups			Breakout Leads
9:20 - 9:50	Lightning talks requested from Day 3 / Funding and infusion at parent organizations			TBD
9:50 - 10:00	Breakout discussion			All
10:00 - 10:30	Break - head to a room for good conversation with someone who is interested in the same thing as you are			
10:30 - NOON	SYSTEMS DESIGN Track 1 Pragmatics  Refine and summarize groupings (rationale), roadmaps, gaps; Estimate funding required to close gaps. (Constitutes draft of final output)	SCIENCE Track 2 Driver  Prioritize more common enhancements, standardizing tools, techniques,  Draft report	RETROSPECTIVE Track 3 Value Proposition  4) continue (as neeced). 5) Collect material for report: a) realizable mission advantages, especially for science, b) compelling scenarios, c) other lessons learned, including suprises.	All
NOON	Grab lunch! Breakout rooms will stay open for people to keep going, other rooms will open up if you want to suggest a topic, or if you already have a couple of folks with whom you want to meet.			
1:30 - 5:00 PM	Open Zoom Rooms (Main Track Rooms + Sub Rooms) Homework & Research (group / individual activity) Additional rooms will be opened so you can continue conversations/collaborations.			

Friday, September 4, 2020 https://caltech.zoom.us/j/98895371873				
Time in PDT	Event			Speaker
8:45 - 9:00	You're a pro at this now. Log in early, refill that new KISS mug with a soothing (or jolting!) beverage and gear up for our final day of the virtual workshop.			
9:00 - 9:05	Overview of day Team Lead			Team Leads
9:05 - 9:20	Brief report outs from bi	reakout groups		Breakout Leads
9:20 - 9:50	Writing timeline and next steps - expectations on where we need to be by noon today			Team Leads
9:50 - 10:00	Breakout discussion			All
10:00 - 10:30	Break - head to a room for good conversation with someone who is interested in the same thing as you are			
10:30 - 11:30	SYSTEMS DESIGN Track 1 Pragmatics  Prove to ourselves that the missions we are proposing are viable (as best we can with our crystal ball) - quantifications of science gain with associated gap costs & calendars	SCIENCE Track 2 Driver  Create a longer term plan. Draft report	RETROSPECTIVE Track 3 Value Proposition  5) continue (as needed). 6) Draft report.	All
11:30 - 11:45	Brief report outs from breakout groups			Breakout Leads
11:45 - Noon	Informal workshop closeout and path forward			Team Leads Michele Judd
NOON	The workshop is not over until YOU say its over ;-) Grab lunch! Breakout rooms will stay open for people to keep going, other rooms will open up if you want to suggest a topic, or if you already have a couple of folks with whom you want to meet.			
1:30 - 5:00 PM	Open Zoom Rooms (Main Track Rooms + Sub Rooms) Homework & Research (group / individual activity) Additional rooms will be opened so you can continue conversations/collaborations.			