



**Addressing the Mars ISRU Challenge:
Production of Oxygen and Fuel from CO₂ using Sunlight**

**June 28 - July 1, 2016
Overview Schedule**

Tuesday, June 28 , 2016 - Lees-Kubota Hall - 101 Guggenheim Building - Caltech

**Short Course: In-Situ Resource Utilization (ISRU) on Mars
Introductory Lectures - Open to all interested students, researchers and faculty**

Time	Event	Speaker
8:00 - 8:30	Coffee and Refreshments	
8:30 - 8:45	Logistics / Introduction	Michele Judd Team Lead
8:45 - 9:30	ISRU: State of the Art and System-Level Considerations	Jerry Sanders
9:30 - 10:15	Overview of the Surface and Atmosphere of Mars: Challenges and Opportunities	David Kass
10:15 - 10:45	Break	
10:45 - 11:30	ISRU on Mars: Challenges, Current Status, and Prospects	Mike Hecht
11:30 - 12:15	Overview of Photoelectrochemical Devices for Conversion of CO ₂ and Water to Oxygen and Fuels	CX Xiang
12:15 - 12:30	Discussion	All
12:30 - 1:30	Short Course Ends: Informal Lunch is Provided on Mall Outside of Guggenheim	

**Invitation-Only Workshop Begins
The Think Tank, Keck Center - 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	Michele Judd Beverley McKeon
2:30 - 3:00	Participant Introductions	Michele Judd
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: Energetics and System Design	Team Leads
5:30 - 6:00	Pack Up and Walk to the Athenaeum	All
6:00	KISS-Hosted Dinner at the Athenaeum	

Wednesday, June 29, 2016 - Keck Center - Think Tank, Room 155

Special Topics in Energetics and System Design - Short Talks

Time	Event	Speaker
8:00 - 8:30	Registration, Coffee and Refreshments at Keck Center	
8:30 - 8:45	Logistics	Michele Judd
8:45 - 9:00	Day 2 Workshop Objectives and Goals - Introduction of Special Topics Areas: System Energetics and High Level System Design	Team Leads
9:00 - 9:30	Special Topic: PEC Energetics	Jeff Greenblatt
9:30 - 10:15	Lightning talks (3)	TBD by participants
10:15 - 10:45	Break	
10:45 - 11:15	Selection of Breakout Groups and Topics	All
11:15 - 12:15	Breakout Groups Meet	Groups
12:15 - 12:30	Group Picture, Walk to the Athenaeum	
12:30 - 2:00	KISS-Hosted Lunch at the Athenaeum	
2:00 - 2:45	Report Outs from Breakout Groups (15 mins each)	Groups
2:45 - 3:30	Lightning Talks (3)	TBD by participants
3:30 - 4:00	Break	
4:00 - 4:15	Selection of Breakout Groups and Topics	All
4:15 - 5:30	Breakout Groups Meet	Groups
5:30 - 7:30	POSTER SESSION and KISS-Hosted Informal Food Truck Dinner at the Keck Center (dinner starts at 6:30 pm)	

Thursday, June 30, 2016 - Keck Center - Think Tank, Room 155

8:00 - 8:30	Coffee and Refreshments	
8:30 - 8:45	Logistics	Michele Judd
8:45 - 9:00	Progress Update: Goals for Day 3	Team Leads
9:00 - 9:45	Report Outs from Breakout Groups (15 mins each)	Groups
Special Topics in Materials and Components - Short Talks		
9:45 - 10:15	Special Topic: Cell Design and Materials Selection for PEC	Joel Haber
10:15 - 10:45	Break	
10:45 - 11:15	Lightning Talks (2)	TBD by participants
11:15 - 11:30	Selection of Breakout Groups and Topics	All
11:30 - 12:30	Breakout Groups Meet	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	Breakout Groups Meet (continued)	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, Selection of Final Breakout Groups	All
5:30	Pack Up and Walk to the Athenaeum	All
6:00	KISS-Hosted Dinner at the Athenaeum (with spouses and significant others)	

Friday, July 1, 2016 - Keck Center - Think Tank, Room 155

Time	Event	Speaker
8:00 - 8:30	Coffee and Refreshments	
8:30 - 8:45	Logistics	Michele Judd
8:45 - 9:00	Progress Update: Goals for Day 4 (what success looks like at the end of this workshop)	Team Leads
9:00 - 10:15	Breakout Groups	All
10:15 - 10:45	Break	
10:45 - 12:30	Breakout Groups	All
12:30 - 2:00	KISS-Hosted Lunch at the Athenaeum	
2:00 - 3:30	Open Discussion of Breakout Group Recommendations and Group Feedback	All
3:30 - 4:00	Break	
4:00 - 4:45	Interim Study Activities and Assignments - Group Discussion	All
4:45 - 5:00	Workshop Closeout	Michele Judd
5:00	Workshop Concludes	