CO₂ Storage Modeling, Analytics & Risk Reduction Technologies (CO₂-SMART)

PLANNING MEETING AGENDA

DAY 1: September 12, 2023	
7:30 AM	Participant Registration
7:30 - 8:00 AM	Breakfast and Networking
8:00 - 8:10 AM	**PROGRAM OVERVIEW** Samantha Danner, University of Southern California
8:10 - 8:15 AM	**CO2-SMART INTRODUCTION**
8:15 - 8:30 AM	**WELCOME REMARKS** Schools Leadership (Deans) University of Southern California and Penn State University
8:30 - 8:45 AM	**CO2-SMART AND ENERGY TRANSITION** Schools Directors of Energy Institute University of Southern California and Penn State University
8:45 - 9:30 AM	**NSF IUCRC PRESENTATION** Barbara Ransom, Program Director National Science Foundation
9:30 - 10:15 AM	**CENTER VISION, CAPABILITIES & VALUE PROPOSITION** Behnam Jafarpour, Center Director University of Southern California
10:15 - 10:30 AM	**BREAK**
10:30 - 12:30 PM	**PROJECT PROPOSALS 1-6 (MORNING SESSION)** ● See **APPENDIX 1** for details
12:30 - 1:30 PM	**LUNCH & PRESENTATIONS**
1:30 - 3:30 PM	**PROJECT PROPOSALS 7-12 (AFTERNOON SESSION)** ● See **APPENDIX 1** for details
3:30 - 3:45 PM	**BREAK**
3:45 - 4:45 PM	**INDUSTRY WORKSHOP**
4:45 - 5:00 PM	**REVIEW OF DAY 1 & DAY 2 OVERVIEW**
5:00 - 6:30 PM	**POSTER SESSION & NETWORKING**

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PLANNING MEETING AGENDA

DAY 2: September 13, 2023	
7:30 - 8:00 AM	BREAKFAST
8:00 - 9:30 AM	**FEEDBACK & REVIEW SESSION** All participants
9:30 - 10:15 AM	**CENTER RESPONSE TO FEEDBACK FROM INDUSTRY WORKSHOP** Center and Site Directors
10:15 - 10:30 AM	**BREAK**
10:30 - 11:15 AM	**NSF CLOSED SESSION WITH INDUSTRY** NSF and Industry Only
11:15 - 11:45 AM	**NEXT STEPS, ACTION ITEMS & CLOSING REMARKS**
11:45 AM	**ADJOURN** To-go Lunch Available

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APPENDIX 1: PROJECT PROPOSALS

PROJECTS 1-6 (MORNING SESSION)

Time	Project Title	Presenter
10:30-10:50	**TA1: Site Screening and Characterization**	
Geostatistics and Big Data Analytics for Site Screening and Selection		**Sanjay Srinivasan (PSU)**
10:50-11:10	**TA2: Multiphysics Modeling and Simulation**	
Multiphysics Simulation for Quantifying CO$_2$ Storage Capacity and Risk		**Birendra Jha (USC)**
11:10-11:30	**TA3: Monitoring and Regulation**	
De-Risking Geologic CO$_2$ Storage Permitting and Approval		**Seth Blumsack (PSU)**
11:30-11:50	**TA4: Learning and Analytics**	
Physics-Informed AI for CO$_2$ Storage Modeling and Analytics		**Yan Liu (USC)**
11:50-12:10	**TA5: Risk and Uncertainty Assessment**	
AI-Enhanced Uncertainty Quantification for Geologic CO$_2$ Storage		**Eugene Morgan (PSU)**
12:10-12:30	**TA6: Economics and Optimization**	
Customized AI Solutions for Maximizing CO$_2$ Storage Capacity		**Behnam Jafarpour (USC)**

PROJECTS 7-12 (AFTERNOON SESSION)

Time	Project Title	Presenter
13:30-13:50	**TA1: Site Screening and Characterization**	
Probabilistic Risk Assessment for Geologic CO$_2$ Storage Site Selection		**Felipe de Barros (USC)**
13:50-14:10	**TA2: Multiphysics Modeling and Simulation**	
CO$_2$-Fluid-Rock Interactions and Transport Dynamics		**Anne Menefee (PSU)**
14:10-14:30	**TA3: Monitoring and Regulation**	
Cost-effective 4D Seismic Monitoring for Geologic CO$_2$ Storage		**Tieyuan Zhu (PSU)**
14:30-14:50	**TA4: Learning and Analytics**	
Digital Twins for Geologic CO$_2$ Storage		**Roger Ghanem (USC)**
14:50-15:10	**TA5: Risk and Uncertainty Assessment**	
Controlled Injection for Monitoring and Mitigation of CO$_2$ Storage Risk		**Behnam Jafarpour (USC)**
15:10-15:30	**TA6: Economics and Optimization**	
Open-Source Tools for Economic Evaluation of Geologic CO$_2$ Storage		**Seth Blumsack (PSU)**

September 12-13, 2023 | The USC Hotel | 3540 S. Figueroa Street, Los Angeles, CA