



## Stanford Center for Carbon Storage Annual Meeting

May 21-22, 2014

Black Community Services Center

418 Santa Teresa Street, Stanford CA 94305

### Wednesday, May 21

8:30	<b>Continental Breakfast</b>	
9:00 – 9:15	<b>Welcome and Overview</b>	Tony Kovscek
9:15 – 10:00	Overview of Contingency Planning for Intervention in Unexpected Migration in CO <sub>2</sub> Storage Projects: Phase 3	Sally Benson
10:00 – 11:55	<b>Session I: CO<sub>2</sub> Injection &amp; Simulation</b>	Folake Ogunbanwo, Lin Zuo
	<i>10:40 – 10:55 Coffee Break</i>	Boxiao Li, Amir Salehi, Sara Farshidi
12:00 – 12:40	<b>Session II: Leakage &amp; Monitoring</b>	Dylan Moriarty, Tom Aird
12:40 – 1:25	<b>Lunch</b>	
1:25 – 2:25	<b>Session III: Geochemical Process</b>	Jenny Druhan, Natalie Johnson, Dana Thomas
2:25 – 4:40	<b>Session IV: Fracture Permeability &amp; Gas Shale</b>	Dawn Geatches, Mahnaz Firouzi, Beibei Wang
	<i>3:05 – 3:20 Coffee Break</i>	Hamza Aljamaan, Julia Reece, Maytham Al Ismail, Anshul Agarwal
4:40 – 4:55	<i>Coffee Break</i>	
4:55 – 5:35	<b>Session V: Improved Process Modeling</b>	Charles Kang, Phil Brodrick
6:00 – 7:30	<b>Poster Session</b>	<i>Black House Patio Deck</i>
	<b>Reception &amp; BBQ</b>	



Thursday, May 22

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8:15	<b>Continental Breakfast</b>	
8:25	<b>Welcome</b>	Sally Benson
8:30 – 9:00	Why high-resolution geology gives the best prediction of CO <sub>2</sub> storage dynamics – Addressing the challenges for large-scale CO <sub>2</sub> storage	Philip Ringrose
9:00 – 9:30	Recognition of residual oil zones as a CO <sub>2</sub> EOR and storage target	Steve Melzer
9:30 – 10:00	Means CO <sub>2</sub> EOR Project	Gary Teletzke
	<b>10:00 – 10:15 Coffee Break</b>	
10:15 – 10:45	Using EOR as Geologic Storage: Downside and Benefits	Susan Hovorka
10:45 – 11:35	<b>Group Activity: CO<sub>2</sub> &amp; unconventional reservoirs</b> CO <sub>2</sub> as a fracking fluid Reset for CO <sub>2</sub> storage CO <sub>2</sub> for EOR	Mark Zoback Sally Benson Tony Kavscek
11:35 – 12:05	Sucking the air out--Have carbon dioxide and hot air collaborated to extinguish CCS?	Cal Cooper
12:05 – 12:45	<b>Lunch</b>	
12:45 – 1:15	CCS monitoring for conformance and containment: Can technology meet policy and public requirements?	Don Lawton
1:15 – 1:45	Public engagement considerations for CCS projects: Lessons learned from the Illinois Basin – Decatur Project	Sallie Greenberg
1:45 – 2:15	The SECARB anthropogenic test: A small-scale, fully integrated CCS demonstration project	Rob Trautz
2:15 – 3:00	<b>General Discussion, Feedback and Future Priorities</b>	Sally Benson

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Session I	<b>CO<sub>2</sub> Injection &amp; Simulation</b>	
10:00	Effects of pseudo-component selection on the simulation of a CO <sub>2</sub> gas injection process	Folake Ogunbanwo
10:20	CO <sub>2</sub> exsolution -- challenges and opportunities in subsurface flow management	Lin Zuo
<i>Coffee Break</i>		
10:55	Nonlinearity analysis of multiphase transport in porous media	Boxiao Li
11:15	Upscaling of compositional flow simulation based on a non-equilibrium formulation	Amir Salehi
11:35	Chemical reaction modeling in CO <sub>2</sub> storage simulation	Sara Farshidi
<i>Coffee Break</i>		
Session II	<b>Leakage &amp; Monitoring</b>	
12:00	Rapid surface detection of CO <sub>2</sub> leaks from geologic sequestration sites	Dylan Moriarty
12:20	Evaluation of an organically cross-linked polymer system for CO <sub>2</sub> leakage remediation	Tom Aird
<i>Lunch</i>		
Session III	<b>Geochemical Process</b>	
1:25	A reactive transport model for geochemical mitigation of CO <sub>2</sub> leaking into a confined aquifer	Jenny Druhan
1:45	Uptake of isotope spike by Si-rich alteration layer during olivine dissolution	Natalie Johnson
2:05	CO <sub>2</sub> -rich geothermal areas as natural analogues for mineral carbonation	Dana Thomas
Session IV	<b>Fracture Permeability &amp; Gas Shale</b>	
2:25	Role of clay minerals within gas shale in the context of CO <sub>2</sub> transport and storage	Dawn Geatches, Mahnaz Firouzi
2:45	The role of kerogen vs clay in the adsorption mechanism of CO <sub>2</sub> in gas shales	Beibei Wang
<i>Coffee Break</i>		
3:20	Multi-component physical sorption investigation of gas shales	Hamza Aljamaan
3:40	Fault permeability during shear slip and its effect on seal integrity	Julia Reece
4:00	The effect of CO <sub>2</sub> adsorption on permeability anisotropy in the Eagle Ford shale	Maytham Al Ismail
4:20	CO <sub>2</sub> utilization for gas shale	Anshul Agarwal
<i>Coffee Break</i>		
Session V	<b>Improved Process Modeling</b>	
4:55	Optimal design and operation of CO <sub>2</sub> -capture-enabled coal-natural gas power	Charles Kang
5:15	Optimization of CCS-enabled coal-gas-solar power generation	Phil Brodrick

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**Poster Session**

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Geochemical effects of nanopores on trace metal mobilization from CO <sub>2</sub> injection	Joey Nelson
Constraints on carbonate mineralization in ultramafic rocks	Pablo Garcia del Real
Quantification and remediation of potential leakage from carbon storage reservoirs	Chris Zahasky
Measuring stress-dependent fluid flow behavior in fractured porous media	Da Huo
Analysis of multilevel pressure transient data for monitoring of CO <sub>2</sub> plume migration	Christin Strandli
Influence of small scale heterogeneities on effective relative permeabilities	Boxiao Li
Improved visualization of flow mechanisms in micromodels	Sophie Roman
Role of clay minerals within gas shale in the context of CO <sub>2</sub> transport and storage	Mahnaz Firouzi, Dawn Geatches, Beibei Wang
Chemical reaction modeling in CO <sub>2</sub> storage simulation	Sara Farshidi
Optimization of CCS-enabled Coal-Gas-Solar power generation	Phil Brodrick
Upscaling of compositional flow simulation based on a non-equilibrium formulation	Amir Salehi

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