



Stanford Center for Carbon Storage Annual Meeting

May 10-11, 2018

Room 365, Green Earth Sciences Building

367 Panama Street, Stanford CA 94305

Thursday, May 10 Research Review

8:30 a.m.	<i>Continental Breakfast</i>	
9:10 – 9:25 a.m.	Welcome and Overview	Tony Kavscek
9:25 – 11:35 a.m.	Session I: CO₂ Transport in Porous Media & Storage	
9:25 – 9:55	Impact of rock structure heterogeneity on residual trapping: Which structures and scales are most important?	Maartje Boon
9:55 – 10:20	Predicting CO ₂ residual trapping ability based on experimental petrophysical properties for different sandstone types	Hailun (Cindy) Ni
10:20 – 10:40	Study of the multiple phase saturation distributions within a fracture	Meritxell Gran
	<i>10:40 – 10:55 a.m. Coffee Break</i>	
10:55 – 11:15	On the CO ₂ wettability of reservoir rocks: addressing conflicting information	Charlotte Garing
11:15 – 11:35	The influence of Ostwald ripening on long-term evolution of residually trapped CO ₂	Yaxin Li
11:35 – 12:25 p.m.	Session II : Geochemical Modeling & Pore Scale	
11:35 – 12:05	Mineralization rates of CO ₂ in porous reservoir rocks	Don DePaolo
12:05 – 12:25	New methods for effective porosity and surface area measurement and prediction in vesicular basalts and implications for CCS	Chris Zahasky
12:25 – 1:30 p.m.	<i>Lunch</i>	Arco Courtyard



1:30 – 2:40 p.m. Session III : Monitoring & Rock Physics

1:30 – 2:00	Subsurface seismic monitoring	Badr Al-Rumaih
2:00 – 2:25	Eighteen months of continuous seismic monitoring with Stanford's fiber optic network	Eileen Martin
2:25 – 2:40	The influence of particle shape on micro structural, transport, and mechanical properties of granular media: insights from numerical simulations	Abdulla Kerimov

2:40 – 2:50 p.m. Coffee Break

2:50 – 4:00 p.m. Session IV: Recovery from Shales

2:50 – 3:10	Impact of CO ₂ on hydrocarbon recovery and carbonate mineral dissolution in shale	Youssef Elkady
3:10 – 3:25	Study of flow mechanisms in shale using CT imaging and data analysis	Beibei Wang
3:25 – 3:40	Monitoring breakdown pressure under triaxial loads with cryogenic fluids	Talal Alshafloot
3:40 – 4:00	Insights into the relationship of porosity and permeability of shales	Gader Alalli

4:00 – 4:10 p.m. Coffee Break

4:10 – 5:30 p.m. Session V: Integrated Process Modeling

4:10 – 4:30	Data-space approaches for uncertainty quantification of CO ₂ plume location in geological carbon storage	Wenyue Sun
4:30 – 4:50	Geospatial analysis of near-term potential for BECCS in the United States	EJ Baik
4:50 – 5:10	Design and operations optimization of membrane separation for flexible carbon capture	Mengyao Yuan
5:10 – 5:30	Optimal design and operations of a flexible oxyfuel natural gas plant	Holger Teichgraber

5:30 – 6:00 p.m. General Discussion, Feedback and Future Priorities Sally Benson



Poster Session & Reception

Thursday, May 10 Poster Session 6:00 – 7:30 p.m. Arco Courtyard Hallway

Intervention for plugged and abandoned CO ₂ wells	Anshul Agarwal
Study of flow mechanisms in shale using CT imaging and data analysis	Beibei Wang
Using micro-positron emission tomography to quantify transport behavior in carbon storage reservoirs	Chris Zahasky
Predicting CO ₂ residual trapping ability based on experimental petrophysical properties for different sandstone types	Cindy (Hailun) Ni
A thermodynamic framework for the carbonate formation capacity of geologic reservoirs during CO ₂ sequestration	Gurinder Nagra
Optimization of CO ₂ storage systems	Srinikaeth Sambandam
Monitoring cryogenic shale fracturing under triaxial loads using CT scanning	Talal Alshafloot
The influence of Ostwald ripening on long-term evolution of residually trapped CO ₂	Yaxin Li
Impact of CO ₂ on hydrocarbon recovery and carbonate mineral dissolution in shale	Youssef Elkady
Effect of absorber and desorber unit interactions on N-Nitrosamine formation during amine-based carbon capture	Zhong Zhang
