



UTCCS-5

University of Texas 5th Conference on Carbon Capture and Storage

A Technical Conference on CCS

Presented by

Gulf Coast Carbon Center

Bureau of Economic Geology, Jackson School of Geosciences

and

Texas Carbon Management Program

McKetta Dept. of Chemical Engineering

with

Symposium on Integration of Technology and Policy

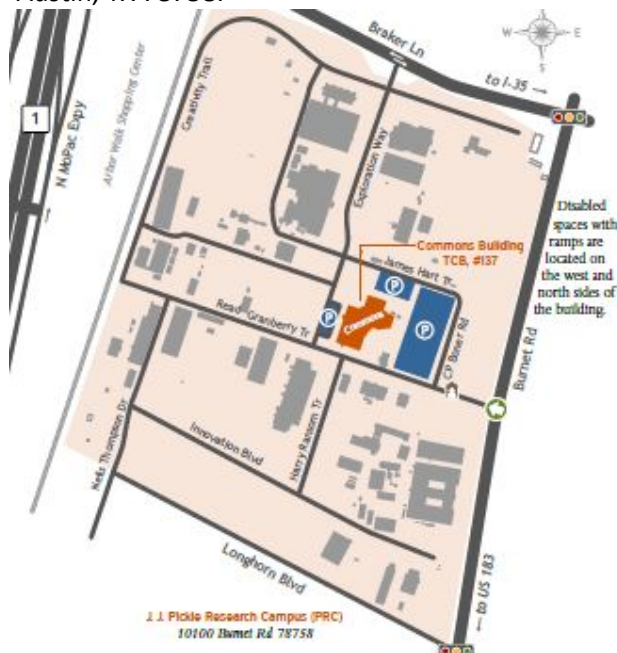
Sponsored by Exxon Mobil and Energy Institute

Pickle Research Campus, The University of Texas at Austin

January 28–29, 2020

Useful information

Pickle Research Campus is located at the corner of Braker Lane and Burnet Road and you can enter from either street. There is a traffic light at the Braker entrance. The meeting will be held at the Commons Conference Center, physical address: 10100 Burnet Road, Building #137 Austin, TX 78758.



Turn off Burnet Road into Pickle Research Campus on Read Granberry Trail. Take the first right onto C.P. Boner Road and park in the lot on your left, directly in front of the Commons building. If this lot is full, you may park by the water tower. Accessible parking spaces with ramps are available on the west and north sides of the Commons building.

There is plenty of parking, but you will need to display a permit on your dashboard. If you let Emily Moskal (emily.moskal@beg.utexas.edu) or Maeve Cooney (maeve@che.utexas.edu) know that you plan to attend, we will email you a permit. Permits will also be available at the meeting.

Downloadable Parking Map: [PRC / WPR Parking Map](#)

Dinner on Tuesday evening will be in the Atrium, outside the Li'l Tex Auditorium, at 5:30 pm. All refreshments (breakfast, lunch, mid-morning and mid-afternoon breaks) will also be in the Atrium.

Lab & Pilot Plant tours: we will provide tours of the Pilot Plant before and after dinner on Tuesday; there will be a sign-up sheet at the registration desk. Ditto for tours of the TxCMP labs.

Meeting Hotel: we have arranged for a block of rooms at the Hampton Inn on Braker Lane. If you use the link you will get the group rate of \$139/night. The Hampton provides shuttle service to Pickle Research Campus.

BookingLink: https://secure3.hilton.com/en_US/hp/reservation/book.htm?inputModule=HOTEL&city=HOCN=AUSNWHX&spec_plan=CHHCED&arrival=20200128&departure=20200130&cid=OM,WW,HILTONLINK,EN,DirectLink&fromId=HILTONLINKDIRECT

Hotel: Hampton Inn Austin-NW/Arboretum
Group Name: CHEMICAL ENGINEERING DEPARTMENT

Arrival Date: 28-Jan-2020

Departure Date: 30-Jan-2020

Please note, the entire URL must be copied and

pasted for it to work properly. Please share this link with anyone who needs to book CHEMICAL ENGINEERING DEPARTMENT rates.

Remote Participation

Carbon capture sessions (Track 1) will be available for remote participation. Carbon Storage in Geological Formations (Track 2) can be accessed remotely by request.

Track 1:

Use **Internet Explorer** to access room by going to: <https://meeting.austin.utexas.edu/UTCCS5>
Join the meeting as a **Guest**.

If you have never used Adobe® Connect™ you may be prompted to install a small Flash® plug-in. Follow the instructions in the pop-up.

Online attendees may ask questions using the chat window. These questions will be addressed in the Q&A portion of each presentation.

PDF copies of all carbon capture presentations will be available to all participants at: <https://utexas.box.com/v/utccs5-capture>
Password: CCS

Track 2:

Find the livestream Webex links at: <http://www.gulfcoastcarbon.org/blog/utccs-5>
After the event, PDF copies of presentations can be found at: <https://utexas.box.com/s/trmjafcb6enk9wzlbq4zf1ioq1as33lj>

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Tuesday, January 28, 2020

8:15 am	<i>Breakfast</i>	
	Li'l Tex Auditorium 1.122	
8:45 am	Opening remarks: Gary Rochelle & Sue Hovorka	
Plenary Talk	Symposium on Integration of Technology and Policy: Jane Stricker and Susan Blevins Meeting the Dual Challenge: An overview of the NPC study on at-scale deployment of CCUS in the U.S.	
9:45 am	<i>Break</i>	
	Stadium 1.138	Li'l Tex Auditorium 1.122
10:15– 11:30 am	<i>Technical Session 1</i>	
	TxCMP – Modeling tools for capture	Symposium on Integration of Technology and Policy
	10:15 Andres Abaid (NTNU) Surrogate Thermo Model	10:15 Leslie Savage, RRC – Texas regulatory environment for CCS
	10:40 Vishalini Nair Kuncheekanna (NTNU) Uncertainty quantification and sensitivity analysis framework	10:30 Benjamin Heard, Gulf Coast CCS – project case studies
	11:05 Ebuwa Osagie (UT Austin) FEED for NGCC with PZAS TM	Gulf Coast Carbon Center – Large-Volume Storage
		10:45 Ramon Trevino, Alex Bump – Progress in the Gulf of Mexico characterization
		11:05 Tip Meckel – Addressing subsurface aspects of CCS at large-scale
		11:15 Remaining questions and discussion

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11:30 am	<i>Lunch</i>	
1:00– 2:15 pm	<i>Technical Session 2</i>	
	TxCMP – Modeling system performance	Gulf Coast Carbon Center – CCUS Ecosystems
	1:00 Stefania Moioli (Milano) Flexible operation with NGCC	1:00 Susan Hovorka – Cost of characterization to prepare for permitting
	1:25 Tianyu Gao (UT Austin) Modeling NGCC absorber configurations of PZAS™	1:10 Katherine Romanak – International outreach results and next steps
	1:50 Zhang Xiaowen (Hunan/Wy) Desorption with Bifunctional Catalyst	1:20 Emily Moskal, Rachel Lim – Regional outreach and next steps
		1:40 Seyyed Hosseini – New projects
		1:50 Darshan Sachde – Overview of CO ₂ capture, transport, and infrastructure in the Gulf of Mexico
		2:05 Remaining questions and discussion
2:15 pm	<i>Break</i>	
2:45– 4:30 pm	<i>Technical Session 3</i>	
	TxCMP – PZAS™ Performance	Gulf Coast Carbon Center – Leakage Assessment
	2:45 Athreya Suresh (UT Austin) Modeling NGCC stripper data for PZAS™	2:45 Katherine Romanak – Results from environmental field studies
	3:10 Miguel Torres (UT Austin) Exchanger performance at NCCC with PZAS™	2:55 Tip Meckel – Status and plans for monitoring in Gulf of Mexico
	3:35 Korede Akinpelumi (UT Austin) PZ emissions from PZAS™	Gulf Coast Carbon Center – The U in CCUS
	4:00 Ching-Ting Liu (UT Austin) Corrosion in PZAS™	3:10 Ramon Gil-Egui – The impact of 45Q and stacked storage
		Gulf Coast Carbon Center – Fluid Flow Modeling

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		3:25 Vanessa Nunez-Lopez – Fluid flow research in collaboration with Imperial College
		3:40 Sahar Bakhshian – Prediction of CO ₂ footprint: hybrid pore-scale simulation and analytical modeling
		4:00 Remaining questions and discussion
4:30 pm	Pilot Plant Tours (sign up at the registration table)	
5:30 pm	<p><i>Dinner in the Atrium</i></p> <p><i>Dinner Speaker</i> Varun Rai, Director of UT Energy Institute as part of Symposium on Integration of Technology and Policy (sponsored by Exxon Mobil)</p>	

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Wednesday, January 29, 2020

7:30 am	<i>Breakfast</i>	
8:15– 9:55 am	<i>Technical Session 4</i>	
	Stadium 1.138	Li'l Tex Auditorium 1.122
	TxCMP – Advanced Solvents	CCS Projects from Hildebrand Department of Petroleum and Geosystems Engineering and GCCC Collaborations
	8:15 Sen Liu (Hunan) primary amine/sulfolane biphasic	8:15 Larry Lake – The effect of compressibility and boundaries on displacement stability
	8:40 Devjyoti Nath (U Regina) DHabs of 1MPZ and DMAPA	8:30 Shayan Tavassoli – CO ₂ storage in Gulf Coast saline aquifers and pilot case study of wellbore leakage mitigation for CO ₂ storage projects
	9:05 Fei Liu (UT Austin) AEEA/DEEA rate measurements	8:45 Xiaojin Zheng, Zhuang Sun, D. Nicolas Espinoza - Uniaxial strain unloading compressibility of Frio sand: implications on reservoir pressure management for CO ₂ storage
	9:30 Yang Du (EPRI) PZ/DMAEE solvent	9:00 Prasanna Krishnamurthy – Multiphase flow in heterogeneous media
		9:15 Seyyed Hosseini (presenting P. Hosseininoosheri's results) – Analytical models of plume migration and stabilization
		9:30 Remaining questions and discussion
9:55 am	<i>Break</i>	
10:15– 12:00pm	<i>Technical Session 5</i>	
	TxCMP – Amine Oxidation	Gulf Coast Carbon Center – Monitoring Lifecycle
	10:15 Ardi Hartono (NTNU) Thermodynamic modelling of Piperazine	10:15 Jiro Tanaka – Update from Tomakomai

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	10:40 Vanja Buvik (NTNU) Oxidative and biological degradability	10:40 Susan Hovorka – Monitoring needs: well surveillance and plume stabilization
	11:05 Peter Moser (RWE) Long-term degradation of MEA and AMP/PZ	10:50 Susan Hovorka (Oldenburg results) – Risk assessment for offshore blowouts
	11:30 Yuying Wu (UT Austin) Oxidation in PZAS™	11:05 Remaining questions and discussion
12:00– 1:15 pm	<i>Lunch</i>	
1:15 pm	<i>Technical Session 6</i>	
	TxCMP – Nitrosamine and IMDMPA	Gulf Coast Carbon Center
	1:15 Jesse Thompson (U KY) Mitigating nitrosamine	1:00 Closed session: feedback and unstructured discussion with GCCC sponsors
	1:40 Bohak Yoon (UT Austin) Molecular modeling of IMDMPA	
	2:05 Mohamed Kheireddine Aroua (Sunway U) Natural amines as CO ₂ capture agents	
2:30– 3:00 pm	<i>Break</i>	
3:00– 4:15 pm	<i>Technical Session 7</i>	
	TxCMP – Water Lean Solvents	
	2:25 Kwang Soon Lee (Sogang U) IBDMPA water lean results	
	2:50 Gaby Bonilla (UT Austin) Effect of water on ion liquids	
	3:15 Maggie Song (UT Austin) Encapsulated ionic liquids	
4:15 pm	Closing remarks	
	Adjourn	