

# Quarterly Newsletter

Q4 2025

Texas-Louisiana Carbon Management Community



“The Bureau of Economic Geology’s hands-on, engaging presentations brought Earth science to life for our students and school community. The experience sparked curiosity and excitement, with many students sharing that they now want to become geologists themselves.”

Dustin Perez,  
5th grade science,  
Crippen Elementary

## Inspiring the Next Generation of Geoscientists

Thank you for your interest in our project throughout the past two years! We ended another rewarding year of education and outreach with a full day of Earth science discovery with nearly 200 students at Crippen Elementary. Researchers and assistants from the Bureau of Economic Geology, Angela Luciano, Linda McCall, Nancy Krail, and Beverly DeJarnett, spent the day with 4<sup>th</sup> and 5<sup>th</sup> grade students, bringing Earth science to life through hands-on demonstrations and lessons on the rock, carbon, and water cycles and plate tectonics, paired with a showcase of—and opportunity to examine—rocks, minerals, and fossils from the Houston Research Center.

The visit also included additional engagement with the school’s science club, The Explorers, and culminated in a well attended Science Discovery Night for students and families, organized by Crippen Elementary teacher Dustin Perez, whose dedication made the events possible.

We are grateful to the teachers, students, and families who made

the evening such a success and to the Bureau researchers whose outreach and enthusiasm continue to inspire the next generation of scientists.

Join our Phonebook  
Click or Scan



Our phonebook connects you to others in the CCS community, enabling meaningful outreach and collaboration. Please feel free to share our newsletter with anyone interested in joining the directory to foster connections.

This project is funded for 2024 through 2026 by the Department of Energy’s National Energy Technology Laboratory (DOE-NETL) project DE-FE32361.

### TXLA CMC Universities

[Lamar University](#)

[Louisiana State University](#)

[Texas A&M University-Corpus Christi](#)

[The University of Texas at Austin](#)

[Kingsville](#)

[University of Houston](#)



## GCCC at COP 30: Advancing Carbon Capture and Storage

GCCC Research Professor Katherine Romanak represented the Gulf Coast Carbon Center at the UN Climate Change Conference (UNFCCC) COP 30 in Belém, Brazil, engaging in multiple sessions and discussions highlighting Carbon Capture and Storage and Carbon Dioxide Removal.

During the multi-day event, she participated in the panel discussion, “What is the Role of Non-State Actors in Delivering Carbon Capture and Storage, Including in Latin American and Caribbean Countries?”, and contributed to interactive panels such as “CCUS Myth-Busting Live: Ask the Experts” at the UK COP Pavilion and the “CCS vs. CDR” event hosted by the Negative Emissions Platform.

The GCCC also collaborated with leading CCS institutions to host Exhibit Booth #40, sharing research, technical expertise, and outreach materials on CCS. These institutions include the IEA Greenhouse Gas Research & Development Programme, Carbon Capture & Storage Association, and the International CCS Knowledge Centre.

Visit GCCC’s UNFCCC COP 30 website to view details as well as summaries on the commentary and outcomes, including the role of non-state actors, progress on CCS implementation in Latin America and the Caribbean, negotiations and events from the first week, the final outcomes of the conference, and more.

### [GCCC UNFCCC COP 30 website](#)

## Fall 2025 Course Overview

From courses to multi-course certifications, our team engages students at multiple universities. Here’s a snapshot of our courses for the previous semester.

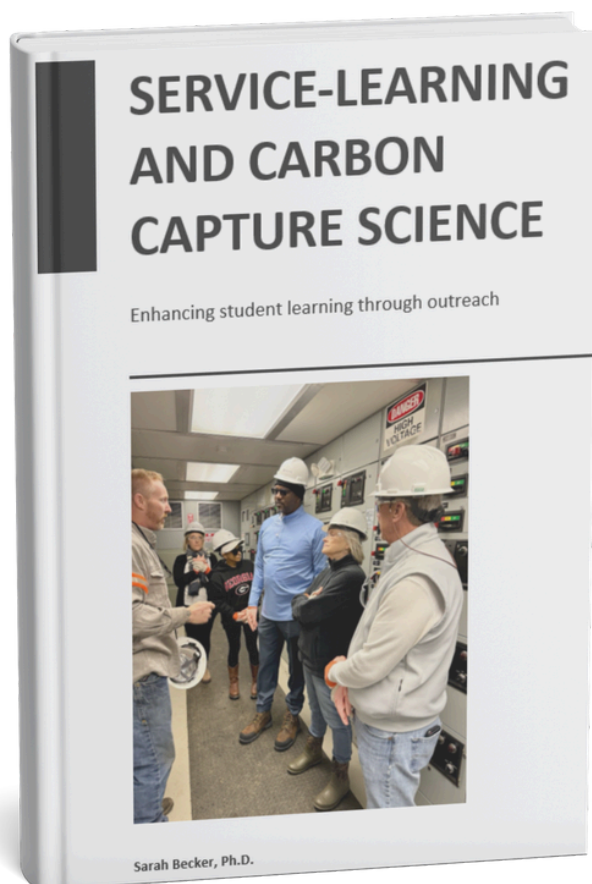
- The University of Houston completed the first semester of its CCUS Graduate Education Certificate Program, offered as a three-course joint program between UH’s Colleges of Business, Engineering, and Natural Science & Mathematics.
- Texas A&M University-Kingsville wrapped up its CCS course, introducing students to the key technologies and concepts behind capture, transport, and long-term geologic storage, integrating topics on emerging career opportunities, regulatory frameworks, and more.
- The University of Texas at Austin finished another semester of its CCS course, immersing students in a full-lifecycle project developing a carbon storage site using real-world data, from site characterization, business development, monitoring strategies, and more.
- Louisiana State University introduced the major challenges of CO<sub>2</sub> geological storage—capacity, injectivity, and containment—while teaching students to evaluate subsurface CO<sub>2</sub> trapping, model rock-fluid interactions, assess risks, and more, while communicating CCS impacts with communities through service-learning and student feedback.

## Louisiana State University

Louisiana State University's Dr. Sarah Becker, Associate Professor and Director of the Center for Community Engagement, Learning, & Leadership, has worked with Dr. Mehdi Zeidouni to integrate service-learning into the CCUS course. Based on the activities, lessons learned, and feedback, Dr. Becker is developing a guide that provides educators with practical guidance for incorporating service-learning into CCS courses through community partnerships and applied projects.

Service-learning not only helps students engage more deeply, improve knowledge retention, and achieve higher grades, but also provides tangible benefits to community partners by addressing needs they've identified.

If interested, please contact us for more details!



### Houston Energy Day

During Houston's Energy Day on October 18th, Dr. Krishnamoorti and others showed up to connect with community, share knowledge, and engage students in the future of energy. Among the many exhibits, they had a demo to show the process of CO<sub>2</sub> sequestration and the process of plume dispersion in the subsurface. Over 1500 K-12 students and their guardians visited the booth and engaged with the demonstration.



### CAST 2025

November 13-15, the GCCC team presented at the Conference for the Advancement of Science Teachers (CAST), showcasing CCS content to Texas K-12 teachers. The resources are geared for integration into the existing curriculum and include topics on:

- Environmental Science
- Chemistry
- Carbon Cycle
- Greenhouse Effect

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# Engagement, Outreach, and Project Developments

## Lamar University

On October 28, 2025, Dr. Tracy Benson joined the Emerging Energy Conference in Port Arthur, Texas, an annual gathering of around 200 professionals from the oil & gas and petrochemical industries, as well as local and state government representatives from Southeast Texas and Southwest Louisiana. The conference offered a deep dive into the latest technology and policy developments shaping the Energy Transition.

Additionally, Dr. Benson had the chance to network directly with representatives from Beaumont New Ammonia during a November open house hosted by Woodside Energy. The event provided a lively setting to connect with around 30 attendees, including industry experts, local city mayors, and Texas state congress representatives, sparking conversations on collaboration, energy transition, and community impact.

Formerly known as “Blue Ammonia” and originally owned by OCI, the facility now operates under Woodside Energy and started ammonia production early this year. It will capture CO<sub>2</sub> from this production and store it through ExxonMobil’s Rose Project, showcasing CCS project developments progressing in action.

## The University of Texas at Austin

Dr. Dolores van der Kolk presented, *A Carbon Capture & Storage (CCS) Comic Book Created to Sustain Texas STEM and Public Acceptance: Carbon-nots to the Rescue!* during the 2025 Geological Society of America conference on October 19th. This comic book was created to make CCS knowledge more accessible to both adult and K-12 audiences. This presentation not only described the CCS content within, but also discussed the insights on how to boil down science-heavy concepts to simpler terms, how to format comic books in a way that is designed to be shared among educators so that they may alter content in case there are school-district wide restrictions on certain terminology, meeting demands of teachers, and more.

Engaging with a broader audience of energy, technology, finance, and policy leaders, Dr. Sue Hovorka and Dr. Tip Meckel participated in CO2NNECT 2025, a flagship convening series of the Great Plains Institute hosted by the Carbon Action Alliance in Austin, Texas. CO2NNECT brings together decision-makers across sectors to create trusted, solutions-oriented

spaces for accelerating technologies that reduce emissions while ensuring reliable, affordable energy.

At the conference, Dr. Hovorka joined a panel on “Community Buy-In: Navigating Trust, Transparency, and Local Dynamics,” sharing insights on fostering meaningful community engagement in carbon management projects. Dr. Meckel contributed to a panel on “Low-Carbon Power at Scale: The Texas Opportunity,” highlighting pathways to expand low-carbon energy solutions in Texas.

## University of Houston

Throughout the last quarter, Dr. Krishnamoorti engaged with community members and held a series of listening sessions with community and industry practitioners across the Houston area in connection with the University of Houston’s white paper on the role of CO<sub>2</sub>-enhanced oil recovery (EOR). These discussions explored the complex opportunities and challenges of using CO<sub>2</sub>-EOR to support U.S. energy goals, particularly in light of recent policy changes under the current administration’s energy strategy and the enhanced federal 45Q tax credits.

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## Conferences, presentations, and research

We're proud to highlight some of the technical research and recent work of our group, including presentations and other contributions that advance science and innovation in our field.

### Graduate student work

- From Lamar University: Madugula, A., 2025, Modeling CO<sub>2</sub> leaks from pipeline ruptures: a risk assessment framework for Jefferson County, Texas: 21st Americas LNG Summit & Exhibition, Lake Charles, Louisiana, October 13–15.
- From Lamar University: Kolp, A., 2025, Upgrading landfill gas to renewable natural gas & characterization of CO<sub>2</sub> product streams: Lamar University, Master's thesis, 90 p.
- From Lamar University: Kolp, A. W., Choudhury, Z. A., Fang, J., Lin, S., Chen, D., Sargsyan, G., Warmack, M., Khan, I., Craig, B., and Rowe, A., 2025, Safety and economic assessment of CO<sub>2</sub> product stream impurity levels: 2025 AIChE Annual Meeting, Boston, Massachusetts, November 2–6, paper 509b.

### Researcher's work

- From Texas A&M University-Kingsville: Bashir, S., Choi, J.-W., and Liu, J. L., 2025, Advancing carbon management with cost-effective porous materials: Breakthroughs from simulation and experimental research: ACS Western Regional Meeting, San Jose, California, October 25–28.
- From Texas A&M University-Kingsville: Liu, J. L., Bashir, S., and Choi, J.-W., 2025, Carbon management with cost-effective clay materials: insights from simulation and experimental studies: Pacifichem, the International Chemical Congress of Pacific Basin Societies, Honolulu, Hawaii, December 15–20.
- From Louisiana State University: Pauyac Estrada, J. K., and Zeidouni, M., 2025, CO<sub>2</sub>-brine gravity-driven displacement estimation using numerical methods and machine learning: SPE Annual Technical Conference and Exhibition (ATCE), Houston, Texas, SPE 227900-MS, [doi.org/10.2118/227900-MS](https://doi.org/10.2118/227900-MS).

## QUESTIONS/COMMENTS

Reach us at the Gulf Coast Carbon Center at the Bureau of Economic Geology.

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Leave a Comment:

<https://forms.office.com/r/xAGXyxRtJt?origin=lprLink>

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