

Agenda

Opportunities for Geologic Carbon Sequestration

- Above ground capture
- Deep injection and sequestration
- Geochemical changes
- Geomechanical changes
- Looking at the Texas Gulf Coast

S. Hovorka
A. Luciano

Ownership of and Access to Surface Lands and Minerals

- Legal rights of mineral and surface owners
- Legal and practical exercise of access rights
- Where do one party's rights end and the other's begin?
- Rights of adjacent property owners
- Resolving disputes

A. Smith

Aquifer Recharge: Sustaining the Water Budget in the Texas Groundwater Bank

M. Gary

Understanding of Texas Groundwater Law

- Texas rule of capture
- Ownership of groundwater
- Groundwater regulation by conservation districts
- Ownership and duty of the groundwater estate owner to the surface estate owner
- Legal standards related to water well construction
- Prohibition against comingling of waters of different quality

G. Ellis

Climate Change Impacts on Water Resources: Science, Policy, Society

J. Banner

- Science and policy
- Predictions of climate science based on a warmer atmosphere
- The 100th Meridian climate boundary
- Reconstructing past climate and projecting future climate change
- Climate change and population change impacts on water resources

Roles and Responsibilities of Professional Geoscientists

A. Balzen

- The private practice role: working in a geotechnical firm
- The academic role: working in higher education
- The public service role: working for the government and NGOs
- The independent consultant role: serving diverse clients



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Learning Objectives

You'll be able to:

- Explore** opportunities for geologic carbon sequestration.
- Understand** the legal rights of mineral owners and the owners of surface lands in Texas.
- Understand** the laws and regulations surrounding Texas groundwater resources.
- Evaluate** aquifer recharge as an option to sustain the water budget of the Texas Groundwater Bank.
- Discuss** the impact of climate change on Texas water resources.
- Consider** the roles and responsibilities involved in practice in geotechnical firms, higher education, the government, non-governmental organizations, and as an independent consultant.



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Current Issues in the Practice of Geoscience in Texas

Live, Interactive Webinar - Wednesday, October 16, 2024



- Explore** opportunities for geologic carbon sequestration
- Understand** who owns and can access surface lands and below-ground minerals
- Discuss** Texas groundwater ownership and regulation
- Learn** about aquifer recharge to sustain the Texas Groundwater Bank water budget
- Consider** climate change impacts on water resources
- Examine** the roles and responsibilities of professional geoscientists

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Webinar Information

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Morning Session 8:30 am - 12:00 pm CDT	Afternoon Session 12:30 - 4:30 pm CDT

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Faculty

Susan D. Hovorka
Ms. Hovorka is principle investigator with the Gulf Coast Carbon Center, Bureau of Economic Geology at Jackson School of Geoscience, The University of Texas at Austin. She has led a team working geologic storage of CO2 since 1998, with a focus on field studies and monitoring at the Frio Test site and Cranfield Field, and EOR studies at SACROC oil field, Cranfield, Hastings and West Ranch industrial CO2 utilization projects and GoMCARB offshore characterization study. She specializes in areas from monitoring to document retention. The Gulf Coast Carbon Center is leading efforts to develop offshore storage capacity in the US and globally. She has a long-term commitment to public and educational outreach. Ms. Hovorka has a B.A. degree from Earlham College and a Ph.D. degree in Geology from The University of Texas at Austin.

Angela Luciano
Ms. Luciano is a research engineering/ student associate with the Gulf Coast Carbon Center, Bureau of Economic Geology, Jackson School of Geosciences, The University of Texas at Austin. She has previously worked as a field engineer in fracking operations and has conducted research with the Gulf Coast Carbon Center analyzing and displaying the success of other underground injection control programs as an analog for carbon capture and storage (CCS). Ms. Luciano is currently the project manager for TXLA CMC and is working to further public and educational outreach. She has a B.S. degree in Petroleum Engineering and a MS degree in Energy and Earth Resources from The University of Texas at Austin.

Audra Smith
Ms. Smith is an attorney based in Wharton County, Texas. Her practice focuses on a wide variety of agricultural issues, especially those involving cattle. Ms. Smith additionally spends a significant portion of her time on oil and gas title examination, farm and ranch transactions, and real estate litigation. She also assists clients with estate planning, probates, and business planning needs. Ms. Smith is a graduate of El Campo High School. She received her bachelor of science degree in Agricultural Science from Texas A&M University in 2009, and received her doctor of jurisprudence degree from South Texas College of Law in 2014. Ms. Smith was admitted to the State Bar of Texas in 2014 and is also admitted to the Southern District of Texas. She is a member of the Wharton County Bar Association, formerly serving as president, and she is a member of the Texas Bar College.

Marcus Gary
Mr. Gary is an adjunct assistant professor with the Jackson School of Geosciences and a principal geoscientist with the Edwards Aquifer Authority. He is a karst hydrogeologist who specializes in investigations that expand our understanding of karst processes, and study the implications that karst hydrogeology has on natural resource management. Mr. Gary received his Ph.D. degree in Hydrogeology from the Jackson School of Geosciences at The University of Texas at Austin in 2009, and a B.S. degree from the same institution in 2001. His dissertation focused on defining the geological processes that formed one of the deepest underwater cave systems in the world, Sistema Zacaton. This multi-disciplinary research included studies utilizing geophysics, geomicrobiology, hydrology, field mapping, geochemistry, and numerous related topics. Most notably, Sistema Zacaton was explored by the DEPTHX autonomous underwater vehicle (AUV), also known as the Deep Phreatic Thermal Explorer, developed and tested with funding from NASA. The DEPTHX probe produced a detailed 3-D spatial dataset used to characterize this underwater cave system.

Greg Ellis
Mr. Ellis is the founder of GM Ellis Law. He has been practicing water law and been involved in water issues for over three decades. As a law student, he helped clerk the House Natural Resources Committee working on a variety of water legislation. After receiving his J.D. degree from the University of Texas School of Law, Mr. Ellis worked as legislative liaison for the Texas Water Commission and later served as general counsel to the Harris-Galveston Coastal Subsidence District. The Edwards Aquifer Authority hired Mr. Ellis as their first general manager in 1997, a position he held until October 2004 when he left to start his solo law practice. In addition to representing subsidence districts and groundwater conservation districts, he serves on the Board of the Texas Water Foundation, a nonprofit corporation working to lead Texas into a sustainable water future.

Jay Banner
Professor Banner studies water resources, climate change and environmental justice. This research combines geoscience and chemistry to examine streams, aquifers, caves, and tree rings, and it takes him to Barbados, Guam, and Texas among other places. Professor Banner is a Fellow of the Geological Society of America and a member of UT's Academy of Distinguished Teachers, and he is the recipient of the 2024 Robert Foster Cherry Award for Great Teaching, which is the largest teaching prize in the country.

Alyssa Balzen, PG,
Ms. Balzen is a geoscientist II at Edwards Aquifer Authority, where she conducts scientific research, geologic evaluations, conservation easement inspections on private properties, data collection and analysis, as well as project management. She served as the past president of the South Texas Geological Society. Additionally, Ms. Balzen worked as a tutor at Wyzant, an environmental scientist at AGEISS Inc., groundwater science manager at Bandera County River Authority and Groundwater District, editor at South Texas Geological Society, and office clerk at Balcones Energy Log Library. She holds a master of science degree in Geology from The University of Texas at San Antonio and a bachelor of science degree in Geology from the same institution.

For more information on the presenters:
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