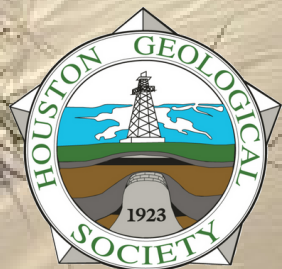


# BULLETIN

HOUSTON GEOLOGICAL SOCIETY



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& Plays in Conventional Reservoirs

### HGS-UH ANNUAL SHERIFF LECTURE

Connecting the Dots:  
Climate Change & Air Pollution

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	Arlin Howles	281-753-9876	arlinhowles@yahoo.com	D4
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Museum of Natural Science	Inda Immega	713-661-3494	immega@swbell.net	D2
	Janet Combes	281-463-1564	jmcombes@msn.com	D2
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Outcrop Family Campout	VACANT			D1
Science & Engineering Fair	Dorene West	281-413-7172	dbwesthou@earthlink.net	D2
Shrimp Peel & Crawfish Boil	Michael Salazar	713-410-4391	msalazar@coregeologic.com	D1
Clay Shoot	Howard Wood	832-277-0141	hw@coregeologic.com	D1
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	Lauren Robinson	317-402-6482	lseidman5.robinson@gmail.com	D4
Tennis Tournament	Constantin Platon	832-686-3231	constantin@oakgeosciences.com	D1
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# *Share Your Love of Geoscience & Prepare Kids for their Future*



Houston-area schools celebrate STEM (Science, Technology, Engineering, and Mathematics) in the first two weeks of November. Many schools ask HGS to supply displays and geoscientists to talk to children and parents about the importance of geoscience in society and geoscience career opportunities

You might think that HGS, with our large membership, has a large reservoir of willing volunteers ready to jump at the opportunity to talk about the profession we love.

YOU WOULD BE WRONG. We constantly scramble to find volunteers. We frequently turn down requests for geoscience representatives because we cannot find members willing to meet with the public.

Do you think geoscience will be important for the next generation? Consider volunteering a few hours of your time.

Here are November events for which we are currently seeking volunteers. If you wish to help with any of these events, please contact Steve Johansen at [geosjjohansen@gmail.com](mailto:geosjjohansen@gmail.com)



## **NOVEMBER 3 EVENING** LaPorte ISD STEM event

The LaPorte school district is organizing a STEM night for all students, grade K through 12. We currently expect to host an exhibitor table full of rocks, minerals, fossils, and some posters about future careers in geoscience and what HGS does in our local community. Steve Johansen and Paul Britt plan to attend, but we could use other volunteers.

## **NOVEMBER 5** 8 am to 1 pm Alief ISD STEM for grades 4 - 12, Kerr High School

One member (Barbara Hill) has volunteered to give a short presentation. We also wish to host an exhibitor table full of rocks, minerals, fossils, and posters about future careers in geoscience and what HGS does in our local community. We currently have no one at the exhibitor table except for Steve Johansen. If you could assist, please do! Steve will bring tea cakes or similar sweets for any HGS members who volunteer.

## **NOVEMBER 5** 9am to 1 pm HMNS Girls Exploring Math and Science (GEMS)

Janet Combes and Lisa Buckner (Geophysical Society of Houston) and the American Women Geoscientists (AWG) plan two tables for geoscience participation. If you wish to help Janet with this event, contact Janet Combes: [jmcombes@msn.com](mailto:jmcombes@msn.com)

## **NOVEMBER 10** 9-11 Blue Ridge Elementary, FBISD near Missouri City. Career day speaker

This is a career day presentation at a table for children in grades K through 5. The teachers expect presentations to be posters at a table, and the teachers will rotate groups of students past the tables, 15 minutes at each table, for what I am guessing will be two hours, maybe less. We currently have no volunteers for this event. Some HGS members seem intimidated by speaking to K through 5 grade students, but they are generally harmless and not overly demanding.

## **NOVEMBER 11-13** 3-day event Houston Gem and Mineral Show NEEDS VOLUNTEERS

Sarah Heinlein is calling for volunteers! This is a big event that we do annually. Many hundreds, if not a thousand or more, school-age children and scout troops visit the Houston Gem & Mineral Show (in the convention center in Humble, Texas). HGS commonly has a large poster session and some rock samples. HGS volunteers commonly work in shifts of 2 to 4 hours, so about 15 to 20 HGS volunteers will be needed. Contact Sarah Heinlein [snheinlein@live.com](mailto:snheinlein@live.com) if you can assist. See prominent display ad elsewhere in this publication.

Photos from a public Facebook post by Lolita Contreras Murrah, from an HGS public presentation to the Sam Houston Area Council, Boy Scouts of America Apollo District, Apollo Twilight Camp, June 2022. [Click Here](#)





Greetings fellow HGS members. We have two full months of Post-Covid disruption years under our belt. We continue to make good progress on our **Annual Three Point Plan:**  
**Increasing Membership**  
**Rebuilding Community with In-Person Events**  
**Working toward Financial Sustainability.**

## Membership

We have made progress on increasing membership from the Covid Lows. However, we still have the challenge before us to contact several hundred previously active members by phone. This method has proven to be very successful in bringing back members. We could use some volunteer help with this task. The working phone list can be distributed to those willing to assist by contacting Bill DeMis at BillDeMis@AOL.Com (You can also call Bill, but you will have to look up his phone number in the HGS directory as he does not want it published). Please give us a hand making a few phone calls. Your calls will be appreciated by folks you remind to renew. In the process of assisting with this calling effort you will make some new contacts and help boost our membership.

## Rebuilding Community / In-Person Events

Our October dinner meeting featuring a technical presentation by Nutech had to be rescheduled for a later date.

**The HGS Annual Golf Tournament October 17** was a tremendous success with well over 100 golfers participating. In excess of 10 sponsors helped make this event a success. Be sure to attend this event October of next year.

## **Environmental & Engineering Dinner Meeting November 9**

See the HGS Bulletin and Website for additional information and registration.

## **Continuing Education Training Course November 11**

Bill DeMis will be teaching a continuing education class on identifying By-Passed Pays. The full-day course will be held at the Core Lab, just southeast of Beltway 8 and 290. Core Lab has graciously donated their auditorium for this event. Thank you Core Lab! See the HGS Bulletin or website for additional details.

## **Annual Joint HGS-UH Robert Sherriff Evening Dinner Meeting November 18**

This annual event will have a topic for the evening supported by poster presentations from U of H students. See the HGS Bulletin and Website for details and reservations.

## **Networking / Social Holiday Gathering Late afternoon / Early evening December 12**

This will be a holiday gathering with drinks and heavy Hors d'oeuvres. Please join us for the opportunity to reconnect with friends and colleagues. Mark your calendars for December 12 and bring your entire E&P staff for a couple of fun hours right after work. Watch for reservation details on the HGS website and weekly email announcements.

## **Dinner Meeting January -- Theme: "Night in the Tropics" Date and Venue Forthcoming**

Acclaimed carbonate geologist / researcher / consultant, Dr. Jeff Dravis, will present an interesting talk titled "Tropical Trade Wind Models from Caicos Platform, SE Bahamas: Applications to Cretaceous Limestones Reservoirs Around the Ancestral Gulf of Mexico".

**Annual Scholarship Night February 13.** This will be an exciting evening with an interesting program and scholarships being awarded to a number of deserving undergraduate and graduate students. Please make plans to attend.

**Guadalupe Mountain and Delaware Basin Field Trip March 23-26.** This field trip led by Dr. Robert Lindsay should be an exciting event and a great learning/networking opportunity. The trip is limited to 30 people and is already filling up. I've already reserved two spots. Don't wait to sign up!

**GeoGulf 2023 (formerly GCAGS) April 23 to 25** Watch for announcements in the HGS Bulletin and on the Website.

**Grand Canyon Raft Trip June 1-8** The trip is currently full. However, we are accepting a limited number of folks for the waiting list.

## Financial Sustainability

With the success of our in-person events and the budget tuning skills of Paul Britt, in combination with the Finance Committee we are making great progress on achieving this goal. Your continued participation in the society events will ensure we meet this objective. Thank you.

## Something New!

Beginning with our January evening meeting and continuing through the remainder of the year, I will be introducing the concept of **The President's Table**. I will host a table of guests seated by invitation, spotlighting individuals that have contributed significantly to the HGS efforts over the previous months. Along with the table sponsor, we will also host the evening speaker, at least one student and one employment seeker. The dinners of those featured guests will be paid by the President's Table Sponsor.

**Along these same lines Committee Chairs as well as Previous and Current Board Members are particularly encouraged to demonstrate their leadership and support for the society by attending events.**

**Current Active Members, please encourage your work colleagues to join HGS and get involved in a committee.**

**Thank you in advance for your participation and support.**

**KEEP UP THE GOOD WORK!**

**Walter S. Light, Jr.**

# Advertise with HGS

The Houston Geological Society has many advertising opportunities to help you promote your business. The money raised through advertising helps the HGS to be able to support continuing education, networking, outreach to students, student scholarships, and young professional activities. Check out some of our advertising opportunities below!



## Vendor Corner

Promote your business with a booth at an in-person luncheon or dinner meeting. HGS will also post your logo, website/social link(s) and a brief company summary on the HGS website below the technical meeting's announcement and abstract.



## HGS Bulletin

Published 10 months out of the year and available digitally on the HGS website, the HGS Bulletin is an outstanding technical journal sent electronically to all current members and to subscribing libraries around the world.



## Virtual HGS Event Sponsorship

Promote your business at a virtual meeting. Along with the opportunity to reach a global audience, HGS will promote your business on the event page, on our social media, and at the technical talk.



## GeoJobs

The HGS GeoJobs section provides a variety of employment information to interested HGS members and the geological and geophysical community at large. If your business has an employment opportunity, let us help you fill the position!



## HGS Weekly Newsletter

The HGS Weekly Newsletter is published digitally every week, and reaches a global community of 8,000+ people. HGS will promote your business with an ad of your design or your logo and a link to your website or social media.

*To learn more about advertising rates and how you can promote your business with us, visit our website or contact the HGS Office at 713-463-9476 or [office@hgs.org](mailto:office@hgs.org).*







Last week I once again had one of my most rewarding experiences as a geologist. As part of the Bones in Schools program, I was able to speak to a class of 3rd, 4th and 5th grade students at a local school about geology and in this case, more specifically, paleontology. I was joined by two other HGS members, Chuck Caughey and Bryan

Bottoms. We told them about what a geologist does and about the world of fossils.

At this age you need to get their attention, so we talk about dinosaurs. The discussion starts with movies like Jurassic Park and The Good Dinosaur. These Hollywood versions have some reality and many misconceptions. For those who have not seen it, the premise of The Good Dinosaur is that the asteroid misses the earth and the dinosaurs continue to evolve and eventually encounter and come to the aid of primitive child to bring him home to his family. It is an interesting sort of 'what if' for young minds or even adults to ponder. Stephen J. Gould a renowned paleontologist frequently told a "want of a nail" story, whereby a missing nail from a horseshoe caused a series of events that led to a major change in world history.

My next movie is Ice Age which gets so much wrong but allows me to talk about the animals that inhabited the Houston area a mere 20,000 years ago. The students can relate because they know the characters but then I show them what they likely really looked like.



*Sid, the Ground Sloth*



*Megalonyx jeffersoni*



*Manny, the Woolly Mammoth*



*Colombian mammoth*

It is a wonderful experience to see the look on their faces when they are handed a real mammoth or mastodon tooth or a small woolly mammoth tusk. It sparks wonder in their eyes, a look of amazement and many questions.

I tell you this because I want to share this experience. The HGS has several programs and multiple opportunities for each of us to let these young people know what we do in our work, about the world around them, past, present and possible future but also to inspire them to ask questions and want to learn more.

There are thousands of students in the Houston area, in grades from 1st to high school that would love to hear what you can tell them about rocks, minerals, fossils and much, much more.

Many of you work for companies that would gladly give you the time off to go a talk up geology to the young people in our area. And even if that is not the case, the time you invest in these efforts will pay back so much to you that it will be well worth it.

Contact Steve Johansen or other members of the Educational Outreach Committee and become part of something great.

**Ken Thies, HGS Editor 2022-2023**  
**kenthies.kt@gmail.com**

## *Call for Volunteers*

### *Houston Gem & Mineral Society (HGMS) Show*

**HOUSTON GEM & MINERAL SOCIETY**

# **69<sup>th</sup> Annual Gem, Mineral, Jewelry & Fossil Show**

**Nov 11 - 13, 2022**  
**HUMBLE CIVIC CENTER**

**Tickets \$9**  
**Good for all 3 days, kids 10 & under get in free**  
(Purchase ahead online or in-person at the show)

Fluorite on Celestine  
Clay Center, Wood Co., Ohio  
Photo by Jack Opatmy  
www.jackphoto.com

hgms.org  
facebook.com/hgms.org  
instagram.com/hgms.org\_tx



- More than 40 gem, mineral, jewelry, bead, lapidary, and fossil dealers with unique and ancient items from around the world
- Educational displays, including gems, minerals and ancient artifacts
- Jewelry making, beading & lapidary demonstrations and classes
- Children's activities, Scout merit badge program and the "Dino Dig"
- Expert identification of gemstones, minerals and fossils


November 11-13, 2022  
Friday: 9 a.m. - 6 p.m. (Kids' Day)  
Saturday: 9 a.m. - 6 p.m.  
Sunday: 10 a.m. - 5 p.m.

Tickets: \$9.00 (good for all 3 days)  
Children 10 and under Free

Humble Civic Center  
8233 Will Clayton Parkway  
Humble, Texas 77338

Swap area just for bargain hunters!  
Grand prize drawing opportunity

**Free Parking**  
[www.hgms.org](http://www.hgms.org)



The Houston Gem and Mineral Society (HGMS) Show needs volunteers!

Volunteer Information: If you are interested in volunteering for the Houston Geological Society (HGS) booth, sign up with Dr. Heinlein, you can reach her at [heinleins@uhd.edu](mailto:heinleins@uhd.edu). Volunteer shifts are only 3 hours. The HGS booth is more Geo-focused; for example, students will hand out salt rock bags to guests, discuss poster displays on geoscience careers, posters on oil and gas, and posters on being a Geologist in general. There will be handouts with information you can review so that you can discuss these items with the guest confidently.

If you would like to help with the HGMS show, volunteer shifts are only half days. You can choose to sell tickets, operate the Information Booth, provide security assistance, and oversee the hospitality room. More importantly, they will need Ticket Takers, Swap Areas, Cashiers, and people who like kids to help in the Dino dig and Youth Area. Student volunteers will be assigned to fill in for areas where they do not have enough members to fill.

To sign up, click on the link, [Volunteering at the Annual Show - HGMS - Houston Gem & Mineral Society](#), and complete the form.





# ***HGS Golf Tournament 2022***

BY JIMMY BAGLEY, GOLF TOURNAMENT CHAIRMAN

The Annual HGS Golf Tournament this year went above and beyond our expectations!

The team at HGS, Kenny Baucum, and Myself would like to especially thank all the sponsors who pitched in to make it such a great event. Those of you who set up on a hole the entire day and handed out snacks, food, drinks, and swag made a big splash to the participants. It was great to get outside (after the rain passed) and create fellowship with people in our industry for the entire day.

We are already planning next years event, and hope to continue to grow this year after year. To do that we need all of you to continue to support HGS in all its endeavors!

Thank you again for everyone who volunteered, worked, braved the rain, and played this year!



*Golf teams preparing to weather the morning rain.*



*Thank you to BHL for their generous sponsorship!*



*Raffle winners group photo!*



## *HGS Golf Tournament 2022 ...continued*



Raffle prizes generously donated by Galen Treadgold of GeoInteriors.



HGS Golf Tournament Chairmen Jimmy Bagley (left) and Kenny Baucum (back right), with raffle winner Justin Vandenbrink (center).

Raffle and team prizes were given out during the award ceremony at the end of the tournament.



# HGS ENVIRONMENTAL & ENGINEERING MEETING

WEDNESDAY, NOVEMBER 9, 2022 | 5:30 - 9:00PM

CRAFT REPUBLIC HOUSTON

11470 WESTHEIMER RD, HOUSTON TX 77077

HGS MEMBERS \$35 NON-MEMBERS \$40 EMERITUS/HON. LIFE \$18 STUDENTS \$12 WALKUPS \$40

[HTTPS://WWW.HGS.ORG/CIVICRM/EVENT/INFO?ID=2413](https://www.hgs.org/civicism/event/info?id=2413)

EVENT CONTACT: MATTHEW COWAN | MRCOWAN1@HAL-PC.ORG



## *Perseverance on Mars: Selecting the First Samples for Return to Earth*

In a stunning engineering feat, Perseverance, the largest and most complex Mars rover yet, landed successfully on Mars on the floor of Jezero crater on February 18, 2021. Its mission is ambitious: seek signs of ancient life and collect samples for future return to Earth. Perseverance's goals and landing site were selected largely due to the successes and key findings of the Curiosity rover, which is still roving after nearly ten years about 2,300 miles away. Together, these missions continue to revolutionize our view of the Red Planet, and the eventual samples just might revolutionize our view of life itself. As a geologist on both mission teams, I'll share the motivation and context for Mars Sample Return, our new and evolving understanding of our neighboring planet, and how it teaches us about our own world.

### ***Biographical Sketch***



**Kirsten Siebach, Ph.D.**, is an assistant professor in the Rice University Department of Earth, Environmental and Planetary Sciences and calls herself a Martian geologist. She researches "source-to-sink" sedimentary processes on Mars and early Earth to interpret the

history of water and surface environments early in our solar system. She is currently a member of the science and operations teams for the Mars 2020 rover Perseverance and the Mars Science Laboratory rover Curiosity, and previously worked on the science and engineering teams for the Phoenix lander and the two Mars Exploration Rovers. Dr. Siebach completed her Ph.D. in geology at Caltech and conducted postdoctoral research in geochemistry of Martian sediments at Stony Brook University. She is actively engaged in promoting education and outreach related to Earth and planetary science. She loves travel and photography (on Earth as well as Mars).





# HGS CONTINUING EDUCATION SHORT COURSE

FRIDAY, NOVEMBER 11, 2022

CORELAB, BUILDING 2 | 6316 WINDFERN RD, HOUSTON, TX

8:00AM - 5:00PM

HGS MEMBERS \$200 NON-MEMBERS \$350 STUDENTS/EMERITUS/IN-TRANSITION \$150

[HTTPS://WWW.HGS.ORG/CIVICRM/EVENT/INFO?ID=2428](https://www.hgs.org/civicism/event/info?id=2428)

8 PROFESSIONAL DEVELOPMENT CREDIT HOURS OFFERED



## ***Discovery Thinking: By-Passed Pays and Plays in Conventional Reservoirs***

Registration includes: course notes, continental breakfast, lunch and beverages, 8 hours PDH certificate (handed out at the end of the event). Attendees should bring a calculator, ruler, and a few colored pencils for exercises done by hand.

### **Course Description**

This class promotes discovery thinking using case histories and hands-on exercises to find by-passed pay in real-life "dry holes." The class presents ten case histories of missed pay and a dozen in-class exercises. The exercises require the synthesis of various data to find the pay, including well logs, DSTs, thin sections, cores, mud logs, thin beds, shaly sand, and offset analogues.

The class will review well log analysis and the Archie equation. It will briefly touch on shaly sand and carbonate well log analysis, with exercises on shaly sands and carbonates. But the primary focus of the class is learning how to find by-passed pays by the synthesis of data besides the well logs.

Participants looking for "the secret formula" for a perfect well log analysis without collecting other data will be disappointed by the class. They should not attend. Participants who want to expand their toolkit of eclectic discovery thinking, and geoscientists with little experience in conventional reservoirs, will benefit the most from the class.

### **Testimonial from a former student**

"Mr. DeMis' By-Passed Pays and Plays class is a must-attend event for engineers or geoscientists working on mature assets. This class will provide you with tools, knowledge and insight to discover missed potential in brown fields."

- Carlos Bahamon, Geological Advisor, Oxy, Houston, Texas

### ***Biographical Sketch***



**William DeMis** currently is president of Rochelle Court, LLC, a consulting company. He is currently working with two startup companies: one in the US and one in Europe. He has held positions of Exploration Manager at Marathon Oil Company, Exploration Vice President at

Roxanna Oil Company, and Senior Vice President at Goldman Sachs.

Mr. DeMis have been a member of teams that have found over 600 BCFG and 45 MMBO of bypassed pay. For his role in finding bypassed pay, Bill was appointed Project Champion for a company-wide Strategic Initiative on bypassed pay at Marathon Oil Company.

Mr. DeMis has been awarded the dedicated Service Award from the West Texas Geological Society and the AAPG. Mr. DeMis has been awarded the Best Paper Award from the RMAG and GCAGS. In 1996 and 2000, Bill was awarded Best Paper Awards at AAPG National Conventions for his talks on the effects of US dollar exchange rate changes and inflation on OPEC price policy.





# HGS CONTINUING EDUCATION SHORT COURSE

FRIDAY, NOVEMBER 11, 2022

CORELAB, BUILDING 2 | 6316 WINDFERN RD, HOUSTON, TX

8:00AM - 5:00PM

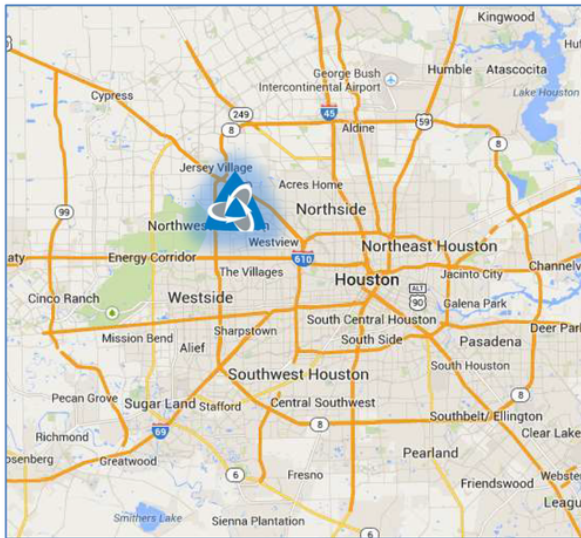
HGS MEMBERS \$200 NON-MEMBERS \$350 STUDENTS/EMERITUS/IN-TRANSITION \$150

[HTTPS://WWW.HGS.ORG/CIVCRM/Event/Info?ID=2428](https://www.hgs.org/civCRM/Event/Info?ID=2428)

8 PROFESSIONAL DEVELOPMENT CREDIT HOURS OFFERED



## Directions to Core Lab 6323 Windfern Rd. Houston, TX 77040 Core Viewing Hours: 8am – 5pm (Weekdays)



**Traveling west on Hwy 290:** Exit N. Gessner. U-turn at the intersection and proceed east on the eastbound Hwy 290 feeder. Turn right onto Windfern, just past Gessner.

**Or**

**Traveling north on W. Sam Houston Toll way from I-10:** Exit West Little York.

Proceed north on the feeder road to Hwy 290. Turn right on the Hwy 290 feeder. Proceed east on the feeder through the Gessner Intersection. Turn right onto Windfern.

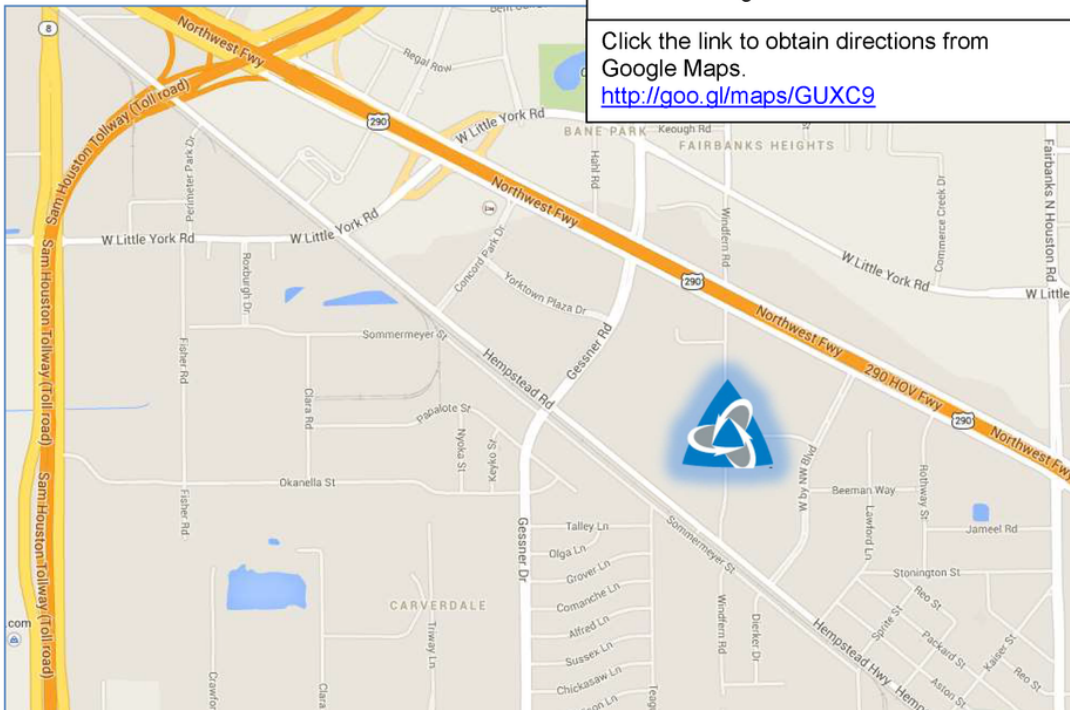
**Or**

**Traveling west on the N. Sam Houston Parkway from I-45 or IAH**

**Airport:** Exit West Road / Philippine Road. Turn left on Philippine Road and proceed to Gessner. Turn right on Gessner to Hwy 290 intersection. Turn left onto the Hwy 290 feeder then right onto Windfern.

Click the link to obtain directions from Google Maps.

<http://goo.gl/maps/GUXC9>



# HGS CONTINUING EDUCATION SHORT COURSE

FRIDAY, NOVEMBER 11, 2022

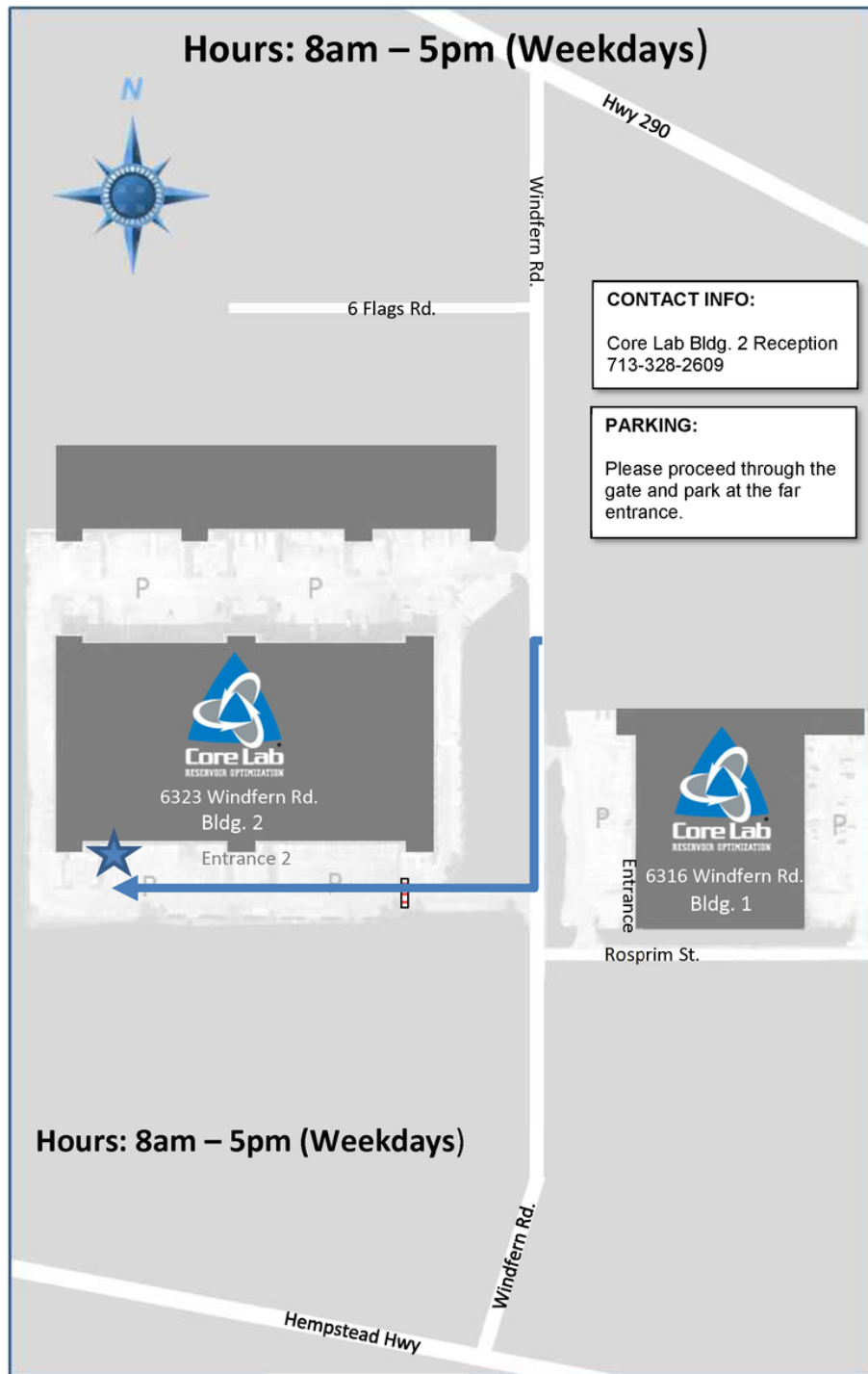
CORELAB, BUILDING 2 | 6316 WINDFERN RD, HOUSTON, TX

8:00AM - 5:00PM

HGS MEMBERS \$200 NON-MEMBERS \$350 STUDENTS/EMERITUS/IN-TRANSITION \$150

[HTTPS://WWW.HGS.ORG/CIVICRM/EVENT/INFO?ID=2428](https://www.hgs.org/civicism/event/info?id=2428)

8 PROFESSIONAL DEVELOPMENT CREDIT HOURS OFFERED



# HGS GENERAL DINNER MEETING

MONDAY, NOVEMBER 14, 2022 | 5:30 - 9:00PM  
NORRIS CONFERENCE CENTER, CITYCENTRE  
816 TOWN AND COUNTRY BLVD #210 HOUSTON, TX 77024  
HGS MEMBERS \$65 NON-MEMBERS \$75 STUDENTS \$25 WALKUPS \$75  
[HTTPS://WWW.HGS.ORG/CIVICISM/EVENT/INFO?ID=2402](https://www.hgs.org/civicism/event/info?id=2402)  
EVENT CONTACT:SCOTT SECHRIST | PENNTEXAS53@YAHOO.COM



## ***HGS Annual University of Houston Robert E. Sheriff Lecture Connecting the Dots: Climate Change & Air Pollution***

Air pollution is one of the leading health risks our world is facing today. More than 40% of the US population are exposed to unhealthy levels of air pollution. Air quality—strongly dependent upon weather—is also sensitive to climate change. To effectively reduce air pollution in the future, we will not only need sustained efforts to curb anthropogenic air pollutants. The ability to predict climate change's impact on natural emissions and extreme weather events, which can adversely affect air quality, will be crucial as well. In this talk I will first present retrospective analysis that identifies the interconnectivity between air quality and climate change signals in metropolitan areas such as Houston. I will then focus on the air quality impact of extreme events, such as fires, droughts, and hurricanes before closing with the policy implications of these analyses.

### **Agenda**

5:30-6:30pm Student Poster Session and Social Hour

6:30-7:30pm Dinner

7:30-9:00pm Presentation

### ***Biographical Sketch***



**Dr. Yuxuan Wang** is an Associate Professor in the Department of Earth and Atmospheric Sciences at the University of Houston. Her research group uses a combination of modeling, observations, and data analysis methods with the goals of improving our predictive ability of

atmospheric composition and its coupled relationship with the climate system and societal choices such as energy. She is author of more than 100 peer-reviewed publications. Dr. Wang is a member of the Global Emissions Initiative (GEIA) Scientific Steering Committee, International GEOS-Chem Steering Committee, and the Independent Technical Advisory Committee of the State of Texas Air Quality Research Program.

Dr. Wang received B.E. degrees in Environmental Engineering and in Computer Technology and Application from Tsinghua University in Beijing, China. She was awarded a Ph.D. in Earth and Planetary Sciences from Harvard University. Prior to joining UH, Dr. Wang was a faculty member at Texas A&M Galveston and Tsinghua University.



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Make direct contact with interested geoscience buyers without being lost in an ocean of exhibitors. The money that is raised through Vendor Corner helps the HGS support continuing education, networking, outreach to students, student scholarships, and young professional activities. [Click here to read more!](#)

# HGS VIRTUAL CONTINUING EDUCATION SHORT COURSE



THURSDAY, DECEMBER 1, 2022

VIRTUAL EVENT

8:30AM - 12:30PM

HGS MEMBERS \$200 NON-MEMBERS \$300 STUDENTS/IN-TRANSITION \$100

[HTTPS://WWW.HGS.ORG/CIVICRM/EVENT/INFO?ID=2429](https://www.hgs.org/civicism/event/info?id=2429)

4 PROFESSIONAL DEVELOPMENT CREDIT HOURS OFFERED

*Registration includes: 4 Hours PDH Certificate emailed after the course*

## **History of Macro Trends that Affect Oil Prices Through the OPEC Era and Today** by Bill DeMis

Oil is a global commodity that is traded and settled around the world in US dollars. US fiscal and monetary policies affect the value of the US dollar and therefore the value of OPEC's revenue. Throughout the OPEC era, inflation and changes in the value of the dollar have affected OPEC's decisions to raise or lower production when they can - meaning when supply and demand are tight. This class will trace the history of US fiscal and monetary policies in the OPEC era, and OPEC's responses. The class will also describe what the Federal Reserve is, how it works, and how macro trends of today will impact future oil prices. A brief discussion of alternative energy and its overstated role in future price scenarios will be presented. OPEC's recent decision to reduce member's production targets is not surprising when viewed from an historical perspective of US policies.

AND

## **Oil Market Price: Supply, Demand, Comparative Inventory and Capital** by Art Berman

Markets focus on supply and use price to encourage producers to increase or decrease drilling to optimize near-to medium term supply. This contrasts with analyst obsession with demand. Oil is a disequilibrium system in which inventories are the critical measure of future supply. Inventories are largely excluded from most supply-demand estimates. Price movements can be explained and anticipated once this is correctly understood.

Money is a claim on work that is based on energy. Money supply, currency value, interest rates and inflation are, therefore, derivatives of energy. Most economists think about things in reverse if indeed they even acknowledge energy as a factor.

Debt is a lien on future energy supply. Capital available through credit markets is, therefore, the key factor for oil production and future supply. Integration of all of these factors leads to a proper basis for understanding oil price formation

## **Biographical Sketches**



**Bill DeMis** currently is a consultant and is working with two startup companies; one in the US and one in Europe. He has had positions of Exploration Manager at Marathon Oil Company, Exploration Vice President at Roxanna Oil Company, and, most recently, as Senior Vice President

and Chief Geologist for Goldman Sachs. Bill has held a variety of technical and managerial positions, working on both domestic and international projects. In 2021, Mr. DeMis was awarded the dedicated Service Award from the AAPG. In 2008, he was awarded the "Best Paper Award" from the RMAG/PTTC. In 2000, he received the Dedicated Service Award from the West Texas Geological Society. In 1996 and 2000, Bill was awarded "best paper" at the AAPG National Conventions for his presentations on the effects of US dollar exchange rates and inflation on OPEC price policy. In 1993 he won a "best paper award" from the GCAGS for his work on production-controlling carbonate stratigraphy of the Smackover. Mr. DeMis is an AAPG Charles Taylor Fellow, and has served as AAPG Books Editor, AAPG Associate Editor. He is an AAPG foundation trustee associate.



**Arthur E. Berman** is a petroleum geologist with 44 years of oil and gas industry experience. He is an expert on U.S. shale plays and is currently consulting for several E&P companies and capital groups in the energy sector. He routinely gives keynote addresses for

energy conferences, boards of directors and professional societies. Berman has published more than 100 articles on oil and gas plays and trends. He has been interviewed about oil and gas topics on CBS, CNBC, CNN, CBC, Platt's Energy Week, BNN, Bloomberg, Platt's, The Financial Times, The Wall Street Journal, Rolling Stone and The New York Times. He has more than 36,000 followers on Twitter (@aebberman12). Berman is an associate editor of the American Association of Petroleum Geologists Bulletin and was a managing editor and frequent contributor to theoil drum.com. He is a Director of the Association for the Study of Peak Oil and has served on the boards of directors of The Houston Geological Society and The Society of Independent Professional Earth Scientists. He worked 20 years for Amoco (now BP) and 24 years as consulting geologist. He has an M.S. (Geology) from the Colorado School of Mines and a B.A. (History) from Amherst College.

Website: [artberman.com](http://artberman.com)



# ***HGS Student Expo 2022***

BY AMANDA JOHNSTON, STUDENT EXPO COMMITTEE CHAIR & HGS SECRETARY



In September, the Student Expo Committee hosted 16 recruiting companies and more than 200 students from across the country at the Norris Conference Center in this packed two-day hybrid event. On day one, the committee successfully executed four recruiting sessions, giving students the opportunity to meet one-on-one with recruiters, a luncheon sponsored by API that included a panel addressing DE&I in the oil and gas industry, and lastly a happy hour and trivia night at Lazy Oaks Beer Garden so students could further interact with their peers and recruiters informally. Day two consisted of an additional recruiting session, multiple in-person and virtual interviews, and eight virtual career seminars that addressed important topics like resume tips, CCUS, the energy transition, geothermal opportunities, how to become an independent oil & gas producer and much more!

This was a very successful and well-attended event. The Student Expo Committee, listed below, would like to thank all of the recruiters, sponsors, speakers and students who participated. It's through their participation that this event can continue to provide a diverse group of talented graduate students to the broader oil & gas industry year after year. The committee looks forward to getting feedback from all of the participants and integrating those comments to better the event next year. If you are looking for volunteer opportunities and are passionate about growing our industry, please reach out to the HGS office to be added to the meeting list to join this committee.

## Student Expo Committee:

Amanda Johnston (Chair)  
Martha Lou Broussard (Founder)  
Cecilia Ramirez  
Julian Chenin  
Marilyn Hockstra

Andrew Stearns (Vice-chair)  
Casey Langdon  
David Lankford-Bravo  
Katie Fry  
Sushanta Bose

## Student members:

Alexandra Staub  
James McConnell

Daniella Gutierrez  
Mohamed Abdelfatah





## *HGS Student Expo 2022 ...continued*





# HGS NeoGeos Happy Hour

**When: Thursday November 10th, 5:30-7:30pm**

**Where: Cottonwood Houston**

3442 N. Shepherd Dr. Houston, TX 77018

**Cost: \$10 for HGS members / \$15 for non-members  
(Registration includes 2 drink tickets)**

**Sponsorship opportunities available**

Email: [geobottoms@gmail.com](mailto:geobottoms@gmail.com)

**Come out, meet some fellow geos, and enjoy the fall weather!**



**Register online or onsite**

<https://www.hgs.org/civicrm/event/info?id=2433>



Photos by Bryan Bottoms at the September NeoGeos Happy Hour!

Come out, meet some fellow Geos, and enjoy the fall weather!

# November 2022

<i>Sunday</i>	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>
		1	2
6	7	8 <i>HGS Board Meeting</i> 6 p.m.	9 <i>HGS E&amp;E Meeting</i> "Perseverance on Mars: Selecting the First Samples for Return to Earth" Page 11
13	14 <i>HGS Annual University of Houston Sheriff Lecture</i> "Connecting the Dots: Climate Change & Air Pollution" Page 15	15	16
20	21	22	23
27	28	29	30





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# November 2022

<i>Thursday</i>	<i>Friday</i>	<i>Saturday</i>	
<b>3</b> 	<b>4</b>	<b>5</b> 	<p><b>Reservations</b></p> <p>The HGS prefers that you make your reservations online through the HGS website at <a href="http://www.hgs.org">www.hgs.org</a>. If you have no internet access, you can email <a href="mailto:office@hgs.org">office@hgs.org</a> or call the office at 713-463-9476.</p> <p><b>Reservations for HGS meetings must be made or cancelled by the date shown on the HGS website calendar, which is normally 24 hours before hand or on the last business day before the event.</b></p> <p>If you make your reservation on the website or by email, an email confirmation will be sent to you. If you do not receive a confirmation, please contact the HGS Office at <a href="mailto:office@hgs.org">office@hgs.org</a>. Once the meals are ordered and name tags and lists are prepared, no more reservations can be added even if they are sent. <b>No-shows will still be billed.</b></p>
<b>10</b> <b><i>HGS.NeoGeos Happy Hour</i></b>	<b>11</b> <b><i>HGS Short Course</i></b> "Discovery Thinking: By-Passed Pays & Plays in Conventional Reservoirs" Page 12	<b>12</b>	
<b>17</b>	<b>18</b>	<b>19</b>	
<b>24</b> <b><i>HGS Office Closed for Thanksgiving</i></b>	<b>25</b> <b><i>HGS Office Closed for Thanksgiving</i></b>	<b>26</b>	



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[www.hgs.org](http://www.hgs.org)



# HGS ANNUAL SCHOLARSHIP NIGHT

Expanding the Horizon for  
Geoscientists of the Next Century

Meet the student scholars & help support the HGS  
Scholarship Funds!

Monday, February 13, 2023 | 5:30pm - 9:00pm

Norris Conference Center, Houston, TX

Sponsorship opportunities available!



Read more at [www.hgs.org](http://www.hgs.org)



# SCHOLARSHIP NIGHT

FEBRUARY 13, 2023 | 5:30PM - 9:00PM

NORRIS CONFERENCE CENTER, HOUSTON, TX



## SPONSORSHIP FORM

*All event profits benefit the HGS Scholarship Funds.*

**\$10,000**

### Corporate Platinum Sponsor

- Dedicated table with company logo
- 10 complimentary dinner registrations
- Drink tickets for Icebreaker reception
- Formal recognition at event
- Company name & logo listed as sponsor on HGS website and in related articles

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### Corporate Gold Sponsor

- 6 complimentary dinner registrations
- Drink tickets for Icebreaker reception
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**\$2,500**

### Corporate Silver Sponsor

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- Drink tickets for Icebreaker reception
- Formal recognition at event
- Company name & logo listed as sponsor on HGS website and in related articles

**\$1,000**

### Corporate Bronze Sponsor

- 2 complimentary dinner registrations
- Drink tickets for Icebreaker reception
- Formal recognition at event
- Company name & logo listed as sponsor on HGS website and in related articles

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### Individual Sponsor

- 1 complimentary dinner registration
- Drink tickets for Icebreaker reception
- Formal recognition at event

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Sponsorship Type: \_\_\_\_\_ Amount Enclosed: \_\_\_\_\_

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Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

**Please submit company logo with form and payment. Payment by credit card or check.  
Please make checks payable to Houston Geological Society. Email form to [office@hgs.org](mailto:office@hgs.org).**

Name of Card holder: \_\_\_\_\_ Card Type: \_\_\_\_\_

Card Number: \_\_\_\_\_ Expiration Date: \_\_\_\_\_ CVC: \_\_\_\_\_

# *Highlights from the 21st Annual HGS-PESGB Africa Conference*

BY CAROLINE WACHTMAN, AFRICA CONFERENCE CHAIR & HGS EDITOR-ELECT



The HGS-PESGB Africa Conference was held on September 26-28 and included both virtual and in-person events in Houston. The conference goal was achieved of being a geology-focused forum for sharing, learning and networking with the diverse community of scientists and business-people working Africa.

## Key conference highlights:

- Approximately 150 participants engaged in virtual technical and networking events that were part of the Africa Conference. Attendees logged in from the US, Canada, UK, France and throughout Africa. The majority of these participants were affiliated with consulting practices, vendors and E&P companies. Additionally, we attracted attendees from NOCs and universities.
- Participants learned about the thermal and geothermal potential in Africa at a short course taught by Duncan MacGregor.
- Selected speakers presented 28 talks during over two days of technical sharing.
- Namibia and the Red Sea were seen as key focus areas for attendees interested in oil & gas exploration activity.
- Presenters shared new exploration techniques involving gravity and magnetics, and seismic stratigraphy.
- Energy Transition topics included exploration for naturally occurring hydrogen and helium, machine learning workflows and getting to net zero in Nigeria.
- In addition to virtual events, attendees participated in an in-person networking dinner at the Norris Center headlined by keynote speaker Jonathan Rotzien. At the conclusion of the conference, participants toasted a successful conference at the Cadillac Bar.

Best presentation awards were given to the following outstanding presenters:

**First place prize** was awarded to Jonathan Watson, General Manager at Bridgeporth, for his talk: High resolution gravity gradiometry for different geographical and geological scales, Onshore Egypt and the Gulf of Suez.

**Second place prize** was awarded to Lorna Blaisse, Principal Geologist of Helium One Global, for her talk: Unlocking Tanzania's Helium Province.

**Tying for third place** was Thomas Becker, Co-founder of Astris Advisors, for his talk: Early Cretaceous Paleogeography of the Namibian Margin and Implications for Hydrocarbon Prospectivity and Commodity Distribution.

**Also, tying for third place** was Ian Hutchinson, Structural Geologist at Kraaivlei Consulting, for his talk: Exploring Africa, this time for Gold Hydrogen not Black Gold.

**The best student presentation** was awarded to Mohammed Nahidul Hasan, a Ph.D. student and research assistant at the University of Houston, for his talk: Tectonic controls on source rock thermal maturity of the Atlantic rifted-passive margin of Morocco.

Thanks to the many participants and volunteers who made the conference a successful experience.

Please mark your calendars for the 22nd annual Africa Conference will be hosted by PESGB to be held in-person in London on September 20-21, 2023.



# GUADALUPE MOUNTAIN AND DELAWARE BASIN FIELD TRIP



**When: March 23- 26, 2023**

**Where: Starts/ends in Midland, Texas and base camp is Carlsbad, New Mexico**

**Itinerary: Carbonates Galore - Debris flows, turbidites, shelf margins, basin floor deposition, and sponge-algal reef as presented by Dr. Robert Lindsay (he will be giving a talk on the topic on December 14<sup>th</sup> during the HGS Environmental/Engineering Section meeting) who has led dozens of field trips in this area in the past. Finish with your own cross section of the area.**

**Cost: \$1,200 (Deposit of \$600 due with registration; Final balance due by February 23, 2023) includes local transportation to and from Midland airport, van transportation to the various geologic stops, van snacks & water, guidebook, welcome dinner, daily lunches, 3 nights lodging. Cost does not include airfare from home to midland and back. Registration Deadline: March 9, 2023**

**Please contact the HGS (713-463-9476) to reserve a spot early (limited to 30 people). More details to follow at a later date.**

Drawing Middle Permian lithofacies onto 38 mile cross section – Guadalupe Mtns into Delaware Basin



Guadalupe Mountains: View of El Capitan with Guadalupe Peak, highest peak in Texas, in the background



# ***Deepwater Depositional Systems – Science, Discovery, and Applications***

EDITED BY JON ROTZIEN, CINDY YEILDING, RICHARD SEARS, F. JAVIER HERNANDEZ-MOLINA, &  
OCTAVIAN CATUNEANU

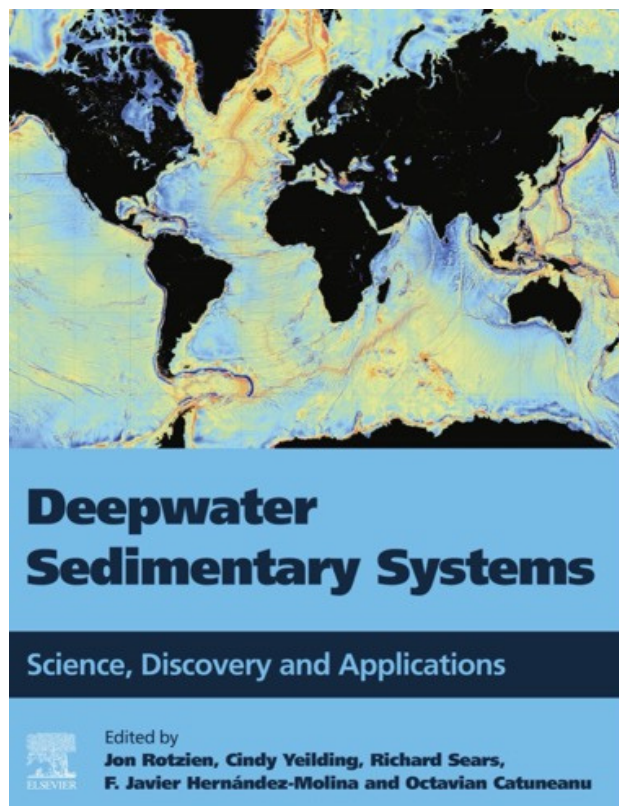
REVIEW BY CHARLES A. STERNBACH, PHD

Why Deepwater? In addition to expanding our knowledge on sedimentary systems that cover 70% of our planet, deepwater systems host promising resources and energy potential for the future. Their characteristic high-rate productivity also means fewer wells, good news for lower carbon. Deepwater systems also benefit from the highest quality offshore 3D and 4D seismic. Thus, we see more clearly with ever-improving technology. Deepwater concepts and paradigms are rapidly evolving.

This 2022 book *Deepwater Sedimentary Systems* sets a firm and comprehensive foundation. Topics include history, architecture, sedimentology, source rocks and petroleum systems, crustal structure, passive margin fold belts, salt tectonics, deepwater sedimentary processes, units, and environments, contourites, mass transport deposits, source-to-sink analysis, sequence stratigraphy, reservoir quality diagenesis, paleontology, ichnology, imaging, seismic rock physics, engineering advancements, economics, and future resource scenarios. This book is special in its comprehensiveness.

All geoscientists will benefit from the thousands of hours the editors have saved them in bringing seminal research together in one 782-page book, exceptionally well-illustrated. This tour de force is sure to be a landmark publication on which many future scientific and energy discoveries will be built. This book has impacted my creative toolkit by providing hundreds of analogs and examples. These analogs will help Explorers and thought leaders discover new energy and ideas. Thus, this volume, a collection of expert conversations, stands out as an exceptional contribution to our global geoscience and energy community.

Available on [www.elsevier.com](http://www.elsevier.com)  
ISBN; 978-0323-91918-0







# 2022 GSH FALL FORUM

## Applications of Machine Learning: Current State of the Industry

Drawing from Contributions to the May 2022 SPE ML Workshop and June 2022 URTeC Theme 7 (AI/ML)

November 8, 2022

This is an in-person event. It will be held at:

*Norris Conference Center (Houston CityCentre)*

816 Town & Country Blvd., Houston TX 77024

Time: 8:30 AM to 4:00 PM followed by happy hour

Papers include:

- Felix Herrmann, professor, Georgia Tech, 2019 SEG DL, 2020 SEG Reginald Fessenden Award
  - Current state of AI/ML algorithm usage in industry (Keynote)
- Matthew Reilly, Hess, Estimating real-time pore pressure at the bit
- Yuxing Ben, Oxy, Driving mechanisms for drainage volume with ML
- Ridvan Akkurt, SLB, Stochastic ML for well log outlier ID
- Olga Brusova, TGS, Seismic swell noise attenuation with ML
- Birol Dindoruk, U of H, Fluid and Transport Properties in Porous Media
- "Geophysics in the Cloud" 2022 Wildcatter competition results

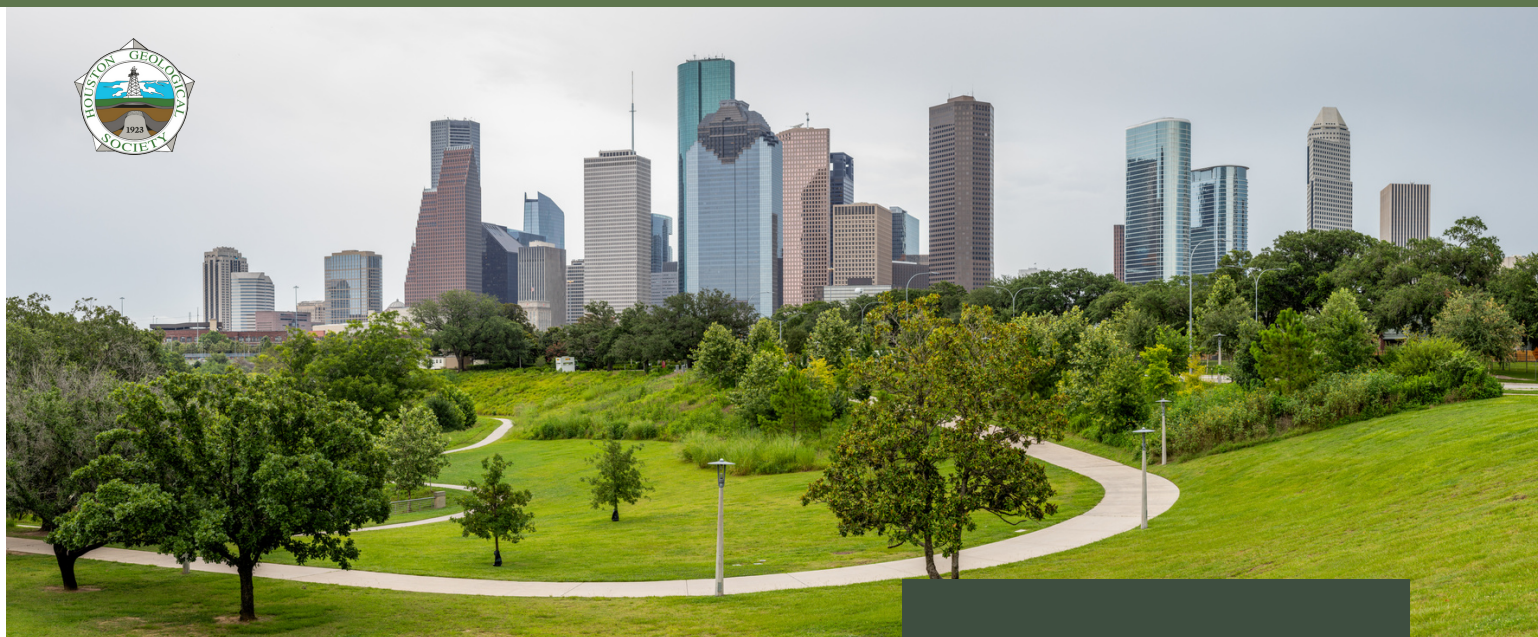
Discussion Panel:

- "Challenges and Best Practices of Deploying Geoscience ML Solutions"
  - Pandu Devarakota, Principal Scientist, Technology Advisor, Shell
  - Sathiya Namasivayam, VP Data & Analytics, TGS
  - Dan Kahn, Sustainability Lead, AWS
  - Dan Piette, CEO, Bluware

For Sponsorship and Registration info, call the GSH @ 281-741-1624 or visit [gshtx.org](https://gshtx.org)



# Volunteer with HGS



## Annual Events

Every year the HGS has annual social events, and we need volunteers to help us organize and set up on the day of!

These include events such as:

- Golf Tournament
- Shrimp Peel & Crawfish Boil
- Skeet Shoot
- Tennis Tournament
- Field Trips



## Committees

HGS committees such as Educational Outreach and Continuing Education provide geoscience learning resources to students and the local geoscience community. These groups are always looking for volunteers! If you or someone you know is interested in lending a hand, please contact the HGS Office!

## Interested in Volunteering?

The HGS is always looking for energetic members to become volunteers for the society! As the largest local geological society in the country, we depend on the support of our members to help us organize and execute our many activities. Committees such as Educational Outreach, Continuing Education, and our annual social event committees are always looking for extra helping hands! Contact the HGS Office at [office@hgs.org](mailto:office@hgs.org) to learn more!

# CALL FOR PAPERS



*Be There!*

**APRIL 23-25, 2023**  
NORRIS CONFERENCE CENTER

**SUBMIT A TALK OR POSTER ABSTRACT  
DEADLINE: DECEMBER 15, 2022**



**[www.geogulf2023.org](http://www.geogulf2023.org)**

**72nd Annual Meeting  
of the Gulf Coast Association  
of Geological Societies  
(GCAGS)**



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# Remembrance

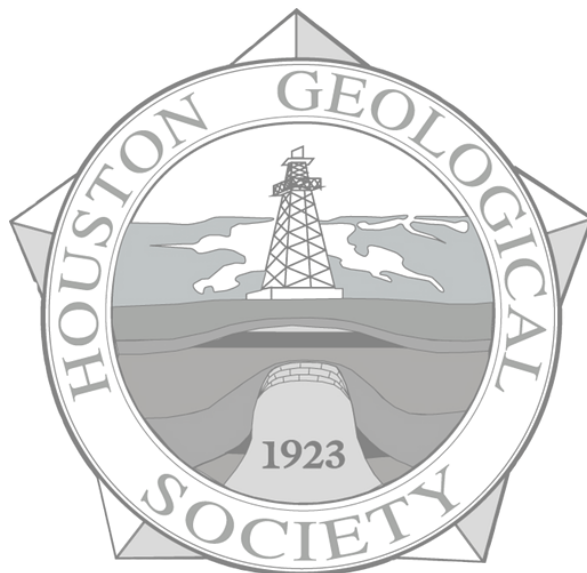
**TAREK GHAZI**  
**PASSED 2022**



Tarek Y. Ghazi graduated from Stanford University with a B. S. in geology, after which he enjoyed a 20-year career with Conoco in uranium exploration and production, oil and gas exploration research, and global new ventures in Casper, San Antonio, Ponca City, Dubai and Houston. After Conoco, Tarek held various positions at the interface of geology and information technology, the last of which was VP of Technical Services at C&C Reservoirs.

He has also been an active volunteer for the HGS, AAPG and SPE in variety of elected and appointed roles. Tarek became a member of HGS on 12/02/03. His HGS positions have included Treasurer-elect, Treasurer, Chairman of the International Explorationists, Website Manager, and Board Director. Tarek received the following HGS Awards: President's Award 2008, Chairman's Award 2015 and the Distinguished Award 2020.

In addition to volunteer work, Tarek enjoyed exploring the back roads of South Texas with the BMW Motorcycle Club of Houston.



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# Remembrance

WALTER C. "RUSTY" RIESE  
1951-2022



W.C. "Rusty" Riese passed peacefully from this earth on October 6, 2022, at CHI Baylor St. Luke's hospital following a protracted battle with pulmonary fibrosis. A prominent geologist, loving father, and consummate storyteller, he will be missed by countless friends, family, and colleagues.

Rusty was the elder son of Katherine E. and Walter H. Riese of Baldwin, New York. He spent his childhood on Long Island with his Navy veteran parents and younger brother Sandy, and he attended Archbishop Molloy High School, where he excelled academically and lettered in track and field, principally as a shotput and javelin thrower. After his graduation in 1969, he departed for the greater Southwest, specifically New Mexico, to study earth sciences.

Rusty earned his Bachelor of Science degree in geology in 1973 from the New Mexico Institute of Mining and Technology. He earned his master's and doctoral degrees in geology in 1977 and 1980, respectively, from the University of New Mexico.

The Southwest suited him. During his years as an undergraduate at New Mexico Tech and graduate student at UNM, Rusty realized and nurtured two of his most valued endeavors: his passion for cacti, and his relationships with fellow students and advisors that would endure through his life. At the time of his passing, he was in a loving relationship with Jamie Boling, a college friend turned partner in 2019.

Rusty worked as a geologist and geoscience adviser for Gulf Mineral Resources, Anaconda Minerals, ARCO Oil and Gas Company, Vastar Resources, and finally BP, having successfully navigated a series of acquisitions and mergers. He was known for his work ethic and spirited partnerships with colleagues. He traveled extensively for his work, eventually visiting every continent but Antarctica, and residing in Colorado, California, and finally Texas for the rest of his life. He authored dozens of papers and held numerous U.S. and international patents for his work. Even in retirement, he continued to give lectures on economic geology, coalbed methane sequestration, and climate change.

Though he wore many hats and held many titles—from adjunct professor at Rice University and UNM to United States Powerlifting Federation judge to board member for the American Association of Petroleum Geologists—he was most proud of being dad and "Boris" to his two kids, Clay and Monica, who are gutted by this loss. They will treasure their memories of family camping trips, road trips through the Southwest and up the East Coast, and steaks so good they both refuse to order them from restaurants anymore.

Rusty was preceded in death by his parents, Katherine and Walter. He is survived by his son Clay; daughter Monica and son-in-law Matt "Ozz" Oztalay; his brother and sister-in-law, Sandy and Laura Riese; his partner Jamie Boling; and her sons, Colin and Blake.

Everyone who knew him doubtless has a story of their own of a wonderful dinner together from the World Famous Riese Driveway Steakhouse, a neighborly chat, or conversations over glasses of wine or Blanton's. They'll recall a bit of advice he gave them or their children, a project he helped them complete, a road trip or camping adventure they experienced together (perhaps in the company of a few dozen Molloy students in a national park), and maybe even a fortuitous run-in with Santa Claus when Rusty was mysteriously absent.

He will spend his eternity becoming one with the Sangre de Cristo mountains in northern New Mexico, where he longed to spend his retirement years. Though the world is decidedly darker without him in it, his light shines on in every story you tell of him to another friend or family member.

In lieu of flowers, please direct donations to the Archbishop Molloy High School in Queens, New York, or the American Association of Petroleum Geologists Foundation.

*Published by Houston Chronicle on Oct. 23, 2022.*



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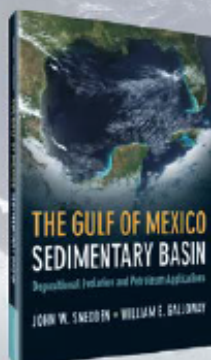
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**All materials are due by the 15th of the month, 6 weeks before issue publication.** Abstracts should be 500 words or less; extended abstracts up to 1000 words; articles can be any length but brevity is preferred as we have a physical page limit within our current publishing contract. All submissions are subject to editorial review and revision.

**Text** should be submitted by email as an attached text or Word file or on a clearly labeled CD in Word format with a hard copy printout to the Editor.

**Figures, maps, diagrams**, etc., should be digital files using Adobe Illustrator or Adobe Photoshop. Files should be saved and submitted in .ai, .eps, .tif or .jpg format. Send them as separate attachments via email or CD if they are larger than 5 MEGs each, accompanied by figure captions that include the file name of the desired image. DO NOT EMBED them into your text document; they must be sent as separate files from the text. DO NOT USE POWERPOINT, CLIP ART or Internet images (72-DPI resolution) as these do not have adequate resolution for the printed page and cannot be accepted. All digital files must have 300-DPI resolution or greater at the approximate size the figure will be printed.

**Photographs** may be digital or hard copy. Hard copies must be printed on glossy paper with the author's name, photo or figure number and caption on the back. Digital files must be submitted in .tif, .jpg, or .eps format with 300-DPI or greater resolution at the printing size and can be accompanied by figure captions that are linked by the file name of the image. The images should be submitted as individual email attachments (if less than 5 MB) or on CD or DVD.

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The *Bulletin* is printed digitally using InDesign. Call the HGS office for availability of ad space and for digital guidelines and necessary forms or email [ads@hgs.org](mailto:ads@hgs.org). Advertising is accepted on a space-available basis. **Deadline for submitting material is 6 weeks prior to the first of the month in which the ad appears.**

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### ***Qualifications for Active Membership***

- Have a degree in geology or an allied geoscience from an accredited college or university; or
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**To the Executive Board:** I hereby apply for membership in the Houston Geological Society and pledge to abide by its Constitution and Bylaws.

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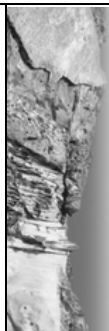
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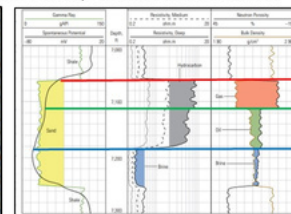
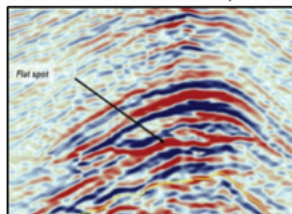
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The Houston Geological Society is a professional society for petroleum, energy and environmental geoscientists. The HGS supports continuing education, networking, outreach to students, student scholarships and young professional activities. HGS will celebrate its 100th year in 2023!

The objectives of the Houston Geological Society are to stimulate interest and promote advancement in geology for the Houston area, to disseminate and facilitate discussion of geological information, relationships among geologists in the area, and to aid and encourage academic training in the science of geology. The Society strives to achieve these goals through regularly scheduled technical meetings, publication of a monthly Bulletin, a continuing education program, field trips, the publication of timely books, and two student scholarship funds.

## Join the Houston Geological Society's wonderful group of volunteers!

The HGS is always looking for energetic members to become volunteers for the society. As the largest local geological society in the country, we depend on the support of our members to help us organize and execute our many activities.

### HOW YOU CAN HELP

**Field trips:** Do you have an idea for a fun field trip? We are always interested in planning exciting trips for adults and kids! Add your name to our list of future field trip guides!

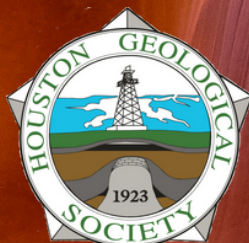
**Monthly Technical Meetings:** Have you recently heard a great speaker that you think the HGS should host? Let us know! You can also volunteer to help at any of our monthly technical meetings, such as: *General Dinner, General Lunch, Environmental & Engineering Meeting, North American Dinner, International Dinner.*

**HGS Committees:** Committees such as Educational Outreach, Continuing Education, and NeoGeos are always looking for extra helping hands!

**Annual Events:** Every year the HGS has annual social events, and we need volunteers to help us organize and set up on the day of the events. They include: *Scholarship Night, Crawfish Boil, Skeet Shoot, Conferences, Golf Tournament.*

**If you are interested in adding your name to our list of volunteers, please contact the HGS Office at [office@hgs.org](mailto:office@hgs.org)**





# *Houston Geological Society*

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