

# ***BULLETIN***

HOUSTON GEOLOGICAL SOCIETY



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The State of Private  
Equity in Oil & Gas



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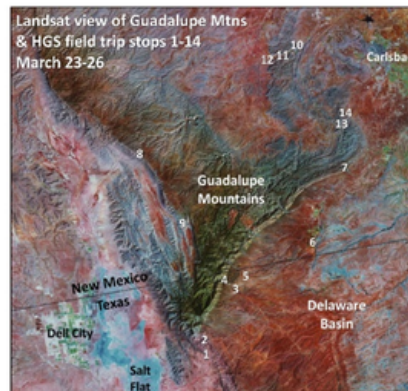
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# GUADALUPE MOUNTAIN AND DELAWARE BASIN FIELD TRIP



**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 March 9, 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 at the Stevens Inn. 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







Happy New Year fellow geoscientists and HGS Members! I hope everyone had a great Christmas and New Year's break and had a chance to recharge. In keeping with the theme to rebuild our technical community hosting in-person events, we have an exciting spring planned for the Houston Geological Society as we move into our 100th Year of the Society.

Right "out of the chute" and to start the new year, on **January 9th** our **General Dinner Meeting** promises to be an interesting and informative event. Dr. Jeff Dravis will present a talk titled "**Tropical Trade Wind Models from Caicos Platform, SE Bahamas: Applications to Cretaceous Limestone reservoirs Around the Ancestral Gulf of Mexico**". Jeff and his mentor Dr. Harold R. Wanless, instructor at the University of Miami, are likely the two of the most knowledgeable geologists regarding the Caicos Platform. They have run over 30 field seminars for industry groups to the Caicos. Personally, I have made several field trips to the Caicos with Jeff and Hal and I learn something new each trip. If you work carbonates, desire to do so, or just geologically curious, January 9th is a "Must Attend Event". Our evening will be held at the Norris Conference Center beginning at 5:30pm with our Social and Networking time. For additional details and registration see the HGS Bulletin or the HGS Weekly Announcements.

As an additional comment on the study of modern carbonates, in November Jeff, Hal and myself made a short field trip to observe a couple of meadows of stromatolites in the Schooner Keys offshore Eleuthera in the Bahamas. Jeff first discovered and documented these meadows in his University of Miami Master's Thesis in 1976. It was a great trip and my first opportunity to see stromatolites "in the wild."

**January 20 HGS Continuing Education Short Course.** "**Deepwater Sedimentary Systems: Science, Discovery & Application**". For registration & details see the HGS Bulletin or HGS Weekly Announcements.

On **January 23** our first **North American** event will be an evening seminar entitled, "**The State of Private Equity in Oil & Gas**". Mark Hamzat organized a similar event a couple of years ago and it was well attended. This event promises to be equally informative. For registration and details see the HGS Bulletin or HGS Weekly Announcements.

**February 8 Environmental & Engineering** will hold its dinner meeting Craft Republic, 5:30 to 9:00 "Environmental Testing & Monitoring at Carbon Capture & Sequestration Sites". For registration and details see the HGS Bulletin or HGS Weekly Announcements.

**Our Premier Event in February** is the **HGS Annual Scholarship Night on the 13th**. This is our fundraising event for future HGS Scholarships and the event where we award Scholarships from both the HGS Foundation and the Calvert Scholarship fund to deserving undergraduate students and graduate students from several universities. Please support the future of our profession by buying a couple of tickets or a table for this evening event. For registration and details see the HGS Bulletin or HGS Weekly Announcements.

**Additional 2023 events include:**

**Guadalupe Mountain and Delaware Basin Field trip March 23-26**

**GeoGulf 2023 (formerly GCAGS) April 23 to 25**

**HGS Shrimp Boil May**

**Grand Canyon Raft Trip June 1-8. Accepting wait list reservations.**

As we head to into the spring, we continue to make progress on other points of our **Three Point Plan**.

**Increasing Membership.**

We have been gradually adding new members over the last few months. Some revisions to the online registration process are being implemented. These modifications will streamline website renewal memberships and new applications using our website. Please continue to encourage your work colleagues and service company contacts to join our society. Remember, your service company contacts may join as associate members.

**Financial Sustainability.**

We continue to make progress on the goal of financial sustainability. Critical to achieving this goal is to have a thorough, in-advance understanding of all the costs associated with running individual events. One component of this involves the administrative staff tracking their time and as it applies to individual events. ***Achievement of our financial sustainability goal requires membership support and active participation by the membership in the society-sponsored events as well as active solicitation of sponsors.***

**The Board and I thank you for supporting your geological society with your membership and your participation in the scheduled events.**

**Keep up the great work!**

**Walter S. Light, Jr. - President**

# 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!



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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.



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Well, if you are reading this you have made it past 2022. It has been a trying year for many of us. But 2023 is the 100th Anniversary year of the founding of the Houston Geological Society. There are a number of events in the planning stages to honor this occasion. Some members are hard at work generating a Special Bulletin Commemorative Issue to come out later in the year.

There are many challenges facing us but I have confidence we will weather these challenges as we have weathered other challenges in the past. I'm ask that some of our members with long experience take the time to express their thoughts about the future of our industry and science in general so that our younger members can see that much of this is nothing new.

Because it is a new year and many of us make resolutions, I have a few suggestions to add to your list:

- 1.Resolve to become more active in the HGS
- 2.Resolve to attend at least two HGS meetings in the coming year.
- 3.Resolve to investigate volunteering on one of our many committees.
- 4.Resolve to promote membership in the HGS to co-workers and friends and bring them to meetings and participate in our fund raising and social events.
- 5.Resolve to renew your membership on time.

May this year be rewarding, fulfilling and successful for us all.

## *Can you guess the fossil?*

**From Latest Pleistocene of Harris County, Texas**

*Photos provided by Ken Thies. Answers on page 19.*



# HGS Scholarship Night February 13: Expanding the Horizon for Geoscientists in the Next Century

BY FANG LIN, LINDA STERNBACH

The annual HGS Scholarship Night (February 13 at the Norris Center) will emphasize young professional career-building advice from two accomplished geoscience managers and mentors. Each year Scholarship Night is a bright beacon for a students receiving HGS financial support. Award winning students will attend from many Gulf Coast Universities. The current scholarship recipients will be invited to attend. Historically the HGS Undergraduate Foundation Fund and the Calvert Memorial Scholarship Fund have awarded over \$1 million to geology students at nearly 30 universities across the country since the first awards were made in 1984 and 1978 respectively. Last year Scholarship Night hosted over 200 people and features five young professionals and their career advice and stories. Scholarship Night is meant to be a forum for outstanding geoscience students to gather at a dinner, meet each other and accept award recognition from the HGS Scholarship Funds along with financial support for their tuition requirements. The HGS Undergraduate Foundation Fund, chaired by Joe Lynch, administers the undergraduate awards. The Calvert Memorial Scholarship Fund, chaired by Jeff Lund, administers the graduate student awards.

This year's Scholarship theme is "Expanding the Horizon for Geoscientists in the Next Century" and will be addressing several important themes:

1. Helping geologists succeed in their careers.
2. Managing the workplace so they can benefit and thrive.
3. Learn about careers in environmental geoscience and Carbon Capture and Sequestration (CCUS), a new skill area that is expanding with opportunities for young geosciences.

The Scholarship Night will be hosted by Fang Lin (Chevron Manager of Hydrocarbon Charge in Houston). Past Scholarship Night Chair Charles Sternbach, and Past HGS President Jeff Lund, will be on hand at the event as well. HGS President Walter Light and HGS Board members will also be on hand to participate in the program.

Scholarship Night features Monique Velasquez, General Manager of Chevron's Global Exploration Review Team. Fang Lin says, "I am excited to invite Monique to speak at

Scholarship Night 2023 because she has a passion for STEM outreach, and is a knowledgeable and passionate speaker, with advice on how to pursue an Earth Science career." Ms. Velasquez recently spoke at AAPG-SPE's URTEC on a panel titled "Workforce Direction: Unconventionals Take Conventional Skills." She also was featured at the AAPG International Conference in Cartagena Colombia on a panel about women in geoscience. She has 18 years of industry experience at Chevron, including working North Slope of Alaska and geophysical mapping in Texas. Now Ms. Velasquez has earned corporate management experience in Chevron's Technology Center (North America, West Africa), and has leading roles in Chevron's G&G Operations, Organizational Management, and Exploration Strategy units. Velasquez earned her BS in Geology from the University of New Orleans, and her geophysics Master's degree from the University of Texas, El Paso. "Students and young professionals at the HGS event will be able to ask Monique questions and get real-world advice," says Fang Lin.

If you are interested in how to get involved in Carbon Sequestration and Storage (CCUS) Scholarship Night will also feature Alexei Vyssotski, General Manager of CCUS in Chevron's New Energies Division. Alexei started in geology by studying environmental science at Sam Houston State University. He completed a Master's degree in geology at Rice University. While he has experience with finding and producing oil and gas, Alexei uses advanced interpersonal skills, including working across teams of different disciplines, and is often referred to as a "Strategy Translator". Fang Lin says, "Alexei can tell Scholarship Night attendees about Chevron's vision for lower carbon emissions through underground storage, and how geoscientists can move into this new career path."

Be sure to sign up for HGS Scholarship night on the HGS website at <https://www.hgs.org/civcrm/event/info?id=2390> at the Norris Center, on February 13th. Social hour at 5:30pm, dinner 6:30pm, and the presentations will be 7:30-9:00pm.

HGS members get discounted prices, so join or renew your HGS membership ahead of the meeting!



**Fang Lin**  
Scholarship Night  
Chair



**Monique Velasquez**  
Chevron



**Alexei Vyssotski**  
Chevron



# 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)



HOUSTON GEOLOGICAL SOCIETY

# SCHOLARSHIP NIGHT

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

NORRIS CONFERENCE CENTER, HOUSTON, TX



## SPONSORSHIP FORM

*All event profits benefit the HGS Scholarship Funds.*

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# HGS GENERAL DINNER MEETING



MONDAY, JANUARY 9, 2023 | 5:30 - 9:00PM  
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816 TOWN AND COUNTRY BLVD #210 HOUSTON, TX 77024  
HGS MEMBERS \$65 NON-MEMBERS \$75 STUDENTS \$25 WALKUPS \$75  
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EVENT CONTACT:SCOTT SECHRIST | PENNTEXAS53@YAHOO.COM

## ***Night in the Tropics: Tropical Trade Wind Carbonate Depositional Models From Caicos Platform, SE Bahamas: Applications to Cretaceous Limestone Reservoirs Around the Ancestral Gulf of Mexico***

Black Lake, Fairway and Golden Lane/Poza Rica Fields, all Cretaceous limestone oil pools, occur in settings that never made any sense based on depositional models gleaned from studies of subtropical, steep-margined platforms in the northern Bahamas. For example, on Great Bahama Bank, linear reefs only occur along its platform margins exposed to oceanic swells. Along its more protected platform margins, daily tidal currents generate oolitic sand belts oriented parallel to these margins; however, these oolitic sands never occur behind platform margin reefs. Further, isolated reefs and/or oolitic sands (as linear shoals or sheets) do not occur in platform-interior settings. Northern Bahamian platforms also are subjected to gentle easterly trade winds that produce weak cross-bank currents. These currents are capable of only shedding mud- and silt-sized carbonate material, which means that the resultant highstand wedges that onlap leeward platform-margins have poor reservoir potential. Linear reefs on leeward margins are absent or poorly developed due to persistent off-bank sediment stress.

The settings of the Cretaceous oil pools noted above are better explained by newer depositional models derived from studies of Holocene and Pleistocene carbonates on Caicos Platform. Located in the southeastern Bahamas, Caicos Platform is influenced by tropical, strong easterly trade winds. It is a carbonate sand-dominated platform where oolitic sands occur not only along its margins but well into the interior of the platform. These oolitic sands occur as linear subtidal sand shoals oriented parallel to the prevailing trade winds or occur as widespread subtidal sheets in deeper-water (up to 7-8 meters) platform-interior settings. Wherever preexisting island topography faces into these easterly trade winds, shoreline-parallel oolitic sands form perpendicular to these winds and quickly prograde into them. All Caicos Platform ooids form because of persistent trade wind-wave agitation; tidal currents play no role in their formation.

And unlike the northern Bahamas, reefs and ooids do form together on Caicos Platform. Strong trade wind-wave agitation promotes isolated and coalesced patch reef development in the interior of Caicos Platform, up to over 50 kilometers inboard of the platform margin, and in waters as deep as 10-12 meters. Skeletal sands shed from these reefs are converted to oolitic sand by the same style of agitation. Along the leeward margin of Caicos Platform, wherever parts of the platform jut out into the prevailing

trade winds, isolated linear platform margin reefs capped by reef flats have formed that are up to a few kilometers in length. Associated back-reef, finer-grained skeletal sands are being transformed into oolitic sands because of persistent easterly trade wind agitation. Therefore, on Caicos Platform, coeval oolitic sands do occur behind platform-margin reefs.

Finally, in concert with hurricanes, strong trade winds persistently shed not only mud- and silt- sized carbonate sediments from the interior of Caicos Platform but also push oolitic sands to the edge of its leeward platform margin. There, these sands either shoal to create shallower bottom topography or they cascade over the platform margin, producing onlapping wedges likely dominated by oolitic sands with excellent reservoir potential.

Black Lake Field in Louisiana (Sligo-aged; 156 MMBOIP); Fairway Field in east Texas (Pearsall-aged [James Limestone]; 410 MMBOIP) and the interrelated Golden Lane and Poza Rica Fields in Mexico (Edwards-aged; >4BBOIP combined) occurred in a tropical belt 10-15 degrees north of the paleoequator, a setting influenced by strong easterly paleotrade winds. For each pool, I will show how their geological attributes confirm the key role that strong easterly paleotrade winds played in their localization and evolution, consistent with the guidelines developed on Caicos Platform\*.

Appreciating the role that strong easterly paleotrade winds played in the deposition of subsurface shallow-marine carbonates expands the potential for carbonate play development in platform- interior and slope settings historically ignored because of the older northern Bahamian models entrenched in the literature. The Caicos tropical strong trade wind models have direct applications to any Phanerozoic shallow-marine carbonate sequences that occurred between 5 and 22 degrees north or south of the paleoequator. As such, geoscientists involved in the exploration for, or exploitation of, carbonate reservoirs always should factor in the basin's physiographic setting at a global scale (determines paleolatitude) and at a local scale (bottom topography [ramp versus platform]).

**\*Key Reference:** Dravis, J.J. and Wanless, H.R., 2017, Impact of strong easterly trade winds on carbonate petroleum exploration - relationships developed from Caicos Platform, southeastern Bahamas, *Journal of Marine and Petroleum Geology*, v. 85, p. 272-300.



### ***Biographical Sketch***



**Jeff Dravis** received his Bachelor of Science degree in Geology from St. Mary's University in San Antonio, Texas. He then obtained a Master of Science degree in Marine Geology from the University of Miami's Rosenstiel School of Marine and Atmospheric Sciences in Miami, Florida. His thesis was entitled "Holocene Sedimentary Environments on Eleuthera Bank, Bahamas" and was supervised by Dr. Harold R. Wanless. In 1976, Jeff entered Rice University, Houston, Texas, to work on deep-water carbonates under the direction of Dr. James Lee Wilson. He was awarded a Ph D in Geology; his dissertation was entitled "Sedimentology and Diagenesis of the Upper Cretaceous Austin Chalk Formation, South Texas and Northern Mexico."

Dr. Dravis began his professional career in Houston with Exxon Production Research Company. There, he conducted applied research on carbonate facies, diagenesis and porosity evolution, but also headed up Exxon's worldwide training efforts in carbonates. This training included teaching in-house seminars, as well as leading 25-day combined modern (Bahamas and S. Florida) and ancient (Texas and New Mexico) carbonate field seminars for the corporation.

In 1986, Jeff started a geological consulting practice in Houston. He founded Dravis Interests, Inc. to provide technical expertise and training in applied carbonate geology to the oil and gas industry. Later, Dravis Geological Services was created to handle all technical consulting projects. To date, Jeff has completed 196 technical projects worldwide, working on carbonate sequences ranging in age from Cambrian to upper Tertiary. He has presented 324 in-house and field seminars to industry, both on a public and private basis. This includes teaching 73 industry and academic seminars on Caicos Platform in the southeastern Bahamas, as well as numerous ancient carbonate field seminars in west Texas and New Mexico.

Jeff has been an Adjunct Professor of Geology at Rice University since 1987, where he has taught parts of graduate courses, taken students into the field, and served on thesis committees. In 2016, he began teaching the carbonate geology segment of the University of Houston's Professional Master's Program in Petroleum Geology and will present his sixth segment in early 2023.

E-Mail: [jdravi@rice.edu](mailto:jdravi@rice.edu)





# HGS ENVIRONMENTAL & ENGINEERING MEETING

WEDNESDAY, JANUARY 11, 2023 | 5:30 - 9:00PM

CRAFT REPUBLIC HOUSTON

11470 WESTHEIMER RD, HOUSTON TX 77077

HGS MEMBERS \$35 NON-MEMBERS \$40 STUDENTS \$15 WALKUPS \$40

[HTTPS://WWW.HGS.ORG/CIVICRM/EVENT/INFO?ID=2415](https://www.hgs.org/civicism/event/info?id=2415)

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



## *Buffalo Bayou Geology Overview*

Buffalo Bayou is a natural river that flows generally eastward through three Texas counties, with most of the partially straightened waterway flowing from its origin in the Katy prairies, through the city of Houston, and the Houston Ship Channel, until merging with Galveston Bay near Morgan's Point. The bayou's length as measured along the channel is approximately 70 miles, but it may well have been twice that distance prior to modifications which occurred over the past 100 years. It is interpreted to have formed as a distributary within the Brazos River highstand delta complex approximately 18,000 to 12,000 years ago. Although it presents geomorphologically as a meandering stream, it behaves more as an incised stream, since within its non-channelized reaches it has not deviated significantly within the past 100 years. A previous study (Van Siclen 1991) attributes low relief erosional topography, and offlapping deltaic highstand wedges created during the Sangamonian-Wisconsinian glacial cycles, to be contributing factors to Buffalo Bayou's lack of lateral movement. Presence of subsurface salt structures and related surface faulting may also have a local influence on Buffalo Bayou's meander pattern. Numerous outcrops of late Pleistocene Beaumont formation siliciclastics are intermittently observable along the entire length of the bayou, with desiccated firm red clays, cross bedded sandstones, and cemented pebble lags, often contained within channel cut and fill structures, presenting a stratigraphic snapshot of Brazos River highstand delta deposition and lowstand erosion. An interpreted section in the general vicinity of Memorial Park reveals at least nine depositional events, however the precise timing or assignment of these events to a particular glacial cycle(s) is a subject for a future more detailed study. (This talk was originally presented November 2021 at a gallery show featuring Buffalo Bayou photography, and thus the content of the presentation is intended to be understandable by the general public, and not only the technical geoscience community.)



Needing more luck with your sales efforts? Promote your business as a Vendor Corner at an HGS meeting!

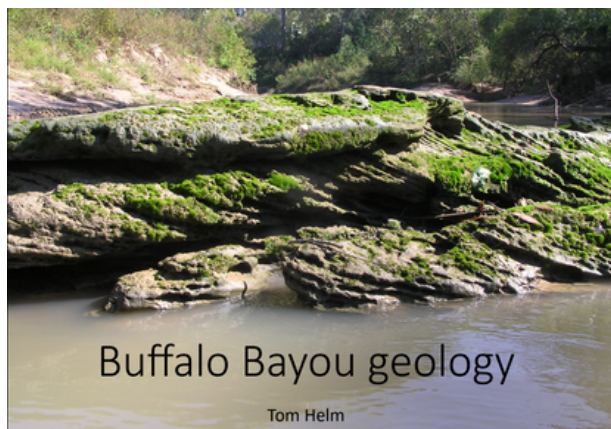
Make direct contact with interested geoscience buyers without being lost in an ocean of exhibitors. The money that is raised through Vendor Corner helps the HGS support continuing education, networking, outreach to students, student scholarships, and young professional activities. [Click here to read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

### *Biographical Sketch*



**Tom Helm** spent his childhood along the Gulf Coast in Mississippi and Louisiana, spending as much time outdoors as possible, hiking through swampy forests and sailing small boats on the coastal waterways, cultivating a strong interest in natural sciences. Following a brief

foray into pre-med studies, he discovered that he was far more interested in geology, changed majors, and after graduation from University of Houston in 1994, worked on a variety of exploration and appraisal projects over the next 20 years with international companies and large independents. In 2014, he decided to chase his entrepreneurial ideas and went independent, and consulted with several prospect generating shops until 2021. During his entire professional career, he encouraged the use of field geology and outcrop examples to help calibrate geophysical interpretations and subsurface geological models, and attended as many industry field schools as possible in order to "bring the outcrop back to the office". Concurrently, he was a competitive canoe racer and river guide here in Texas, and started a canoe trip company in 2014. While paddling along Buffalo Bayou on race training runs and guided trips, he often noticed the presence of sandstone outcrops and sedimentary structures along the shores, and decided to document some of these observations for general interest presentations and possible future study. In 2022, he decided to retire from the oil industry, and is now a professional sailboat captain...which has more in common with geology than you might think!



# HGS CONTINUING EDUCATION SHORT COURSE



FRIDAY, JANUARY 20, 2023

SHELL WOODCREEK CAMPUS, 150 N. DAIRY ASHFORD RD, HOUSTON, TX 77079

BUILDING B, ROOM B-0101

8:00AM - 1:00PM

HGS MEMBERS \$425 NON-MEMBERS \$550 STUDENTS/EMERITUS/IN-TRANSITION \$310

[HTTPS://WWW.HGS.ORG/CIVICRM/EVENT/INFO?ID=2436](https://www.hgs.org/civicism/event/info?id=2436)

## *Deepwater Sedimentary Systems: Science, Discovery, & Applications*

Registration includes: Copy of the first edition book, a value of \$189.44, Continental breakfast and beverages, 4 Hours PDH Certificate (handed out at the end of the event)

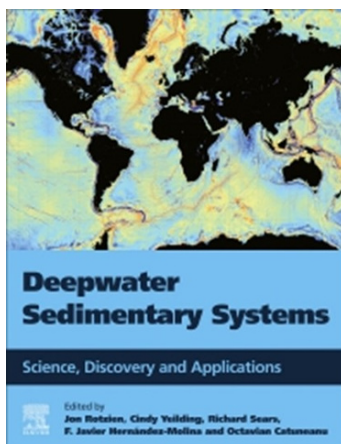
Join two of the editors of Deepwater Sedimentary Systems: Science, Discovery and Applications for a full day of learning and discussion on the topic of deepwater exploration and production. Specifically, Jon and Cindy will present these key themes:

1. deepwater sedimentary processes and reservoir architecture;
2. emerging themes in subsurface imaging and modeling;
3. the important factors for financial success in deepwater;
4. offshore exploration and development scenarios for the next 10, 20 and 100 years – and what it will take to achieve those milestones.

**Each early registration will receive a questionnaire. Please be sure to submit your requests and questions for Jon and Cindy in the questionnaire.**

Please be sure to register early by (December 15, 2022)!

**Early registration guarantees a signed copy of the first edition book, detailed below:**



**Deepwater Sedimentary Systems: Science, Discovery and Applications** 1st Edition – August 17, 2022

Editors: Jon Rotzien, Cindy Yeilding, Richard Sears, F. Javier Hernández-Molina, Octavian Catuneanu

- eBook ISBN: 9780323919210
- Paperback ISBN: 9780323919180

**Deepwater Sedimentary Systems: Science, Discovery and Applications** helps readers identify, understand, and interpret deepwater sedimentary systems at various scales – both onshore and offshore. This book describes the best practices in the integration of geology, geophysics, engineering, technology, and economics used to inform smart business decisions in these diverse environments. It draws on technical results gained from deepwater exploration and production drilling campaigns and global field analog studies.

With the multi-decadal resilience of deepwater exploration and production and the nature of its inherent uncertainty, this book serves as the essential reference for companies, consultancies, universities, governments and deepwater practitioners around the world seeking to understand deepwater systems and how to explore for and produce resources in these frontier environments.

From an academic perspective, readers will use this book as the primer for understanding the processes, deposits and sedimentary environments in deep water – from deep oceans to deep lakes. This book provides conceptual approaches and state-of-the-art information on deepwater systems, as well as scenarios for the next 100 years of human-led exploration and development in deepwater, offshore environments. The students taught this material in today's classrooms will become the leaders of tomorrow in Earth's deepwater frontier.

This book provides a broad foundation in deepwater sedimentary systems. What may take dozens of individual academic and professional courses to achieve an understanding in these systems is provided here in one book.

For more information, please see: [Deepwater Sedimentary Systems – 1st Edition \(elsevier.com\)](https://www.elsevier.com/books/deepwater-sedimentary-systems/9780323919210).





### Biographical Sketch

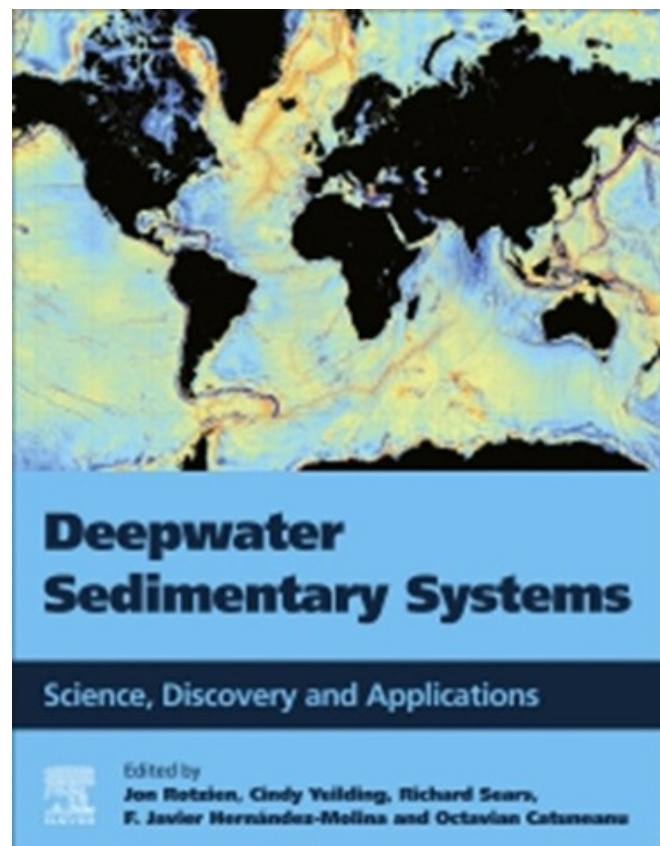


**Jon Rotzien** is President of Basin Dynamics and Adjunct Professor at University of Houston. He specializes in reservoir presence and quality forecasting in conventional and unconventional drilling programs on all oil-producing continents. Prior to his

present posts, he served BP and other supermajor and independent operators in a variety of basins and petroleum reservoir technical training programs. As a business owner and scientist, Rotzien has participated in oil and gas exploratory to development drilling, mapping expeditions, technical competency training and consulting and has served as lead geologist in about one-third of those ventures. He is currently serving as Chair of the Houston Explorers Club. Rotzien received a Ph.D. in Geological Sciences from Stanford University and a B.A. degree in Geology from Colorado College.

#### Affiliations and Expertise

Basin Dynamics, LLC, and University of Houston Houston, TX, USA



### Biographical Sketch



**Cindy A. Yeilding** served as a leader and technical expert at bp for more than 35 years, most recently as Senior Vice President of BP America, prior to her retirement in 2020. In this role she held numerous positions, including Chair of the coordinating subcommittee of the

U.S. National Petroleum Council's Carbon Capture, Use, and Storage study, bp's Executive Sponsor for Princeton University and as Board Member and Executive Committee member of the Greater Houston Partnership. Previous roles in bp include Vice President, Exploration and Appraisal- Gulf of Mexico; Vice President- Global Basin Analysis and Global R&D Manager. As an exploration and research scientist, Cindy has developed and led geological courses, published technical papers, participated on panels and delivered numerous technical, leadership and keynote presentations for technical societies, universities and leadership. Ms. Yeilding currently serves as the Board Chair of the Offshore Technology Conference and serves as a Director on the boards of Denbury Inc. and the Center for Houston's Future. Ms. Yeilding has a Bachelors of Science degree in Geology from Southern Methodist University and a Masters of Science degree in Geology from the University of North Carolina. Additionally, Ms. Yeilding was a founding member of the American Association of Petroleum Geologists Women's Committee and conceived of and initiated the Women's Networking program (WISE) and the OTC High School Energy Challenge at the Offshore Technology Conference. Ms. Yeilding has been recognized as a leader and a scientist across the energy industry, including receiving the AAPG Pioneer Award and being recognized as one of Hart Energy's "25 Most Influential Women in Energy" and the Houston Business Journal's "Women of Influence."

#### Affiliations and Expertise

Board of Directors, Denbury Inc., Texas, USA; Board of Directors, Center for Houston's Future, Texas, USA; Board Chair, Offshore Technology Conference, Texas, USA

### Deepwater Sedimentary Systems: Science, Discovery and Applications

1st Edition - August 17, 2022

Editors: Jon Rotzien, Cindy Yeilding, Richard Sears, F. Javier Hernández-Molina, Octavian Catuneanu

- eBook ISBN: 9780323919210
- Paperback ISBN: 9780323919180

# HGS NORTH AMERICAN MEETING

MONDAY, JANUARY 23, 2023

WINSTON & STRAWN | 800 CAPITOL ST, STE. 2400 HOUSTON, TX 77002

5:30PM - 9:00PM

HGS MEMBERS \$65 NON-MEMBERS \$75 STUDENTS \$25

[HTTPS://WWW.HGS.ORG/CIVCRM/Event/Info?ID=2388](https://www.hgs.org/civCRM/Event/Info?ID=2388)

EVENT CONTACT: MARK HAMZAT O. EROGBOGBO | [MARK@TEXASSTARALLIANCE.COM](mailto:MARK@TEXASSTARALLIANCE.COM)



## *The State of Private Equity in Oil & Gas*

The dynamics between sources & uses of Private Equity Funds have become vital & relevant in benchmarking returns and value add in portfolio assets.

The value chain that drives the production of hydrocarbons from pore to pump allows integration of new techniques & technologies in helping de-risk the opportunities.

Private Equity & other capital resources are challenged to deploy creative solutions for debt and equity strategies. The covenants & thesis for allocating the investment capital plays a role in shaping the performance of these portfolio assets.

The event will bring together stakeholders in the sources & uses of the Oil & Gas Private Equity ecosystem as the state of the dynamics is explored with a view to driving sustainable value in the industry.

### ***Biographical Sketches***



**Zac Coplon** grew up in Claremore, Oklahoma. He attended Oklahoma City University. While in school for a Bachelor's of Spanish Language, and later MBA in Finance, he played on the OCU baseball team.

His career in oil and gas began in 2017 when he co-founded a small OKC based company. Through this experience he found a passion for the O&G industry, particularly the upstream A&D space.

Blue Bison Analytics (BBA) was created in early 2020. The team at BBA developed 4cast, a software intended for the forecasting and evaluating the economics of O&G wells.

When he takes a break from the office, Zac enjoys spending time with his family and friends. You can usually find him at a live music concert, hunting, fishing, hiking, playing golf, and disc golf. He also volunteers as a youth baseball coach in the OKC Dodgers Rookie League and in the Oklahoma City University Mentor Program.



**Devon Dixon** has more than 25 years of experience in state and local sales and use taxation and is a Managing Director in BDO's Southwest Region sales and use tax practice.

He has worked as an auditor with the Texas Comptroller of Public Accounts, Big Four, E&P, refining and chemical companies, and several pipeline companies operating in the lower 48 states and Alaska.

Devon is an out of the box thinker, and because of that, he has been able to save companies millions of dollars through proper tax planning, compliance and education.

Devon's primary focus has been in the oil and gas industry where he has helped companies with audit defense, managed audits and reverse audits. He has also assisted clients with tax automation and implementation projects and sales and use tax compliance.



**Pedro Blanco** is a Senior Investments & Finance Executive offering more than 20 years of quantifiable achievements in engineering, corporate finance, mergers, acquisitions, divestitures, leveraged buy-outs, recapitalizations, and joint venture partnerships. Also, an avid entrepreneur.

In his corporate professional experience, Mr. Blanco has contributed to the international development of multinational companies such as Schlumberger, Thomas De La Rue, Dow Chemical, Enron Corporation, Citgo Petroleum, etc. His responsibilities ranged from highly technical areas of Energy and Manufacturing to risk management, financial analysis, restructuring, business development, management consulting, M&A, investment management, and venture capital.

Mr. Blanco holds a Master of Business Administration (MBA) in Corporate Finance and Corporate Strategy from the University of Michigan Ross School of Business and a bachelor's degree with honors in Geophysics Engineering from Universidad Simon Bolivar.

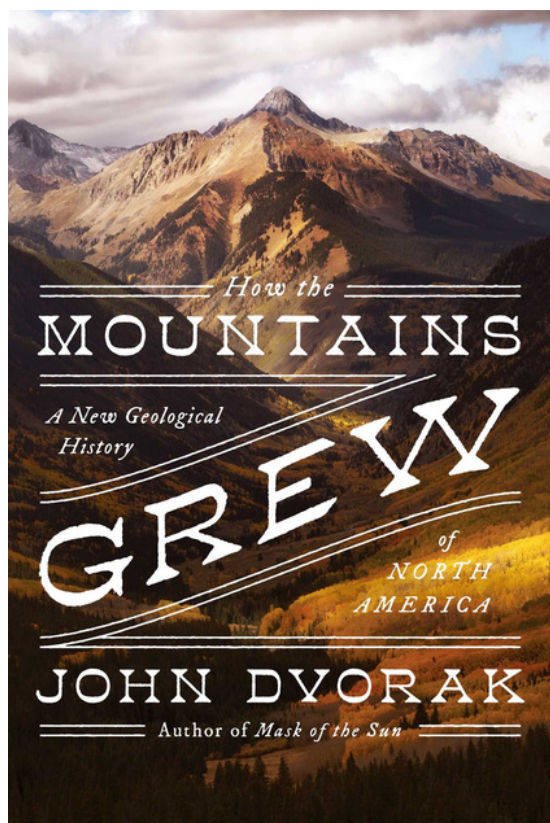




## Biographical Sketch



**Laura Freeman, SPE**, is the founder and managing director at Highpoint Global Capital and has been an integral part of more than \$8 billion in transactions including the high-profile acquisition of all of Hunt Oil Company's Permian Basin Assets in 2021. Highpoint is a technically focused advisory and consulting firm specializing in deal sourcing, technical valuation, financing, and navigating the complexities of deal making. Highpoint also assists clients with ongoing operations and ESG initiatives. She holds a master's in petroleum engineering and an MBA. Freeman is regularly featured as an expert on mergers and acquisitions, banking topics, and reservoir engineering in various industry events and publications.



## Book Review: "How the Mountains Grew - A New Geological History of North America" by John Dvorak

REVIEW BY CHARLES A. STERNBACH

What makes John Dvorak's "How the Mountains Grew" so special? Dvorak "connects the dots" between places of geologic wonder many geoscientists already know. The book provides context to well-known outcrops and fundamental geologic processes. There is still a lot to learn for those who have studied geology for many years!

When the theory of plate tectonics was proposed, our concept of how the Earth worked experienced a momentous shift. But tectonics cannot—and do not—explain everything about the wonders of the North American landscape. It all points to the geologic secrets hidden inside the 2-billion-year-old-continental masses. A whopping ten times older than the rocky floors of the ocean, continents hold the clues to the long history of our planet.

Plate tectonics handily explains mountains, uplifts, down warps, faulting, earthquakes, and volcanoes along plate edges. But intra-cratonic processes are not well understood within the plates until now! Earth Scope (like a telescope "pointed down") produces time-lapse tomography revealing deep mantle processes. The imaging beneath North America shows how "delamination" causes broad intraplate uplifts like the Colorado Plateau. Mantle avalanches affect the overlying crust with crypto volcanic plumes, hotspots like Yosemite, and earthquakes like the New Madrid Fault Zone.

A real page-turner, this book begins with early earth and ocean, craton formation, and our nearest celestial neighbor, our moon. The journey continues as mantle crust interactions drive plates to converge and separate in "Wilson Cycles," extinctions, and evolution. Readers will gain privileged insights into our planet. Professional geologists will enjoy the book because it provides insights about outcrops that they already know but in a deeper connection. Available in hard cover, paperback and kindle on Amazon.com - \$18.99-\$23.80.

# January 2023

<i>Sunday</i>	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>
1	2	3	4
8	9 <i>HGS General Dinner</i> "Night in the Tropics" Page 11	10 <i>HGS Board Meeting</i> 6 p.m.	11 <i>HGS E&amp;E Meeting</i> "Buffalo Bayou Geology Overview" Page 13
15	16	17	18
22	23 <i>HGS North American Dinner</i> "The State of Private Equity in Oil & Gas" Page 16	24	25
29	30	31	

## February 2023

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

### February 8 HGS E&E Meeting



"Environmental Testing & Monitoring at Carbon Capture & Sequestration Sites"  
by Danny Kingham, Christ Niamike

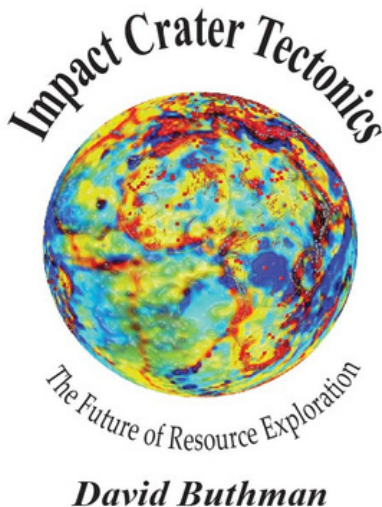
### February 13 HGS Annual Scholarship Night

"Expanding the Horizon for Geoscientists of the Next Century"  
by Monique Velasquez, Alexei Vyssotski

### February 14 HGS Board Meeting



Thursday	Friday	Saturday	
5	6	7 	<b>Reservations</b>  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.  <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>  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>
12	13	14	
19	20 <b>HGS Short Course</b> "Deepwater Sedimentary Systems: Science, Discovery & Applications" Page 14	21	
26	27	28 	
			Answer from page X: Incisor tooth from a Pleistocene equid may be of either the <i>Equus. francisci</i> (stilt-legged), or the <i>Equus alaskae</i> (stout-legged).



*Impact Crater Tectonics* provides a universal geologic framework for the prediction of mineral resources: oil, gas, gold, rare earth minerals--a plethora of treasures underfoot. Based on solid scientific, mathematic, and geologic principles, this work consecrates an imminent paradigm shift in the manner we interpret geologic structures. *Impact Crater Tectonics* will change your viewpoint of Earth forever.

Full-color, 297-page, 8.5" x 11" perfect-bound book, with over 200 photos, graphs, and illustrations. Available on Amazon, or signed copy from author at [DButhman@ImpactCraterStudies.org](mailto:DButhman@ImpactCraterStudies.org).

# Six EAS Students Recognized for Research and Presentation Excellence at 2022 Sheriff Lecture

BY DANIELLA GUTIERREZ EASLEY, UNIVERSITY OF HOUSTON

## Annual EAS-Houston Geological Society (HGS) Event, Including Student Poster Session, Held In-Person

Six University of Houston Department of Earth & Atmospheric Sciences students were recognized for research and presentation excellence by a panel of volunteer judges from EAS and the Houston oil and environmental industry. The Robert E. Sheriff Lecture was held on November 14, 2022, from 5:30-9 p.m., as a fully in-person reception attended by 64 participants, including 19 students and 16 faculty.

The organizing committee for the 2022 Sheriff event included Drs. Regina Capuano (chair), Daniel Hauptvogel, Paul Mann, Steve Naruk, and Jiajia Sun. Technical support was provided by Ngozi Onwuama of the UH College of Natural Sciences and Mathematics. Organizers from Houston Geological Society included Andrea Peoples and Alyssa Cushing.

The EAS student poster submissions displayed at Norris Conference Center were accompanied by five-minute-long PowerPoint presentation videos prepared by the presenters. There are also available for online viewing.

The presentations were judged by weighted scores where 60% of their score came from designated judges who reviewed the online presentations before the event and 40% of the score came from open voting by all event attendees. The submitted posters were grouped into two judging categories: 9 posters in the 'Advanced Ph.D.' category and 8 posters in the 'B.S./M.S./Early Ph.D.' category. There were 224 total page views of the virtual presentations this year.

Dr. Tom Lapen, chair of the EAS department, introduced the event by summarizing the accomplishments of the department over the past year. The Sheriff Lecture featured Dr. Yuxuan Wang, an associate professor of atmospheric chemistry in the EAS department at UH, who presented a lecture entitled "Connecting the Dots: Climate Change and Air Pollution." Her presentation was followed by a lively Q&A session.



## Results of the Sheriff EAS Student Poster Competition

### Advanced Ph.D. Category

#### First Place (Prize: \$600)

Daniella Gutierrez Easley, "Evaluation of the tectonic, paleogeographic, and global isotopic excursions on organic deposition and preservation in Trinidad and Guyana: An application of expellable potential modeling."

#### Second Place (Prize: \$400)

Michael Comas, "Sedimentary Record of Recent Retreat of Pine Island Glacier, Amundsen Sea, Antarctica."

#### Third Place (Prize: \$250)

Sharmila Appini, "Investigating seismic anisotropy in subduction slabs based on shear wave splitting patterns."

### B.S. / M.S. / Early Ph.D. Category

#### First Place (Prize: \$500)

Sara Rojas (Early Ph.D.), "Evaluating the Impact of Hurricane Harvey on the Upper Texas Coast: Using Airborne Lidar Data Sets with UAV-derived Topographic Data to Monitor Change and Track Recovery."

#### Second Place (Prize: \$300)

Steven Ramirez (B.S.), "Quantifying plate tectonic control on subduction zone earthquakes."

#### Third Place (Prize: \$200)

Julia Villafranca (M.S.), "Sediment deposition as a function of Antarctic glacial retreat: a spatial analysis using sub-bottom profiles."

### Thank You to the Volunteer Judges

The organizers and student presenters would like to thank the following volunteer judges of the student poster session for sharing their time and expertise.

### From the EAS Faculty:

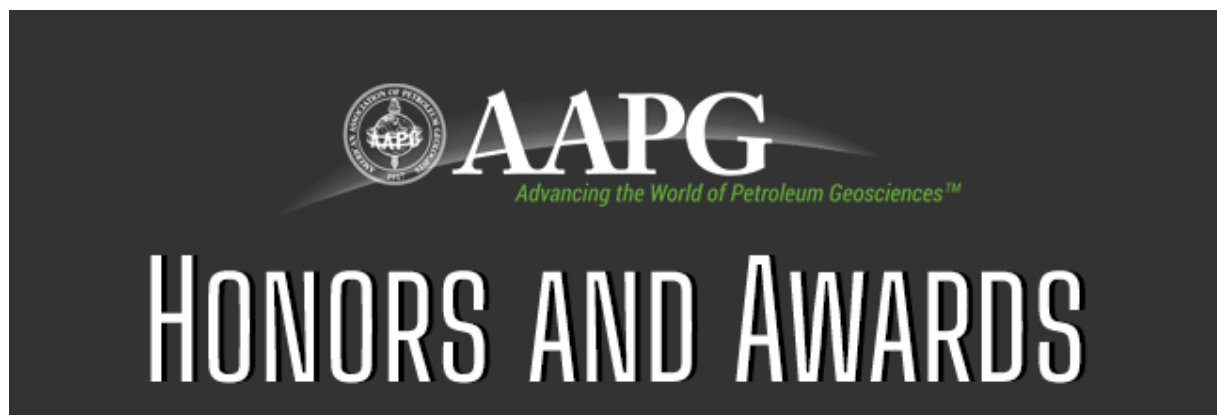
Brandee Carlson, Julia Wellner, Shan Zhou, and Perna Singh.

### From the Houston-Area Geosciences Community:

Mark Richardson (Exxon, retired), Soumia Alem (Schlumberger), Bryan Ott (Hess, UH Alum), Carolina Mejia (ResPhys, UH Alum), Zheng Huang (Hess, UH Alum), Shawn Wright (Hess, UH Alum), and Anna Krylova (Microseismic, UH Alum).

To view this article on the University website, please click [HERE](#).





## Announcing the New AAPG Honorees

A group of 23 distinguished geoscientists from around the world have been approved by the AAPG Executive Committee as recipients of AAPG honors and awards, which recognize individuals for achievements and service to the profession, the science, the Association and the public.

Technical award recipients, as well as details regarding events that will recognize and celebrate all honorees, are yet to be announced.

This year's AAPG honorees are:

- **SIDNEY POWERS MEMORIAL AWARD**
  - Kitty Milliken, Bureau of Economic Geology, Austin, Texas
- **MICHEL T. HALBOUTY OUTSTANDING LEADERSHIP AWARD**
  - Nosa Omorodion, Schlumberger, Houston, Texas (Africa Region)
- **HONORARY MEMBER**
  - Robert D. Hatcher Jr., University of Tennessee, Oak Ridge, Tenn.
  - Cynthia Huggins, Aera, Bakersfield, Calif.
- **NORMAN H. FOSTER EXPLORER AWARD**
  - Linda Price, ExxonMobil, Houston
- **ROBERT R. BERG OUTSTANDING RESEARCH AWARD**
  - [Thomas E. Ewing](#), Frontera Exploration Consultants, San Antonio, Texas
  - Amy Fox, Enlighten Geoscience Ltd., Calgary, Canada
- **DISTINGUISHED SERVICE AWARD**
  - Rebecca Caldwell, Chevron, Houston
  - Joseph R. Davis, BKV Corp., Dallas, Texas
  - Raffaele Di Cuia, Delta Energy Ltd., Ferrara, Italy
  - Akinwande Oluseye Ekun, Chevron, Houston
  - Mimionitu Opuwari, University of Western Cape, Cape Town, South Africa
  - [Douglas N. Valleau](#), Strategia Innovation and Technology Advisors, Spring, Texas
- **GROVER E. MURRAY MEMORIAL DISTINGUISHED EDUCATOR**
  - Virginia Sisson, Yellowstone Bighorn Research Association, Houston
  - Robert Trentham, University of Texas-Permian Basin, Odessa, Texas
- **HARRISON SCHMITT AWARD**
  - [Kirsten Siebach](#), Rice University, Houston
- **PUBLIC SERVICE AWARD**
  - [Neal and Inda Immega](#), HMNS, Houston
- **PIONEER AWARD**
  - William A. Ambrose, Bureau of Economic Geology, Austin, Texas
  - Dan J. Hartmann, DJH Energy Consulting, Fredericksburg, Texas
- **YOUNG PROFESSIONALS EXEMPLARY SERVICE AWARD**
  - Philip Ajaebili, Shell, Port Harcourt, Nigeria
  - Andrea Lopez Vega, Total Energies, Luanda, Angola
- **VLASTIMILA (VLASTA) DVOŘÁKOVÁ INT'L AMBASSADOR SERVICE AWARD**
  - William P. Bosworth, Apache, Cairo, Egypt



**Steve Goolsby**  
President, AAPG

# 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!



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# Remembrance

PETER ROSE  
1935-2022



Peter R. (Pete) Rose of Austin died of Acute Myeloid Leukemia (AML) on December 19, 2022 at the age of 87 surrounded by his loving family. He was a fifth-generation Texan and "a man of many parts" – loving husband, caregiver, father and grandfather, Christian, geologist, historian, country musician, scholar, teacher, entrepreneur, rancher, writer, mentor, philosopher, citizen, leader, friend. He always said the infamous baseball player was named after him.

Pete was born in Austin on July 3, 1935, the second son of Mary Paterson and Llewellyn Rose. He was an Eagle Scout. He graduated from Austin High School in 1953, and the University of Texas with degrees in Geology (B. S., 1957, M. A., 1959, Ph. D. 1968). He worked as a geologist for Shell Oil Co.; State University of New York at Stony Brook; the U. S. Geological Survey; and Energy Reserves Group, Inc. Pete went on his own

in 1980 as an independent consulting geologist (dba Telegraph Exploration, Inc). They settled in Austin, where Pete resumed his consulting practice. From 1990 through 2001 Pete traveled the world, teaching his widely-hailed corporate training courses in the newly emerging field of petroleum exploration risk analysis. This success led to the founding in 1999 of Rose & Associates, LLP, and the firm continued and expanded his expertise in teaching industry courses, supporting software, and consulting. Pete's 2001 book, *Risk Analysis and Management of Petroleum Exploration Ventures*, went through seven printings, was translated into Japanese, Chinese, and Russian, and is known as "The Bible" in its field. He brought into the new firm recognized professionals who were smarter than he was; they finished buying him out in 2005, when he retired. Rose & Associates, LLP is known today as the leading international firm specializing in petroleum exploration and production risk analysis.

Pete Rose was one of a small cadre of lucky people who "never had to work a day in their lives" -- he loved being a geologist! Over 60 years, he published more than 80 papers, on an extremely wide variety of geotechnical topics, 13 of them after his 80th birthday! He was a compulsive reader and a polymath. Today, he is recognized as the leading authority on the geology and history of the Edwards Plateau, starting with his definitive monograph on the Edwards Limestone (1972), followed by a succession of related geological publications, and *The Reckoning, the Triumph of Order on the Texas Outlaw Frontier* (Texas Tech University Press, 2012), a history of how order and law came to the Texas Hill Country in the 1870s. He was a Fellow of the American Association for the Advancement of Science, the Geological Society of America, and the Geological Society of London. He frequently served as a change-agent in various professional assignments and activities. Pete was an informed, outspoken, but polite critic regarding several controversial topics, such as anthropogenic climate change and critical race theory.

During his retirement Pete served his profession as the 89th President of the American Association of Petroleum Geologists (AAPG). He co-chaired a 2007 industry committee which sponsored a multidisciplinary conference in Washington, DC, to revise the definitions of SEC oil and gas reserves for new oil and gas resource plays; the SEC did so, thus encouraging private investment therein.

In 2013, Pete received the Petroleum Group Medal from the Geological Society of London, the first American to receive this coveted award, and, in 2014, AAPG's Halbouty Outstanding Leadership Award.

In Austin, Pete was a member of the Austin Geological Society (President 2012/13), the English-speaking Union (President, 2011/12), the Austin Dance Club, the Geological Lunch-bunch, the Thursday morning Geriatric Golfers, Austin Christian Executives, St. David's Episcopal Church, and later, Westlake Hills Presbyterian Church, where he was a longtime member of the Senior Men's Bible Class. Acknowledging all such professional recognition and valued memberships however, Pete was proudest of his children and stepchildren, and their many accomplishments and contributions..

His children are most grateful to him for passing on his fearless exploration of...everything.

*Summarized from the Life Tributes Section of the Houston Chronicle published on Dec. 25, 2022.*

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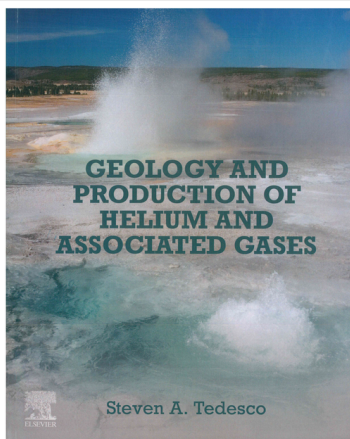
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## HGS Bulletin Instructions to Authors

**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.

### HGS Bulletin Advertising

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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9	\$800	\$1,300	\$2,500	\$4,700						
8	\$750	\$1,250	\$2,250	\$4,300						
7	\$600	\$1,100	\$2,200	\$3,850						
6	\$550	\$950	\$1,800	\$3,500						\$2,000
5	\$500	\$800	\$1,600	\$3,000	\$4,700	\$4,500	\$4,350	\$4,000		
4	\$450	\$650	\$1,300	\$2,500						
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### Website Advertising Opportunities

There are currently 5 opportunities to help spread the word about your business or event and generate traffic to your website or campaign. Please submit all ad materials five (5) days prior to the go-live date for testing.

Placement	Rate	Specifications/Description
HGS Website Home Page Banner Ad	\$800 – Monthly	275 x 875 pixels; home page top banner ad. All Home Page Banner Ads rotate every 10 seconds.
	\$1800 – 3 Months	
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HGS Website Event Page Ad	\$600 – Monthly	200 x 400 pixels; calendar page left column ad. All Event Page Ads rotate every 10 seconds.
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Geo-Jobs	\$50 – 14 days	Posting of job opportunities on HGS website. Click the Geo-Jobs tab to get started. Must be filled out completely and the dates set appropriately.
	\$100 – 30 days	
	\$300 – 3 Months	
	\$600 – 6 Months	
	\$1200 – 12 Months	
Vendor Corner	\$250 *4 Pack option with 1 FREE bonus event for \$1000.00 available. Send request to <a href="mailto:vendorcorner@hgs.org">vendorcorner@hgs.org</a> .	Company logo, company website, and company description will be highlighted on HGS Calendar website event. This is an opportunity to display company wares, gain personnel exposure and hand out product information at HGS dinner meetings.
Event/Short Course Calendar Ad	\$100 – Monthly	An event ad posted within the HGS website calendar under the Events tab.
Bundle & Save!	<ul style="list-style-type: none"> <li>• 30% off website ads when combined with print ads in all 10 HGS <i>Bulletin</i> issues.</li> <li>• 20% off website ads when combined with print ads in 5 HGS <i>Bulletin</i> issues.</li> <li>• 10% off website ads when combined with print ads in 3 <i>Bulletin</i> issues.</li> </ul>	



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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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### **Qualifications for Associate Membership (including students)**

- Be involved in the application of the earth or allied sciences.
- Be a full-time student enrolled in geology or in the related sciences.

Apply online at [www.hgs.org](http://www.hgs.org) and click "Join HGS". Annual dues expire each June 30.

Annual dues are \$36; Emeritus members pay \$18; Students are free.

**To the Executive Board:** I hereby apply for membership in the Houston Geological Society and pledge to abide by its Constitution and Bylaws.

Full Name \_\_\_\_\_ Membership Type (choose one): Active Associate Student

Current Email (for digital Bulletin & email newsletter) \_\_\_\_\_

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Years Work Experience (required) \_\_\_\_\_

Please submit a brief statement regarding your work experience in the practice or application of earth science or an allied science.

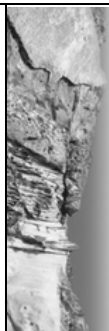
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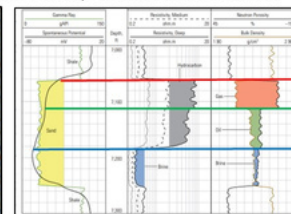
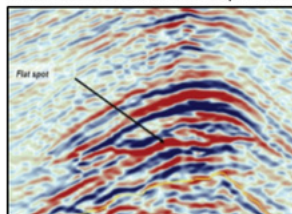
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# Come Rock With Us



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!

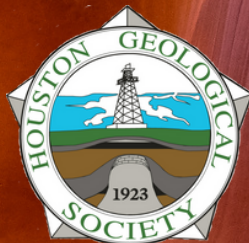
**Monthly Technical Meetings:** Have you recently heard a great speaker that you think the HGS should host? Let us know! You can also volunteer to help at any of our monthly technical meetings, such as: *General Dinner, General Lunch, Environmental & Engineering Meeting, North American Dinner, International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