BULLETIN

HOUSTON GEOLOGICAL SOCIETY



HGS VIRTUAL E&E MEETING

Geochemical Characterization of Base Metals in Stream Water & Sediments in the Caddo Lake Watershed, TX

HGS VIRTUAL INTERNATIONAL MEETING

Revisiting the Cretaceous Play of Trinidad

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Voting begins April 10th and continues through May 10th

26-28 September 2022 Houston, TX & Online

The 21st HGS-PESGB Africa Conference

CALL FOR PAPERS

"The Future of G&G in Africa's E&P: Skills, Transition, & Resources"



Submit Abstracts to: africa2022@hgs.org

Abstract Deadline: June 15, 2022



The HGS/PESGB Africa Conference has built a reputation for hosting high-quality technical talks focused on the geology of the African continent and conjugate margin. In 2022, the conference will focus on how Africa transitions over the next decade. Alongside submissions on petroleum exploration, development, and reservoir management, we also seek submissions on subsurface technologies, skills and the projects supporting Energy Transition in Africa, such as geothermal, carbon storage and rare earth element exploration.

The HGS Africa Technical
Committee invites you to submit an abstract for the program. Your research could be featured on the agenda, giving you a platform to reach a global audience. You also have the opportunity to win one of the prestigious awards for technical excellence for the best presentations, including special awards for students and international contributors.

FROM THE PRESIDENT "Musings...About Dues & the News"

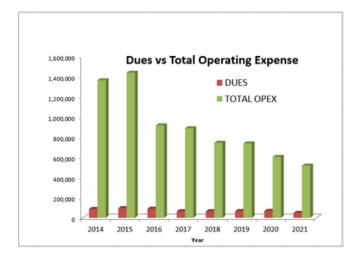
MIKE ERPENBECK



Most organizations whose members pay dues or initiation fees have in their constitution or by-laws stipulations for raising those fees over time. These happen in the recognition that the costs of doing business increase from year to year, and even in organizations that are largely volunteer-run have overhead costs subject to price

increases. Add to that the introduction of new expenses as new products and technologies become available to the organization...those that become impossible to do without. How did professional societies ever conduct business before they had websites, computers, software, office, staff, we wonder. But we do have all these things, and these things have a way needing to be upgraded and paid for, with regularity as it turns out

At any rate, HGS has resisted raising dues over of the last few years, but now all arrows point to the time being now. So members can anticipate dues rising 20% to \$36 per year. This will take effect when registrations for the next fiscal year come around in June. We have been posting notices in the bulletin and website so that members won't be blindsided when it comes time in June to renew membership. We hope all members will view this as a nominal increase only and that it not be a big hit to family budgets.



"It is obvious that no magnitude of dues increase is going to be the magic solution to profitability."

It has never been the expectation by HGS -at least not in anyone's memory-that dues would entirely pay for the cost of operations. Perhaps in the very distant past, I suppose. In the chart shown above it is obvious that no magnitude of dues increase is going to be the magic solution to profitability. In recent years they have covered only 6% to 11% of annual expenditures (see chart). During this time span we have reduced annual expenses from about \$1.5 million to about \$500 thousand. A significant portion of the decrease has regrettably come from the costs that came from putting on our traditional big events...big conferences, popular social events, etc in which the revenue we generated from for these events well exceeded the costs. As the popularity of these events fell, so too did the revenue, which eventually came down to the point where they couldn't even breakeven. Long story short, not all of the cost reductions have come from the prudent application of good fiscal pruning. Some of them came from reducing or eliminating once popular events. It's all part and parcel of trying to figure what the "right size" is.

By comparison to the large scale fall in the budget, the revenue from dues has stayed relatively consistent, although it too has fallen. From the \$90 thousand level 8 years ago down to about \$70 thousand in the 2019/20 fiscal year, it started to raise eyebrows in previous HGS boards. In 2020/21, total dues collected dropped to only \$48,000; this has been attributed to the pandemic aberration, although it is hard elaborate on the specific cause and effect mechanisms. In the past couple years the fall in dues income, and by implication, the decrease in membership, became a large area of concern. The current board is examining different ways to conduct new membership initiatives, something that many of us believe should be an ongoing theme in upcoming years. Clearly HGS has a challenge in arresting the decline in membership. The reason for raising dues goes beyond the small contribution to helping our bottom line. We continue to take all steps, big and small, to increase sources of revenue and to chip away at our costs.

I think when dues are too low, they project an image of cheapness and a low level of professionalism. Consider the dues amount as being a measure of the value of the membership in HGS. A higher value perceived by members may be followed by a more meaningful participation in the Society's activities and higher level of mutual respect for fellow members, with a shared feeling of having more skin in the game. We need the support of our fellow geologists and Society as we engage our communities.

FROM THE PRESIDENT ... continued

MIKE ERPENBECK

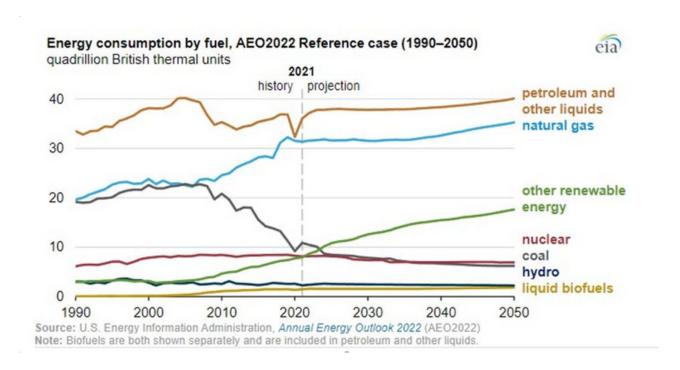


As we speak out in our communities, as trained earth scientists we should hold ourselves responsible for challenging falsehoods posing as scientific "facts" in the popular news sources. We understand paleo climates, glacial/interglacial interactions, and large-scale sea-level changes throughout time and should

assertively offer our understanding of earth's processes, since they are so misunderstood. We should also step outside our comfort zone and learn more about how the energy-dense fuels we explore for are directly responsible for the high standard of living enjoyed by those countries who use them. And how the people who are forced to live in energy poverty desperately want to advance to the level of the dense energy-using countries.

Instead it is tempting to many of us to feel disparaged as we listen or read the daily news. From all sides we are bombarded by news of the impending death of the fossil fuel industry and all the policies that are being enacted to make it happen soon. At times, it seems like these policy makers are more powerful than marketplace forces that undergird the very essence of human living standards. Will they get away with it, we wonder. And therefore I took a good measure of contentment when the latest depiction of energy-use components was issued by EIA. The chart below shows the now familiar curve shapes showing the relative energy fuel contributions projected forward. Nothing new under the sun. The charts released by the various planning agencies and organizations always show the same basic shape, with oil and gas at the top tiers in the energy mix. The responsible adults in the room haven't factored in the end of fossil fuels. In the meantime let's assume our livelihood will remain robust for some time to come....and Keep Up With Your Dues.

Mike Erpenbeck President, HGS





COVID-19 Policy Statement Updated April 1, 2022

The Houston Geological Society continues to maintain a cautious approach to indoor social and educational gatherings. Please check the HGS website on a regular basis for all HGS online event opportunities.

The HGS Board will continue to monitor the situation and governmental directives to determine the pace of opening up the holding of HGS in-person events or whether the situation calls for reversing the trend in some measure.

Please monitor hgs.org and your email for further communication concerning HGS events.

For more information about how you can help to prevent the spread of the virus, visit the CDC website: https://www.cdc.gov/.

2021-2022 HGS Board

FROM THE EDITOR

SCOTT SECHRIST



NEWS FLASH: AAPG - SPE MERGER PLANS TERMINATED on 11 March, 2022. The AAPG and SPE Presidents both announced the termination of the merger plans. In the announcement, it was stated that the AAPG Executive Committee met on 11 March and a vote to continue work on the merger and proceed to a member vote failed.

This does NOT mean the financial challenges facing the AAPG, SPE and the entire oil and gas industry have been permanently erased by the present burst of high prices. The proposed merger of AAPG and SPE (or other Professional Societies, e.g., Society of Exploration Geophysicists) may well be revisited in the future. The need for change to assure survival will remain. Every AAPG Member is encouraged to participate in the thoughtful preservation of the past, while contributing responsibly to evolving the changes necessary in a rapidly evolving world.

PRICE HEADLINES

The historic resistance to the Russian Invasion of Ukraine may yet bring these foes to the bargaining table. Prices could fall as a result, but timeframe and demand levels are as yet unclear. At this writing, WTI is hovering around \$100, Brent is above \$100 and Natural Gas is fluctuating in a fairly broad range between \$4 and \$5 per MMBTU in the USA; but much higher worldwide.

To help make sense of these rapid economic variations, the HGS steps up to serve its Members and the Public, with events ranging from HGS' participation in the "Reach for the Stars STEM Festival" for schoolchildren; to the HGS North American Meeting bringing Industry Leaders from the C-Suite to your screen, regardless of size or location.

Whether seeking a job with HGS volunteers at the SPE-GCS Spring 2022 Energy Professionals Hiring Event or volunteering to be a Presentation Judge at the UH Earth & Atmospheric Science 2022 Student Research Conference, HGS provides opportunity in many forms to enrich every Member's Professional and Personal lives. We even have Social events to provide that all-important Networking, including the HGS Shrimp Peel & Crawfish Boil 2022 at the end of this month!

Don't forget, our cherished and honored HGS Educational Outreach volunteers provide training and instruction for K-12, College and University students across Southeast Texas. Support the HGS Continuing Education Committee by volunteering today!

The rejuvenated HGS the Fine Arts committee celebrated a cautious exit from the COVID pandemic by attending longtime HGS member and Retired Shell Global Exploration Advisor Larry Garmezy's Opening and Closing Receptions for his Solo Art Exhibition entitled "Stuck in the backyard", at Archway Gallery from March 5th, 2022 thru Saturday March 26th, 2022.

More HGS's Fine Arts events are in the planning stages, including Symphony and Ballet events. Enjoy the opportunity to experience Houston's finest experiences in the Fine Arts. Interested Members may contact their friends on the HGS Board of Directors, or your faithful Editor for volunteering and event information.

Now, some of the highlights of the April 2022 HGS Bulletin: <u>AAPG CCUS 2022</u> AAPG's Carbon Capture, Utilization, and Storage (CCUS) Conference; "An Emerging Field for Energy Professionals," took place 29–31 March 2022 at the University of Houston.

HGS Past President Jim Tucker reported a very good turnout of more than 600 attending, apparently exceeding expectations. Pictures and a brief report can be found in this month's HGS Bulletin.

 $\underline{\mathsf{HGS}}$ Virtual General Meeting - Sedimentary Record of IceOcean Interactions in Antarctica

Monday, April 4, 2022 Virtual Event 6:00pm - 7:00pm Speaker: Dr. Julia Wellner of the University of Houston Dr. Wellner has completed over fifteen ocean-going cruises collecting geophysical data and sediment cores, including twelve in Antarctica. Her talk will focus on using the sedimentary record from the West Antarctic margin to estimate the controls on glacial stability, examining records of retreat since the last glacial maximum.

WTGS-PBGS Induced Seismicity 1-day Workshop
Tuesday, April 5, 2022 Virtual Event 8:00am - 5:00pm
Understanding Induced Seismicity - Earthquake Monitoring,
Seismologic Analysis, Geological Characterization,
Mechanistic Analysis. The rates of anthropogenic
earthquakes in the Permian Basin of West Texas have
increased significantly in the last few years. This
Introductory workshop will address identification and
mitigation technologies.

<u>HGS Happy Hour & Geology Trivia Night</u> April 7th, 2022 6:00 PM - 9:00 PM

TX 77009.

Join the HGS Student Expo Planning Committee for a springtime happy hour and trivia night sponsored by TGS. Learn about Houston's premier geoscience recruitment event and network with fellow Houston geos while instilling some friendly competition with colleagues. TGS is providing free drinks and a light snack while supplies last, at the Houston Cider Company at 1125 W Cavalcade St., Houston,

Volunteers Needed: <u>Reach for the Stars STEM Festival</u> April 9th, 2022 9:00 AM - 4:00 PM

The HGS educational outreach group is preparing for the upcoming Reach for the Stars Festival for middle school girls at Rice University on Saturday April 9, 2022.VOLUNTEERS ARE NEEDED!

This event started in 2006 as the Sally Ride Festival for Young Girls. The HGS booth needs to be staffed from 10 until 3:30. To volunteer please email jmcombes@msn.com with activity preferred and time slot. More information and a link to the official website are on the HGS Website.

FROM THE EDITOR ... continued

SCOTT SECHRIST



<u>HGS Virtual E&E</u> Wednesday, April 13, 2022 Virtual Event 7:00pm -9:00pm

Geochemical Characterization of Base Metals in Stream Water & Sediments in the Caddo Lake Watershed, TX

Dr. Faulkner joined SFASU in 2005 after completing her B.S. and M.S. in Environmental Geology there. In

2016, she completed her Ph.D. in Forestry from SFA and was appointed to the graduate faculty.

The Caddo Lake watershed multi-year study was undertaken to characterize base metal concentrations in stream water and sediments in the Caddo Lake watershed and document the potential watershed transport and contribution to the impairment of Caddo Lake.

<u>HGS Virtual North American Meeting</u> Monday, April 18, 2022 Virtual meeting 5:30pm - 8:00pm

"The State of Government Regulations & Legislation in the Oil & Gas Industry"

This HGS North American event is a panel discussion focusing on the Current and Future Regulatory and Legal environment for the energy industry. Panelists will provide their insights on the broad topics listed below and will answer questions from attendees.

<u>HGS Virtual International Meeting</u> - Revisiting the Cretaceous Play of Trinidad

Monday, April 25, 2022 Virtual Event 6:00pm - 7:00pm Speaker: Xavier Moonan | Exploration Manager, Touchstone Exploration (Trinidad) Ltd.

Mr. Moonan has over fifteen years of experience working as a petroleum geologist in all the basins onshore and offshore in Trinidad and Tobago. Mr. Moonan is a member of HGS, the GSA and SPE. In 2021 he was awarded the AAPG Grover E. Murray Distinguished Educator Award.

<u>SPE-GCS Spring 2022 Energy Professionals Hiring Event</u> Tuesday, April 26th, 2022

The SPE Spring 2022 Energy Professional Hiring Virtual Event provides job seekers with opportunities to meet with potential energy industry hiring companies in upstream oil and gas and renewables.

Event registration is required and resume/CV must be submitted at least 48 hours before the event. Further information is available in the HGS bulletin and online.

HGS Virtual General Lunch Wednesday, April 27, 2022 Virtual Event 12:00pm - 1:00pm

"Economic Effects of Giant Oil & Gas Discoveries"

Speaker David Mihalyi will present new data and statistics
on the economic importance of giant oil and gas discoveries.

UH Earth & Atmospheric Science 2022 Student Research Conference, Alumni & Industry Open House Event held virtually on Zoom from 9:00 AM to 5:00 PM on Friday, April 29th, 2022 followed by an IN-Person Happy Hour at McGonigel's Mucky Duck from 5:30 - 9:00 PM.

HGS Members are cordially invited to serve as volunteer Industry Judges at UH's 2022 Student Research Conference. More information and details can be found in the HGS Bulletin and on the HGS Website.

HGS Shrimp Peel & Crawfish Boil 2022 Friday, April 29, 2022 from 12:00pm - 6:00pm

Registration will close Thursday, April 28 at 5:00am CST! Bear Creek Pioneers Park, Pavilion 6 (East of Bear Creek Dr.); 3535 War Memorial St, Houston, TX 77084 Everyone welcome! Enjoy boiled shrimp, Cajun crawfish, corn and potatoes, beer and beverages, games, and live DJ music. For sponsorships, please call Andrea Peoples at the HGS Office at 713-463-9476 or email your completed form to office@hgs.org.

We truly appreciate and thank ALL our HGS Members, Volunteers and HGS educational outreach teams! Wishing Everyone the best of health and continuing success in 2022!

HGS Editor 2021-2022 Scott C. Sechrist Editor@ HGS.org

HGS HAPPY HOUR & GEOLOGY TRIVIA NIGHT



Learn about Houston's premier geoscience recruitment event and network with fellow Houston geos while instilling some friendly competition with colleagues.

April 7, 2022

Happy Hour 6PM - 7PM Trivia 7PM - 9PM

Houston Cider Co.

1125 W Cavalcade St. Houston, TX 77009

Sponsored by



To register for this free event, please visit www.hgs.org





STUDENT EXPO

Houston Geological Society

Volunteers Needed for the upcoming Reach for the Stars! STEM Festival

BY JANET COMBES, MUSEUM OF NATURAL SCIENCE COMMITTEE



The HGS educational outreach group is preparing for the upcoming Reach for the Stars Festival for middle school girls at Rice University on Saturday April 9, 2022. VOLUNTEERS ARE NEEDED!

The HGS has had a booth there since it started in 2006 as the Sally Ride Festival for Young Girls, except for 2021 when we skipped due to covid. The organizer at Rice University has been informed that the HGS will have a booth this year and the official form has been sent and will be updated when we get the names of all the volunteers.

This year the 200 students will be divided into 4 groups and there will be 4 time slots with 4 activities - the exhibits, a job panel. and 2 workshops. This means that the HGS booth needs to be staffed from 10 until 3:30. All the students will roam the entire booth exhibit, but at different times. The time slots are about 10, 11, 1:30 and 2:30, with lunch and a speaker from 12-1:30. HGS booth volunteers can sign up for the whole day or for morning or for afternoon. Volunteer were requested for a job panel discussion - the HGS has one volunteer panelist signed up, but can use back-up - or perhaps have 2 on the panel. There are also openings for hands-on workshops if anyone can do that.

If you'd like to volunteer please email <u>jmcombes@msn.com</u> with activity preferred and time slot. Booth volunteers are the most needed, but let me know if you are interested in being on a jobs panel or hosting a workshop.

The official website https://space.rice.edu/ReachForTheStars/ has the latest info plus a video summary from last year.

History of our Festivals

Since middle school is the age where girls typically lose interest in science, Sally Ride asked us to work with her to create festivals to excite and inspire them. The result was that in 2006, Rice University began hosting the annual Sally Ride Science Festival. Sally Ride herself was the first speaker and often hailed the Rice event as the largest and best attended of her festivals. Each annual Festival includes a street fair, an inspiring talk by a woman astronaut, and roughly thirty women-led science and engineering workshops (each student attends two).

Starting in 2016, the Festival was renamed the "Reach for the Stars! STEM Festival", and is sponsored by the Ride Family Foundation and Rice Space Institute, with major funding from Cheniere, plus many other donors.



HGS VIRTUAL GENERAL DINNER MEETING

MONDAY, APRIL 4, 2022 | 6:00 - 7:00PM
ZOOM WEBINAR
HGS MEMBERS \$15 NON-MEMBERS \$30 STUDENTS \$10
https://www.hgs.org/civicrm/event/info?id=2318
EVENT CONTACT: PATTY WALKER | PATTYWALKER1@icloud.COM

Sedimentary Record of Ice-Ocean Interactions in Antarctica: Why all the Fuss about Tipping Points & Doomsday Glaciers?

Today, Antarctica is covered by an ice sheet that, if it were to melt, has the capacity to contribute on the order of nearly 60 m to global sea-level rise. Most of that ice is stable, and is expected to be so long into the future, but parts of the West Antarctic Ice Sheet, particularly Thwaites and Pine Island glaciers, are susceptible to sudden retreat. In the geologic past, the ice was significantly expanded, reaching the continental shelf break around most of the margin. As the ice sheet retreated to its modern extent, the shrinking ice left behind a sedimentary signature of deglacial history. Over repeated cycles of glacial advance and retreat, sedimentary deposits of alternating glacial and interglacial periods have built up on the continental shelf. Because the stability of the Antarctic Ice Sheet is strongly influenced by the ocean, the sedimentary deposits from the ice-ocean margin are the ideal place to study the controls on stability or instability of the ice.

This talk will focus on using the sedimentary record from the West Antarctic margin to estimate the controls on glacial stability, examining records of retreat since the last glacial maximum. A focus will be on the sedimentary records from where Thwaites Glacier has retreated over just recent decades, allowing an examination the factors influencing the ice today and how they differ from past periods.

Biographical Sketch



Dr. Julia Wellner is a sedimentologist and stratigrapher who works primarily in high latitudes, including Antarctica as well as Norway and Alaska, on questions related to sediment facies, stratigraphic architecture, glacial history, and sea-level change. She and her students also study modern

sediments on the Texas coast. She earned an A.B. from Bryn Mawr College, an M.S. from University of Alabama, and a Ph.D. in geology and geophysics from Rice University, where she also completed a post-doctoral fellowship. She has been on the faculty at the University of Houston, Department of Earth and Atmospheric Sciences, since 2006 where she teaches stratigraphy, sequence stratigraphy, modern depositional environments, marine geology, and oceanography. Wellner has completed over fifteen oceangoing cruises collecting geophysical data and sediment cores, including twelve in Antarctica. She was Co-Chief Scientist on an International Ocean Discovery Program drilling leg to the Amundsen Sea and is a lead PI for the Thwaites Offshore Research (THOR) project as part of the International Thwaites Glacier Collaborative.

HGS VIRTUAL ENVIRONMENTAL & ENGINEERING MEETING

WEDNESDAY, APRIL 13, 2022 | 7:00 - 9:00PM
ZOOM MEETING
HGS MEMBERS \$15 NON-MEMBERS \$30 STUDENTS \$10
https://www.hgs.org/civicrm/event/info?id=2323
EVENT CONTACT: MATTHEW COWAN | MRCOWAN1@HAL-PC.ORG

Geochemical Characterization of Base Metals in Stream Water and Sediments in the Caddo Lake Watershed. Cass. Harrison and Marion Counties. Texas

Authors: Melinda S. Faulkner, Melanie L. Ertons, Joseph W. Watkins

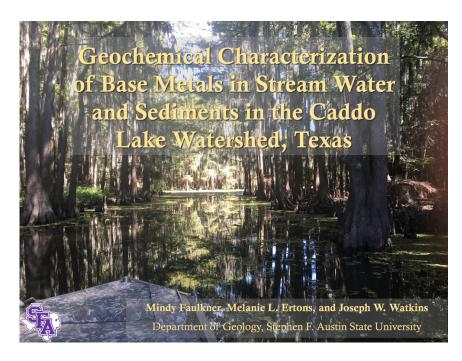
The Caddo Lake watershed is located in northeastern Texas and encompasses much of Cass, Harrison, and Marion counties. The watershed is drained by major streams and tributaries flowing in an easterly direction over Eoceneaged rocks and sediments of the Wilcox and Claiborne groups, and empty into the western arm of Caddo Lake. Since 1995, Caddo Lake and some of its tributaries have been included on the State of Texas Clean Water Act 303(d) list by the Texas Commission on Environmental Quality (TCEQ) for impairment due to mercury content in edible tissue, depressed dissolved oxygen, base metal concentrations, and low pH values. The purpose of this multi-year study was to characterize base metal concentrations in stream water and sediments in the Caddo Lake watershed, and document the potential watershed transport and contribution to the impairment of Caddo Lake. Recent water (n = 58) and sediment (n = 116) sampling at 29 sites revealed copper, lead, and zinc concentrations within normal limits and below EPA actionable standards. Mercury concentrations were elevated at 21 of the 29 sampling sites, which could lead to methylation and bioavailability to organisms at all trophic levels.

Biographical Sketch



Dr. Mindy Faulkner joined SFASU in 2005 after completing her B.S. and M.S. in Environmental Geology from Stephen F. Austin State University. In 2016, she completed her Ph.D. in Forestry from the Arthur Temple College of Forestry at SFA and was appointed to the graduate

faculty. Dr. Faulkner's primary research interests include the geologic controls on the spatial distribution of natural resources in the earth's crust, integrating the study of geoscience, hydrogeology, geochemistry, and ecological systems. Current research by Dr. Faulkner has focused on the various ways to characterize geologic and geochemical phenomena using a complement of field methods, instrumentation, and remote sensing techniques. Recent work by Dr. Faulkner has been in concert with graduate students in karst terrains of Central Texas and the Caddo Lake watershed.



HGS VIRTUAL NORTH AMERICAN MEETING

MONDAY, APRIL 18, 2022 5:30 - 8:00PM HGS MEMBERS \$15 NON-MEMBERS \$30 STUDENTS \$10

HTTPS://WWW.HGS.ORG/CIVICRM/EVENT/INFO?ID=2326

EVENT CONTACT: MARK HAMZAT O. EROGBOGBO | MARK@BDSRVS.COM

The State of Government Regulations & Legislation in the Oil & Gas Industry

The upcoming North American event is a panel discussion focusing on the Current and Future Regulatory and Legal environment for the energy industry. The panelists will provide their insights on the broad topics listed below and will answer questions from attendees.

- The Petroleum industry in North America has had a long history of an ever changing regulatory and legal environment. These changes have economic and "license to operate" consequences for the companies that operate in the industry. What are the most impactful changes that have occurred over the last 10 years and how has the industry responded.
- Energy independence for the US is a common theme in today's press. Is this possible for the US within the current regulatory environment (drilling access, emissions & flaring, water usage, carbon footprint, etc.).
 How do we balance short term need with long term goals and objectives to combat climate change.
- Balancing short term and long term energy supplies is challenging and it is well established that we will need them all to provide the energy required for global economies; how do you see the future regulatory environment for the petroleum industry evolving and can you speak to the pace of that evolution?
- Alternative energies (non-fossil fuels) is a growing and multi-dimensional industry. Where are we today in the regulatory and legal framework for these alternatives in North America and how do you see this framework evolving with time? Similar question on pace for a robust regulatory framework for alternatives.
- Communication of a complex legal and regulatory framework for the energy industry can be a challenge. What resources are available for having balanced discussions with interested parties outside of our industry.

Biographical Sketches



Marcella Burke leads the Houston office's Environmental Health and Safety practice. She counsels clients across the energy-environmental sector spectrum, including carbon capture, conventional oil and gas, hydraulic fracturing, renewables, decommissioning, energy

technology, permitting, citizen suit defense, crisis management, criminal environmental enforcement, and environmental investigations.

She leads the firm's Energy Transition initiative and is a board member of the Houston ESG Council. She was named by the Petroleum Economist as a global Top 100 Women of the Energy Transition 2021, received the National Law Journal Energy/Environmental Law Trailblazer Award 2021, named Lawdragon 500 Leading Environmental & Energy Lawyers 2021, and ranked among the Legal 500 United States top environmental practices 2021. She is on the Executive Committee of the Environment & Natural Resources Division of the State Bar of Texas, the Institute for Energy Law Advisory Counsel, and is the Chair of the Environment & Natural Resources Program Committee of the Rocky Mountain Mineral Law Foundation.

Before joining King & Spalding, Marcella served at the EPA as Deputy General Counsel. She also served at the Department of Interior (DOI) as Deputy Solicitor for Energy and Natural Resources, and Senior Counselor to the Assistant Secretary for Land and Minerals Management. In her roles at DOI, Marcella was lead counsel for the Bureau of Land Management (BLM), the Bureau of Safety and Environmental Enforcement (BSEE), the Bureau of Ocean Energy Management (BOEM), and the Office of Surface Mining and Reclamation (OSMRE), all of which oversee management of federal lands, including policy and permitting for carbon capture, conventional oil and gas, renewables, rulemakings and comments to proposed rules, and enforcement matters.

At the DOI, she served as Counsel to the Royalty Policy Committee and received appointments with the Regulatory Reform Task Force and as National Environmental Policy Act (NEPA) team lead for all energy project approvals. In these roles, she worked closely with the Department of Justice, National Oceanic and Atmospheric Administration (NOAA), the Office of Management & Budget's Office of Information and Regulatory Affairs (OIRA), Office of Management and Budget (OMB) and other federal agencies.

Biographical Sketches



Deanna Duell is BKD's energy industry contract compliance leader, integrating Council of Petroleum Accountants Societies, Inc. (COPAS) accounting guidance and model form interpretations to meet the business and accounting needs of clients. She provides

clarification of oil and gas accounting requirements for agreements in the form of contract audits and litigation support, including action plans to provide for contract audits, facilitating recoveries for non-operators and limiting exposure for operators in complying with accounting in contractual agreements unique to the oil and gas industry.

She has more than 24 years of experience in accounting and contract compliance, focusing on contract audits for joint ventures, including joint interest billings, revenue and royalty agreements and operational accounting processes and procedures serving both operators and non-operators with oil and gas business requirements. She is also involved in accounting guidance and training. Deanna has authored papers and lectured on various oil and gas accounting subjects, including joint interest audits, overhead accounting, inventory and material transfer accounting and litigation expert reports.

Read more about Deanna Duell HERE.



Chris Hosek is a principal of Texas Star Alliance, specializing in direct lobbying and state agency relations. Chris has experience with a broad range of legislative issues and policy initiatives including a specific expertise in the energy sector. Chris served as the chief of

staff for 5 years to the Chair of the Railroad Commission of Texas. The Railroad Commission is the regulatory body that oversees Texas' energy industries including all levels of the oil and gas industry, pipeline safety, gas utility rates and the permitting and reclamation of coal and uranium mines. Prior to his work at the Railroad Commission, Chris served as the legislative director in the Texas House of Representatives for the 78th and 77th sessions. Chris served as the committee aide to the Appropriations Committee, responsible for drafting the state's two-year budget. He also served as a committee aide for a member on the House Energy Resources Committee, where he received his background in the energy field. Chris served in various roles for elected officials where he managed and developed legislative issues. Other committees experience includes the Urban Affairs Committee and State Recreational Resource Committee.

Read More about Chris Hosek HERE.



Tim Tarpley oversees Energy Workforce's Policy, Government Affairs, International Trade Policy, Environmental Policy, Mexico Task Force and Legal committees developing and implementing an integrated strategic plan to advance Energy Workforce's policy positions; broaden

awareness of its programs and priorities, and increase the visibility of its positions across key stakeholder audiences.

Tarpley most recently served as Chief of Staff to Congressman Ted Poe (R-TX) and began his legislative career as an aide to Congressman Thornberry (R-TX). As a lynchpin of Congressman Poe's staff for more than nine years, Tim worked on permitting the Keystone pipeline and ending the crude oil export ban.

Tarpley holds a juris doctor from Creighton University School of Law and a master of laws from American University Washington College of Law.



Jesse Thompson serves as senior business economist at the Houston Branch of the Federal Reserve Bank of Dallas. Thompson, who joined the Bank in 2010, performs research and analysis on issues affecting the Houston and Gulf Coast economy. In particular, he studies issues surrounding

area hydrocarbon industries. He also collects information for the Dallas Fed's Beige Book summary of current economic conditions. He is author of the monthly Energy Indicators, the Houston Economic Indicators, and contributes to the quarterly publication Southwest Economy.

Thompson earned an MA in economics, with emphasis on empirical microeconomics, and BA in philosophy and economics

HGS VIRTUAL INTERNATIONAL MEETING

MONDAY, APRIL 25, 2022 | 6:00 - 7:00PM
ZOOM MEETING
HGS MEMBERS \$15 NON-MEMBERS \$30 STUDENTS \$10
https://www.hgs.org/civicrm/event/info?id=2328
EVENT CONTACT: STEVE GETZ | SLGETZ@OUTLOOK.COM

Revisiting the Cretaceous Play of Trinidad

Hydrocarbons have been commercially produced in Trinidad and Tobago for more than 100 years, the majority of which is extracted from shallow Plio-Pleistocene deltaics both onshore and offshore on the present-day shelf. The discovery of the giant El Furrial Cretaceous shelfal sandstones in Venezuela in the 1980's caught the attention of Exxon, who followed the structural and stratigraphic trend into the more politically stable part of the Eastern Venezuelan Basin, in Trinidad and Tobago. Regional 2D seismic data was acquired, processed and deep tests were done by the drill bit in the 1990's. Consistently, the wells encountered well developed deep water turbidites but with sub-commercial hydrocarbon volumes. The conclusion was that the multiple phases of structural deformation in the Trinidad area had severely altered Cretaceous traps, allowing secondary and tertiary migration, and the establishment of many compartments within large anticlinal features. The most southerly of these wells, Iguana River-1, however, encountered multiple Late Cretaceous interbedded limestone and sandstone units overlain unconformably by Late Miocene stratigraphy.

Field mapping within one kilometer of the Iguana River-1 well unravelled the existence of a significant natural hydrocarbon seep locally referred to as the Rio Claro Salt Water Volcano. This feature extrudes warm (40oC) waters with salinities as high as 23000ppm accompanied by oil. Further to this, tufa carbonate precipitation is actively occurring from the water as it cascades down the natural hilly topography. Tufa limestones are also observed buried beneath layers of soil in areas adjacent to the current area of active extrusion, along a NNE-SSW trending extensional tear fault. Integration of the revelation of this field mapping with the Iguana River-1 well and newly acquired 2D seismic suggests that the Cretaceous shelf edge occurred in vicinity of the Present Day SW-NE trending Lizard Anticline with the base of slope occurring within the Present Day Ortoire Syncline and the most distal turbidite sheet sands occurring as far north as at the southern flank of the Central Range. Such distal sheet sands were confirmed by Talisman's Zaboca-1 exploration well.

Biographical Sketch



Xavier Moonan has over fifteen years of experience working as a petroleum geologist (exploration, development and operations) in all of the sedimentary basins and sub-basins onshore and offshore Trinidad and Tobago. His professional experience includes work

with Geoservices Schlumberger, former state owned Petrotrin, and a UK based gas company Centrica Energy. In addition to his role at Touchstone, he supports the Petroleum Engineering Programme at the University of Trinidad and Tobago, and the Petroleum Geoscience Programme at the University of the West Indies St. Augustine Campus through lectures. Mr. Moonan is widely recognized regionally for his structural mapping and restoration techniques of the Middle Miocene Herrera deepwater turbidites which are the primary reservoir targets of Touchstone's Ortoire block.

Mr. Moonan served as a Region Delegate, Treasurer and Vice President for the American Association of Petroleum Geologists (AAPG) Latin America and Caribbean Region ("LACR")and currently serves as the President Elect for AAPG LACR. He served as President of the Geological Society of Trinidad and Tobago and as Convener of the 20th Caribbean Geological Conference, AAPG Geosciences Technology Workshops (GTW) Trinidad and Tobago, AAPG GTW Guyana, AAPG GTW Suriname, AAPG SE Caribbean and Guiana Basins Virtual Symposium and AAPG Caribbean Technical Symposium and E&P Summit.

Mr. Moonan is also a member of the European Association of Geoscientists and Engineers (EAGE) and the Houston Geological Society (HGS), Geological Society of America (GSA) and Society of Petroleum Engineers (SPE). In 2021 he was awarded the AAPG Grover E. Murray Distinguished Educator Award. Mr. Moonan holds a bachelor's degree in geology from the University of the West Indies Mona Campus in Jamaica and a master's degree in structural geology with geophysics from the University of Leeds in the United Kingdom.

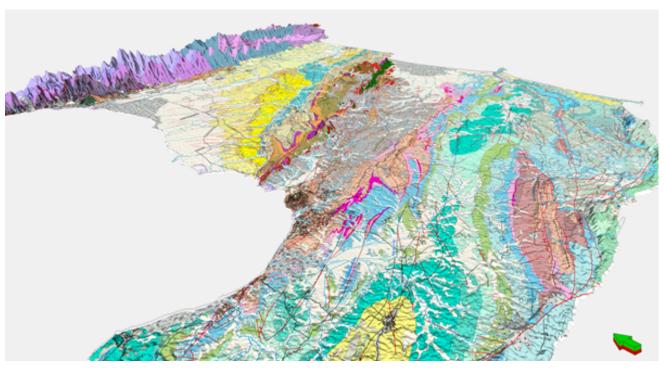


Figure 1. 3D perspective of Trinidad Surface Geology Map draped on topography.

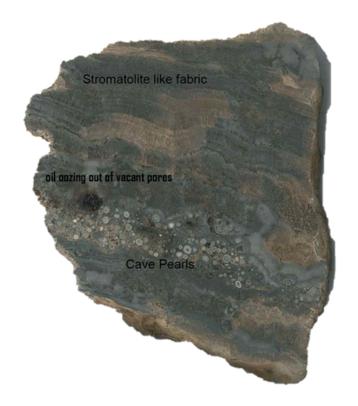


Figure 2.

Cave Pearl and stromatolitic fabrics observed in

Cretaceous carbonates sampled along the south flank of Lizard Anticline, Onshore

SE Trinidad

HGS VIRTUAL GENERAL LUNCH

WEDNESDAY, APRIL 27, 2022 | 12:00 - 1:00PM
ZOOM WEBINAR
HGS MEMBERS \$15 NON-MEMBERS \$30 STUDENTS \$10
HTTPS://WWW.HGS.ORG/CIVICRM/EVENT/INFO?ID=2349
EVENT CONTACT: PATTY WALKER | PATTYWALKER1@ICLOUD.COM

The Economic Effects of Giant Oil & Gas Discoveries

We present new data and statistics on the economic importance of giant oil and gas discoveries. Giant discoveries are major economic events - they reveal previously unknown subsoil riches, and preview a flow of investment and revenues to countries over the coming decades. For lower income countries they can exceed in net present value terms the entire annual GDP of the country. We discuss how countries have managed these opportunities - for some it has led to decades of sustained prosperity, for others it has failed to generate anticipated benefits, creating a dependence on resource revenues, and in some cases exacerbated problems of economic mismanagement, corruption and conflict. A new strand of social science literature is now interested in the effect of discoveries in isolation from the longer-term effects of a country becoming resource-dependent. We review this work, concluding that the news of a giant discovery can significantly shift the economic and political trajectories of countries, for better and for worse.

Biographical Sketch



David Mihalyi is a development economist focused on the impact of natural resource wealth on public finances. He spent the last decade studying, advising and providing trainings on this issues across countries in Africa.

Next month's Virtual Lunch...

Wednesday, May 25, 2022 | 12:00pm - 1:00pm https://www.hgs.org/civicrm/event/info?id=2350

"Reality Check: Life Cycle of Geophysical Data Utilized in the Exploration & Development of Deepwater Stratigraphic Traps" Speaker: Joseph Reilly



Geoscientists have been successfully exploring for, and developing, stratigraphic traps for decades. Deepwater clastic "play opening" examples within the greater Atlantic region include Brazil - Marlim (1985), Equatorial Guinea - Zafiro (1995), Angola - Girassol (1996), Ghana - Jubilee (2007), Guyana - Liza (2015) and now Namibia - Graff & Venus (2021 & 2022). Most of these clastic reservoirs are multi-cycle with varying rock physics responses. Individual reservoir thicknesses challenge the seismic methods ability to separate individual units and not be misled by tuning, overburden and focusing effects. This is particularly difficult in the pre-capture phase of the exploration cycle when 2D seismic, gravity and magnetic data might be the

only geophysical data available to support the geologic concepts and models leading to identification, and initial assessment of an opportunity. Accurate DHI/AVO prediction becomes particularly challenging in this situation. Even when 3D seismic is available it will rarely, if ever, be optimized for a specific reservoir interval and calibration to rock physics will likely be poor. It is especially important to emphasize that the most critical decisions (Exploration acreage capture and wildcat drill) are made with significantly lower quality and quantity of data than that typically available during the Appraisal and Development phases. Analogs from these more mature settings are useful but need to be utilized in the context of the data actually available. Good geologic concepts, analogs, integration of all data types, experience, judgement, and good luck all are in play for true frontier exploration ventures.

HGS CONTINUING EDUCATION SHORT COURSE

FRIDAY, MAY 6, 2022
WESTERNGEGO LLC | 10001 RICHMOND AVENUE, HOUSTON, TX 77042
8:00AM - 4:00PM
HGS MEMBERS \$110 NON-MEMBERS \$150 STUDENTS \$60

Schlumberger is graciously providing a gratis venue for this course.

Schlumberg

HTTPS://WWW.HGS.ORG/CIVICRM/EVENT/INFO?ID=2380 8 PROFESSIONAL DEVELOPMENT CREDIT HOURS OFFERED

Well Logs Courses - Well Logs: Basics

The HGS CEC is pleased to present courses for Well Log Interpretation. These courses are presented in two separate one-day courses: Well Logs: Basics on May 6, 2022 and Well Logs: Beyond Basics June 10, 2022.

Each course has its individual Registration, CEUs and Cost.

Course Description and Outline

This 8-hour course will give both geoscientists and engineers:

Session One Topics: Introduction

- · Logging measurements and acquisition of data
- · Data formats and sources
- · Depth control and uncertainties
- · Well surveys and well placement in Geo-space

Session Two Topics: Qualitative Log Analysis, Reading the rocks from well logs

- The "triple-combo" measurement theory
- · Lithology vs. facies and what is shale?
- Sensing grain size and depositional environments in clastics
- Visualizing geochemical evidence in determining rock lithology
- $\bullet\,$ Visualizing the reservoir, fluid content and permeability

Session Three: Breakout sessions.

- Reading the logs: Break-out groups will be given a set of logs to discuss in group and report to the class. The analysis will include potential reservoir rock, lithology of the rock sequence, depositional evidence, wellbore quality, etc.
- Well-to-well correlation: Participants will get a set of well-logs to correlate with focus on structure and depth control (The data sets will be paper plots or digital LAS files).
- Well-to-well correlations using stratigraphic depth controls.

Lunch Break

Session Four: Quantitative Log analysis Litho-porosity models.

- Techniques for clay and mudstone volume
- Mixed lithology techniques such as graphical MMA and deterministic models
- Total porosity versus "effective" porosity

Session Five: Resistivity and water saturation

- Quantitative resistivity, what corrections are important? What are the quantitative parameters?
- Archie Equation, Pickett Plots and the relationship to core analysis
- Advanced saturation equations (e.g., Simandoux): how do we determine parameters?
- Evidence and measurements of hydrocarbon types.
- Economic parameters from the analysis

Session Six: Break-out session

 Participants will get a shale/sand well to process for economics evaluation. The data sets will be paper log plots and graphing papers, or digital from .LAS files.

Summary

The aim of the short course is to create a learning environment that can educate the novice and challenge the experts. There will be several in-class exercises and breakout discussions to get hands-on experiences. Course materials will be available to work on paper or digital files to process on the computer, participants that use a petrophysics platform are encouraged to bring a Laptop. Other course materials provided will be a list of references and a 3 month license of Hydrocarbon Data Systems Petrophysical platform HDS-LOG.

Biographical Sketch



Mr. Richard Odom is a petrophysicist and geologist with more than 40 years of experience in domestic and international basins. He has authored numerous papers and patents on petrophysics and welllogging tool design.

Areas of expertise:

- · Reservoir monitoring using pulsed-neutron systems,
- Open-hole and LWD log analysis, basic and advanced techniques,
- Field-level data harmonization and geologic model building.
- Artificial intelligence and statistical analysis of large data sets
- Analysis of production and completions (production logs, cement integrity).

Education and industry affiliations:

- BS, geophysics, New Mexico Tech, 1980
- MS, geology, University of Texas at Arlington, 2009
- TBPG Professional Geoscientist Geophysics #6718

Current Positions:

- Chief Executive Officer at Hydrocarbon Data Systems
- · Managing Partner at Oil & Gas Evaluation & Consulting

Instructor Contact Information:

Richard Odom richard.odom@ogec.com 817-975-1231



Wrap-up discussion for the day one.

HGS CONTINUING EDUCATION SHORT COURSE

FRIDAY, JUNE 10, 2022
WESTERNGEGO LLC | 10001 RICHMOND AVENUE, HOUSTON, TX 77042
8:00AM - 4:00PM
HGS MEMBERS \$110 NON-MEMBERS \$150 STUDENTS \$60
HTTPS://WWW.HGS.ORG/CIVICRM/EVENT/INFO?ID=2381

8 PROFESSIONAL DEVELOPMENT CREDIT HOURS OFFERED



Schlumberger is graciously providing a gratis venue for this course.

Well Log Courses - Well Logs: Beyond Basics

This course is the continuation of the course presented on May 6, 2022 Well Logs: Basics. However, it can be taken without having taken the earlier Well Logs: Basics course.

Course Description and Outline

Session Seven: Sonic Logs

- Measurement theory, monopole, dipole, ultrasonic
- Applications for verifying cement integrity
- Sonic porosity, how does it fit in with the litho-porosity models
- Dipole and cross dipole, rock mechanics, anisotropy and external stress and strength fields

Session Eight: Unconventional Reservoirs, Lessons learned in the vertical wells

- A different optimization paradigm in Unconventional Plays
- Rock Mechanics and the external stress fields (current and ancient) from sonic and imager data
- Geochemistry techniques for TOC, Applying Passey Log Delta R and other models
- · Direct Geochemistry from pulsed-neutron spectroscopy
- · Data available in the lateral

Session Nine: Break-out, Surveying the lateral and geosteering

In this break-out the participants receive a horizontal well survey plot (paper or digital) with a vertical well near the heel and a vertical well near the toe from the "Wolf Bone" play in the Delaware basin. After correlating the vertical wells what is the analysis of the geo-steering targets?

Lunch Break

Session Ten: introduction to NMR logs

Session Eleven: Introduction to Formation Testers and Capillary pressure discussion

Session Twelve: Small scale applications of Artificial Intelligence in log analysis

- Normalization and harmonization of well data sets: GR normalization example
- Emulation of missing data: mapping Cased-hole analysis example
- · Automated classification of rock sequences for
 - pruning of training data,
 - sand thickness and bed counts,
 - time-to-depth for seismic.

Wrap-up discussion for the day two.

Summary

The aim of the short course is to create a learning environment that can educate the novice and challenge the experts. There will be several in-class exercises and breakout discussions to get hands-on experiences. Course materials will be available to work on paper or digital files to process on the computer, participants that use a petrophysics platform are encouraged to bring a Laptop. Other course materials provided will be a list of references and a 3-month license of Hydrocarbon Data Systems Petrophysical platform HDS-LOG.

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Current Positions:

- Chief Executive Officer at Hydrocarbon Data Systems Inc.
- Managing Partner at Oil & Gas Evaluation & Consulting

Instructor Contact Information:

Richard Odom richard.odom@ogec.com 817-975-1231



Oil & Gas Evaluations and Consulting, LLC

AAPG CCUS 2022 Conference

ARTICLE BY JIM TUCKER, HGS PAST PRESIDENT; BARBARA HILL, HGS DIRECTOR PHOTOS BY MATT RANDOLPH, AAPG



The second AAPG Carbon Capture, Utilization, and Storage (CCUS) conference was held at the University of Houston 29-31 March 2022. There were 550 in-person and 130 online registrants from industry, universities, agencies and consultants. This was the first time for in-person. The attendees included geoscientists, engineers and computer modeling and data science professions, and regulators. The Society of Exploration Geophysicists (SEG) and the Society of Petroleum Engineers (SPE) were endorsers with AAPG (CCUS.AAPG.org), and may become partners in future years.

Over the three days, there were invited speakers, shorter technical presentations, and posters and cores enjoyed by the participants. The sessions opened on Tuesday morning by Dr. Emily Grubert, Deputy Assistant Secretary for Carbon Management, who described the many projects by and departments of the US Department of Energy. The entire scope of CCUS projects and research by the US Government is enormous, and the funding extends the reach to universities and other agencies.

Sessions included subsurface storage, carbon dioxide-enhanced hydrocarbon recovery, monitoring, CCS end-to-end supporting technologies, case studies, risk assessment, machine learning, infrastructure, and economics and other considerations. Any presentation might range on a wide variety and emphases of topics and technical disciplines. The combination of backgrounds and affiliations promoted interesting, wide-ranging, and spirited hallway conversations during the breaks, as time did not allow for all the questions to be discussed during the scheduled sessions. The poster session allowed for discussion of specific and detailed aspects not covered in the oral presentations.

A well-received all-day short course on the basics of CCUS preceded the conference. After the conference, there was a field trip to the Denbury West Hastings EOR facility using carbon dioxide as the recovery gas. Another post-conference field trip was to the Premier labs to review the carbon dioxide laboratory analysis workflow, which differs from the analysis lab procedures many of us are familiar with.

The University of Houston venue was a good one for this size and length of conference. The Cullen Performance Hall had comfortable theater seats (important for all-day events), good sight lines and acoustics, and the slides presented were uniformly good. The posters, vendor exhibits, luncheons and end-of-day receptions were in the Hilton Hotel two hundred meters away from the Cullen Hall, so we could enjoy the delightful (mostly) spring weather during the short walks and pleasant breaks.



Cores always draw a crowd. These are from the storage reservoir at Cranfield, Mississippi.

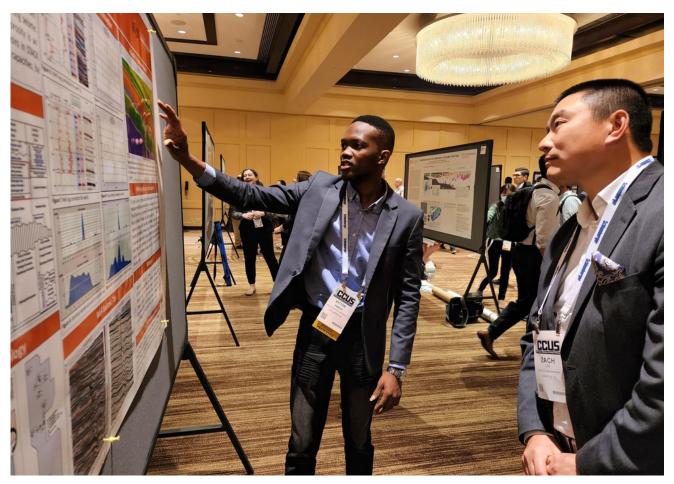
AAPG CCUS 2022 Conference...continued



HGS Member and AAPG President Gretchen Gillis discussing technical talks with attendees.



The Cullen Performance Hall provided a comfortable and effective venue for presentations and discussions. The beautiful spring weather did not hurt.



Posters always draw in folks for detailed discussions.



JOB SEEKERS

Welcome to the SPE Spring 2022 Energy Professional Hiring Event! This virtual event provides job seekers with opportunities to meet with potential energy industry hiring companies in upstream oil and gas and renewables. The event also features Discipline-driven Networking Suites hosted by Collaborating Organizations and companies. Each suite engages in industry-related topics and provides job seekers opportunities to network and learn about different segments of the industry. Event registration is required and resume/CV must be submitted at least 48 hours before the event. Various Event entry times are available for registration to allow job seekers ample time to meet with companies. Job seeker qualifications include:

QUALIFICATIONS:

- Be an active member of either SPE or at least any one of the professional Collaborating Organizations (click here for summary of participating Collaborating Organizations). Provide proof of active membership.
- And possess a university degree equivalent to a 4-year bachelor's degree in engineering, applied sciences or a 4-year degree in a field other than science or engineering and technical experience working in the energy sector and / or proejcts.
- Or possess a 2-year science or engineering degree and technical experience working in the energy sector and / or projects.

NETWORKING SUITES

Networking Suites are your chance to connect with industry professionals, fellow job seekers, and collaborating organizations. Admittance to the Networking Suites is included in the Hiring Event and take place in two hour brackets from 9:00am to 3:00pm featuring a variety of disciplines and interests

MiT ENERGY INDUSTRY PANEL DISCUSSION (April 22nd, 2022)

Last time we were pleased to have a great panel and have started planning for our next event. The spring panel event is detailed below, and can be viewed on-demand here:

Event - Energy Industry Panel Discussion: Reliable Energy in an Energy Transition (spegcs.org)

Energy for Sustaining People | Where do we go from here?

SPE Gulf Coast Section - Members in Transition committee presents the Event Industry Panel discussion. This event will include industry discussion and guidance for members in transition. This is a great event to consider attending if you are participating in the Virtual Hiring Event or Not. The last two years have been a tumultuous time of change for nearly every facet of our society and work in particular. Are there any lessons to be learned? Any new ideas and methods of organization that we can discern? What does our world of life and career balance look like going forward? The world has changed forever, and we need to understand how.

Read more about the event HERE.



HGS ANNUAL SHRIMP PEEL & CRAWFISH BOIL SPONSORSHIP OPPORTUNITIES

SHRIMP SPONSOR \$2,000 6 complimentary tickets

CRAWFISH SPONSOR \$2,000 6 complimentary tickets

BEER & BEVERAGE SPONSOR \$1,000 4 complimentary tickets

MUSIC SPONSOR \$1,000 4 complimentary tickets

PLATINUM CORPORATE SPONSOR \$1,000 4 complimentary tickets

GOLD CORPORATE SPONSOR \$750 2 complimentary tickets

SILVER CORPORATE SPONSOR \$500 1 complimentary ticket

BRONZE CORPORATE SPONSOR \$250

For sponsorships, please call Andrea Peoples at the HGS Office at 713-463-9476 or email office@hgs.org

REGISTER AT WWW.HGS.ORG

April 2022

Sunday	Monday	Tuesday	Wednesday
3	4 HGS Virtual General Meeting "Sedimentary Record of Ice-Ocean Interactions at Thwaites Glacier, Antarctica: Why all the Fuss about Tipping Points & Doomsday Glaciers?" Page 13	5 WTGS-PBGS Induced Seismicity Workshop	6
10	11	12 HGS Board Meeting 5 p.m.	13 HGS Virtual E&E Meeting "Geochemical Characterization of Base Metals in Stream Water & Sediments in the Caddo Laker Watershed, TX" Page 14
17	18 HGS North American Meeting "The State of Government Regulations & Legislation in the Oil & Gas Industry" Page 15	19	20
24	25 HGS Virtual International Meeting "Revisiting the Cretaceous Play of Trinidad" Page 17	26 SPE-GCS Spring 2022 Energy Professionals Hiring Event	27 HGS Virtual General Lunch "Economic Effects of Giant Oil & Gas Discoveries" Page 19

Cheated, Mistreated, Pushed Around?

Have you been cheated, mistreated or somehow deprived of your share of a deal, working interest or royalty? If so, give me a call. I have thirty years experience as a working interest and royalty owner in the oil and gas business to go along with forty years of court room experience. A trusted team of professionals together with the necessary resources is available to work on your case. You do not pay anything unless we win.

Proven Results



- •\$6,000,000 Future payout projected for settlement to widow with ORRI recovered under husband's consulting contract after company contended no payments due after death.
- •\$5,800,000 Combined cash settlement for UPRC East Texas and Central Louisiana royalty owner class action cases for underpaid royalties. Court approved fee of 1/3.
- •\$4,700,000 Jury verdict, oil company violates geologist non-compete contract. Settled later on confidential terms.
- •\$2,000,000 Settlement for downhole failure of casing results in loss of well bore, net to client \$1,372,411.79.
- •\$1,175,000 Settlement for geologist and family where oil company drilled too close to geologist property. Case filed 18 years after well drilled. Net to client \$664,822.51.
- \$986,000 Cash settlement, net to clients \$657,207.60, plus future mineral interest valued at \$500,000.00. Dispute
 over mineral interest ownership from thirty year old contract.

Robert A. Chaffin

THE CHAFFIN LAW FIRM

4265 San Felipe #1020 · Houston, Texas 77027 · (713) 528-1000 · Cell (713) 817-2786 · robert@chaffinlawfirm.com

April 2022

Thursday	Friday	Saturday		
	1 GEO.	2	Reservations The HGS prefers that you make your reservations online through the HGS website at www.hgs.org. If you have no internet access, you can email office@hgs.org or call the office at 713-463-9476. Reservations for HGS meetings	
7 HGS Happy Hour & Geology Trivia Night	8	9 SIPES 2022 Chili Cookoff	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. 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	
14	15 HGS Office Closed for Spring Holiday	16	Webmaster at webmaster at webmaster@hg.org. Once the meals are ordered and name tags and lists are prepared, no more reservations can be added even if they are sent. No-shows will still be billed.	
RESERVE YOUR SPOT ONLINE AT HGS.ORG	22	23	Pricing	
28	29 HGS Shrimp Peel & Crawfish Boil 2022	30	In-Person Meetings HGS Members \$35 Non-Members/Walk-Ups \$40 Emeritus/Honorary Life \$15 Students \$5 Virtual Meetings HGS Members \$15 Non-Members \$30 Students \$10	

RENEW YOUR HGS MEMBERSHIP www.hgs.org



Candidates for the 2022-2023 Executive Board Houston Geological Society Officer Election

The candidates put forth by the Nominations

Committee are:

President-Elect: Paul Britt, Bryan Guzman

Vice President: Ceri Davies

Secretary: Meredith Faber, Amanda Johnston

Treasurer-Elect: Fang Lin, Lauren Robinson

Editor-Elect: Lucia Torrado, Caroline Wachtman

Directors (2 positions): Bill DeMis, Troy Meinen,

Kenneth Mohn, Marcus Zinecker

HGS Election Voting Instructions

HGS Members will be able to vote online via the HGS website. You must be logged into your account to cast your vote.

Ballots will be online only - no mailed ballots!

Please check the HGS website in the coming weeks for updates and announcements.

The voting period begins April 10, 2022 and continues to May 10, 2022.

President-Elect (two candidates)



Paul Britt

I am honored to have been asked to run for HGS President-Elect among a talented slate of candidates. The HGS is the premier geological society for the Houston Metro area and Upper Gulf

Coast. Our society serves a diverse interest of geoscientists (petroleum, environmental, mining, resource exploration, professors, K-12 educators, geotechnical, engineering, and others) and my vision for the society is to see growth in membership through an emphasis on this diversity and community outreach.

I moved to Houston to begin my career in 1978 after graduation. I joined the HGS in 1980 when I regularly attended dinner meetings and activities. I have been an active volunteer in HGS committees since 1987, and served on the HGS Executive Board and other professional society offices since 1994. During those times, I worked at several large oil and gas companies before becoming an independent geologist in 1992.

Having previously served as HGS Treasurer and AAPG President and other offices, I understand the complications the HGS is currently facing. As your President, I will endeavor to bring the HGS onto solid business footing, while staying focused on my expressed vision for HGS and on the membership's interests.

EDUCATION & CERTIFICATIONS

Eastern Michigan University, B.S. in Geology, 1977 Texas P.G., #2575 Louisiana P.G., #523 Certified Petroleum Geologist, AAPG #3727 Certified Professional Earth Scientist, SIPES #2249 Chartered Geologist, Geological Society of London

Read more about Paul's professional experience and HGS activities & awards by clicking HERE.



Bryan Guzman

Ever since I joined the HGS, I have enjoyed the benefits of education, networking, and friendship. Currently, I am working with the GCAGS as Treasurer. For about 7 years, I had spent much of my

time working on the exhibits committee organizing the setup and transportation of the HGS booth for various conventions throughout the year. When I served as HGS Secretary, it afforded me the opportunity to learn more about the many functions of the HGS. I was also exposed to the duties as the HGS Treasurer-elect and Treasurer where I witnessed the society's dedication to the various efforts through the annual budget. I was then given the opportunity to serve as the HGS Vice President during the COVID19 pandemic where I was able to schedule all our monthly technical talks digitally for the first time. It has been a pleasure meeting many people along the way and I am thankful to the opportunities the HGS has provided me while serving as a Chairman, Secretary, Treasurer, and Vice President. It would be my great pleasure to serve in the capacity of HGS President Elect.

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Education.	
2008	BS Geology University of Texas at San
	Antonio
2018	MS Analytics Texas A&M University
Experience:	
2008 - 2011	Geologist - Ingrain Inc.
2011 - 2013	Geoscientist - Ingrain Inc.
2014 - 2015	Product Champion - Drill Cutting
	Technologies - Ingrain Inc.
2015 - 2017	Geologic Advisor - Ingrain Inc.
2017 - 2018	Senior Technical Advisor - Halliburton
2018 - 2019	Senior Account Manager - TGS
2019 - Present	Veilvox LLC - Founder
2020 - 2021	Senior Account Manager - Premier
	Oilfield Group
2021 - Present	Director Global Business Development &
	Technology - Premier Oilfield Group

Read more about Bryan's professional affiliations and activities by clicking <u>HERE</u>.

Vice President (two candidates)



Ceri Davies

I am very appreciative of the nomination to run for Vice President of the Houston Geological Society. I moved to Houston 10 years ago and have always enjoyed the events and education provided by the

HGS and look forward to supporting the Society as it celebrates its centenary. The Africa and Latin America conferences have become a stable of my calendar and I enjoy the variety of talks provided by the evening dinners and general lunches. My recent involvement with the HGS has included co-chairing the North American Explorationist Group, Board Member, Editor and most recently Chair of the Latin America conference held this past November. As with all Societies, the HGS must adapt and evolve in order provide our members with applicable and interesting events and I look forward to working with the rest of the HGS team in the coming years, either through a VP capacity or volunteering when resources are needed.

Education

2001-2005: University of Liverpool, Masters of Geophysics with Geology

2005-2009: University of Liverpool, PhD in Paleomagnetism

Professional Experience

2010 - Present: CGG (formerly Robertson Research), Various Sales, Business Development and Project Management roles across the Americas.

Professional Affiliates

Houston Geological Society, AAPG, Rocky Mountain Association of Geologists



Scott Sechrist

During more than 40 years of industry experience, the HGS has always been there to support me in my career. For Geoscientists of all ages and skill levels, I have observed the HGS to always be the

Number One source for Networking; with the highest quality Technical Meetings and Continuing Education presentations in the industry.

As an HGS member, I have volunteered through the years in a wide range of events: working at the registration table for Luncheon and Dinner meetings, stuffed convention bags, participated in Science Fair judging, volunteered at Shrimp Peels and Golf Tournaments, learned how to shoot Skeet and helped to promote the HGS Fishing Tournament, provided liaison with other local geoscience societies, was honored to serve on the HGS Board of Directors and serve as Vice President in 2020–2021.

As an Emeritus member of HGS, I am convinced that it is my duty to contribute further to the ongoing success of the Houston Geological Society. In humble recognition of all the benefits HGS membership has provided to me, I would be honored to serve my fellow Houston Geological Society members as Vice President. My first priority will always be to continue the HGS tradition of providing outstanding technical content, to benefit the entire HGS membership. I thank you for your consideration and would appreciate your vote.

Education:

Houston Community College, Houston, TX. Post Baccalaureate Courses 1985-86, for University of Houston / MS Geology program.

S. F. Austin State Univ., Nacogdoches, TX. Bachelor of Arts Degree 1975- 1977 Electronic Communication R-T-F / Marketing

Southwest TX State Univ., San Marcos, TX. Bachelor of Arts Degree 1972-1974 Geography / Remote Sensing Trinity University, San Antonio, TX. Baccalaureate Courses, 1970-1972 Geology / Geography

Read more about Scott's professional affiliations by clicking HERE.

Secretary (two candidates)



Meredith Faber

Born and raised in Texas, Meredith attended Trinity University in San Antonio where she joined AAPG as a student member in 2003. She graduated with a Bachelor of Arts degree in English

and a Bachelor of Science degree in geosciences in 2005. She went on to attend graduate school at Southern Methodist University in Dallas, Texas, where she split her time between teaching oceanography lab classes, participating in various student organizations (including the SMU AAPG Student Chapter) and earning a doctoral degree in geology with an emphasis in stable isotope geochemistry. She completed her dissertation research on isotopic and ecological investigations of the land snail record and novel data management techniques in 2012.

After graduation, Meredith joined Swift Energy Company in Houston, Texas, to work in exploration in onshore South Texas. Meredith moved to Noble Energy in 2014 where she worked in the Marcellus Business Unit and in Development and Operations in the Permian. She currently works as a freelance editor for the Bureau of Economic Geology at The University of Texas at Austin.

Meredith's most recent volunteer roles include serving as an HGS Delegate to the AAPG House of Delegates and the 2020-2021 President of AAPG's Division of Professional Affairs. Meredith credits her involvement with organizations like AAPG, HGS and SEG with providing the opportunities and resources that resulted in her present career path and considers it a privilege to give back to the Society by standing for the office of HGS Secretary.



Amanda Johnston

I started my career in the oil and gas industry as many others do, with field experience. I mud logged during the summer of 2017 with Datalog Geological Services and gained additional experience

through several internships with companies including Southwestern Energy (2018), ExxonMobil (2019), and Hess (2019). At the end of 2019, I accepted a full-time position as a Foundation Geologist with Hess Corp. During my time with the company, I've had the great opportunity of completing a rotation in the Guyana Basin learning about offshore operations, and I'm currently in an exciting rotation as an operations geologist working the Williston Basin, North Dakota.

I earned my M.S. in geology from University of Louisiana at Lafayette and my B.S. in geology from Stephen F. Austin State University. While beginning my early career, I Vice-Chaired the newly formed HGS Student Expo Committee in 2021 and will be chairing this committee for HGS in 2022 and 2023. I am truly honored to receive a nomination for the HGS Secretary position. If nominated, I would look forward to learning more about the society and its members, as well as support the growth of its membership as a board member.

Treasurer-Elect (two candidates)



Fang Lin

It is a privilege and an honor to be nominated as a candidate for Treasurer-Elect on the Board of Houston Geological Society (HGS). I am a mid-career geologist who have worked in the energy

industry for sixteen years. My career started as a technical geologist and had increasing responsibilities as a project manager and supervisor. I have not served as a treasurer for any organization before, so I searched online about "What skills do you need to be a treasurer?", one of the sources (Characteristics of a Good Treasurer | DIY Committee Guide) said: "A good treasurer will:

- be capable of handling figures and cash;
- · have an orderly mind and methodical way of thinking;
- have experience in dealing with large sums of money and budgets;
- · have experience of financial control and budgeting;
- have an eye for detail; be available to be contacted for ad hoc advice;
- have a financial qualification or relevant experience;
- · have experience of pension schemes;
- · good communication and interpersonal skills;
- · ability to ensure decisions are taken and follow-up; and
- · show good time-keeping.

I think I have majority of the skills due to my personality and experiences. I am disciplined both with personal finance and organizational spending. I have managed budgeting of large research projects with millions of dollars annual spending. I understand the criticality of accurate book-keeping and the importance of that for an organization. I am willing to learn and do what our organization needs me to do, to continue to serve our members and our community. Thank you for voting for me!

Education

B.S., Geology, Chengdu University of Technology, 1991 - 1995 M.S., Ore Deposit Geology, Chengdu University of Technology, 1995 - 1998

Ph.D., Geosciences, Virginia Tech University, 2000 - 2005

Experience

2020 – present: Chevron Corporation, Chapter Manager, Hydrocarbon Charge & Geochemistry 2000 – 2020: Chevron Corporation, Geochemist, Research Scientist, Team Leader 1998 – 2000: Chengdu University of Technology, Instructor

Professional Activities and Awards

2022 – present HGS Scholarship Night Committee co-Chair 2019 – 2020 Editor of the Houston Geological Society Bulletin

2018 – 2019 Editor-Elect of the Houston Geological Society Bulletin

2009 – 2014 Index Editor for HGS Bulletin 2011 – 2012 Houston Geological Society Editor's Award Active member of AAPG, HGS and HOGS. Reviewer of AAPG Bulletin, Marine and Petroleum Geology, Organic Geochemistry etc.



Lauren Robinson

My passion for geology began as an undergraduate student at Smith College, continued throughout my time at Indiana University's Field Camp, as a field assistant in the Books Cliffs and an

extended internship at Big Bend National Park, and culminated with graduate work in structural geology at Baylor University. In June it will be 15 years since I have been working in the oil patch.

During my professional career, I have teamed with large, independent operators (e.g. EOG Resources, Marathon Oil and EP Energy) on various unconventional and conventional projects. Most recently, I joined the Miller and Lents team where I am currently pursuing a range of domestic and international upstream projects with numerous clients.

In addition to volunteering with the HGS Social Media committee, I have been an active volunteer with both the SPE-GCS and Chemo Angels.

My husband, Eric, is also a geologist and works in oil and gas. Our son, Nate, is five years old and enjoys "working" with rocks and in the dirt. Shocking!

Thank you!

Editor-Elect (two candidates)



Lucia Torrado

Lucia Torrado is a geoscientist with AGI Exploration. She received her B.S.degree in geology from the National University of Colombia, and her M.S and Ph.D. from the University of Houston.

She has worked with the Conjugate Basins, Tectonics and Hydrocarbon consortium at the University of Houston, PGS, TGS and interned at Shell and Talisman (now Repsol). She has experience in several Caribbean and Latin American basins. Her graduate work in Brazil was recognized as the best poster presentation at AAPG's Annual Conference and Exhibition in 2017.

Lucia is currently the Translations Committee Chair at SEG, an Imperial Barrel Award industry advisor for AAPG and a member of AAPG, SEG, HGS, GHS and AWG.

Lucia currently serves as Secretary on the HGS Board of Directors.



Caroline Wachtman

Caroline has extensive experience managing and executing complex subsurface projects and has explored, developed and produced resources worldwide. She spent 15 years with

ExxonMobil, where she led multiple cross-functional teams identifying and evaluating resources throughout West Africa, the Caribbean and Caspian regions. Recently, she worked US onshore conventional and unconventional mature production assets with Zarvona Energy. Now, she is applying her project management and reservoir characterization expertise as Director of Energy Transition & Capital Projects at Caliche Development Partners, where she is leading a carbon sequestration project.

Caroline has a B.S. in Geology from the College of William & Mary and a M.S. in Geology from the University of Wisconsin-Madison. She has participated in three executive leadership programs, including the Thunderbird School of Global Management. Caroline is published in the Journal of Structural Geology and Tectonophysics. She enjoys sharing her interest in geology with her two young daughters and their Girl Scout troop.

Caroline currently serves as Committee Chair of the HGS Africa Conference.

Directors (four candidates)



Bill DeMis

I am honored to stand for the position of Director at the HGS. I will bring all of my business experience to the Executive Board to make the HGS economically profitable, scientifically relevant, and fun

for our members. I have had executive experience across a broad range of companies that range from small independents to "big oil" to investment banking. I have held the positions of Exploration Manager at Marathon Oil Company ("big oil"), Exploration Vice President at Roxanna Oil Company (local Houston independent), and most recently, as Senior Vice President and Chief Geologist at Goldman Sachs in investment banking here in Houston.

I understand the issue facing all of our independent members as well as those who work for major oil companies. The critical strength I can bring to the HGS is a strong understanding the financial challenges we face as a professional society.

I currently run my own consulting company. I am working on getting funding for two different start-up companies; one company is situation in the US onshore Gulf of Mexico, and other is situated in Bulgaria. I like to look at deals and generate prospects. I still know how to slip well logs. I am also a visiting lecturer at The Jackson School of Geosciences at The University of Texas at Austin.

As a member of HGS, I actively participated in the continuing education committee, by chairing classes, inviting speakers, and I have taught a class. I have given several talks at the HGS on the Haynesville shale play, the Eagle Ford, and on the relationship of the US dollar to Oil Prices and OPEC policy. In 2021, I was awarded the dedicated Service Award from the AAPG. In 2000, I received the Dedicated Service Award from the West Texas Geological Society. In 1996 and 2000, I won the "best paper" at the AAPG National Conventions for my work on the effects of US dollar exchange rates on OPEC price policy. In 1993, I won a "best paper award" from the GCAGS for my work on production-controlling carbonate stratigraphy of the Smackover.

I am a member of HGS, WTGS, RMAG, and SIPES. I am AAPG Charles Taylor Fellow. I am also an AAPG foundation trustee associate. My LinkedIn page has links to some of my talks.

Read more about Bill's professional experience and awards by clicking HERE.



Troy Meinen

I am honored to be invited to stand for election of one of the new Board Directors for HGS. My current positions as treasurer and now co-chair of the Environmental and Engineering

committee in HGS have been most rewarding to me and I welcome the opportunity to further serve my fellow Members should I be elected.

We are living in exciting but challenging times when our collective expertise as Geologists is more valuable than ever. Who better than Geologists to help todays leaders understand the complex nature of energy, the carbon cycle, natural disasters, and the impact of each on our world. My hope is that organizations like HGS will bring wisdom and sound scientific reasoning to decision makers in the many public arenas where we serve.

I am a Technical Director and Global Health and Safety Advisor with Environmental Resources Management (ERM) in Houston. Over my 24-year career, I have served as an environmental and health and safety consultant servicing global oil and gas, chemical, manufacturing, and mining companies. I have utilized my geological expertise to assist global oil and gas companies to understand and address contaminated ground water, soil and sediment issues. My background includes managing investigation and remediation of upstream oil and gas sites and assisting with due diligence for large oil and gas acreage position transactions for major oil and gas clients, which includes assessment of water use and protection, property transaction support, environmental impact assessment, environmental permitting and management, and Stakeholder concerns. I currently utilize my field experience to support teams globally in improving health and safety performance primarily within Global oil and gas companies.

In my personal life I have served for more than 20 years as a mentor of students through my church and Scouting. Most recently, I have expanded my leadership experience through my service as the Chairman of a local Houston District of the Boy Scouts of America.

I believe my technical experience in the oil and gas industry combined with my experience and leadership in HGS and other organizations has prepared me to help lead HGS as we continue in challenging times.

Education

- M.S. Geology, Baylor University, 1996
- B.S. Geology, Baylor University, 1993

Professional Affiliations and Registrations

- Registered Professional Geologist in the States of Texas and Tennessee
- Certified Safety Professional (CSP-38937)
- American Society of Safety Professionals
- Houston Geological Society

Directors (four candidates)



Kenneth Mohn

<u>Professional Experience</u>

Mohn & Associates, LLC – (2018-Present)

Formed to develop new business
opportunities in consulting, project
development and oil and gas exploration.

Developing exploration projects and seismic surveys both Proprietary and Multi Client.

Geoex/MCG -MCG was purchased by Geoex in 2016. (2013 - 2018) Started with MultiClient Geophysical (MCG), based out of Oslo Norway. Managing Director and Vice President Americas - Started the group at MCG for the Americas. Developed surveys in Mexico and the Caribbean.

Fugro Multi Client Services, Inc., a division of Fugro N.V. under the Seismic Services Group. Exploration Vice
President (2002- 2013) Started the Multi Client Group for the Americas in Houston. Group Manager of the Multi Client Group in Houston. We covered all Multi Client business for North, Central and South America. Responsible for all Multi Client Sales, Project Development, Project Management for the Americas. Reported to the Managing Director of Fugro Multi Client Services Worldwide.

TGS-NOPEC Geophysical Company ASA: Specializes in the global acquisition of non-exclusive seismic surveys.I worked at TGS from 1987 until 2002 in various positions: 1987-2002 Marketing Manager, Africa: 2000-2002 Marketing Manager, Gulf of Mexico 1995-2000 Project Manager, International Division 1989-1995 Geologist and Marketing Representative 1987-1989

Strata Reserves Inc. – Field and Wellsite Geologist for shallow wells in East Texas 1982-1983

Professional Societies and Affiliations:

American Association of Petroleum Geologists (AAPG)
Houston Geological Society (HGS)
Society of Exploration Geophysicists (SEG)
Geophysical Society of Houston (GSH) Lifetime Member
Texas Board of Professional Geoscientists Licensed Geology, License
No. 6766

Activities:

2021-Present AAPG House of Delegates Committee, Delegate, Foreman $\,$

2021 AAPG HoD Membership Committee, Committee Member 2019 and 2020- Judge in the AAPG Imperial Barrell Award Student Contest.

2018-2019 - 2nd Vice President of the Geophysical Society of Houston 2016-2020 AAPG HoD. Alternate

2015-2016 AAPG HoD, Delegate

2011- 2015 - Chairman of the Geophysical Society of Houston Sporting Clays Tournament

2009 – Chairman of the International Association of Geophysical Contractors (IAGC) Sporting Clays Tournament.

2004-2015 AAPG HoD, Alternate

2001-2004 AAPG HoD, Delegate

 $2000\,$ - $2001\,$ Charity Selection Committee Member for the Children's Fund Charity.

 $2000\text{-}2001\,\mathrm{Chairman}$ of the Houston Geological Society Skeet Shoot Committee.



Marcus Zinecker

Marcus Zinecker received B.Sc. degrees in both geology and geophysics from the University of Houston in 2014, and a Ph.D. in geology from the University of Houston in 2020. He began volunteering for the

Houston Geological Society in 2018, shortly after starting grad. school. Marcus volunteered with the exhibits committee, attending industry conferences here in Houston and across the country on behalf of HGS. (Many of you have probably seen him working at the HGS booth at a conference or two!) In 2019, Marcus became the committee chair for HGS Exhibits, coordinating HGS's presence at conferences and manning the booth. He received the HGS Rising Star Award for his efforts and contributions to Exhibits in 2018-2019. Marcus' goal with the Exhibits Committee has been to spread awareness of the programs available to and benefits of HGS membership at as many industry conferences and trade shows as possible, as well as to bring in new members - especially young professionals. Marcus has also volunteered as a session co-chair at the HGS-EAGE Latin America conference and presented at several other HGS conferences.

In his day job, Marcus works at BP as an exploration geologist in their Gulf of Mexico team, where he has had the opportunity to work on various prospect descriptions and sub-regional projects, as well as exploration well planning and drilling operations. In fact, Marcus celebrated his first oil discovery in 2021 with the Puma West discovery.

In his free time, Marcus enjoys cooking, camping, rock climbing, and all kinds of board games. He especially looks forward to taking his 2-year-old son on his first rock collecting trip this summer.



MEMBERSHIP DUES INCREASE

EFFECTIVE FOR 2022-2023 DUES

Active / Associate Members \$36
Emeritus Members \$18
Student Memberships still FREE

Prices effective for all renewals & applications for the 2022-2023 year.

Thank you for your continued support and understanding.

Effective for all membership renewals and membership applications moving into the 2022-2023 fiscal year, HGS has slightly increased its membership dues. Moving forward, the new membership fees will be as follows:

- Active / Associate Memberships: \$36.00
- Emeritus Memberships: \$18.00
- Student Memberships are still FREE.

Dues for the upcoming year are not due until June 30, 2022.

The Houston Geological Society is a society with a global view. The HGS includes students, geologists, geophysicists and academic experts. Our objectives are to stimulate interest and promote the advancement of the geosciences, to disseminate and facilitate discussion of geological information, to enhance professional interaction among geoscientists, and to aid and encourage academic training in the geosciences. As an HGS member, you will receive special privileges, discounts, and priority event registration. If you are an active AAPG member, please support this society and become an active HGS member!

Active Membership

In order to qualify for Active Membership, you must have a degree in geology or an allied geoscience from an accredited college or university or, have a degree in science or engineering from an accredited college or university and have been engaged in the professional study or practice of earth science for at least 5 years. Active Members shall be entitled to vote, stand for election, and serve as an officer in the Society. Active Members pay \$36.00 in dues (effective beginning for all 2022-2023 dues).

Associate Membership

Associate Members do not have a degree in geology or allied geoscience but are engaged in the application of the earth sciences. Associate Members are not entitled to vote, stand for elections or serve as an officer in the Society. Associate Members pay \$36.00 in dues.

Student Membership

Student membership is for full-time students enrolled in geology or an allied geoscience. Student Members are not entitled to vote, stand for elections or serve as an officer in the Society. Student Member dues are currently waived (free). Students will have a 24 month grace period after graduation. After a student graduates and receives a job, he/she must apply for Active membership to HGS.

Emeritus Membership

Members who attain the age of 65 and have been Active members of HGS for a minimum of 10 years may request Emeritus status by contacting the HGS office. Emeritus Members shall also be considered Active Members. Emeritus Members pay \$18.00 in dues (effective beginning for all 2022-2023 dues).

Interested in becoming a member? Be sure to fill out a Membership Application!

We thank you for your continued support and greatly appreciate your understanding! 2021-2022 HGS Board

University of Houston Dept. of Earth & Atmospheric Sciences 35th Student Research Conference, Alumni & Industry Open House

FRIDAY, APRIL 29, 2022



Hello members of the Houston Geological Society!

On behalf of the Earth and Atmospheric Science Department at the University of Houston, the Student Research Committee formally invites you to serve as a volunteer Industry Judge at our 2022 Student Research Conference.

This is our 35th annual Student Research Conference/Alumni & Industry Open House Event and it will be held virtually on Zoom from 9:00 AM to 5:00 PM on Friday, April 29th, 2022 followed by a Happy Hour at McGonigel's Mucky Duck from 5:30 - 9:00 PM (https://www.uh.edu/nsm/earth-atmospheric/news-events/research-conference/). This event is a valuable opportunity to showcase our student research for a broader community, and it allows those working in industry and academia to see what our department has been working on in terms of research and development. Last year, our event featured over 50 oral presentations.

This year we have an oral presentation session (9 AM - Noon) and a poster presentation session (1 - 2:30 PM) with categories based on undergraduate and graduate classifications. Final materials for the presentations and posters will be made available roughly 3-5 days before the day of the event to allow you to begin your evaluations ahead of time.

The best poster and oral presentations for Geology, Geophysics, and Atmospheric Science are chosen based on the recommendation of volunteer judges like you! We have options for commitments that range from only the morning presentation session (9-12 AM), the afternoon poster session (1-3 PM), or, if you'd like, you can volunteer for both. Details are still being finalized regarding the Awards Ceremony, and final specifics will be shared with you by April 15th, 2022.

If you are interested in judging this year, please sign up using this link: https://forms.gle/ttLyoYzQx7onNUG98

If you know of other industry employees that would like to participate, please pass this email along. For more information about the 2022 Student Research Conference or if you have any questions, please email us at $\underline{easgradcommittee@gmail.com}$.

On behalf of the Student Research Conference committee, thank you!

The 2022 Student Research Conference Committee

University of Houston
Department of Earth & Atmospheric Sciences
easgradcommittee@gmail.com
http://www.uh.edu/nsm/earth-atmospheric/news-events/research-day/









Induced Seismicity Workshop

Understanding Induced Seismicity – Earthquake Monitoring, Seismologic Analysis, Geological Characterization, Mechanistic Analysis

Instructors:

Dr. Peter Hennings – Research Scientists, PI Center for Integrated Seismicity Research
Dr. Alexandro Savvaidis – Research Scientist, Manager & PI TexNet Earthquake Monitoring Network
Dr. Jean-Philippe ('JP') Nicot – Senior Research Scientist, Hydrogeology and Reservoir Engineering

Venue:

Henry Auditorium, UTPB Engineering Building: 11105 W Hwy 191, Midland, TX 79705

Date:

Tuesday, April 5th: 0800 - 1700 (Breakfast and Lunch Included)

Cost:

\$350 (WTGS/PBGS Members), \$450 (Non-members)

Overview:

The rates of anthropogenic earthquakes in Texas have increased significantly in the last few years, especially in the Permian Basin region. Understanding induced seismicity does not require deep technical skills but it does require the thorough synthesis of geophysical, geological, and reservoir engineering data. This 1-day workshop will introduce induced seismicity and provide background skills required to understand its cause and be conversant in how it is monitoring and analyzed.

Duration and Logistics:

1 day; lectures (50%), practical exercises and demonstrations (25%), discussion (25%)

Level and Audience:

Introductory. This workshop is intended for petroleum professionals at all levels.

Objectives:

Seismologic Monitoring
Earthquake Hazard and Risk
Fault Characterization
Pore Pressure Analysis
Evolution of Induced Seismicity Hazard

Earthquake Analysis
Mechanics of Fault Rupture
Fault Rupture Sensitivity Analysis
Performance of Causal Analysis
Mitigation Steps







Induced Seismicity Workshop

Understanding Induced Seismicity – Earthquake Monitoring, Seismologic Analysis, Geological Characterization, Mechanistic Analysis

Registration:	
Registration Deadline is Friday, April 1st.	
If you would like to register by phone, pleas	se call 432-683-1573.
Member Price: \$350	
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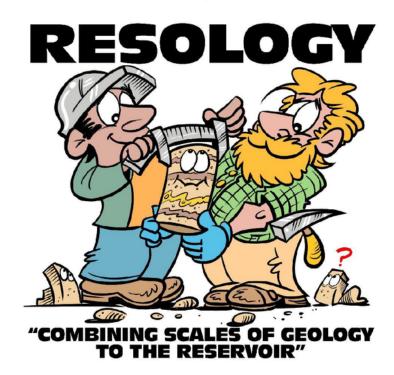
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May 2 – 4, 2022

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Midland, Texas



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FOURTH EAGE/HGS CONFERENCE ON LATIN AMERICA

14-16 SEPTEMBER 2022 · CARTAGENA, COLOMBIA

CALL FOR ABSTRACTS OPEN!

Welcome to the Fourth EAGE/HGS Conference on Latin America: "Exploring Latin America's role in the Future Energy Mix"

On this occasion, the EAGE/HGS will bring this event to Cartagena, Colombia aiming for the first fully in person conference since the first event. Considering recent developments taking place in the world since 2019, the aim of the Technical Committee is to deliver to the audience, an integrated and exceptionally enriched conference on Latin America, offering a forum to explore relevant topics affecting the future of energy supply and the key role Latin America can play in the future energy mix to tackle energy poverty.

Since the last two decades, the Latin American region has faced continuous development in energy resources, which has opened to increased investment. The conference will provide a forum to explore the wide variation in geological settings as well as the latest geological insights from Mexico to Tierra del Fuego, including the most recent views from the conjugate margin and global analogues. Sessions covering advances in seismic imaging and non-seismic methods as well as machine learning and digitalization, are expected to present ways to achieve a more efficient exploitation of these resources.

In recent years, the oil and gas industry has significantly increased exploration and production activities in the southern Caribbean margin, the Andean foreland, Guyana-Suriname offshore, deep-water Brazil and unconventional exploration in Argentina and Colombia. Recent significant hydrocarbon discoveries in deeper water have indicated great rewards in frontier exploration but there is also a strong move towards Infrastructure Led Exploration (ILX) or Advantaged Hydrocarbons and this is expected to be a key topic in the conference.

Sessions with invited speakers are planned to cover above ground and energy transition related issues. These will provide an opportunity to interact and hold more open discussions.

Topic

The Technical Committee invite practitioners, innovators and industry experts to contribute to this workshop and share their achievements and challenges, lay out big innovative ideas and seek new alliances to jointly develop a road for the future.

Contributors are welcome to submit abstracts of 2-4 pages in length. Submission for posters & oral presentations is welcome on all topics. Professionals, Bachelor, Master or PhD students are invited to share their work. Abstracts should be submitted via the EAGE website using the downloadable template.

The papers must follow the Abstracts Submission Instructions

The deadline for abstract submission is 25 June 2022.

$\label{lem:please submit abstracts on the following topics:} \\$

- The Geology of Latin America
- Seismic Imaging in E&P
- Applications of non-seismic Geophysical Methods
- Petroleum Geoscience for Conventional and Unconventional E&P
- Machine learning present and future role in exploration through to exploitation in Latin America
- Commercial/Above Ground
- Special Session: Energy Transition









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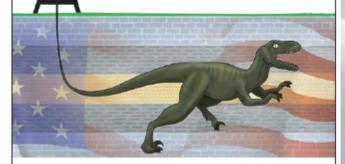
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HGS Bulletin Instructions to Authors

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.

<u>Photographs</u> 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 emil 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. 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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	\$1600 – 6 Months	10 seconds.		
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