

HGS SULLE CELLS Houston Geological Society

Volume 63, Number 7



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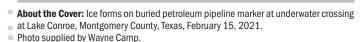
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27th Annual Milton B. Dobrin Lecture

Spanning Hydrocarbons to Humanitarianism: Where is Geophysics Going?

Featuring presentations by

Maurice Nessim, President of the Society of Exploration Geophysicists
Paul Bauman, first SEG Humanitarian Award Winner
Andy Sabin, Board of Directors of the Geothermal Resources Council

Monday, March 8, 2021 4:30 – 8:30 PM

Chairpersons

Courtney Anzalone, Director of Events, UH EAS Alumni Association Jiajia Sun, Assistant Professor, EAS Dept., University of Houston

Schedule of Events

| 4:30 PM | Student Poster Presentations via Individual Chat Rooms |
|---------|--|
| 6:00 PM | Overview of Earth and Atmospheric Sciences at UH |
| | Tom Lapen |
| 6:15 PM | Geophysics at UH |
| | Rob Stewart |
| 6:30 PM | Boldly Embracing the Future |
| | Maurice Nessim (bio and abstract) |
| | Good Geoscience in Dire Places: Searching for Water in |
| | Humanitarian Crises |
| | Paul Bauman (bio and abstract) |
| | Geothermal Energy: What is it and What is its Future? |
| | Andy Sabin (bio and abstract) |
| 7:30 PM | Panel Discussion on the Future of Geophysics |
| | Nessim, Bauman, Sabin, Stewart, Lapen |
| 8:15 PM | Student Award Announcements and Comments from the |
| | Chairpersons |



Jim Tucker
president@hgs.org

From the President

A Short Month but an Exciting One

Istarted writing this during our memorable Coldest Week in Memory, which I hope we do not see surpassed for a long, long time. It was different pulling out the hurricane box while shivering rather than during the August sweating season. And reaching into the cold, muddy water meter box to turn the water off was memorable, in a really bad way. I hope there was not any lasting damage at your homes and offices. The failure of our electricity suppliers to adequately prepare is a lesson for all of us. And since recent weather events have been named the Tax Day or Memorial Day Floods, this one will be the Valentine/President's Day Freeze.

We are still reviewing the local projects from the Science and Engineering Fair of Houston, to determine awardees for our HGS summer internships at the Houston Museum of Natural Sciences. I imagine in-person activities at the museum will be limited, at least in the summer's start, but we hope to help provide a good experience for our young colleagues.

We are continuing with our remote presentations for our regular technical meetings, and have continued with an excellent variety of professional educational enrichment via programs provided by our Continuing Education Committee.

Planning is well underway for the semi-annual upstream hiring event hosted by the Gulf Coast Section of the SPE, and endorsed and aided by HGS and approximately thirty related professional societies. This is parallel to the Members in Transition online presentations available from the AAPG. It will occur in early April and additional information is elsewhere in this *Bulletin*.

One of the recent exciting things for the country and affecting many of our Members is the new Administration for the United States. In particular, Sections 208 and 209 of the President's Executive Orders deal with national lands and extractive resources, and are discussed below by HGS Director Wayne Camp, and elsewhere in this *Bulletin* by Henry Wise.

From Wayne Camp – Included in President Biden's flurry of executive actions in January was the "Executive Order on Tackling the Climate Crisis at Home and Abroad" issued by the White House on January 27. This order, among other things, directs federal agencies to immediately suspend new leasing on federal lands and waters for 90 days to allow time to complete a review and reconsideration of the federal oil and gas lease program.

This order has created a considerable amount of angst in our industry evident by opinions expressed by various advocacy groups on the future of our business should the lease ban, or other new provisions, be made permanent.

In response to President Biden's order, the Western Energy Alliance immediately filed suit in the U.S. District Court of Wyoming claiming that the President exceeded his authority and that the order violates several existing laws https://www.westernenergyalliance.org/biden_ban_public_land.html.

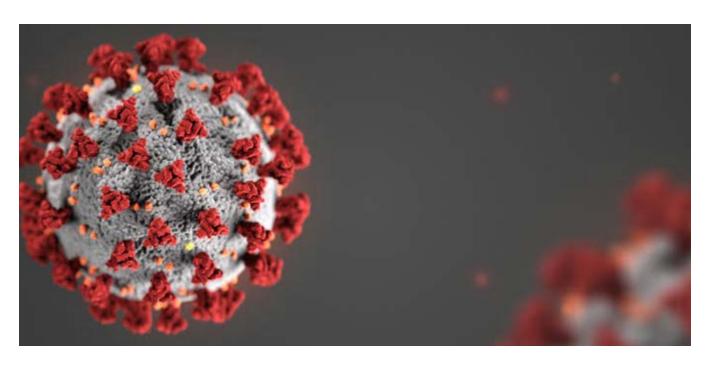
Close behind, Texas Governor Gregg Abbot signed an executive order in Odessa (home of the Midland Basin) on January 28,

directing state agencies to identify opportunities for the State to file federal suits over environmental regulations "...that threatens the strength, vitality or independence of the energy industry in Texas." following the playbook he used against the Obama Administration when Abbot was Texas Attorney General https://gov.texas.gov/news/post/governor-abbott-issues-executive-order-relating-to-protection-of-texass-energy-industry-from-federal-overreach.

Closer to Houston, the Biden order resulted in the Bureau of Ocean Energy Management (BOEM) to rescind their prior Record of Decision (ROD) on February 12 resulting in a suspension of the March 2021 Gulf of Mexico oil and gas lease sale 257 https://www.boem.gov/boem-rescinds-record-decision-gulf-mexico-lease-sale. The ROD was based on the 2018 Final Supplemental Environmental Impact Statement prepared for the 2017-2022 five-year lease sale program.

See the article "President Biden's Executive Order Regarding Oil and Gas" by Henry Wise in this issue for an objective summary of the President's Executive Order.

From the President continued on page 36



Coronavirus (COVID-19) Policy Statement: Updated Monday, March 1, 2021

B ecause of the ongoing coronavirus (COVID-19) situation, all in-person HGS events in the near term are cancelled/postponed or will be substituted by online events. 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 determine whether to extend the cancellation or postponement of HGS in-person events as the new year begins.

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

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

2020-2021 HGS Board



Ceri Davies editor@hgs.org

Houston Snow Days.

Hello plumbers, sheet rockers, So that was a blast. An unwelcome visit from our friend from the north. With a temperature of 34 degrees in the house and almost single digits outside, that was cold. I'm all about going to see snow in situ, but just as we've become accustomed to embrace 100 degrees in the summer, I'd be happy if the snow stayed home. Now, as I write this, the temperature is 74 degrees with a high of 81. You've got to love Houston weather.

This month I've seen several societies announce in person events and socials, with the AAPG ACE 2021 Program Committee planning for the eventuality of both in-person and online presentations in Denver in May. At the HGS, we continue to monitor the situation. Whilst taking a more cautious approach, it is very uplifting and encouraging to hear the amount of people getting vaccinated and we all hope these events will be a stable of our life once again soon. Our Latin America Conference Committee has several volunteers who have been vaccinated and come early October I'll be looking forward to hosting that event in person. Last fall we had to postpone indefinitely our annual Golf Tournament – this fall we plan to host two to make up for lost time, one in October and one early December, we'll have more details on these later in the summer.

Lastly, the oil price. Like most of the readers I imagine, I look at the oil price daily. Things are looking up. This past week the oil price closed above \$60 for 5 consecutive days. With the oil price seeing this steady run, conversations across the industry are far more optimistic than anytime these past 12 months or so. With this being said, however, all too frequently I've seen on LinkedIn friends, former colleagues, clients and others in our industry all Open to Work − if there is anything I can do, or we can do as the Houston Geological Society please get in touch. ■

Keep well and Happy St. David's Day to anyone with a Welsh connection,

Ceri



15th February 2021, Jersey Village, a fresh 19 degrees. Photo supplied by Ceri Davies.



Geoscientists using their innovation and technology to defeat problems. Photo supplied by Bob Fryklund.



Getting in some practice before the golf tournament later this fall. Photo supplied by Stephen Peltier.

The Houston Geological Society Continuing Education Committee Presents



How to use Paleontology in the Oil and Gas Industry

A 4 Hour Virtual Event via Zoom

By Ryan Weber, President of Paleo-Data, Inc. Thursday Morning, March 18, 2021 8:00 AM – 12:00 PM CST

Please make your reservations on-line through the Houston Geological Society website www.hgs.org Registration will close Wednesday, March 17, 2021 at 4 pm.

Meeting links will be sent at this time to the "Primary" email listed on your HGS account.

For more information about this event, contact HGS Office 713-463-9476 • office@hgs.org Event Contact: Bill DeMis • BillDeMis@AOL.com

Course Description

This 4-hour course will give a brief introduction on how paleontologists use fossils and biostratigraphy to help correlate borehole information. The primary focus of this course is to provide practical and pragmatic techniques for the nonspecialist to help integrate paleontological information with other borehole data, as well as recognize when to seek specialists' advice. While this course is geared for the geoscientist, engineers (reservoir/drilling/completions) will also find utility.

Summary

This course will introduce micropaleontology, biostratigraphy, biofacies analysis, and chronostratigraphy to those who need to work with biostratgraphic data in subsurface correlations. This course is designed for the industry professional to gain a full appreciation of how these topics contribute to, and are integrated in petroleum exploration and development. The basic concepts will be developed together with the essential vocabulary necessary to understand and communicate with specialists in those fields. Practical application of this knowledge will be developed through the use of examples, case histories, and hands-on exercises. The goal is to develop the geoscientist's capability to competently and confidently employ paleontological information to stratigraphic analysis for exploration and development.

Learning Objectives

- Understand and recognize paleontological applications for borehole correlation
- Understand and design a borehole sampling program for paleontology
- Understand how to recognize geological events from a paleontological range chart
- Learn how to correlate boreholes with only a summary of bioevents
- Learn how to integrate fossil indices and biofacies with other geological data

Pricing

Attendees will receive a Certificate of Continuing Education for 4 PDH

HGS members \$30

Non-members \$60*

HGS Student Members \$20

*Non-Members can submit an application and pay their dues before registering to get the member price. Please call the HGS office at 713-463-9476 to be registered only AFTER your application and dues are submitted.

Course Outline

Applied Paleontology

- Type of fossils and applications
- · Logistics and Methods
- Zonations
- EXERCISE: Recognize geological horizons in a range chart

Applied Biostratigraphy

- Bioevents
- Chronostratigraphy and Geochronology
- Correlation
- EXERCISE: Correlating Boreholes with Bioevent Summaries

Applications for Exploration

- · Paleoecology, Biofacies, and Paleobathymetry
- Fossil Indices and Biostratigraphic Sequences
- EXERCISE: Biostratigraphic Sequences
- Fossils and Black Shales; finding the oxygen minimum zones

Applications for Development

- · Role of mud in the reservoir model
- · Mud classification, ecology, and depositional timing
- Fossils and Reservoir Architecture of Fan and Channel complexes

Biographical Sketch

RYAN WEBER is currently the President of Paleo-Data, Inc., a biostratigraphic consulting firm serving the Oil & Gas sector for over 50 years. Ryan previously worked for BP as a Gulf of Mexico biostratigrapher. Mr. Weber holds a BS and Education certificate from Minnesota State – Mankato, and an MS from the University of Nebraska –



Lincoln. He also served as the Earth Science Section Chair for the Nebraska Academy of Sciences. Ryan's career has applied biostratigraphy from onshore to deep-water Gulf of Mexico, the interior USA, Egypt Nile Delta, Northwest Australian shelf, offshore Mozambique, Colombia, Alaska, and the Spanish Pyrenees. Ryan's passions include Miocene and Wilcox stratigraphy, Mesozoic paleooceanography, the Minnesota Twins, nostalgic comedies, and fermentation.

Instructor Contact Information:

Ryan D Weber President & Biostratigrapher Paleo-Data, Inc ryan@paleodata.com M: 504-508-1416





CALL FOR PAPERS

Sustaining Geoscience through the Energy Transition

September 19 – 21, 2021

Marriott Renaissance | Austin, Texas

UPCOMING DEADLINE FOR THE CALL FOR PAPERS MARCH 15

http://www.geogulf2021.org/call-papers.html

THEMES

Future of Production

Future of Geohazards and Resource Management

Future of Sustainable Energy

Future of Technology in the Geosciences

Panel Discussion

SUBMIT ABSTRACTS NOW

Abstract submission to GeoGulf2021 is open now through March 15th, 2021

SUBMIT ABSTRACT ONLINE AT

https://docs.google.com/forms/d/e/1FAIpQLSdRQlizQPujRqXIWuAouffnKnnJRUXRYXt-K0xtUuE3mVQToA/viewform

For additional program related questions, contact the Technical Program Committee techprog@geogulf2021.org

HGS General

Virtual Dinner Meeting

Virtual Meeting via Zoom 6:00 - 7:00 p.m.

HGS Members \$10 Non-Members \$25 Students \$5 https://www.hgs.org/civicrm/event/info?id=2258

Registered Attendees: A confirmation email will be sent upon registration with meeting links.

Event contact: Bryan Guzman - bryanguzman85@gmail.com

Non-Members can submit an application and pay their dues before registering to get the member price. Please call the HGS office at 713-463-9476 to be registered only AFTER your application and dues are submitted.

David Thul CEO Geolumina Kali Blevins CTO Geolumina

Computer Vision: A New Approach to Data Science in Geology

ata science and analytics is an extremely broad field and growing every day. Over the past several years there have been numerous excellent presentations showing how data analysis, machine learning, and big data can be applied to derive new insight into petroleum systems. What we haven't seen in these presentations is how geologists might leverage new technology to augment their capability and shift cognitive load to computer systems to greatly change information flow and decision making.

With that in mind, we have spent the last several years thinking about what geoscientists ACTUALLY do. In our estimation, the principal skill of geoscientists is applying domain expertise to sparse data. Something computers, no matter how sophisticated, can't do. And what geoscientists ACTUALLY do is recognize patterns and find trends, mostly visually. Over the last hundred years, most advancements in geoscience are the result of new ways of displaying data and understanding relationships using visual correlation tools. Well known examples of visual correlation tools are Picket Plotts, Hingle Plotts, Buckles Plots, Horner Plots, DST pressure charts, generic cross plots, nomograms, cross section etc. And really it should probably be argued that the most humble tool in our kit, the well log, is nothing more than a tool of visual pattern recognition.

With this in mind, we set out to explore what we could accomplish using computer vision to teach a program to "see" like a geologist. In this talk we will present some results from a series of experiments on what patterns a computer can recognize in porosity-permeability plots and how these abilities can be leveraged to change what a geologists does. We hope you will join us for a discussion of cognition, geoscience and technology to think about what the future might hold for our profession.

Biographical Sketches



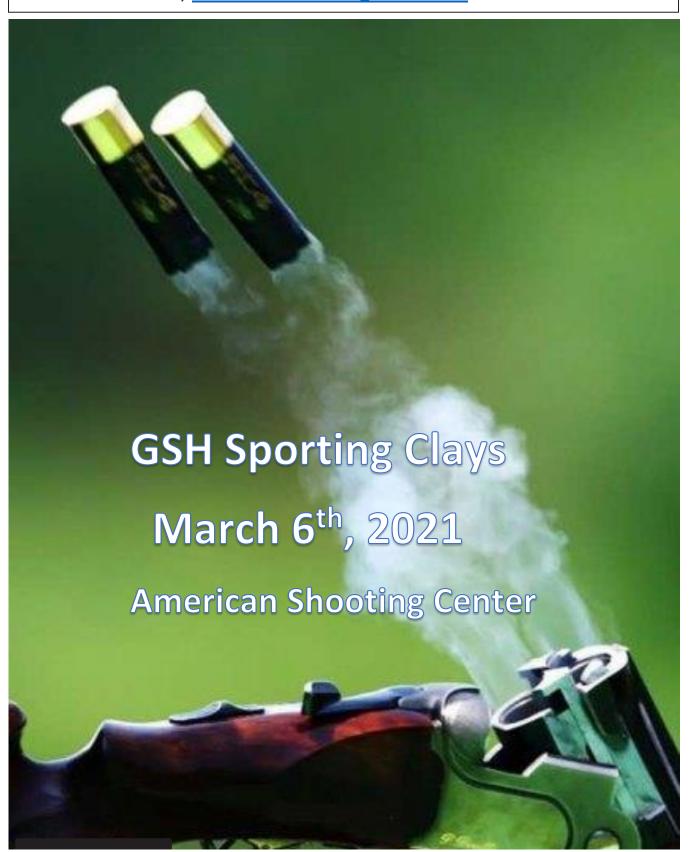
DAVID J. THUL, CEO Geolumina, is a geologist and geochemist with broad global exploration and production background. He has worked 50 basins in 15 countries as an explorationist and raised and deployed more than \$100mm in private and private equity capital. He is an E&P technology patent holder and is always looking to improve how our industry does business.



KALI BLEVINS, CTO Geolumina, is an ecologist and programmer that has been working on big data projects for the last 15 years. She started her career in an ambitious NSF funded ecology project called NEON and has held data science roles in various technical fields. She has been working on petroleum geoscience problems for more than a decade.

Sponsor / Register NOW!

For questions or sponsorship opportunities, please contact: Scott Sutherland, Scott.Sutherland@CGG.com 346-366-0288



Virtual Meeting via Zoom 7:00-9:00 p.m.

HGS Members \$10 Non-Members \$25 Students \$5 https://www.hgs.org/civicrm/event/info?id=2250

Registered Attendees: A confirmation email will be sent upon registration with meeting links.

Event contact: Matthew Cowan - mrcowan1@hal-pc.org

Non-Members can submit an application and pay their dues before registering to get the member price. Please call the HGS office at 713-463-9476 to be registered only AFTER your application and dues are submitted.

Rudolph A. Rosen

Professor and Director of the Institute for Water Resources Science and Technology at Texas A&M University in San Antonio

Internet of Texas Water: Use Cases for Flood, Drought, and Surface Water-**Groundwater Interactions**

representative of Texas' water sectors identified critical water data needs and described the design of a comprehensive open access data system that facilitates use of public water data in Texas at the April 2018 Connecting Texas Water Data Workshop as reported in the Texas Water Journal. Participants described potential use cases to initiate work on the most critical data hubs for connecting Texas water data. This note is an update to work on the Internet of Texas Water Data initiative that describes progress on a flood dashboard by the Texas Water Development Board and development of use cases by workgroups of stakeholders with expertise in water data for drought and for surface watergroundwater interactions.

Biographical Sketch



RUDOLPH "RUDY" ROSEN is a Professor and Director of the Institute for Water Resources Science and Technology at Texas A&M University-San Antonio, a Fellow of The Meadows Center for Water and the Environment, Texas State University, and a former Research Associate at the Harte Research Institute for Gulf of Mexico Studies, Texas A&M University-Corpus Christi.

Dr. Rosen is a former Director of Wildlife, Fisheries and Coastal Resources for the Texas Parks and Wildlife Department. He was also Executive Director of Oregon Department of Fish and Wildlife, where he served in the environmental cabinet of two governors. Dr. Rosen has degrees from Penn State, South Dakota State, and the University of Massachusetts.

Dr. Rosen's previous media experience includes responsibility for SCI Publications, a publishing house that produced a bi-monthly magazine, Safari: The Journal of Big Game Hunting, containing articles about international wildlife conservation and hunting; monthly newspapers, Safari Times, printed in the U.S., Africa, Canada, and Europe in four languages, and; books about wildlife and harvest statistics. He was also editor of a regular feature section called "Flyways: Pacific Edition" of Ducks Unlimited Magazine, and responsible for publication of Oregon Wildlife Magazine, covering fish and wildlife conservation science and policy in the State of Oregon as director of Oregon Department of Fish and Wildlife. For over 10 years he was the policy and science columnist for one of the nation's top fishing publications, The In-Fisherman: The Journal of Freshwater Fishing. Dr. Rosen's most recent publication in the Texas Water Journal covers work to design an Internet for Texas Water.

Rudolph A Rosen specializes in conservation organization management, leadership, fundraising, and advocacy. He has served in international, national, and regional executive leadership positions in three of the nation's largest wetlands, fish, and wildlife conservation advocacy organizations: the National Wildlife Federation, Ducks Unlimited, and Safari Club International and its foundation. Rosen has served on over 130 nonprofit and government national and international boards, commissions and committees and has written over 500 articles, blogs, and presentations on organizations, natural resources conservation, and policy. He has often appeared before the U.S. Congress and state legislative bodies to testify on environmental resource conservation matters. Dr. Rosen recently authored the water education textbook Texas Aquatic Science, and Money for the Cause: A Complete Guide to Event Fundraising an easy to understand yet comprehensive textbook on fundraising. Both were published by Texas A&M University Press.



South Texas Geological Society Seminar & Field Trip OVERVIEW OF THE AUSTIN CHALK IN SOUTH TEXAS AND LOUISIANA: Depositional Setting, Diagenesis, Porosity Evolution, and Play Development

Seminar Lecturer: Jeffrey Dravis

The Upper Cretaceous Austin Chalk trend in south Texas and Louisiana continues its resurgence in interest. Areas like Karnes Trough in south Texas, and central Louisiana, remain the areas of interest right now, but many companies also are exploiting established field areas like Pearsall and Giddings, and expanding into East Texas. Geoscientists who explore in the Austin Chalk, or hope to exploit existing Chalk field trends, should possess a firm understanding of the Austin Chalk's regional depositional and diagenetic framework. This includes appreciating the influence of regional and local paleogeography, preexisting topography, and underlying structural framework. Developing an appreciation of the various diagenetic pathways that affected Austin Chalk porosity and permeability evolution is critical as well, since fractures are only a part of the story.

Field Trip Leaders: Tom Ewing, John Cooper, David Ferrill

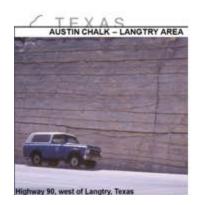
Tom Ewing will show and discuss depositional details of Austin Chalk Group outcrops in the San Antonio area pointing out their implications on hydrocarbons exploration. John Cooper will explore the stratigraphy of the Austin Chalk Group in Bexar County from lower to upper contact and integrate geophysical logs to make ties to the subsurface. David Ferrill will discuss faulting and fractures seen in fault zones exposed in the San Antonio area. David's discussion will focus on understanding typical normal fault patterns and using these patterns as an aid in predicting the fracture zone width when planning oil and gas exploration.

NOTE: The field trip will be moderately strenuous, especially in the event of rain

| Friday, May 14th, 2021 | |
|--|-----------|
| Coffee & pastries at Petroleum Club (7th Floor, 8620 N. New Braunfels, | SATX)8 AM |
| Buffet Lunch | Noon |
| Conclusion and happy hour | 5 PM |
| Saturday, May 15th, 2021 | |
| Passenger bus departs Petroleum Club parking lot | MA88AM |
| Box lunch | Noon |
| Return to Petroleum Club by | 5 PM |

\$380 per person (seminar only: \$320—field trip only: \$100)

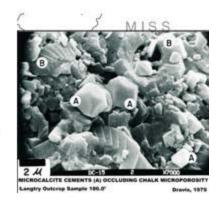
for reservations and payment instructions email: johnlonggeologist@gmail.com





SEEKING DEALS

To present your prospect for consideration, please email a summary and/or any associated confidentiality documents to our exploration team: geology@millenniumpetrocapital.com



12

Virtual Meeting via Zoom 12:00 –1:00 p.m.

HGS Members \$10 Non-Members \$25 Students \$5 https://www.hgs.org/civicrm/event/info?id=2263

Registered Attendees: A confirmation email will be sent upon registration with meeting links. Event contact: Bryan Guzman – bryanguzman85@gmail.com

Non-Members can submit an application and pay their dues before registering to get the member price. Please call the HGS office at 713-463-9476 to be registered only AFTER your application and dues are submitted.

Virtual Lunch Meeting

Bryan McDowell Sabata Energy Consultants LLC

Helium Exploration in the Rocky Mountains: A Case Study from the Uinta-Piceance Basins, Utah and Colorado

Helium is a naturally occurring, inert gas commonly associated with oil and gas accumulations. Although it generally constitutes less than two percent of the total gas stream, its occurrence within specific stratigraphic intervals and geographic areas can shed light on gas migration pathways within a basin. Moreover, the recent rise in helium prices and contemporaneous drop in oil and gas commodities has piqued commercial interests where oil and gas infrastructure, insight, and expertise is readily available. Most petroleum explorationists are not familiar with

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helium exploration; however, a widespread and common method may be easily modified for our purposes: the petroleum system. Like a petroleum system, an inert gas (helium, nitrogen, carbon dioxide, etc.) system is identified by its source rock, reservoir, trap, seal, and migration pathway. To illustrate these elements, a case study from the Uinta basin of eastern Utah and Piceance basins of northwestern Colorado will be shown. These basins produce nearly two percent of the total natural gas in the United States and contribute appreciable amounts of helium from various geologic formations. Two helium systems are identified and tentatively called the Uncompangre and Uinta systems; named after their interpreted "source rock" intervals. The helium gas, as well as nitrogen and carbon dioxide, are believed to migrate through basinal brine systems until trapped in conventional petroleum traps. These gases are found primarily in the Entrada, Morrison, Dakota, and Frontier formations, as well as the Prairie Canyon Member of the Mancos Shale. The Mancos Shale provides a basin-wide seal for both helium systems and prevents significant leakage to the younger Mesaverde, Wasatch, and Green River gasproductive intervals. ■

Biographical Sketch



BRYAN McDowell is a geologist/reservoir engineer at Sabata Energy Consultants LLC and doctoral candidate (PhD, Geology) at Colorado School of Mines. He worked most recently as an engineering/geoscience technical advisor for asset development at Discovery Natural Resources before starting his own company in 2020. Bryan received his BSc, Geology at Texas A&M

University in 2010; his MSc, Petroleum Engineering at Colorado School of Mines in 2018; and has worked in the oilfield since 2011.

March 2021



Sunday

Monday

Tuesday

Wednesday

| | 1 ,,,,, | 2 | 3 |
|----|--|--------------------------|--|
| | HGS General Dinner Virtual Zoom Meeting "Computer Vision: A New Approach to Data Science in Geology," David Thul and Kali Blevins Page 9 | | |
| 7 | 27th Annual Milton B. Dobrin Lecture Page 2 | HGS Board Meeting 6 p.m. | 10 HGS Environmental and Engineering Dinner Virtual Zoom Meeting "Internet of Texas Water: Use Cases for Flood, Drought, and Surface Water-Groundwater Interactions", Rudolph A. Rosen, Page 11 |
| 14 | GEOGULF 2021 Call for Papers Deadline Page 8 | 16 | 17 |
| 21 | HGS North American Dinner Virtual Zoom Meeting TBA | 23 | HGS General Lunch Virtual Zoom Meeting "Helium Exploration in the Rocky Mountains: A Case Study from the Uinta- Piceance Basins, Utah and Colorado," Robert Loucks and Chris Zahm, Page 13 |
| 28 | Virtual Pre-registered Prices: Virtual Meetings members | 30 | 31 |

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 fil

\$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



Thursday

Friday

Saturday





March 6, 2021 GSH Sporting Clays American Shooting Center Page 10

April 7, 2021 SPE-GCS Spring Hiring Event *Page 7*

RENEW YOUR HGS MEMBERSHIP HGS.ORG

Candidates for the 2021-2022 Executive Board

Houston Geological Society Officer Election

The candidates put forth by the Nominations Committee

President - Elect: Walter Light, Joe Lynch

Vice President: Fang Lin, Patty Walker

Secretary: Patrick Loureiro, Lucia Torrado

Treasurer-elect: Neil Sullivan, Ryan Yarrington

Editor-elect: Ken Theis Directors (2 positions):

Lanette Marcha, Troy Meinen, Kenneth Mohn, Dianna Phu

HGS Election Voting Instructions

Members will be able to vote in one of two ways:

- 1. Return the paper ballot that will be delivered in the mail,
- 2. Vote online following instructions that will be delivered by e-mail.

PLEASE VOTE – Upon receiving the paper ballot or the e-mailed instructions!

The voting period opens April 10, 2021 and continues to May 10, 2021.

President-elect (two candidates)



Walter Light

Education/Industry Affiliations

Graduate of The University of Texas at Austin, Bachelor of Science in Geology -

Member of The Hill Society, The Jackson School of Geosciences at The University of Texas at Austin 2012

40+ years experience directly involved in the oil and gas business Active Member American Association of Petroleum Geologists (AAPG) 1977 to Present

Trustee Associate of the AAPG Foundation 2010

Alternate Delegate - AAPG House of Delegates (2009-2010) Delegate – AAPG House of Delegates of the AAPG (2010-2012) Former Director and 32+ year member Houston Producers

Forum

Former Director of Houston Geological Society (2008-2010) Active Member of Society of Independent Earth Scientists (SIPES)

40-year Active Member: Houston Geological Society

South Texas Geological Society (San

Antonio)

Corpus Christi Geological Society

Major Oil Company Experience

Sohio Petroleum Company subsequently acquired by British Petroleum. Worked as a petroleum geologist under both corporate cultures and regimes. (1977-1979)

Independent Oil Company Experience

Through his corporation, Thunder Exploration, Inc., Mr. Light has worked as an independent petroleum geologist with

Walter Light continued on page 22



Joe Lynch

Education

University of Nottingham (UK). BSc Geology 1976

University of Warwick (UK). MBA 1994

Professional Experience

| 2017-Present | Rock Flow Dynamics: Senior Advisor |
|--------------|---|
| 2013-2017 | Landmark: Director, Reservoir Management |
| 2007-2013 | SPT Group Inc: VP, Reservoir Optimization |
| 2003-2007 | Landmark: Product Manager |
| 1996-2003 | Roxar: Regional Manager, Americas |
| 1984-1996 | Development & Operations Geologist |
| 1980-1984 | Anadrill: Mud Logging |

Professional Affiliations

HGS

AAPG

SPE

TBPG (#6262)

Professional Activities

| 2002-2006 | HGS Vendor Corner Chair |
|--------------|---|
| 2006-2013 | HGS Finance Chair |
| 2009 & 2010 | HGS President's Award |
| 2013-2014 | HGS Treasurer Elect |
| 2014-2015 | HGS Treasurer |
| 2016-2017 | HGS Foundation Trustee |
| 2017-2020 | HGS Foundation Treasurer |
| 2017-2020 | HGS Foundation Chair |
| 2019-present | SPE GCS Reservoir Study Group Treasurer |
| | |

Joe Lynch continued on page 22

Vice President (two candidates)



Fang Lin
Education
BS, Geology, Chengdu University of
Technology, 1991-1995
MS, Ore Deposit Geology, Chengdu
University of Technology, 1995-1998
PhD, Geosciences, Virginia Tech
University, 2000 – 2005

Professional Experience

| 2005- present | Chevron Corporation, held many roles from |
|---------------|--|
| | individual contributor to project manager to |
| | team leader, currently Chapter Manager of |
| | Hydrocarbon Charge and Geochemistry |
| 2000-2005 | Virginia Tech University, Graduate Assistant |
| 1998-2000 | Chengdu University of Technology, Instructor |

Professional Activities and Awards

| 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.

Judge of AAPG Student Poster Sessions, AAPG ACE/ICE abstracts

Judge of AAPG Student Poster Sessions, AAPG ACE/ICE abstracts and presentations.

Statement

It is a great honor to be nominated to run for Vice President of the Houston Geological Society (HGS). I am a geologist working in the upstream business of energy industry. I specialize in petroleum geochemistry and have worked as individual contributor, project manager and team leader to support oil and gas exploration and production in both onshore and offshore, domestic and international plays.

My involvement in HGS began when I attended a professional short course organized by HGS many years ago. Since then, I have become an active member of the HGS playing various roles from meeting attendees to Index Editor, Editor-Elect and Editor. Among them, my most recent role as the Editor of the HGS *Bulletin* and as a member of the Board of Directors, has particularly prepared me for a comprehensive understanding of who we are, what we do and how we operate as a professional organization. It would be my privilege to have the opportunity to serve our members again.

Fang Lin continued on page 23



Patricia (Patty) Walker

- Originally from Tulsa, Oklahoma but have now lived in Houston, Texas for the last 34 years. Still an Okie at heart.
- Graduated from Oklahoma State University in 1984 with a BSc and in 1986 with an MSc degree in Geology from the Boone Pickens School of

Geology in the College of Arts & Sciences. Had the honor of being the commencement speaker at OSU for the CAS in May 2018.

- Started career in 1986 with ExxonMobil as a production geologist with responsibilities for field mapping, reservoir characterization, and infill drilling for several fields in the Texas Gulf Coast.
- Moved to Exploration in 1991 with assignments in Alaska and South America working regional scale to prospect scale opportunity generation.
- From 1997 to 2004, while balancing career and family,
 I worked part time as a geologic consultant focused on
 asset evaluations for independent oil companies and for
 ExxonMobil on regional projects in the Middle East, North
 Africa, Mexico, Russia and Australia.
- In 2004, returned to ExxonMobil on a full-time basis and worked multiple assignments in a diversity of geologic settings in both a technical contributor role and a management role.
- In 2013, was named to a Senior Principal Geoscientist role at ExxonMobil in the Upstream and in 2015 promoted to Chief Geoscientist. In this role I served as a technical expert and advisor to Senior Leadership on global ExxonMobil activities.
- I am married to another geoscientist and have two children Amanda (28) and Nathan (24). Amanda is a meteorologist and working for a private weather company in Dover, NH. Nathan is currently attending graduate school at University of Houston after obtaining his BSc degree at University of Tulsa, where he was a student athlete (football).
- Active member in the AAPG and currently serving on the Houston House of Delegates, member of Houston Geologic Society, member of Executive Advisory board for the OSU Boones Pickens School of Geology, 2020 Distinguished Alumni OSU College of Arts & Sciences.

Secretary (two candidates)



Patrick Loureiro

Education

BS – Geosciences, University of Wisconsin-Madison, 2007-2011

MS – Geology, University of Houston, 2012-2014

PhD – Geology, University of Houston, 2014-2017

Professional Experience

2017– 2020 Geologist – Hess Corporation

2013-2017 Research Assistant - CBTH Group at the

University of Houston

Professional Affiliations and Activities

AAPG, HGS, AGU, SEPM, GSA, UHEASAA

2021-Present President of University

2018-2019 AAPG Student Expo Poster Session Judge

2016 Student Representative – HGS Africa Conference

organizing committee

Statement

Over the years, the Houston Geological Society has served a prominent role in both my development as a geoscientist and as a leader. It would be an honor to be able to serve as Secretary on the HGS exec board and help the organization continue its efforts to grow and improve the geoscientist community.



Lucia Torrado

Lucia Torrado is a geoscientist with AGI Exploration. She received a BS in geology ('08) from the National University of Colombia, and a MS ('12) and PhD ('18) from the University of Houston. During her graduate studies, she worked with the Conjugate Basins, Tectonics

and Hydrocarbons consortium a the University of Houston in conjunction with Spectrum Geo Inc. (now TGS). She interned with Shell and Talisman Energy (now Repsol) where she worked on the Llanos basin and the Austin Chalk Formation in Texas, respectively. Her graduate research consisted on the integration of seismic interpretation, seismic attribute analysis, basin analysis, sequence stratigraphy and paleogeography to evaluate hydrocarbon prospectivity in the Llanos basin (onshore Colombia), the Nicaraguan Rise (Caribbean region), the deep-water Foz do Amazonas and the Amazon Cone in northern Brazil.

Her graduate work has been recognized as best poster presentation during the AAPG ACE including: "1st Place Poster Presentation" in 2017, "3rd Place Poster Presentation" in 2013, "Award of Excellence for Top 10 Poster" in 2014, and "Top 15 Poster Presentation" in 2016 and 2012. In 2017-2018, she was the secretary for the AAPG graduate chapter at the University of Houston which was awarded "Best Domestic Student Chapter" in May of 2018.

She has also worked for PGS in the Cayos Basin (western Caribbean Sea), and the Pacific margin of Colombia, for Hocol in Colombia and more recently, in the Mexican GOM and North Sea as a geoscience consultant for TGS.

Lucia has authored and co-authored five publications based on her graduate work. She is also reviewer for several geoscience publications, the Translations Committee Chair at SEG, and an Imperial Barrel Award industry advisor for AAPG. Lucia is a member of AAPG SEG, HGS, GHS and AWG.

Treasurer-elect (two candidates)



Neil Sullivan

Over a 50-year career in oil and gas geology (30 in the Gulf Coast), I have had the good fortune to be a member of the Houston Geological Society three times, most recently following a move back to Houston from Pittsburgh in 2013. It would be a pleasure and an honor

to have the opportunity to pay back to the Society some of the many benefits received from my nearly 25 years of cumulative membership.

My second-best preparation for this position is the years of supervision and management for organizations that entailed strict adherence to company budget plans. My best preparation is an inherent attention to detail and accuracy.

Dickinson College graduate with an MS from Tulane and post graduate studies at the University of South Carolina.

Also, a member of AAPG, SIPES, SEPM, GSA, LBOPG.



Ryan E. Yarrington

Education

Houston Baptist University, Bachelor of Business Administration with double majors in Marketing and Business Administration 2005

| Experience | |
|------------|---|
| 2020-2021 | Deep Cognition - Enterprise Account Executive |
| | Vice President of Sales specializing in AI |
| | software platform for both the DLS and other |
| | company products and platforms |
| 2019-2020 | Cleargistix - Enterprise Account Executive |
| | specializing in Cleargistix digital field ticketing |
| | platform |
| 2018-2019 | Oildex/Drilling Info – Enterprise Account |
| | Executive specializing in OSS (Oilfield Services |
| | Suite) Oildex Software |
| 2014-2018 | MultiClient Geophysical – Seismic Data |
| | Marketing Representative focusing on Global |

Marketing Representative focusing on Global Offshore 2D and 3D Seismic Acquisition 2011-2014 Sigma/ESG/Global Geophysical Services -Business Development/Marketing for Onshore

Microseismic Acquisition and Engineering services Data Processing, and Reservoir

Characterization

2011 HSEQ - Safety Advisor specializing in Environmental laws and procedures

Professional Affiliations

Houston Geological Society Geophysical Society of Houston

Professional Activities and Awards

2014- Present HGS International Explorationists Committee

Treasurer

2016-2017 **HGS Rising Star Award**

Statement

I am very honored to once again be nominated for a position on the HGS Executive Board of Directors for the 2019-2020 year. The Houston Geological Society, with its vast history in the Houston area has been integral in providing continuing education opportunities within the Geoscience Industry as well as cultivating a strong sense of community both locally and across the globe.

Ryan E. Yarrington continued on page 23

Director – Two-year term *Vote for two candidates*



Lanette Marcha

I am fortunate to have 15 years of experience in the oil and gas industry, securing energy needs both locally and internationally working in major, midsize, private, and national oil companies, as a tri-lingual native Houstonian geologist. I earned my MS in geology from

Rice University and recently integrated into Chevron working Equatorial Guinea – Cameroon both on development and near field exploration opportunities, including well delivery. My multifaceted experience across more than 12 basins globally includes regional exploration (petroleum system framework analysis/ play based exploration), prospect maturation, appraisal, field development planning, and operations in projects predominately involving extensional and salt-derived tectonic settings in both clastic and carbonate reservoir depositional environments, from onshore South Texas, Alaska, offshore deepwater GOM, Nigeria, Equatorial Guinea, Cameroon, and Oman.

As a member of HGS and AAPG, I have actively participated in activities both in the U.S.A. and Middle East, and thus, have had the privilege to work with, listen to the drivers of, and learn from geoscientists with varying cultural, religious, and socioeconomic backgrounds. I even have had the opportunities to present New Ventures on behalf of Shell at AAPG 2006, present the Budour NE-SE fields in South Oman at the annual AAPG Middle East Conference 2011, chaired and executed the first annual HGS Fall Family and Friends event 2019 here in Houston, volunteered to be a panel delegate representing both HGS and Noble Energy at the 2019 Exploring Energy Conference at University of Houston to encourage ~1300 high school students from local petroleum academies supported by IPAA/PESA and STEM-interested students from greater Houston area, as well as attend a myriad ACE conventions and HGS activities/conferences. While earning my MS, I was honored to receive the Marilyn Atwater Memorial AAPG Grant-in-Aid Award in 2003.

I am grateful to be nominated for and welcome the opportunity to serve on the Board of HGS. As an early mid-career geoscientist, I am enthusiastic about the future of HGS and AAPG organizations and hope to help uphold and adapt guiding principles to our changing times, support membership growth, as well as activities fostering development of current professionals, college students, and those aspiring to be geoscientists and/or work in the energy sector.



Troy W. Meinen

EducationMS Geology, Baylor University, 1996
BS 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

Statement

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.

Director – Two-year term *Vote for two candidates*



Kenneth W. Mohn

Education

Bachelor of Science in Geology, Stephen F. Austin State University, 1983 Master of Science in Geology, Stephen F. Austin State University, 1986



Dianna Phu

Education

University of Houston, BSc (Geology & Geophysics), Cum Laude

Professional Experience

2018-Present Mohn & Associates, LLC. Formed to develop

new business opportunities in consulting, project development and oil and gas exploration. Developing projects and seismic surveys both

Proprietary and Multi Client.

2013-2018 Geoex/MCG -MCG was purchased by Geoex

in 2016. 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.

January 2013 to April 2013 CGGVeritas, Senior Marketing

Representative. Worked for 3 Months in sales on the Louisiana Shelf existing 3-D library. CGG

bought Fugro Group.

2002- 2012 Fugro Multi Client Services, Inc., a division of

Fugro N.V. under the Seismic Services Group. Exploration Vice President, 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:

2000-2002 - Marketing Manager, Africa

1995-2000 – Marketing Manager, Gulf of Mexico

1989-1995 - Project Manager, International

Division

1987-2002

1987-1989 - Geologist and Marketing

Representative

Professional Experience

2011-Present Senior Geologist, Intecsea

2008-2011 Project Manager / Senior Geologist, Geoscience

Earth & Marine Services, Inc. (GEMS)

2006-2008 Geologist, GEMS

2000-2006 Associate Geologist/Geological IT Specialist,

GEMS

1999-2000 Geoscience Assistant, GEMS

1997-1999 Thermochronology Laboratory Assistant,

University of Houston - Dr. Peter Copeland

Professional Affiliations and Activities

Certified Petroleum Geologist (CPG), AAPG Division of

Professional Affairs, No. 6147

Licensed Professional Geoscientist (PG), Texas: Geology, License

No. 4237

Gulf Coast Association of Geological Societies (GCAGS)

2019 Convention Website Manager

2014-Present Social Media Chair

2015 Convention Secretary & Website Manager Active Member of Houston Geological Society (HGS)

2017-Present Communications Co-Chair 2010-Present Social Media Chair\Co-Chair

2006-Present Website Committee

2006-Present Continuing Education Committee2007-2012 Geoscience Day Planning Committee

2005-2007 NeoGeos Chair

Offshore Technology Conference (OTC) Program Committee

(2014-2017)

2017 Networking Committee Mentor
 2016 Networking Committee Chair
 2015 Networking Committee Vice-Chair

OTC The Next Wave (TNW) Planning Committee (2006-2014)

2014 TNW Mentor

2013 Chair

2012 Chair-Elect

2011 Social Media Sub-Committee Chair

Kenneth W. Mohn continued on page 23

Dianna Phu continued on page 24

Editor-elect (one candidate)



Ken Thies

Member of the HGS since 1978 for my 42+ year career in Oil and Gas. While I've had the good fortune to work many places around the world, my primary focus has been the U.S. Gulf Coast exploration. I have published a number of papers as senior author or co-author on stratigraphy,

salt tectonics and paleontology and edited publications on the Cretaceous Mollusks of Texas.

Currently consulting to several international companies on exploration joint ventures and actively working fossil digs in the Houston area for the Rancholabrean Mega-fauna of the Late Pleistocene.

I am one of the primary presenters for the HGS Bones in Schools Program.

Graduated Queens College CUNY with BA and MA in Geology and Paleontology. Member of AAPG DPA, CPG #5239.

continued from page 16

Walter Light—Candidate for President-elect

numerous privately owned and publicly traded oil and gas companies, working mostly South Texas producing trends and counties. This has involved using a full spectrum of skills and aptitudes required to generate and assemble oil and gas projects, negotiate oil and gas leases, conduct landowner relations, plan several 3-D surveys and plan, evaluate and cause dozens of wells to be drilled during his career. Currently, Mr. Light is actively involved in several projects in the Eagle Ford Trend of South Texas. Through Thunder he has also actively purchased non-operated

working interest positions in South Texas drilling prospects with numerous operators.

Relevant Employment/Affiliations

JWR Exploration, Inc. Houston (1979 -1981)
Incorporated as Thunder Exploration, Inc. 1981
C.J. Wofford, Operator Houston and El Campo Texas (worked as a consultant through Thunder)
Lightning Oil Company San Antonio (worked as a consultant through Thunder)

continued from page 16

Joe Lynch—Candidate for President-elect

Statement

I am honored and delighted to have been nominated as a candidate for President-Elect of the Houston Geological Society. I joined the HGS shortly after arriving in Houston in 1999 and I have valued my membership ever since. For most of this time I have participated in a HGS committee or on the HGS Board. This has given me a broad understanding of how the HGS organization functions, and of the importance of the part played by all volunteers and by the office staff.

My work experience has been almost entirely in the oil & gas industry. I have benefited from a variety of jobs and from working in diverse teams. Prior to my transfer to Houston, I worked various

reservoirs in the North Sea and some interesting exploration and development prospects in Russia. Since arriving in Houston, I have worked in commercial, R&D, and technical roles.

In order to thrive, our HGS organization must adapt to broader changes in society. This is guiding some of the ideas I would like to implement if I become President-Elect. My objectives are:

- To make the HGS more relevant to the younger generation
- To widen the footprint of the HGS outside our core area of the oil & gas industry
- To develop further our educational mission
- To maximize the efficiency and effectiveness of the HGS

I will welcome your vote. ■

continued continued from page 17

Fang Lin—Candidate for Vice President

If elected, I plan to focus on ensuring continued success of our technical program and business goals. I will strive to build a

program that meets the diverse and evolving needs of our members and society. I am confident, together with you, that I will fulfill the duty of HGS Vice President with enthusiasm, dedication, and excellent results.

continued continued from page 19

Ryan E. Yarrington—Candidate for Treasurer-elect

After 7 years of membership and 7 years of volunteering for the HGS in the International Explorationists Group, I would love to expand my involvement in a Society that has made such a significant impact on my life professionally and personally. There are many things that I can bring to the table with a larger role in the HGS. Some of those attributes include flexibility, adaptability to new situations, integrity, networking skills, an ability to analyze situations objectively, quality communication, a willingness to work

with others, a positive disposition, and of course, my fantastic sense of humor! Between those characteristics and the guidance that I receive from other seasoned members of the Board I feel that I could be a strong member of the team. If I am elected Director, I would aim to channel my skills into supporting the various committees that I would oversee and to encourage them with their continued growth in the Society. As a part of the HGS Board as a whole, I look forward to the possibility of being involved in the ongoing success and expansion of the largest local Geoscience society in the country. I hope that I can count on your vote!

Charity Selection Committee Member for the

Chairman of the Houston Geological Society

Children's Fund Charity.

Skeet Shoot Committee.

Life Membership Award Geophysical Society of Houston 2016.

continued from page 23

| Kenneth W. Mohn—Candidate for Director | | 2011- 2015 | Chairman of the Geophysical Society of Houston Sporting Clays Tournament |
|---|--|------------|---|
| 1982-1983 | Strata Reserves Inc. – Field and Wellsite | 2009 | Chairman of the International Association of |
| | Geologist for stripper wells in East Texas | | Geophysical Contractors (IAGC) Sporting Clays |
| | | | Tournament. |
| Professional Societies and Affiliations: | | 2004-2015 | AAPG HoD, Alternate |
| Society of Exploration Geophysicists (SEG) | | 2001-2004 | AAPG HoD, Delegate |

2000-2001

2000-2001

Awards

American Association of Petroleum Geologists (AAPG) Houston Geological Society (HGS) Geophysical Society of Houston (GSH) Lifetime Member

Texas Board of Professional Geoscientists Licensed Geology, License No. 6766

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|---------------|--|--|
| 2021 | AAPG House of Delegates Committee, Delegate | Society of Exploration Geophysicists Recognition Award |
| 2021 | AAPG HoD Membership Committee, | for co-Author: The Santos Basin: Criteria for Mapping the |
| | Committee Member | Continental-Oceanic Boundary; SEG 79th Annual Meeting, |
| 2019 and 2020 | Judge in the AAPG Imperial Barrell Award | Houston, Texas; October 29, 2009. |
| | Student Contest | Africa "Big 5 Award" presented to Kenneth Mohn of TGS- |
| 2018-2019 | 2nd Vice President of the Geophysical Society of | NOPEC Geophysical Company – for African Service & Supply |
| | Houston | Company of Year 2001; Global Industry Awards 2001. http:// |
| 2016-2020 | AAPG HoD, Alternate | www.petro21.com/awards/ |
| 2015-2016 | AAPG HoD, Delegate | |

continued from page 21

Dianna Phu—Candidate for Director

American Association of Petroleum Geologists (AAPG)

AAPG Division of Professional Affairs (DPA)

2015-2016 Gulf Coast Section Councilor

2013-2015 Gulf Coast Section Councilor Alternate

2013-2016 DPA Website/Social Media Chair

SEG, AGU, GSH, SEPM, GSA, UHGAA, SUT, MIMAREST SUT-US Offshore Site Investigations & Geotechnics (OSIG)

Committee, Full Member

University of Houston Earth & Atmospheric Sciences Alumni

Association (UHEASAA)

2020-2022 Communications Director

2000-Present Member

Awards and Recognition

| 2016 | Gulf Coast Association of Geological Socie | ties |
|------|--|------|
|------|--|------|

(GCAGS) Special Commendation Award

2014 Houston Geological Society (HGS) Distinguished

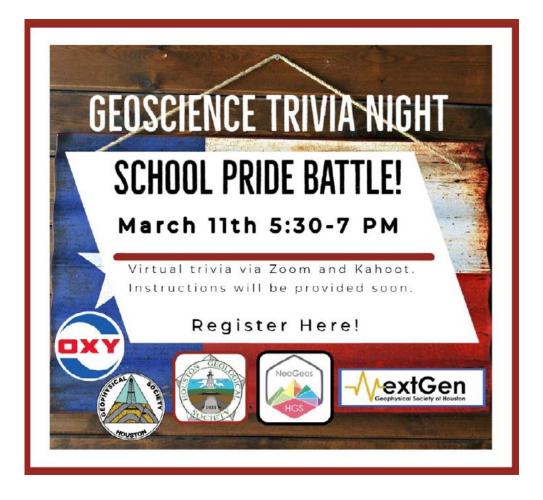
Service Award

2011 HGS President's Award2007 HGS Rising Star Award

| 2000-2001 | BP-Amoco Academic Scholarship |
|-----------|--|
| 2000-2001 | University of Houston Geoscience Alumni |
| | Association (UHGAA) Academic Scholarship |
| 2000 | UHGAA Field Camp Scholarship |
| 1999-2000 | Outstanding Junior Award |
| 1998-1999 | Phillips Petroleum Scholarship |
| 1998-1999 | UHGAA Dalton Null Memorial Scholarship |
| 1999 HGS | Undergraduate Scholarship |

Statement

The Houston Geological Society is an important cornerstone for the geo-professionals in the Houston area and a critical hub of knowledge-sharing for our global profession. I have enjoyed every opportunity to serve the Society and participate in the broad range of learning, networking, and outreach events that are coordinated by this amazing group of volunteers. My year as Secretary, though challenged by the economic downturn and pandemic restrictions, has shed light on the many ways the HGS has yet to grow and explore. It would be my honor to serve the Society as Director for the 2021-2023 season and I look forward to an engaging period of continued growth and development for all of us in the HGS. ■



HGS Scholarship Night Achieves Greater Heights, Once Again!

By Dr. Charles Sternbach, HGS Scholarship Night Committee chair (and HGS past president 1999-2000)

On Monday, February 8, 2021, HGS honored 26 students who have received scholarship awards. Students, parents, professors, generous sponsors, and members convened online via Zoom as HGS proudly continues our Scholarship Night tradition of recognizing future leaders.

Kudos to **Jeff Lund** (Calvert chair), Joe Lynch (Foundation trustees chair), their committees, and the organizing team (see inset boxes below). Historically, Scholarship Night has given out close to \$1 million cumulatively through the Calvert Fund and the Foundation's combined efforts. We thank this year's generous sponsors who came through "when the going got tough."

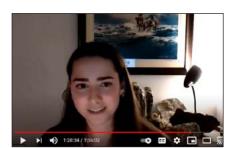
When **John Tubb** passed me the baton of committee chairmanship in 2019, my primary goal was to feature inspirational speakers for this vital program. In 2019 geoscientists Cindy Yeilding and Bobby Ryan, major company VP's from BP and Chevron, offered perspectives from their incredible careers. In 2020 we spotlighted Jessica Watkins, a geoscientist and member of the Artemis team at

NASA. Jessica is training to someday walk on the Moon or Mars. Given the challenges of a COVID 19 pandemic, we pondered, who should we ask to speak in 2021?

The Zoom online meeting platform provided the answer. We are grateful to **Linda Sternbach** for suggesting the students themselves be the featured speakers. These scholars are the best of the best, and their dedication to applied geoscience and their passion for geology inspired us all.

During the evening, the students expressed heartwarming gratitude for financial support to HGS and our sponsors. While the finances can be life-changing for these young scholars, it became clear from their comments that they also value the community, encouragement, education, networking, inspiration, and mentoring HGS provides.

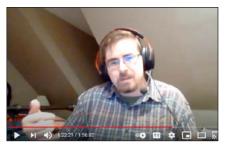
Heritage and community were central themes for the evening. Remembering Michel T. Halbouty (see Heritage link next page),



Allison Barbato, LSU



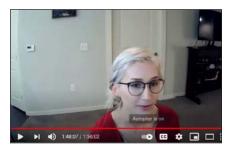
Jake Goins, UT Austin



Eric Paevey, Texas A&M



Leah Evans, Texas A&M



Brianna Crenshaw, University of Montana



Andrew Stearns, University of Houston



Michael Mouton, Lamar University



Meagan Hale, Rice University

we recall that we build on our ancestor's legacy as we conduct geoscience research and exploration. We are obliged to repay this priceless gift by sharing our contributions to those who come after us. HGS and AAPG provide platforms for us to do just this by offering opportunities to organize programs, give talks, write papers, and share scientific insights.

In the concluding comments, we encouraged the students to "seek and become mentors to others, work well in teams, make guideposted plans with family member buy-in, commit to becoming lifelong learners, and remember HGS."

What are the Participants Saying?

"Thank you so much for including me in the scholarship presentations. I so enjoyed it. I think Paul would be, as I am, very pleased with the committee's choice of Stephen Casper as the inaugural recipient. He is very bright and has a promising career in geology ahead of him. All the scholarship recipients are very deserving. What a smart, impressive group of students!" Rene Basinski, spouse of Paul Basinski and founder of the HGS Foundation, Basinski Award.

Personal note, "Paul Basinski was a longtime friend and inspiring explorer in the Eagle Ford shale play and new frontiers in Alaska. He also contributed creative talks to AAPG, SIPES, and HGS." *Linda Sternbach*

"I have seen the positive impact that professors can have on students' lives, and I know how valuable it would be to teach the next generation of geoscientists. I want to thank the TAMU department for the nomination and all of the professors here who have helped me believe in me and push me to be the best geoscientist that I can be!" *Rachel Schroeder*, *HGS Foundation Maby Scholarship recipient*. You can read more here: https://geonews.tamu.edu/news/2020/12/schroeder-hgs-scholarship

"I want to thank HGS for supporting one of our students, Jake Goins and congratulate the organizers of the awards session tonight for one of the best online events of its kind I attended during this strange time of COVID-19. Very well done, and I think you helped network a great group of students. *Mark Cloos, Professor, UT-Austin*

"Congratulations on an outstanding program tonight. I thoroughly enjoyed it. It also made it so much easier for the students, especially the two from Montana. It was good to see them give us an update on their experiences. Thanks for all your work" *John Tubb, Jr. (Past chair of the HGS Scholarship committee)*

"Thanks to everyone for the parts they played in pulling off tonight's successful Scholarship Night. I thought it went smoothly and flowed nicely. Thanks again to everyone, and be safe." *Jim Tucker, HGS President 2020-2021*

"Wow, better than I imagined it could be!" Jeff Lund

"Thank you for the wonderful program tonight." *Elizabethann de Leon-Maestas*

From Scholarship Night 2020: "A whole bunch of TAMU grad students is very happy after the notes they received over the weekend from HGS. Thanks for helping us overcome the challenges in this year's entry process. The support of their research from HGS is much appreciated. With some funding in place, they can focus on getting their research done and trying to get a job." *Art Donovan*

Video Link. If you want to see the program again, share it with a friend, or see what you missed, a video recording is available to watch and share on the HGS YouTube channel HGS GeoEducation. Be sure to subscribe!! 2021 link to Scholarship Night https://youtu.be/SHdWFHatyxM ■

Additional Resources

See more videos

https://www.youtube.com/user/HGSGeoEducation/videos

Playlists

https://www.youtube.com/user/HGSGeoEducation/playlists

Career Advice video from 2019 https://youtu.be/UIjzWXIUl0k

AAPG/DPA Link to Heritage of the Petroleum Geologist download

https://www.aapg.org/divisions/dpa/resources/currentpage/1

Special Thanks to Event Coordinators

Linda Sternbach, Dianna Phu, Andrea Peoples, Alyssa Cushing. We are grateful for the support to the HGS executive committee, particularly Jim Tucker, Bryan Guzman, and Mike Erpenbeck, who played important roles in the program's success.

Calvert Memorial Scholarship Committee

Jeff Lund, Chair

Richard Bishop

Judy Schulenberg

Nicole Villarreal

Mike Erpenbeck, (President-Elect 2020-2021)

Foundation Current Trustees

Evelyn Medvin (Chair 2020)

Joe Lynch (Chair 2021)

Shannon Lemke (Secretary)

Angela Hammond (Treasurer)

Paul Hoffman

Scott Krueger

Jacob Umbriaco

Kristin Burns

Sameer Baral



Houston Geological Society Presents

SCHOLARSHIP Night 2021

Monday February 8, 2021

Opening Remarks: Charles Sternbach, HGS Scholarship Committee Chairman

Introductions of HGS Board Candidates for 2020-2021: Jim Tucker, HGS President 2020-2021

Thank you to our Sponsors: Bryan Guzman, HGS Vice President 2020-2021

Sponsor Commercial: Rock Flow Dynamics

Thank you to our program & Zoom coordinators: Linda Sternbach, Dianna Phu, Andrea Peoples, Alyssa Cushing

Calvert Memorial Scholarship Committee: Jeff Lund, Chairman; Richard Bishop, Judy Schulenberg, Nicole Villarreal, Mike Erpenbeck, HGS President-Elect 2020-2021

Calvert Memorial Scholarship Recipients

Allison Barbato, Louisiana State University
Edgar Contreras, University of Houston
Brianna Crenshaw, University of Montana
Sidney Dangtran, Texas A&M University
*Nicholas Dusak, Texas A&M University
Leah Evans, Texas A&M University
*Scott Gifford, Texas A&M University
Helen Hammon, Louisiana State University
Molly McCreary, Texas A&M University

Syed Moosavi, Rice University
Eric Peavey, Texas A&M University
Ben Richards, Texas A&M University
Richard Robinet, Louisiana State University
Ryan Rosol, University of Oklahoma
*Matthew Sexton, University of Houston
Andrew Stearns, University of Houston
Kory John Talcott, University of Montana
Alex Washburn, Texas Tech University

HGS Foundation Fund Committee: Joe Lynch, Chairman; Shannon Lemke, Paul Hoffman, Sameer Baral, Angela Hammond, Scott Krueger, Jacob Umbriaco, Kristin Burns, Mike Erpenbeck, HGS President-Elect 2020-2021 HGS Foundation Scholarship Recipients

Stephen Casper, Sam Houston State University (Basinski Scholarship)
Carolyn Bienvenu, Sam Houston State University
Jake Goins, University of Texas at Austin
Meagan Hale, Rice University
*David Lei, University of Houston
Michael Mouton, Lamar University
Ethan Wagner, Stephen F. Austin State University
Rachel Schroeder, Texas A&M University (Maby Scholarship)

Questions and Answer Session: Mike Erpenbeck, HGS President -Elect 2020-2021

Closing Remarks: Charles Sternbach, HGS Scholarship Night Chairman

*Not in attendance

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Jeff & Marti Lund
Elizabethann de Leon-Maestas
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John Tubb, Jr.
Staurolite Consulting, LLC
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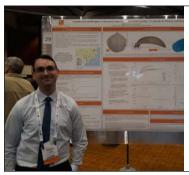
HGS Undergraduate Scholarship Foundation Presents Eight Scholarships



Stephen Casper Basinski Scholarship RecipientSam Houston State University

Stephen Casper is a senior at Sam Houston State University and is pursuing a degree in geology with a minor in mathematics. He is a Historical Geology Teaching Assistant

and a Paleontology Research Assistant for Dr. David Moss. Stephen has published a poster project titled "Growth rates and lifespans of Glycymeris americana from North Carolina, USA during the Pliocene and Pleistocene", which was presented at the Geological Society of America's South-Central section meeting in March of 2020. Stephen received Honorable Mention for his project at the 13th Annual Sam Houston State University Undergraduate Research Symposium. In his free time Stephen enjoys building and working on computers, weather photography, and hiking. Upon graduation at the conclusion of the Fall 2021 semester, Stephen intends to pursue a master's degree in geology.



Me, Stephen Casper, presenting my work on fossilized bivalve growth rates at the Geological Society of America South-Central Section Meeting in March 2020, Fort Worth, Texas. My research shown here is titled "Growth rates and lifespans of *Glycymeris americana* from North Carolina, USA during the Pliocene and Pleistocene".



Carolyn BienvenuSam Houston State University

Carolyn Bienvenu is a junior at Sam Houston State University majoring in Geology and minoring in Mathematics. During her tenure at SHSU, she has maintained a 4.0 GPA and has been listed on both the Dean's List and

the President's List each semester. Carolyn finds it rewarding to tutor and clarify material for her fellow students in math and in geology. She was recently recruited by a professor to be a Teaching Assistant for an introductory geology lab. She finds petrology and mineralogy to be intriguing and enjoys collecting and studying rocks, minerals, and petrographic thin sections from home. When

not working or studying, Carolyn volunteers as a Maintenance Officer with the Commemorative Air Force. She will graduate in the Spring of 2022 and plans to pursue a career in exploration geology.

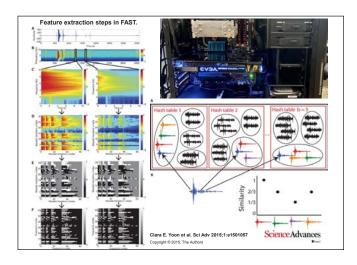


Jake Goins
The University of Texas at Austin

Jake Goins is a senior studying General Geology at the University of Texas, Austin. So far, he has completed a Minor in Russian Language, which saw him set off on a 6-week summer study abroad program in Moscow

and Saint Petersburg. He is currently pursuing the Elements of Computing Certificate, giving him 18 additional credit hours in Computer Science. He was inducted into the UT Presidential Scholars program as an incoming freshman for his high school academic credentials. As a junior, he was accepted into the

HGS Undergraduate Scholarships continued on page 30



Undergraduate Scholarships continued from page 29.

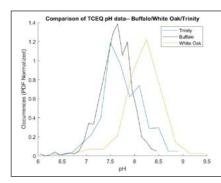
Jackson School of Geosciences Undergraduate Honors Program, in which he will complete a self-designed research project and draft an honors thesis. Jake's project partners him with the Bureau of Economic Geology as they seek to connect and integrate FAST, a new machine learning algorithm for earthquake detection, with TexNet, the relatively new seismic network spanning the state of Texas. After graduation, he plans to immediately jump start his career, hopefully being able to leverage his computer skills in the job market.



Meagan Hale Rice University

Meagan Hale is a senior at Rice University, where she is completing a double major in Earth Science and Visual Art. She has previously worked with Dr. Mark Torres to geochemically analyze samples from the Western

Irish Namurian Basin. Currently, she is completing a senior thesis related to the impact of concrete in White Oak and Buffalo Bayous. Meagan's other hobbies include drawing, costume-making, and playing the mellophone with the Marching Owl Band. After graduating this spring, Meagan plans to work for a year or two before pursuing a PhD. Someday, she would also like to combine her artistic and geologic interests and publish a scientific graphic novel for kids.



As part of my senior thesis, I'm analyzing historical water quality data. I was excited when I generated this figure because it supports my hypothesis that White Oak Bayou should have an increased pH due to its concrete lining.



David Lei *University of Houston*

David Lei is a Junior at University of Houston, pursing a degree in Geology. He is currently affiliated with the GeoForce Texas program since 2014, partaking in series of geology excursions aiding in allowing high

school students to experience geology firsthand in the fields. He is also part of the UH Endeavor S-STEM program and has worked on a small-scale research project in relations to robotic particle motion. He enjoys hiking and has been amassing a delightful rock

collection. Following his graduation in the spring of 2022, he hopes to continue his studies into graduate school with the interest of studying thermochronology.





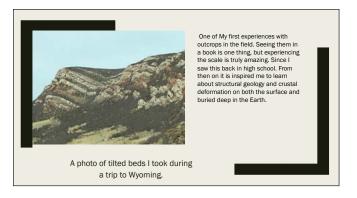


Michael Mouton

Lamar University

Michael Mouton is a senior at Lamar University and is pursuing a degree in geology. He is also working through the new GIS certification program. He is currently the Vice-president of The Lamar University geologic society. He

has been the TA for the GIS class and assisted with teaching labs. He has GIS experience and enjoys being able to relate it to work he is doing in the field. Michael graduates from Lamar in the fall of 2021 and wants to find a career that combines his love of geology and GIS. His goal to go to graduate school and to work for the USGS as a field geologist."



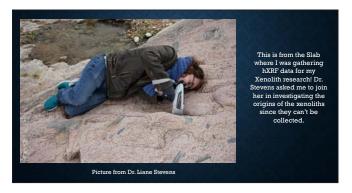


Ethan Wagner Stephen F. Austin State University

Stephen F. Austin State University

Ethan Wagner is a junior at Stephen F. Austin State University and is working towards a degree in geology. He is an officer in the Geologic Association of Students an organization that brings students of all majors together in the

interests of geology and the outdoors. He is also a member of Sigma Gamma Epsilon the earth science honors society. He is currently working on research on the origins of the xenoliths in "The Slab" located in Kingsland, Tx by using a handheld X-Ray Fluorescence device with Dr. Liane Stevens which he plans on presenting at GSA later this year. He also has experience with GIS which he hopes to use to assist in geologic analysis. His hobbies include a delicate balance of video games, TV shows, and getting outside to explore, do field work and look for cool rocks! Ethan plans on graduating in the spring of 2022 and then continuing to graduate school.

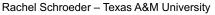




Rachel Schroeder Maby Scholarship Recipient Texas A&M University

Rachel Schroeder is a senior at Texas A&M University, where she studies Geology. Throughout her studies, she has participated in multiple undergraduate research projects

while maintaining a 4.0. During her junior year, she spent a semester abroad in Lancaster, England and worked on a research project studying the impact of a groyne on sediment transport. Working with multiple faculty at different universities around the world has reinforced her desire to incorporate inclusion and collaboration into her research. Her current project uses detrital thermochronology to investigate the style and timing of deformation during development of the central Andes and involves faculty from 3 institutions. Rachel is on a Fast Track program at A&M and will complete her Masters in Geology in 2022. After graduation she hopes to continue her graduate career and work towards a PhD.





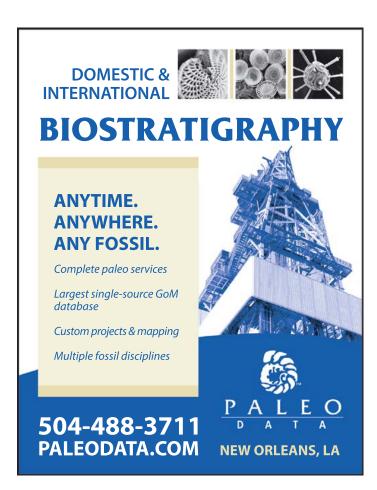
of magmatic crystals – Light and electron microaccessory zircon", <u>www.microscopy-uk.org.uk</u> My current project will be focused on detrital zircon double dating by U-Pb Geochronology and (U-Th)/He Thermochronology to investigate the style and timing of deformation during development of the Peruvian Andes.



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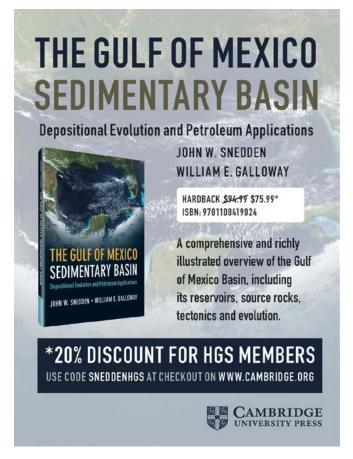
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Calvert Memorial Scholarship Presents Eighteen Scholarships



Allison Barbato *Louisiana State University*

Allison Barbato is a native from Lafayette, Louisiana, but was raised overseas in Indonesia, Brazil, the Netherlands and Egypt. After graduating high-school in Cairo, Egypt, Allison returned to Louisiana to pursue

her bachelors in geology at Louisiana State University (LSU). As an undergraduate, Allison's research was featured in 10 abstract publications, she co-authored one peer-reviewed paper, and gave oral and poster presentations at multiple international conferences around the country. She graduated with a Distinguished Communicator (DC) certification and was nominated for outstanding senior in geology in 2018.

Currently, Allison is completing the second year of her PhD in geology at LSU working under Dr. Sophie Warny on a project led by former Exxon stratigrapher, Dr. John Armentrout. Her project integrates biostratigraphy, geochemistry, organic petrography and thermal maturity estimates to reconstruct the paleoenvironment of an Eocene-aged deltaic system, and characterize the hydrocarbons associated with such an environment.

Aside from school, Allison frequently volunteers at STEM outreach events for K-12 students in the greater Baton Rouge area and has co-mentored underprivileged high-school students through the LSU "Environ-Mentors" program. Allison is the current president of the LSU AAPG Chapter and has collaborated with her board members during the Covid-19 pandemic to create the first of its kind, year-long virtual short course titled "All About Petroleum Geology" (or AAPG). "AAPG" is an integrative, year-long short course taught by experts in industry, designed to systematically strengthen fundamental concepts in petroleum geology by starting from "small scale" concepts (i.e. kerogen and biostratigraphy) and building up to "large-scale" concepts (i.e. exploration, field development and risk assessment). Allison looks forward to being the future president of LSU AAPG next year, after completing her internship with Hess during the upcoming summer.

Allison is the 2020-2021 president of the LSU AAPG Chapter, and has successfully implemented the "All About Petroleum Geology", year-long short course program in fundamental petroleum geology education.

Edgar Contreras

University of Houston



Brianna Crenshaw *University of Montana*

I completed my undergrad degree in geology at LSU in 2018. While there I worked in a coastal sedimentology lab for three years and was involved in several projects located in the Gulf of Mexico. The projects ranged from the

discovery of an ancient bald cypress forest off the coast of Orange Beach, Alabama to examining the impact of the Deepwater Horizon spill on sediment dynamics surrounding sunken WWII ships. My undergraduate thesis focused on using radio isotopes to look at sedimentation rates within Barataria Basin (coastal LA), where sea level rise and coastal erosion are critical concerns. We were particularly interested in the sediment deposited from hurricanes and its role in the long-term sustainability of back marsh, deltaic environments like Barataria. After graduating, I moved north and began my master's at the University of Montana in Missoula. My field area here is a series of mountain ranges along the margins of the Archean-aged Wyoming Province in southwest Montana. The focus of my research is a unique type of metamorphic lithology that we hypothesize represents ~2 Ga oceanic crust that has potentially preserved a mineralogic record of the fundamental tectonics that led to assembly of continental crust for this part of Laurentia.



Sidney Dangtran Texas A&M University

Sidney Dangtran is currently enrolled in Texas A&M Geology and Geophysics department's 3+2 program. Her expected graduation date to receive her Bachelor's and Master's in geology as well as a minor in GIS is May of 2022.

She has completed 3 separate sequence stratigraphy projects in the East Texas Permian Basin, creating well log correlations, isopach and structure contour maps with NeuraSection and ArcGIS. Along with classes and research, she works for the International Ocean Discovery Program as a student research assistant. In her free time, she enjoys gardening and photography.

Nicholas Dusak

Texas A&M University

Calvert Memorial Scholarships continued on page 34

Calvert Memorial Scholarships continued from page 33



Leah Evans *Texas A&M University*

Howdy! My name is Leah Evans and I am a first-year graduate student at Texas A&M University. I am currently studying the distribution of the Eagle Ford and Woodbine groups in the Northwest East Texas Basin. This

past summer, I interned at an energy company and I focused on structural geology to aid hydrocarbon exploration. In my free time, I play video games with my brothers, play basketball with my friends, and study God's word. I love my work and am so thankful to the Houston Geological Society for sponsoring my Calvert Scholarship.



Scott Gifford
Texas A&M University

Scott is a hard-working, dedicated student pursuing a career in the geosciences. He is a second-year master's student studying geology at Texas A&M University. His research is focused on reconciling the ages and

stratigraphic position of the Eagle Ford and Woodbine groups in the East Texas Basin by integrating sequence-stratigraphic, and chemical/isotope data. Scott enjoys spending his free time rock climbing, photographing, and cooking with his wife and son.



Helen Hammon *Louisiana State University*

Helen Hammon is from Houston, Texas and received her bachelor's degree from the Jackson School of Geology at the University of Texas. She is currently in her second year as a master's student at Louisiana State University

and is researching connections between interglacial variations and lithological variability within Late Pennsylvanian and Early Permian shale rocks in the Midland Basin. An integration of XRD, XRF, density logs and porosity logs are being used to accomplish this research.



or canoeing trips.

Molly McCreary
Texas A&M University

Molly McCreary is a second year Geology Master's student at Texas A&M University. She is researching chemostratigraphy of the Austin Chalk in South and West Texas. In her free time, she is usually outside on climbing



Syed Moosavi *Rice University*

I completed my bachelor's and master's degree in Petroleum Geology from University of Karachi in 2005. After graduation, I was hired by Halliburton in 2006 as a Wellsite Geologist. I was quickly promoted as an MWD/LWD

Engineer. I have completed various extensive internal and external courses. My passion and interest grew naturally which led me to complete 6 years as a field specialist. Having achieved many career goals along with multiple certifications in the Drilling field industry; I was promoted to Geosteering. In Geosteering, I utilized my education and previous experience to face new challenges in Realtime interpretation in thin reservoirs to land and drill lateral wells. It is really an exciting and challenging job! I'm a curious person, who loves to solve puzzles and crackle down all kinds of mysteries. I always find myself learning something new every day. I would say, because of my ambition and preservation I was able to be accepted by an Ivy League University. At Rice University, the one-on-one attention is great, which allows me to further go in dept in geology. Though, Rice is great, it is expensive too. Am I really thank full and glad scholarships are available for people who work hard and need the financial help. My goal is to utilize my skills and knowledge I have gained in an operating company. Beside school, I love to travel across the world and catch up with friends and make new ones along the way. So far I have been to all 6 continents of the worlds. I love all kinds of sports and adventures. In my free time, I like to play cricket or basketball and if I get the chance, take a short nap.



Eric Peavey
Texas A&M University

Eric Peavey is a PhD Geology student at Texas A&M University who specializes in unconventional resources and applied geosciences. He holds a BS Earth Science from Southern Connecticut State University and MS Geology

from Texas A&M University. Eric previously worked at WDVG Laboratories, LLC in Houston, TX, where he spearheaded efforts in the development and use of chemostratigraphic techniques for more effective, efficient and cheaper resource play analysis. Eric held his role as Geologist at WDVG for over a year before returning to Texas A&M to pursue his PhD in February 2019.



Ben Richards
Texas A&M University

Ben Richards is a third year PhD candidate at Texas A&M University working on the stratigraphy of the Wolfcamp Group in outcrop, core and well logs. He looks forward to publishing his results (hopefully soon!).



Richard Robinet *Louisiana State University*

My name is Richard Robinet. I am originally from northern California. Shortly after graduating high school there, I enlisted in the U.S. Marine Corps where I served as a computer technician for four years. After

completing my military service, I moved to Louisiana. In 2015, I completed my B.S. in Environmental Science at Louisiana Tech. In 2016, I began working on my PhD in the Department of Geology and Geophysics at LSU. My research is focused on understanding the relative contributions of climate forcing and/or tectonic forcing to the large scale environmental changes that took place during the latest Sandbian to earliest Katian along the southeastern margin of Laurentia.



Ryan Rosol *University of Oklahoma*

Ryan Rosol took a different path to geology. He began his education at the US Naval Academy in Annapolis, and he later graduated with a degree in finance from the University of Toledo. He discovered geology while

working as an accountant for Chesapeake Energy in Oklahoma City, and decided to pursue a degree in geology at the University of Oklahoma. He is working towards his M.S. in Geology and has gained practical experience working for Citation Oil & Gas, Pioneer Natural Resources and also for the Oklahoma Geological Survey. This summer he His thesis research focuses on the sedimentology, stratigraphy, and reservoir quality of the Pennsyvlanian (Missourian) Marchand Sandstone in the southeastern Anadarko Basin, Oklahoma. For the Oklahoma Geological Survey he and maintains the Devon Core Collection, analyzes cores for accuracy against the drilling record, prepares cutting, cores, and samples for clients and works with survey geologist to orient and plug cores. Ryan will be interning at ConocoPhillips in Houston this summer.



Matthew Sexton *University of Houston*

Matthew Sexton is working on completing a Master's in Geophysics at University of Houston. His research is in marine exploration and submarine volcanism. His thesis involves using seismic, magnetic, and bathymetry

data to characterize the Cretaceous intraplate volcanism in the oldest part of the Pacific plate. He has also been involved in marine surveys to study the effects of Hurricane Harvey on Galveston Bay sediments, and in the last year was a part of 2 NSF cruises to the South Atlantic to study the large igneous provinces of Rio Grande Rise and Walvis Ridge. In addition to research he has been working in industry doing seismic attribute analysis for reservoir characterization.

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Calvert Memorial Scholarships continued from page 35



Andrew Stearns *University of Houston*

Andrew Stearns earned his BS in geology from the University of Texas at Austin in 2018. He is currently a second-year MS geology student at the University of Houston under Dr. Julia Wellner. His research focuses on

quantifying sediment transport in the Houston-Galveston region during Hurricane Harvey in August 2017. During his time at UH he has been part of the 2019 UH IBA world championship team, the AAPG executive council, and is the committee chair for 33rd annual EAS student research conference. He will intern at Shell Houston this coming summer, looking to graduate in December 2020.



Kory J. Talcott *University of Montana*

My name is Kory Talcott and I received my BS in Geology at Texas A&M University in Spring of 2018. My undergraduate research experience in the Eagle Ford led me to pursue a masters with research interest in

sedimentology and reservoir quality evaluation. I am currently in the second year of my M.S. in Geosciences at the University of Montana where I am actively expanding my knowledge in the energy industry. My graduate thesis work involves analysis of rock core from the Wolfcamp Formation near the northeastern margin of the Midland Basin in west Texas. This study focuses

on documenting the nature and timing of mineral phases (paragenesis) and pore body evolution from two currently producing wells located on a distal to proximal transect. Using a systematic combination of visual core analysis, petrography, XRD, and SEM-EDS qualitative and quantitative observations I aim to provide the basis for better understanding down-dip variations in pore evolution within the Wolfcamp Formation, thereby improving the predictability of reservoir quality. I plan on defending and graduating May 2021. My graduate co-advisors are Michael H. Hofmann and Marc S. Hendrix. I have had the privilege of gaining relevant industry experience as a Petroleum Geologist Intern at W.D. Von Gonten Petroleum Engineering Laboratories (summer 2018) and as a Geoscience Intern on the Regional Geophysics Team/Regional Development Team at Pioneer Natural Resources (summer 2020). I am very grateful and proud to have accepted an internship opportunity as a Geoscience Intern during summer 2021 with SM Energy.



Alex Washburn *Texas Tech University*

Alex Washburn is a third-year PhD student working on understanding diagenetic and fracture histories of petroleum source rocks through the study of "beef" calcite veins. Alex has been passionate about the study of

geology since his childhood days of camping with his family high in the Rocky Mountains of southern Colorado. Today, he continues to explore the geology of the world alongside his beautiful wife and step-daughter.

From the President continued from page 3_

And there is some new geoscience online I encountered this month. An (attempted) amusing video on how continental drift will arrange land areas in the future is at: https://www.youtube.com/watch?utm_source=GetTheElevatordotcom&v=Nlzehe4mta4&feature=youtu.be.

Also, the best description of the recent electrical problems is in a webinar from Wood Mackenzie at: https://register.gotowebinar.com/recording/viewRecording/4713980594953958669/575534277235130376/jtuckergeo@aol.com?registrantKey=4432791491668015886&type=ATTENDEEEMAILRECORDINGLINK .

Be safe and volunteer for something this month. Jim Tucker

President Biden's Executive Order Regarding Oil and Gas

By Henry M. Wise, P.G.

on January 27, 2021 President Biden signed an executive order regarding "the Climate Crisis at Home and Abroad." This was an extensive executive order that includes pausing new oil and gas leasing on U.S. federal lands and waters. The entire executive order can be found at: https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/.

The applicable sections are:

Sec. 208. Oil and Natural Gas Development on Public Lands and in Offshore Waters. To the extent consistent with applicable law, the Secretary of the Interior shall pause new oil and natural gas leases on public lands or in offshore waters pending completion of a comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices in light of the Secretary of the Interior's broad stewardship responsibilities over the public lands and in offshore waters, including potential climate and other impacts associated with oil and gas activities on public lands or in offshore waters. The Secretary of the Interior shall complete that review in consultation with the Secretary of Agriculture, the Secretary of Commerce, through the National Oceanic and Atmospheric Administration, and the Secretary of Energy. In conducting this analysis, and to the extent consistent with applicable law, the Secretary of the Interior shall consider whether to adjust royalties associated with coal, oil, and gas resources extracted from public lands and offshore waters, or take other appropriate action, to account for corresponding climate costs.

Sec. 209. Fossil Fuel Subsidies. The heads of agencies shall identify for the Director of the Office of Management and Budget and the National Climate Advisor any fossil fuel subsidies provided by their respective agencies, and then take steps to ensure that, to the extent consistent with applicable law, Federal funding is not directly subsidizing fossil fuels. The Director of the Office of Management and Budget shall seek, in coordination with the heads of agencies and the National Climate Advisor, to eliminate fossil fuel subsidies from the budget request for Fiscal Year 2022 and thereafter.

Sec. 217. Policy. It is the policy of my Administration to improve air and water quality and to create well-paying union jobs and more opportunities for women and people of color in hard-hit communities, including rural communities, while reducing methane emissions, oil and brine leaks, and other environmental harms from tens of thousands of former mining and well sites. Mining and power plant workers drove the industrial revolution and the economic growth that followed, and have been essential to the growth of the United States. As the Nation shifts to a clean energy economy, Federal leadership is essential to foster economic revitalization of and investment in these communities, ensure the creation of good jobs that provide a choice to join a union, and secure the benefits that have been earned by workers.

"Such work should include projects that reduce emissions of toxic substances and greenhouse gases from existing and abandoned infrastructure and that prevent environmental damage that harms communities and poses a risk to public health and safety. Plugging leaks in oil and gas wells and reclaiming abandoned mine land can create well-paying union jobs in coal, oil, and gas communities while restoring natural assets, revitalizing recreation economies, and curbing methane emissions. In addition, such work should include efforts to turn properties idled in these communities, such as brownfields, into new hubs for the growth of our economy. Federal agencies should therefore coordinate investments and other efforts to assist coal, oil and gas, and power plant communities, and achieve substantial reductions of methane emissions from the oil and gas sector as quickly as possible."

Section 208 stops all new oil and natural gas leases on public lands or offshore water until a comprehensive review and reconsideration of Federal oil and gas permitting and leasing practices can be reviewed. Part of this review includes climate and other impacts associated with oil and gas activities. Coal, oil and gas royalties may also be adjusted.

Section 209 removes all subsides (also known as tax deductions or credits) for fossil fuels as of 2022. There are currently 11 subsidies that will be eliminated, including intangible drilling costs, percentage depletion tax break and amortizatyion of geological and geophysical expenditures with oil and gas exploration.

Section 217 sets up a policy to improve air and water quality, create well-paying union jobs, and more opportunities for women and people of color in hard-hit communities, including rural communities, while reducing methane emissions, oil and brine leaks, and other environmental harms from tens of thousands of former mining and well sites. Various environmental projects will be set up to deal with environmental cleanups. While this sounds like progress many, if not most of these cleanups already have programs set up to correct these situations. In addition, the executive order repeatedly refers to union jobs, rather than just jobs.

The Biden administration has come out to be heavily in favor of replacing oil, gas, and coal with wind and solar and replacing the internal engine with electric vehicles. In order to provide enough electricity to charge all those electric vehicles the U.S. power grid will need to increase the power grid by 29%. This does not allow anything extra for times of rain or low or high winds when solar and wind turbines aren't working. No mention has been made by the administration as to how they intend to provide the needed surplus, which typically needs to be available at a moment's notice and has typically been provided by gas, coal, and nuclear power plants.

Oil and Gas Private Equity in 2021 Where We're at and How We Got Here!

By Laura Freeman

The Houston Geological Society recently hosted their North America Dinner which addressed "The State of Private Equity in Oil & Gas". I was honored to be asked to speak along with a topnotch panel of professionals who approached Private Equity (PE) from a variety of standpoints and who were also very honest with the audience – which has been a rarity in PE the last several years. I personally remember a reputable Acquisitions and Divestitures (A&D) conference in Dallas in 2018 where there was a panel with executives from some of the top PE companies in oil and gas at the time. I was doing deals involving some of these groups and their assets and I knew what they were saying was not what was really going on.

Since the collapse in oil prices in 2014, PE has dominated much of the oil and gas markets. Even when it hasn't been at the forefront it has directed the tide of the deal markets and the industry as we know it. Despite the changes in PE and the comments of it being "dead if not extinct" it continues to impact the industry and is a very interesting and timely topic.

For this article I would like to provide some observations and thoughts on a set of important questions on the topic. Several experts agree on these; however, it is complicated and the only thing that is clear cut is that there are no clear cut answers!

How has PE funding changed in the last 5 years?

The current state of PE in oil and gas goes back to the 2014 oil price crash. Prices fell from the \$100/bbl range down as low as \$25/bbl in a very short amount of time. The last major correction had been in 2008 and was sharp but, had a quick rebound. There was a very high amount of debt in the industry in 2014 and with prices cratering over just a few months many operators and lenders where left with underwater assets leaving investors and buyers excitedly expecting fire sales. With this expectation in mind, a large amount of PE capital or dry powder was raised or allocated to try to take advantage of the opportunity. However, banks and owners held rather than take huge losses and assets generally didn't come loose. This led to a large overhang of PE, referring to the unspent cash or dry powder.

I'll talk about the "2 and 20" later, but for now it's important to know that for many PE setups the companies deploying the capital either into a management teams or directly into assets are compensated by what's called a 2 and 20. This refers to 2% of assets under management and 20% of the upside or asset appreciation at exit (or after a waterfall trigger). The 2% of assets under management refers to an annual fee of 2% of the amount of capital the PE group has deployed or put to work. Imagine a fund with \$500 million

of assets – that is \$10 million dollars a year! This is often how PE groups make their money and the income that supports ongoing operations and G&A (General & Administrative costs) ex. salaries.

The issue is that they only get this \$10 million a year if the \$500 million is deployed or invested in teams and assets. If the \$500 million is sitting in the bank they don't get it. This put many PE groups in the position of "use it or lose it" driving the push to put it somewhere and buy assets. During 2016 and 2017 this became very apparent in the Permian where asset prices hit record highs despite a much lower price environment. This also drove the buy and flip with assets changing hands at high prices which created a growing bubble through 2017. At some point the prices got so high PE teams were effectively "priced out" and could no longer buy assets and meet their very high mandated return hurdles (see the 3 and 30 question below). At this point assets sales stalled out.

Deal counts hit a high in 2017 and then experienced a massive contraction that is still affecting the market today. The run-up and bubble set seller expectations very high and once buyers retreated they retreated fast. This created a large bid/ask spread or buyer seller gap which has driven the A&D market to a 20-year low in terms of number of deals transacting. The PE model seen in the 2015 to 2017 time frame was based on the buy and flip model and could only hit return hurdles with short holds (~3-5 years) and a very large appreciation from purchase to sale (3X or more). As the bubble grew, teams were no longer able to buy assets at a low enough price to achieve this big upside on the flip and PE as we knew it collapsed. Today new PE funding has largely dried up, exits are not happening, debt is hard to come by, and assets are gridlocked in the A&D market.

What is driving the dry up in new PE funding in the last 8 quarters or so?

As the dynamics evolved, the PE model as we saw it in the 2015 to 2017 time frame no longer worked. Funds literally could not buy low enough and sell high enough and fast enough to hit the return hurdles in their mandates. This drove a massive contraction in new PE funding. The crash in deal counts and new PE deployments followed each other closely as shown in the graph on the next page.

What has happened to PE exits over the last couple years and how is this changing PE availability?

PE exits came to a screeching halt following the 2017 peak. The financials of the buy and flip model necessitate a quick and high exit. Without this the model was no longer viable and PE groups could not find new opportunities where they could hit required returns even "on paper". This drove a dry up in new PE availability.

It also caused problems with existing PE backed management teams as it started to become more and more clear that the likelihood of success was slim to none.

We heard a lot about PE backing management teams in 2016 and 2017, how has that changed?

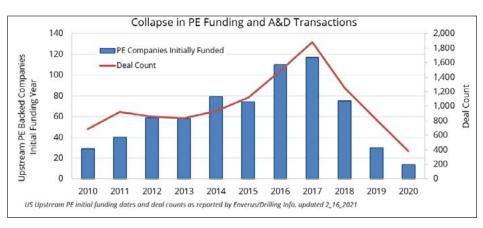
The management team model has changed – in addition to the lack of funding there are very few backers

doing G&A while teams look for an asset due to the unavailability of assets that can be bought low enough and sold high enough to hit high return hurdles. This has led to what I call the chicken or the egg, "bring us an asset, and we'll consider funding". This dynamic has caused additional problems in the A&D markets for a variety of reasons. Many funds also need large deals to move the needle and larger deals are hard to find especially with the necessary criteria.

Also, in the buy and flip model management teams generally weren't expected to hold the assets and operate. This has changed as exits aren't happening and teams are being forced to hold the assets. Many teams were not set up to do so and are struggling to operate and generate cash flow. The get-rich-quick promise to the teams has lost its luster and many teams are now in the situation where enough time has passed to know there is almost zero chance of an exit that is high enough or fast enough for payout. The large equity payouts were often based on a "pref rate" hurdle (rate of a preferred return). You can think of this like buying a house on a credit card. You go way in the hole to start with and the rate compounds every year. This meant that even when the model was working teams had to have the large exits to hit the hurdles for equity payout. They started so far in the hole with the acquisition that the assets couldn't cash flow out, and they had to have a massive exit to be a positive "full cycle investment" (pay the initial acquisition price and a return and cover a compounding pref rate). With a large initial draw and a pref rate hitting it every year many teams dug further and further into the hole and got to where they would never "outrun the pref" and hit payout. Several teams have now jumped ship or have been replaced often by the SmashCo model as it's called where the PE aggregators smash multiple portfolio companies together and in the process cannibalize any potential value or payout for most of the teams.

What is the 2 and 20 and how has that impacted investment choices by PE over the last 5 years?

PE often relies on a 2 and 20 model, which refers to a 2% fee on assets under management and 20% of the upside often measured as asset appreciation at exit or after a hurdle. As discussed earlier the 2 led to a use it or lose it scenario which fueled the Permian bubble. The 20 also rode along with this as fast and high exits in the buy and flip led to large returns for the PE backers. As the buy and flip stalled out and the deal markets collapsed deployment became harder and harder (losing the 2) and big exits became hard and



harder (losing the 20). The 2 has also compounded the gridlock in the A&D markets as many companies will never hit the 20 and hence are only making money by having money deployed and continuing to bring in the 2 despite the viability of the investment.

Can you speak to fund mandates and the difficulties many funds are having regarding those?

The PE aggregator model has become very tough and in most cases unable to meet mandates specifically with regards to return hurdles which were very high, often a 30% IRR and 3X ROI (also called a 3 and 30). As discussed throughout the preceding questions these kind of returns require a fast and high exit. The 3X is relatively easy to understand, it is undiscounted so has no net present value or time value of money component. If you buy an asset for \$10 million dollars it is a 3X once you get \$30 million back from cash flow, development, and/ or exit. For ROI alone it doesn't matter if you make the \$30 million in 3 years or in 30 years. However, adding a 30% IRR means that you are now considering time value of money and that money received later (cash flow or exit) is worth less than money today. The farther out in time the returns are the less they are worth discounted to today. If you need a 30% IRR and a 3X ROI you now need to get the 3X and get it fast - often in 3-5 years. To see any kind of investment or asset triple its value in only 3-5 years is pretty amazing. It worked during the bubble with the buy and flip but it is generally no longer working today. Asset exit values in a bubble drove these kinds of returns and a few other components of the markets greatly assisted. Theoretically large scale development could help triple an assets value in only 3-5 years both by cash flow and by larger exits based on boepd. Upstream oil and gas assets without development are depreciating assets unless there is an A&D bubble or a large price appreciation. For many large acquisitions the only way to hit the hurdles was to get development, an asset pricing bubble, and positive price movement!

The other thing that can "juice returns" is cheap debt. For the IRR model money is worth less in the future than today. If you think about debt, the idea is that you get the money today as a positive cash flow with no reduction in value from the time value of money. Along the lines of the old adage that \$1 today is worth more than \$1 10 years from now. You get the \$1 today at full value. Then in 10 years you pay back the \$1, but that \$1 payback is now worth much

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less than \$1 at least in discounted cash flow models. Hence, you got \$1 today and paid maybe \$0.40 equivalent back at year 10. This front loads the return model and juices IRR. During the heyday of PE cheap debt was readily available with the cheapest usually being an RBL (reserves backed loan) from a bank. Now we're seeing a major contraction in this kind of debt which compounds the problems with the 3 and 30 models.

What is the difference between PE aggregators and PE tied directly to institutional investors and why is the later having more success in the current market?

Much of the preceding discussion is specific to problems with the PE aggregator model. In the aggregator model there is a fat cat middle man between investors and management teams. This middle man gets the 2 and 20 which in today's market means there's not much left. With the extra layer the aggregator model generally requires the large returns like the 3 and 30 and as such requires the short hold and large exit.

There are other PE models including a more direct approach where the operating company has direct investment from institutional investors and there is no aggregator in the middle. In upstream oil and gas this is commonly referred to as the Scout/Merit model. Without the fat cat in the middle, the institutional model works on lower return hurdles (both ROI and IRR), can generally "trade" IRR for ROI ("trade" getting more ROI in a longer time frame with substantially lower IRR), and with the ROI goals can focus on longer operations with sustained cash flow not a buy and flip. This type of PE is still going pretty strong in 2021. For example, we know of one large group that was set to close a \$360MM fund on 12/31/2020 - and we know of 4-5 groups using this model who are raising funds and successfully deploying.

Where are we now?

PE exits have largely dried up, the asset market has collapsed, IPOs (initial public offerings) are not working, SPACs (special purpose acquisition companies) have vet to really do much good in O&G. Overall the PE model, at least as we saw it in 2015-2017 is no longer working. Institutionally backed funds with strong operating capabilities are still looking pretty good. We're seeing some very interesting approaches these day as PE struggles to adapt and remain viable in the current market.

Biographical Sketch



LAURA FREEMAN is a Managing Director at Highpoint Global Capital, a technically focused advisory firm which currently has over \$1.5 billion in mandates helping oil and gas operators find, evaluate, and close acquisitions, divest of properties, and secure bank and alternative financing. Ms. Freeman specializes in buy and sellside advisory, reserves valuation, reservoir

engineering, well review, development planning, financials, strategic planning and technical due diligence. She works with private equity funds, institutional investors, hedge funds, banks and private investors.

Ms. Freeman has a Master's in Petroleum Engineering from University of Wyoming, MBA from UCLA Anderson and Bachelor's in Physics from Reed College. She is a member of the Society of Petroleum Engineers and has been featured as an expert on M&A, banking topics, and Reservoir Engineering for Oil and Gas Financial Journal, Society of Petroleum Engineers (SPE), Journal of Petroleum Technology (JPT) and various industry events and online publications.



LAWRENCE "LARRY" DENNY BARTELL 1956-2021

It is with a deeply saddened heart that we bring to you notice that long time HGS member, officer, and fellow geologist, Lawrence "Larry" Denny Bartell passed away January 23, 2021. He was born November 10, 1956 in Oklahoma City, Oklahoma, but his family moved to Houston, Texas shortly after. Larry went to high school at the Tilton School in Tilton, New Hampshire. He greatly enjoyed his time at the Tilton School and made lifelong friends He loved to play lacrosse, and became an avid skier. He was affectionately known by others there as "Tex" and wore his cowboy boots proudly. After high school, Larry attended Texas Tech University where he met his wife, Patty Grube. They were married August 2, 1980 in her hometown of Freer, Texas. Once married, Larry and Patty moved to Norman, Oklahoma, where Larry earned his Bachelors of Science Degree from the University of Oklahoma. They welcomed their first son, James Denny and moved to Houston where Larry began working at Bartell Exploration as a partner and geologist with his father. Larry and Patty soon welcomed daughters Ashley Ann and Heather Leigh. Their fourth child, David Howard, was born in 1995.

Throughout his career, Larry was active in professional geoscience organizations. He has a long and distinguished record of serving the Gulf Coast Association of Geological Societies (GCAGS), the Houston Geological Society (HGS), and the American Association of Petroleum Geologists (AAPG). One of the great attributes of Larry's style as a leader is to quietly complete the task, without great fanfare or attempting to gain the spotlight or solicit personal recognition.

In 2002, Larry and his father, Denny Bartell formed Legends Exploration LP, joining forces with AAPG Past President John Amoruso.

The Legends team received the prestigious AAPG Outstanding Explorer Award in 2011 for the play-opening discovery of Amoruso Field in the Bossier Trend of Robertson Co., Texas. Receiving this award is truly significant in our profession and is a rare and distinguished honor.

Throughout his career Larry Bartell set a great example and is a role model for our profession. As a successful, truly independent prospector, Larry was consistently willing to give back to the profession of petroleum geology during good and bad times.

Larry was General Chair of the very successful 2015 GCAGS Convention with the theme "Technology...Education... Leadership...Discovery". It was a great convention, with high attendance and new features such as a significant emphasis on participation by students and young professionals. All this in the face of the dramatic decline in the price of oil and increasing stress in our industry.

The 2015 GCAGS Convention was Larry's "second rodeo" and many HGS members had the pleasure of working closely with Larry when he chaired his first "rodeo", the 2000 GCAGS Convention in Houston. It too was a very successful and fun event organized around the theme of "Remember the Past...Visualize the Future". Larry used his experience as GCAGS Treasurer when Dan Smith and Chuck Noll, co-chaired the 1991 Convention. He was an active member of the Convention Committee from 1991 through 1994 and later served on other ad-hoc GCAGS committees.

Larry first worked on a major convention during the 1988 AAPG Convention in Houston, hosted by HGS. Maybe that was the launch pad, as Larry began his active role in HGS in 1989 serving as Treasurer, then was elected to the HGS Board from 1994 to 1996 and followed that with election as Secretary from 1996 to 1997.

HGS recognized him with a President's Award in 1996, an HGS Special Recognition Award in 2001 and an HGS Distinguished Service Award in 2004

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Larry served as a Delegate to the AAPG House of Delegates for several terms and he was active in the Society of Independent Professional Earth Scientists (SIPES) Houston chapter.

Larry's commitment to his family and friends was special. He would often coach his children's sports teams, or be cheering loudly in the stands. He was known as the life of the party, and you could hear his famous cackle laugh for miles. He was happiest when surrounded by friends and family whether he was in Houston, at the family's Frio River Ranch in Concan, Texas, or spending time in Crested Butte, Colorado. Larry had so many friends from all areas of his life, and never met a stranger.

Larry is survived by his wife, Patty Bartell, son James Bartell and daughter-in-law Mallory Nelson Bartell, daughter Ashley Bartell, daughter Heather Bartell Roberts and son-in-law Jonathan Roberts, son David Bartell and his fiancé Elyse Ross, his four precious grandchildren Harris and Blair Bartell and Reagan and Patrick Roberts, father, James Denny Bartell, sister Ellen Bartell, brother-in-law, James Grube, and wife Rachel and their children. He was preceded in death by his mother, Dixie Deupree Bartell, father-in-law, Howard Herschel Grube, and mother-in-law, Eloise Grube.

He will be greatly missed. *Jeff Lund*



STGS Spring Field Trip - Friday, October 15th, 2021 "Geology, Frontier History, and Oenology of the Texas Hill Country Trip Leader: Pete Rose



Pete will discuss how geology shaped the white man's settlement of the Texas Hill Country beginning with their slim pickings from farming and ranching, their grim encounters with Indian raiding parties and stage coach robbing desperados, to eventual law and order forged by the justice of Texas Rangers. Pete will show that geology creates and controls the extent of the true Hill Country terroir; that is, where actually nurturing vines in Texas soil, to harvest locally raised grapes that yield sustainable and desirable wine, is possible and thriving.

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| Schedule | |
| 40 passenger bus departs Petroleum Club parking lot (8620 N NewBraunfel S. | ATX)8 AM |
| wine tasting at Sister Creek Vineyards | 9 AM |
| wine tasting at Becker Vineyards | 10:30 AM |
| box lunch by My Own Chef at LBJ Park, Stonewall, Texas | High Noon |
| wine tasting at Perissos Vineyard and Winery | 2:30PM |
| return to Petroleum Club | 6 PM |

COST: \$125 per person (students \$100 thanks to Millennium PetroCapital Corporation for reservations and payment information email johnlonggeologist@gmail.com





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 be accompanied by figure captions that are linked by the file name of the image. The images should be submitted as individual email attachments (if less than 5 MB) or on CD or DVD.

HGS Bulletin Advertising

The *Bulletin* is printed digitally using InDesign. Call the HGS office for availability of ad space and for digital guidelines and necessary forms or email ads@hgs.org. 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.**

| Random Inside Ad Placement Black & White Prices Shown – Color add 30% to prices below | | Specific Page Color Ad Placement | | | | | | | | |
|---|--------|----------------------------------|-----------|-----------|--------------|------------|-------------|------------|-----------|----------|
| No. of | Random | Random | Random | Random | Inside Front | Inside | Page 2 Full | Outside | Back of | Calendar |
| Issues | Eighth | Quarter | Half Page | Full Page | Cover | Back Cover | Page | Back Cover | Calendar | Quarter |
| | Page | Page | | | Full Page | Full Page | | Half Page | Full Page | Page |
| 10 | \$950 | \$1,350 | \$2,550 | \$4,750 | \$8,000 | \$7,500 | \$7,050 | \$6,850 | \$6,650 | \$3,000 |
| 9 | \$800 | \$1,300 | \$2,500 | \$4,700 | | | | | | |
| 8 | \$750 | \$1,250 | \$2,250 | \$4,300 | | | | | | |
| 7 | \$600 | \$1,100 | \$2,200 | \$3,850 | | | | | | |
| 6 | \$550 | \$950 | \$1,800 | \$3,500 | | | | | | \$2,000 |
| 5 | \$500 | \$800 | \$1,600 | \$3,000 | \$4,700 | \$4,500 | \$4,350 | \$4,000 | | |
| 4 | \$450 | \$650 | \$1,300 | \$2,500 | | | | | | |
| 3 | \$300 | \$550 | \$950 | \$2,000 | | | | | | \$1,000 |
| 2 | \$250 | \$400 | \$700 | \$1,500 | | | | | | |
| 1 | \$150 | \$250 | \$450 | \$1,000 | \$1,500 | \$1,400 | \$1,250 | \$1,000 | \$1,250 | \$850 |

Professional Directory Section Business Card Ad: 10 Issues – \$160 (\$30 for each additional name on same card)

Website Advertising Opportunities

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

| Placement | Rate | Specifications/Description | | |
|--|---|---|--|--|
| | \$800 – Monthly | | | |
| HGS Website Home Page | \$1800 – 3 Months | 275 x 875 pixels; home page top banner ad. All Home Page Banner Ads rotate every 10 | | |
| Banner Ad | \$2800 – 6 Months | seconds. | | |
| | \$3600 – 12 Months | | | |
| | \$700 – Monthly | | | |
| HGS Website Home Page | \$1500 – 3 Months | 200 v 400 pivolo homo pogo right column od | | |
| Column Ad | \$2400 – 6 Months | 200 x 400 pixers; nome page right column ad | | |
| Column Ad \$2400 – 6 Months \$3600 – 12 Months \$600 – Monthly | | | | |
| | \$600 – Monthly | | | |
| HCS Website Event Dage Ad | \$600 – Monthly \$ Website Event Page Ad \$1200 – 3 Months 200 x 400 pixels; calendar page left column ad. All | | | |
| 11G5 Website Event Fage Ad | \$1600 – 6 Months | 10 seconds. | | |
| | \$2600 – 12 Months | | | |
| | \$50 – 14 days | | | |
| | \$100 – 30 days | Docting of ich competituities on HICS supports Cliefs the Con John tak to get stanted | | |
| \$50 – 14 days | | Posting of job opportunities on HGS website. Click the Geo-Jobs tab to get started. Must be filled out completed and the dates set appropriately. | | |
| | \$600 – 6 Months | | | |
| | \$1200 – 12 Months | | | |
| Vendor Corner | \$250 *4 Pack option with 1 FREE bonus event for \$1000.00 available. Send request to vendorcorner@hgs.org. | Company logo, company website, and company description will be highlighted on HGS Calendar website event. This is an opportunity to display company wares, gain personnel exposure and hand out product information at HGS dinner meetings. | | |
| Event/Short Course Calendar Ad | \$100 – Monthly | An event ad posted within the HGS website calendar under the Events tab. | | |
| Bundle & Save! | • 20% off website ads wher | a combined with print ads in all 10 HGS <i>Bulletin</i> issues. a combined with print ads in 5 HGS <i>Bulletin</i> issues. a combined with print ads in 3 <i>Bulletin</i> issues. | | |

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Application to Become a Member of the Houston Geological Societ

Qualifications for Active Membership

- Have a degree in geology or an allied geoscience from an accredited college or university; or
- 2) 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 five (5) years.

Qualifications for Associate Membership (including students)

- Be involved in the application of the earth or allied sciences. Be a full-time student enrolled in geology or in the related sciences.
- Apply online at www.hgs.org and click on Join HGS Annual Dues Expire Each June 30. (Late renewals – \$5 re-instatement fee)

Annual dues are \$30.00; emeritus members pay \$15.00; students are free. To the E.

| | Mail this application and payment to: |
|---|---|
| | Houston Geological Society |
| | 14811 St. Mary's Lane, Suite 250 • Houston, TX 77079-291 |
| e | Telephone: 713-463-9476 Fax: 281-679-5504 |
| | Payment method: |
| | ☐ Check, ☐ VISA, ☐ MasterCard, ☐ American Express, ☐ Discov |
| | Card # |
| | Expiration Date: Card I.D. |
| | (Card I.D 3 or 4 digit number on front or back of card) |

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| Namo. | | School | | |
|---|--|------------------------|--|------------|
| Address: | | Degree | Major | Year |
| Home Phone: | Spouse's Name: | School | | |
| Email: | | Degree | Major | Year |
| Job Title: | | | | |
| Сотрапу: | | Earth Science | Earth Science Work Experience | |
| Company Address: | | | | |
| Work Phone: | Fax Number: | | | |
| Circle Preferred Mailing Address: Home Office | ress: Home Office | Applicant's Signature_ | natureDate | |
| Professional Affiliations: | | | | - |
| ☐ AAPG member No.: | | Endorsement by | Endorsement by HGS member (not required if active AAPG member) | 'G member) |
| Professional Interest: | | Name: | | |
| ☐ Environmental Geology | ☐ North American E&P (other than Gulf Coast) | | | |
| ☐ International E&P | ☐ Gulf Coast E&P (onshore & offshore) | Signature | Date | |
| Membership Chairman | | HGS Secretary | | |

revised 5/02/17

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HGS Welcomes New Members

New Members Effective February 2021

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Richard Boyce Thomas Loftin Hannah Chambers

Ed Bryant Dawn McShinsky **Brittany Stroud**

Danielle Callahan Alex Washburn Kurt Mire

Rykley Crowe Tom Schickel

Tracie Walker Ketke Kolte

Jacob Lafleur Blake Warwick

Welcome New Members

