HGS Bulletin
Houston Geological Society
Volume 59, Number 9
May 2017

The Bulletin
Houston Geological Society

Volume 59, Number 9 May 2017

In Every Issue

The Houston Geological Society Bulletin (ISSN-018-6686) is published monthly except for July and August by the Houston Geological Society, 14811 St. Mary's Lane, Suite 250, Houston, Texas 77079-2916. Phone: 713-463-9476; fax: 281-679-5504
Editorial correspondence and material submitted for publication should be addressed to the Editor, Houston Geological Society Bulletin, 14811 St. Mary's Lane, Suite 250, Houston, Texas 77079-2916 or to tami.hgs@gmail.com .
Subscriptions: Subscription to this publication is included in the membership dues ($28.00 annually). Subscription price for nonmembers within the contiguous U.S. is $50.00 per year. For those outside the contiguous U.S. the subscription price is $160.00 per year. Single-copy price is $8.00. Periodicals postage paid in Houston, Texas.
POSTMASTER: Send address changes to Houston Geological Society Bulletin, 14811 St. Mary's Lane, Suite 250, Houston, Texas 77079-2916

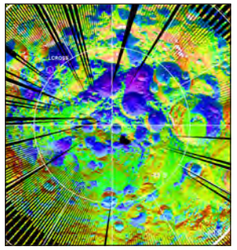
Technical Meetings

Other Features

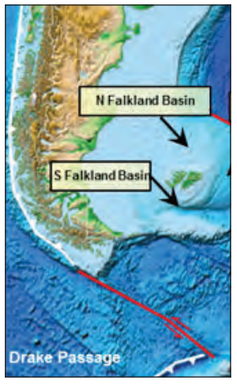
About the Cover: *Rio Grande Sunset*. Approximately 40 miles from Laredo, 1/24/2017. Photographer, Matt Smith, works 2 miles from the Rio Grande. He and a coworker made the journey to a remote location along the U.S./Mexico border fenceline so he could capture its natural, raw beauty – only nature and a small fence separates the two nations. (Canon 6D, Rokinon 14mm f/2.8, single frame processed in Lightroom and Photoshop for lighting.) Copyright ©2017 Matt Smith. All rights reserved. matt@bigtexstudios.com, www.Bigtexstudios.com, Instagram: Bigtexstudios

2017 HGS Tennis Tournament

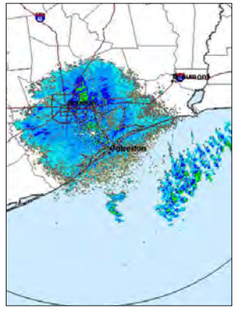
page 4



page 11



page 14



page 20

Board of Directors 2016–17

President (P)	John Jordan	Consultant	713-594-5648	John.Jordan.062255@gmail.com
President-Elect (PE)	John Adamick	TGS	281-579-0774	John.adamick@tgs.com
Vice President (VP)	Thomas E. Hearon IV	ConocoPhillips	575-644-7953	thomashearon@gmail.com
Secretary (S)	Rachel Todkill	Drilling Info	832-444-0236	rctodkill@gmail.com
Treasurer (T)	Bryan Guzman	Ingrain, Inc.	832-503-4645	bryan.guzman85@gmail.com
Treasurer-Elect (TE)	Mike Allison	Consultant	832-242-4406	mike@allisonkrewe.com
Editor (E)	Tami B. Shannon	Oxy, Inc.	361-563-2523	tami.hgs@gmail.com
Editor-Elect (EE)	Brian Horn	ION Geophysical	281-781-1061	brian.horn@iongeo.com
Director 15-17 (D1)	Annie Walker	ION Geophysical	832-854-6989	Annie.Walker@iongeo.com
Director 16-18 (D2)	Dave Miller		832-362-4779	dwmiller.hgs@gmail.com
Director 16-18 (D3)	Mike Erpenbeck	Upstream Advisor Group	832-418-0221	mike.erpenbeck@hotmail.com
Director 15-17 (D4)	Justin Vandenbrink	Hilversum Exploration	832-289-1897	texasmail247@gmail.com

Committee	Chairperson	Phone	Email	Board Rep.
AAPG House of Delegates	Sarah Stanley	281-889-8490	Sarah.Stanley@ihsmarkit.com	P
Academic Liaison	Paul Mann	713-743-3646	pmann@uh.edu	D2
Advertising	Andrea Peoples	713-463-9476	Andrea@hgs.org	E
Africa Conference	John Jordan	713-594-5648	John.Jordan.062255@gmail.com	P
Applied Geoscience Conferences	Frank Walles	713-825-6136	Frank.Walles@bakerhughes.com	P
Arrangements	Thomas E. Hearon IV	575-644-7953	thomashearon@gmail.com	VP
Awards	Mike Deming	713-503-1751	mike.deming.HGS@gmail.com	P
Ballot/Elections	Paul Hoffman	713-871-2350	phoffman@allen-hoffman.com	S
Calvert Fund	Carl Norman	713-461-7420	dod895@aol.com	PE
Continuing Education	Thom Tucker	281-413-0833	century@flash.net	D1
	Betsy Torrez	713-417-3602	torrezbj@aol.com	D1
	Cheryl Desforges	713-816-9202	cheryldesforges@hotmail.com	D1
Deep Water Technology	Justin Vandenbrink	832-289-1897	texasmail247@gmail.com	D4
Directory Committee	John Tubb, Jr.	713-805-5649	jbtjr@sbcglobal.net	D3
Earth Science Week	Sharon Choens	713-320-1792	Sharon.choens@sjcd.edu	D2
Educational Outreach	Jennifer Burton	832-607-0074	jlbgeo@comcast.net	D2
Engineering Council of Houston	Sue Pritchett	281-451-6522	Pritchett.Sue@gmail.com	D2
Environmental & Eng. Geology	Matthew Cowan	713-777-0534	mrcowan1@hal-pc.org	VP
	Troy Meinen	713-962-5495	troy.meinen@erm.com	VP
Exhibits	Bryan Guzman	832-503-4645	bryanguzman85@gmail.com	D3
Field Trips	Ken Thies	713-598-0526	kenthies.kt@gmail.com	D1
Finance	Sameer Baral	281-837-6373	sameer.baral@gmail.com	T
Foundation Fund	Evelyn Medvin	713-328-2212	evelyn.medvin@corelab.com	PE
General Meetings	Thomas E. Hearon IV	575-644-7953	thomashearon@gmail.com	VP
Geomechanics	Robert Hurt	770-367-5860	Robert.Hurt@bakerhughes.com	P
	Umesh Prasad	713-879-2529	Umesh.prasad@bakerhughes.com	P
Golf Tournament	Elliot Wall	713-825-4599	elliot.wall@corelab.com	D4
Government Affairs	Henry Wise	281-242-7190	hmwise@yahoo.com	D4
	Arlin Howles	281-753-9876	arlinhowles@yahoo.com	D4
Guest Night	Pete Emmet	281-373-3035	pete.emmet.53@gmail.com	D4
HGS 100th Anniversary	Charles Sternbach	832-567-7333	carbodude@gmail.com	
	Linda Sternbach	832-567-7337	linda.sternbach@gmail.com	
HGS New Publications	William Rizer	503-852-3062	rizerwd@gmail.com	D1
HPAC	Bernadine Billard	281-543-0248	bcbillard@usa.net	S
Imperial Barrel	Shawn Kushiyama	713-857-9958	shawn.kushiyama@shell.com	D2
International Explorationists	Steve Getz	713-304-8503	sgetz@outlook.com	VP
	Ryan Yarrington	713-575-4134	ryanyarrington@gmail.com	VP
Legends Night	Deborah Sacrey	713-468-3260	dsacrey@auburnenergy.com	P
	John Tubb, Jr.	713-805-5649	jbtjr@scbglobal.net	P
Membership Growth	Phil Padgett	713-894-3079	phil_padgett@yahoo.com	S
Membership, New	Sharie Sartain	281-382-9855	smsartain1@comcast.net	S
Museum of Natural Science	Inda Immega	713-661-3494	immega@swbell.net	D2
	Janet Combes	281-463-1564	jmcombes@msn.com	D2
NeoGeos	Olamide Dada	281-690-6726	olamide.dada@bhpbilliton.com	D3
Nominations	Deborah Sacrey	713-468-3260	dsacrey@auburnenergy.com	EE
North American Explorationists	Donna Davis	832-517-7593	geology@texas.net	VP
	Bob Wiener	832-978-8123	rwiener@sbcglobal.net	VP
Northsiders	Ian McGlynn	713-471-0576	ian.mcglynn@bakerhughes.com	VP
Office Management	John Tubb, Jr.	713-805-5649	jbtjr@scbglobal.net	PE
Outcrop Family Campout	Shannon Lemke	713-204-6768	shannon.lemke@gmail.com	P
Science and Engineering Fair	Mike Erpenbeck	832-418-0221	mike.erpenbeck@hotmail.com	D2
Skeet Shoot	Gready Hunter	281-384-9035	greadyhunter@comcast.net	D4
Social Media	Dianna Phu	281-236-3131	hgs.socialmedia@gmail.com	D3
Tennis Tournament	Constatin Platon	205-218-7222	platonpc@gmail.com	D4
Vendor's Corner	Rich Germano	832-647-5630	rgermano@fastenergydata.com	TE
Video Committee	Linda Sternbach	832-567-7337	linda.sternbach@gmail.com	D3
Volunteer Coordinator	VACANT			P
Web Management	Linda Sternbach	832-567-7337	linda.sternbach@gmail.com	D3
HGS Office Director	Andrea Peoples	713-463-9476	andrea@hgs.org	
HGS Administrative Assistant	Jacky Jordan	713-463-9476	jajordan@hgs.org	

2017 HGS Tennis Tournament

Saturday, May 20, 2017

Find your tennis racquet, practice your serve and get ready to network!
Join your friends and colleagues for a relaxed round-robin style tennis tournament. Beginners to Pros are welcome.

WHEN

Saturday, May 20, 2017
8:00 am - 12:00 pm

WHERE

Pine Forest Country Club
18003 Clay Rd., Houston, TX., 77084

COST

Registration set at $45 per player
Bring your family to watch you and mingle; cost is $15 per non-player

WHAT'S INCLUDED

Super-nice courts and grounds at Pine Forest Country Club, tennis balls
Buffet-style appetizers, fruits and drinks
Prizes, surprises and fun

WOULD YOU LIKE TO SPONSOR?

The Big Four: $1000
GOAT: $700
Grand Slam: $500
ATP World Tour Finals: $300

Registration opens soon at HGS office. For additional details contact Constantin Platon at 205.218.7222 or email at platonpc@gmail.com

John Jordan
john.jordan@hgs.org

I Have Seen the Future and It Is Bright!

I participated in the first level of the Gulf Coast Section finals for the Imperial Barrel Award (IBA), the single largest student outreach program that the American Association of Petroleum Geologists (AAPG) underwrites. The IBA started at Imperial College in London, and the original idea was that teams of first-year graduate students would compete by reviewing a real-life exploration data set (consisting of well logs and seismic data) for a limited time and then present their team's analysis of the hydrocarbon potential in the study area to industry professionals. The winner of the competition was awarded a barrel of beer to celebrate, hence the name the Imperial Barrel Award.

Today the AAPG supports university students from most of the Sections and Regions around the world in a two-tiered competition. First-place teams at the Section, Regional, and global levels compete at the Annual Convention and Exhibition (ACE), with the winning university team being recognized at the AAPG ACE meeting. Participation in the contest has become a very prestigious experience to have on your resume. I was very impressed with the excitement, depth of understanding, and presentation quality displayed by the student teams I was judging, even commenting to the other judges that I was certain I would not have done as good of a job when I was a first-year graduate student. I commend Tom Bulling, his committee, and BP for tirelessly coordinating the IBA competition in Houston for many years. Anadarko staff worked closely with Tom this year and will be responsible for the IBA logistics in the future.

Students are a critical population to any professional society, whether it is local or global in scope. If we do not have young professionals joining organizations like the HGS and AAPG, we will soon cease to exist (like the dinosaurs). Students, 350 of them, represent slightly over ten percent of the total HGS membership. The ratio of students-to-total membership is about double at the national level in AAPG. The HGS encourages student participation in many ways, as does the AAPG at the national/worldwide level.

Our Houston society encourages student participation through student discounts for membership (ten dollars instead of thirty dollars), and discounts for meetings and conferences. In past years, the HGS has found a corporate sponsor for all our student memberships allowing them free dues. We have not identified a sponsor for the upcoming membership cycle, so all students must pay the ten dollar dues starting in July 2017. In recent years, Anadarko has been the sponsor and we appreciate their support. If you or your company are interested in helping our students with their dues or meeting costs, please contact Andrea Peoples at the HGS office. She will be happy to hear from you! We also encourage students to present their research projects at our conferences by having student poster competitions with cash awards. Finally, the HGS Foundation and Calvert Fund provide cash scholarships to undergraduate and graduate students in geoscience programs. The AAPG does many of the same things for student members including discounts for memberships, conference attendance and the awarding of scholarships. In addition, the AAPG also sponsors annual Student Expos in Houston, Denver and on the US west coast which provide an opportunity for university students to present their research projects to industry geoscientists. This allows them to get exposure to the oil and gas industry professionals that might not be available at their university. Recruiting students from a wide range of schools improves workforce diversity and expands the pool of creative thinking.

Today's graduate students in geosciences are prepared to hit the ground running upon employment in the oil and gas industry. They understand the basics of petroleum systems and the critical components (source, reservoir, seal, trap and timing) of a hydrocarbon accumulation. They are excited and enthusiastic about the opportunities and challenges that the energy industry faces. This is why I say: I have seen the future and it is bright.

HGS Guest Night

Big Bones in Big Bend

The World's Largest Flying Creature Lived in Texas!

June 10, 2017
Houston Museum of Natural Science
7:00pm to 10:30pm
Free planetarium shows at 6:15pm and 6:45pm
Adults $60
Children under 17 $30
Dinner and drinks inside the museum
Paleo lecture in the giant screen theater

Don Corrick, Speaker
Big Bend National Park
Park Geologist

Photo by Pam LeBlanc

Thanks to Our Corporate Sponsors

Schlumberger

WALTER OIL & GAS CORPORATION

ConocoPhillips

Roxanna

drillinginfo
better, faster decisions

TGS

THUNDER EXPLORATION, INC.

Monday, May 8, 2017

Westchase Hilton • 9999 Westheimer
Social Hour 5:30–6:30 p.m.
Dinner 6:30–7:30 p.m.

Cost: $45 Preregistered members; $50 non-members/walk-ups

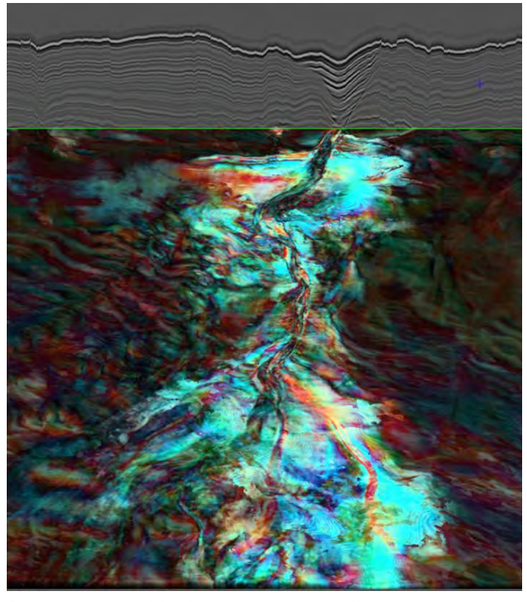
To guarantee a seat, pre-register on the HGS website & pre-pay by credit card.
Pre-registration without payment will not be accepted.
Walk-ups may pay at the door if extra seats are available.

If you are an Active or Associate Member who is unemployed and would like to attend this meeting, please call the HGS office for a discounted registration cost. We are also seeking members to volunteer at the registration desk for this and other events.

Andrew S. Madof
Chevron Energy Technology Company
Houston, TX
andrew.madof@chevron.com

Frequency, Amplitude, and Phase: Re-integrating Geophysics for the Next Frontier in Seismic Stratigraphy

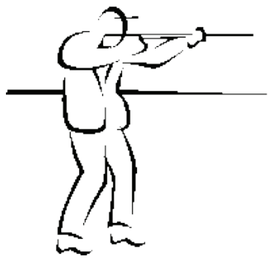
Conceptual and practical separations remain between the way geophysicists and stratigraphers use seismic data. Geophysicists regularly use frequency, amplitude, and phase to better understand the subsurface, whereas seismic stratigraphers use external forms and reflection terminations and configurations to decipher the evolution of sedimentary deposits. However, bridging these gaps is crucial to successfully and accurately characterizing geology, particularly in complex settings. Here, I introduce an integrated methodology that uses three fundamental wave-trace components (frequency, amplitude, and phase) to better understand the subsurface. I build on the fundamental concepts of interpreting reflection terminations by incorporating the effect of dominant frequency and bandwidth, as well as phase angle, to better interpret 2-D and 3-D seismic data. Based on my results, I caution against the current practice of interpreting seismic images as three-dimensional photographs, and of classifying seismic stratigraphy through subdivisions that surpass the geophysical limits of available data. My integrated approach facilitates the development of multiple working hypotheses through quantifying data limitations. I achieve these goals by testing seismic stratigraphic interpretations via simple forward synthetic models. Only through an inclusive "back-to-basics" approach will an integrated geological and geophysical analysis better address future stratigraphic challenges in exploration and reservoir management. ■



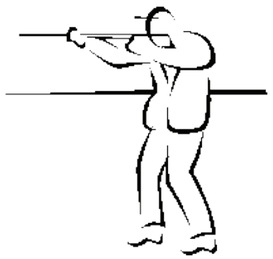
Spectral-decomposition image of a weakly confined deep-water system from the Eastern Mediterranean, showing high-frequency channelized sandy turbidites that are represented by high-amplitude (cooler) colors. Based on frequency content, these deposits are presumed to be thin-bedded. The darker (warmer) colors, located lateral to the deep-water system, represent lower frequency muddy turbidites and hemipelagites that are interpreted to be massive and thick on the basis of frequency distribution.

Biographical Sketch

Andrew S. Madof is a stratigrapher with over 10 years of experience in seismic interpretation, subsurface mapping, attribute analysis and geophysics. He is currently a senior seismic stratigrapher in the Seismic Stratigraphic Interpretation group, a team created by Henry Posamentier, in the Energy Technology Company at Chevron. Andrew's expertise is in both clastic and carbonate settings, specifically in non-marine, shallow marine, and deep water environments. He has worked on research, exploration, and reservoir management projects worldwide. Andrew's primary interests are in the tectonic and climatic controls on accommodation and in the integration of geology, geophysics, and petrophysics. Prior to coming to Chevron in 2010, Andrew completed a PhD at Columbia University under Nicholas Christie-Blick, where his dissertation focused on the tectonic controls on clastic deposition in the Book Cliffs of western Colorado, and in the offshore Gulf of Mexico.



HGS SKEET SHOOT



Saturday, June 10, 2017
Greater Houston Gun Club
6702 McHard Road, Missouri City

This tournament is a 50 target event. Shells are provided, however **you must bring eye and ear protection**. Greater Houston Gun Club and National Skeet Shooting Association safety rules will be in effect. Trophy winning shooters will be determined by the Lewis class system. Door prizes will be awarded by blind drawing after the conclusion of shooting. All competitors are automatically entered into the door prize drawing, but you must be present at the time of the drawing to win. BBQ lunch will be provided from 11:30 until 1:30. Refreshments will be available throughout the day.
Non-shooting guests are welcome to enjoy lunch and refreshments at a cost of $20 per guest.

HGS recognizes that 2017 is a lean year in the oil patch, and sponsorship for events like this is hard to find. **For $150, you'll receive paid entry for one shooter and one guest (total value of $120) and be listed as a platinum sponsor on the webpage and at the event.**

We are limited to 160 shooters in four rotations. Entry fee is $90 per shooter for registrations received by FRIDAY, JUNE 02. After June 02, registration will be strictly on a "space available" basis and the entry fee will be $120 per shooter. Register early!!

For more information, contact: Gready Hunter at (281) 384-9035 or greadyhunter@comcast.net

For directions to the club, visit www.greaterhoustongunclub.com.

ONLINE REGISTRATION INFORMATION AT: www.hgs.org/civicrm/event/info?id=1643

To pay by credit card, please call the HGS office, (713) 463-9476.
To pay by check, mail this form with a check made out to HGS to:
Houston Geological Society, 14811 St. Mary's Lane, Ste. 250, Houston, TX 77079

Name: _____ Company: _____

Email: _____ Phone: _____

Preferred time: (circle one) 9:00 10:00 11:00 12:00 Ammo: (circle one) 12 gauge 20 gauge

Entry Fees: $ _____ + Guest Fees: $ _____ + Sponsor Contribution: $ _____ = Total: $_____

If you wish to register as a squad, please return forms for all squad members together.

ALL SHOOTERS WILL BE REQUIRED TO SIGN A DISCLAIMER OF RESPONSIBILTY BEFORE THEY WILL BE ALLOWED TO SHOOT!

HGS SKEET SHOOT

Saturday, June 10, 2017
Greater Houston Gun Club
6702 McHard Road, Missouri City

CAP SPONSOR $1,000.00 - SOLD
Registration for a Team of 5
Company recognition on the HGS website, *Bulletin* and event

LUNCH SPONSOR $1,000.00 - SOLD
Registration for a Team of 5
Company recognition on the HGS website, *Bulletin* and event

BEVERAGE SPONSOR $750.00
Registration for 2 team members
Company recognition on the HGS website, *Bulletin* and event

AMMO SPONSOR $750.00
Registration for 2 team members
Company recognition on the HGS website, *Bulletin* and event

FIELD SPONSOR $750.00
Registration for 2 team members
Company recognition on the HGS website, *Bulletin* and event

FLURRY SPONSOR $750.00
Registration for 2 team members
Company recognition on the HGS website, *Bulletin* and event

PLATINUM WEBSITE SPONSOR $150.00
Registration for 1 shooter and 1 non-shooting guest
Company recognition on the HGS website, *Bulletin* and event

To pay by credit card, please complete the form and return to office@hgs.org or call 713-463-9476.
To pay by check, mail this form with a check made out to HGS to:
Houston Geological Society, 14811 St. Mary's Lane, Ste. 250, Houston, TX 77079

Name: _____ Company: _____

Email: _____ Phone: _____

Sponsorship Level: _____ Amount: _____

Credit Card #: _____ Exp. Date: _____ Code: _____

For more information, contact: Gready Hunter at (281) 384-9035 or greadyhunter@comcast.net
For directions to the club, visit www.greaterhoustongunclub.com.

Applied Geoscience Conference

SOUTHWESTERN ENERGY • 10000 ENERGY DRIVE • SPRING, TX 77389

November 8-9, 2017

Unconventional Geomechanics

Please join us for the Houston Geological Society's premier two day technical conference, focusing on geomechanical integration and advancement in the assessment of unconventional reservoirs.

The program will highlight field examples of geomechanical workflows, with sessions focusing on Unconventional Geology & Geophysics, and Integrated Workflows & Engineering Design.

Wednesday AM	Session 1	- Geomechanical Characterization
Wednesday PM	Session 2	- Engineering Applications
Thursday AM	Session 3	- Surveillance and Diagnostics
Thursday PM	Session 4	- Case Studies

Sponsorship Opportunities	Platinum Sponsor $10,000	Gold Sponsors $5,000	Silver Sponsors $2,500	Bronze Sponsor $1,000
Advertisement in Program Book	Full Page	1/2 Page	1/4 Page	1/8 Page
Complimentary Full Registrations	4	2	1	
Complimentary Vendor Booth	✔	✔	✔	
Recognition in Program Book, onsite signage, HGS Bulletin	✔	✔	✔	✔
Recognition in conference announcements and website with logo hyperlink	✔	✔	✔	✔
*Booths/Posters	Assigned on first come, first serve basis with confirmation of payment			

swn Southwestern Energy®

devon

For more information please visit: www.hgs.org or contact Andrea Peoples: andrea@hgs.org

Wednesday, May 10, 2017

Black Lab Pub, Churchill Room • 4100 Montrose Blvd.
Social Hour 5:30–6:30 p.m.
Dinner 6:30–7:30 p.m.

Cost: $30 Preregistered members; $35 non-members/walk-ups

To guarantee a seat, pre-register on the HGS website & pre-pay by credit card.
Pre-registration without payment will not be accepted.
Walk-ups may pay at the door if extra seats are available.

If you are an Active or Associate Member who is unemployed and would like to attend this meeting, please call the HGS office for a discounted registration cost. We are also seeking members to volunteer at the registration desk for this and other events.

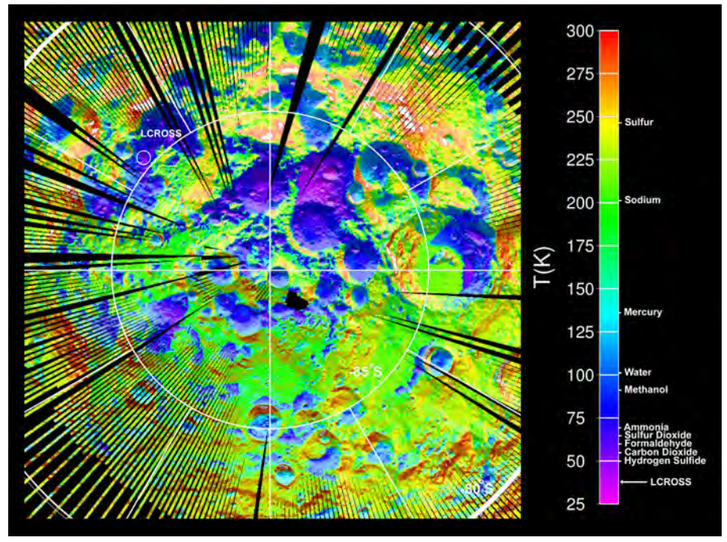
William A. Ambrose
Bureau of Economic Geology,
Jackson School of Geosciences,
The University of Texas at Austin, Austin, TX

ETHICS MOMENT

We will dedicate 15 minutes at the beginning of each meeting to ethics to apply towards 0.25 hours of ethics credit.

The Moon: Stepping-Stone to the Planets

Although a human mission to Mars is the focus of much current discussion, a host of technical challenges for safe and successful future human settlement of Mars have yet to be addressed. These challenges include (1) risks of ionizing radiation during long-term transit in interplanetary space, (2) aerobraking in the Martian atmosphere with potential Mars lander instabilities, (3) surface-radiation and weather hazards, and (4) resource extraction. These challenges can be quickly and more cost-effectively addressed with lunar missions that involve similar tasks to those on Mars—construction of living facilities, in situ resource utilization (ISRU), and protection from radiation both during transit and residence. Technology for shallow-subsurface habitations to reduce radiation and temperature flux has already been developed for the Moon. These habitations include inflatable dome structures and sinterhabs composed of lunar regolith fabricated on the lunar surface. Other shallow-subsurface habitations can be located in collapsed lava tubes, both of which occur on the Moon and Mars. Stress testing of these habitats on the Moon can result in more resilient structures for Mars. Lessons learned from resource extraction on the Moon can also be applied to Mars. Ice exists on both the Moon and Mars and can serve as raw material for both breathing atmosphere and for rocket fuel. Lunar metals such as titanium, magnesium, and iron occur in basaltic mare and can be mined and extracted with currently available technology. Lunar orbital depots for fuel and life-support materials have benefits for mission economics and can also serve as temporary accumulation areas for materials transport to Earth's surface. Future advances in technology and planetary engineering on the Moon, a perfect proving ground, will offer humans a stepping-stone to Mars, ultimately leading to a sustained human presence in space. ■



Temperature map of the lunar south polar area in degrees Kelvin (T/K), including Lunar CRater Observation and Sensing Satellite (LCROSS) impact site, indicated by a small, white circle in the upper left part of the figure. Also shown are condensation temperatures for various volatile elements and compounds. Image courtesy of National Aeronautics and Space Administration.

HGS Environmental & Engineering Dinner *continued on page 13*

HGS Environmental & Engineering Dinner *continued from page 11*

Biographical Sketch

William A. Ambrose, P.G., is a Research Scientist at the Bureau of Economic Geology, the University of Texas at Austin, where he holds a Master of Arts degree in geological sciences. He is currently the principal investigator of the Bureau's STARR (State of Texas Advanced Oil and Gas Resource Recovery) program, past president of the Energy Minerals Division (EMD) of AAPG, chair of the EMD Coal Committee, and vice chair of the AAPG Astrogeology Committee. Mr. Ambrose's research interests in lunar geology include crater morphology and mapping secondary craters associated with large impact basins. Ambrose has given numerous presentations on planetary science at meetings of the LPSC (Lunar and Planetary Science Conference), GSA (Geological Society of America), and AAPG. He is Co-editor of GSA Special Paper 477, "Recent Advances and Current Research Issues in Lunar Stratigraphy" and AAPG Memoir 101 "Energy Resources for Human Settlement in the Solar System and Earth's Future in Space". His contact information is email: william.ambrose@beg.utexas.edu , telephone: 512-471-0258, address: Bureau of Economic Geology, The University of Texas at Austin, University Station, Box X, Austin, TX, 78713-8924.

Monday, May 15, 2017

Westchase Hilton • 9999 Westheimer
Social Hour 5:30–6:30 p.m.
Dinner 6:30–7:30 p.m.

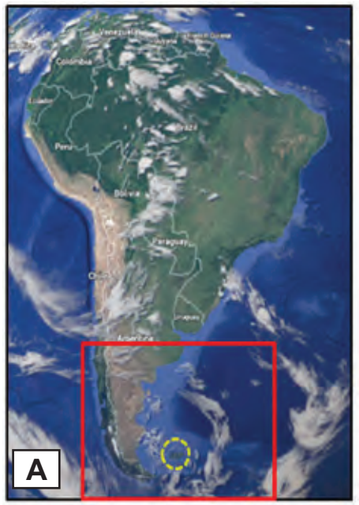
Cost: $45 Preregistered members; $50 non-members/walk-ups

To guarantee a seat, pre-register on the HGS website & pre-pay by credit card.
Pre-registration without payment will not be accepted.
Walk-ups may pay at the door if extra seats are available.

If you are an Active or Associate Member who is unemployed and would like to attend this meeting, please call the HGS office for a discounted registration cost. We are also seeking members to volunteer at the registration desk for this and other events.

Carmen M Fraticelli, Yusri Yusri, Don J Yezerski, Jessica A Mercer, Scotty Salamoff, Scott L Miller, and Robert Bunge

Exploring the Geologic Evolution of the Falkland Islands – Where Tectonics and Stratigraphy Merge



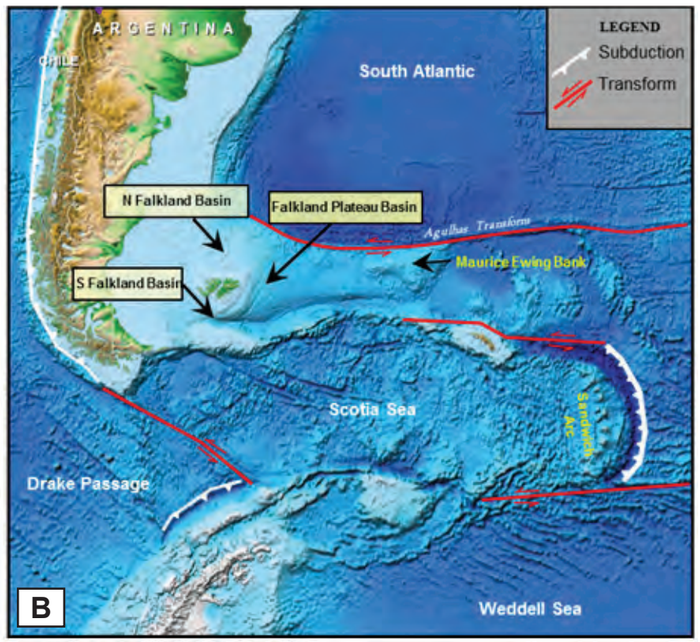
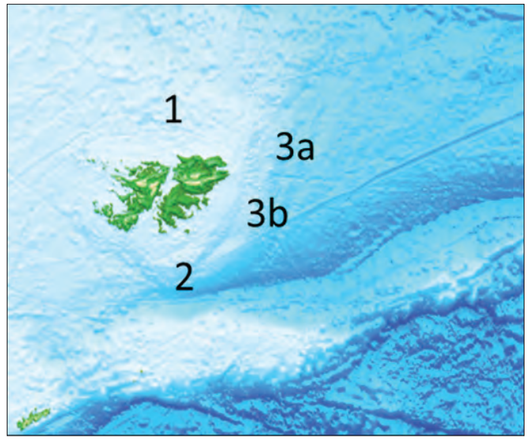


Figure A. *Satellite map of South America showing location of* **B**
Figure B. *Location map of Falklands Plateau Basin*

The Falkland Islands, an archipelago situated 620 km east of Argentina, are much more geologically complex than one would expect given their size (**Figures A, B, & C**). The region is an amalgamation of superimposed extension-compression cycles spanning hundreds of millions of years. The islands themselves are made up of Southern Gondwana remnants – lateral equivalents of the Cape Fold Belt and Karoo Basin – because, at the time of deposition and uplift, the Falkland microplate was positioned between South Africa and Antarctica. Deposition on the islands essentially ends in the Permian. However, Mesozoic and Tertiary rocks can be found throughout the offshore areas surrounding the islands. This talk will address the influence of this structurally complex history on the stratigraphy of the basins surrounding the Falkland Islands.

The offshore area is separated into 3 mega basins: the North Falkland Basin, made up of 2 sub-basins: the Falkland Plateau Basin (also made up of 2 sub-basins) and the South Falkland Basin (**Figure B**). These 5 basins are distinct and unique in both tectonic history and sedimentary fill. Because of this, knowledge from one basin is rarely applicable to another.

The North Falkland Basin (NFB) is an intracratonic failed rift associated with the opening of the South Atlantic in the Early Cretaceous (**Figure 1**). The northern rift displays simple shear extension setting up a series of half graben structures. The basin fill here is similar to that seen in many rift basins, starting with fluvial and alluvial fan deposition evolving to lacustrine and eventually becoming marine. The lake widens and shallows



Gplates Portal http://portal.gplates.org/cesium/
Figure C. *Location map for Figures 1, 2, 3a and 3b*

through time, evolving from a balanced filled to an overfilled lake. It is generally accepted that the primary controls on lacustrine rift systems are tectonics and climate, which provide both the accommodation and the fill (water + sediment). The characteristics of the NFB are strikingly similar to equivalent plays in basins along both the South American and African margins. However, given the latitudinal range from Potiguar to Campos (or Gabon to Benguela), one would expect little similarity between the NFB lacustrine system and those in northern South Atlantic. In fact, we find the opposite to be true.

Current literature on the evolution of the Falkland Plateau Basin emphasizes the break-up of West Gondwana (~130 Ma) as the controlling tectonic event. In addition, most plate models maintain the integrity of the Falkland Plateau as an extension of Patagonia throughout the creation of the South Atlantic. Our regional analysis, based on extensive seismic coverage, illustrates that this interpretation is not compatible with observable structural elements, nor is the South Atlantic opening the primary tectonic event from which the basin characteristics are derived. The Falkland Plateau Basin is actually made up of two Mesozoic basins – the Volunteer and Fitzroy (**Figures 3a & 3b**). Seismic data reveal the remnants of an orogenic belt and associated foreland basin underlie the Mesozoic stratigraphy. It is the distribution of antecedent tectonic domains underlying these that gives rise to the uniqueness of each basin. The geometries of the receiving basins, the shelf to slope transitions, and the distribution of reservoirs all appear to be controlled by these earlier structural styles.

The Volunteer Basin (north) is associated with the portion of the Plateau that is underlain by an extension of the Cape Fold Belt (**Figure 3a**). Extensional faulting is apparent in seismic but is controlled by reactivation of antecedent thrust faults. Topographic highs caused by these pre-existing units strongly influence sediment fairways into the basin and result in shelf depositional systems that are detached from their deep-water counterparts by 10-40 km and resulting in two directional alignments of deep-water turbidites (NW – SE and SW -NE).

HGS International Dinner *continued on page 16*

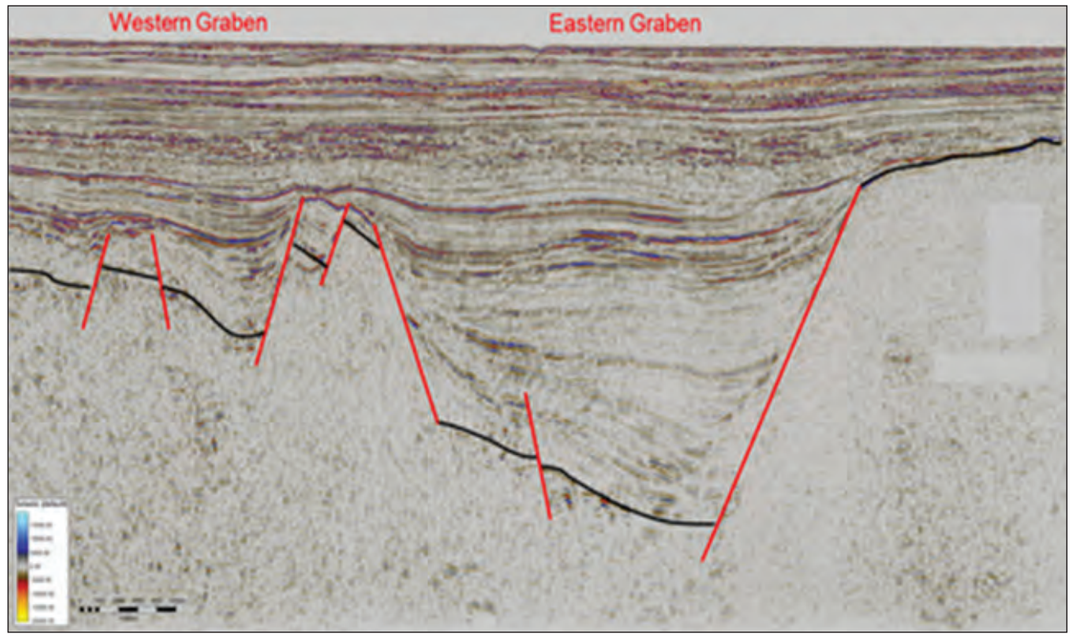


Figure 1. *North Falkland Basin Failed Rift System*

HGS International Dinner continued from page 15

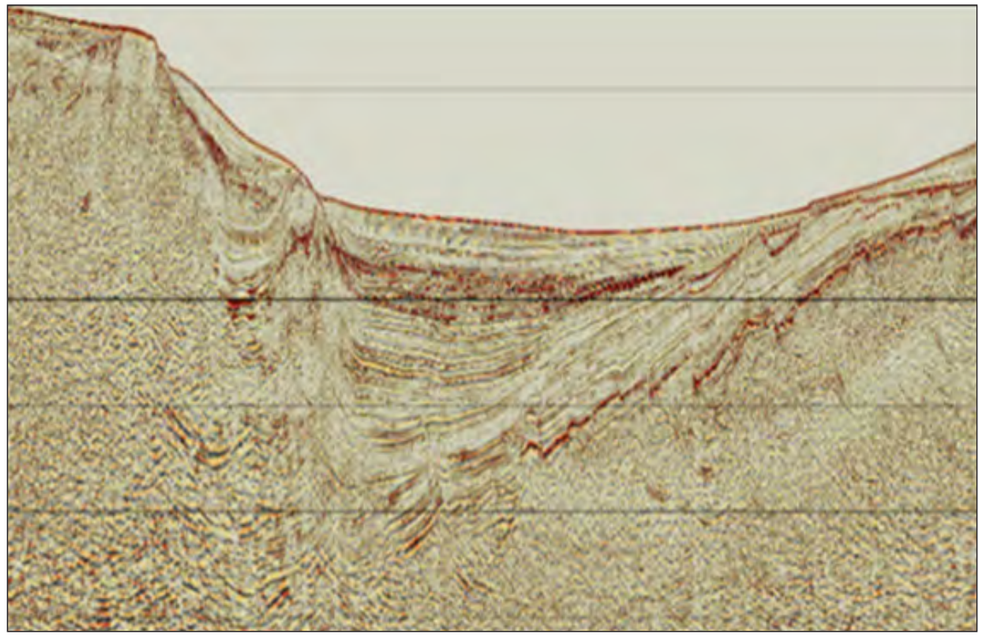


Figure 2. *South Falkland Basin Continent-Continent Collision*

The Fitzroy Basin (central) was created in the portion of the Plateau that is underlain by Karoo equivalent foreland basin deposits (**Figure 3b**). It displays many characteristics of a typical passive margin with a series of Cretaceous (Berriasian – Cenomanian) prograding successions on the shelf linked to deep-water systems in the basin. Shelf successions are all strongly progradational and capped by major flooding surfaces resulting in shoreline regression on the order of 10's of km. Shelf margin units vary between successions from relatively thin, low angle clinoform packages displaying a strongly regressive pattern to thick, moderate angle clinoform packages displaying a dominantly aggradational pattern. The deepwater systems between successions vary from thin flat-lying units to ones with strong compensational stacking and evidence of levees to erosionally confined channel belt packages with no visible levees.

Subsequent tectonic events again modified the Falkland Plateau in the Late Cretaceous. A previously unidentified compressional event transforms the two Mesozoic basins (Volunteer and Fitzroy) into a single Tertiary basin (**Figures 3a & 3b**). Sedimentation from the Falkland Islands is dramatically reduced and sediments are sourced from a seemingly unrelated, and unidentified, provenance. Characteristics of these Late Cretaceous to Eocene units are distinct from those of the underlying Mesozoic system. This compressional event plays an important role in reservoir quality and petroleum systems risk along the Falkland Plateau.

In frontier basins, heat flow predictions often rely on crustal thickness estimates derived from gravity inversion. Such analyses on the Falkland Plateau concluded that the continental crust must thin to zero, based on >12 kms of post rift fill. A basin with no continental crust is inherently cooler than one in which continental crust still exists, thus it was concluded that Fitzroy Basin was cooler than the Volunteer Basin. However, recent exploration wells have shown that both these basins are significantly warmer than predicted. The underlying assumption in gravity inversion is that the current bathymetry and thickness of post-rift fill in a basin can be used to calculate the degree of crustal thinning via isostatic relationships. However, on the Falkland Plateau, only part of the accommodation filled by sediments is attributable to crustal thinning. Starting in the Late Cretaceous accommodation was created by tectonic loading of the Falkland plate. Including this late stage sediment fill in the gravity inversion, calculations resulted in models of basins with much cooler temperatures, whereas in reality, the crust is significantly thicker, making the basins warmer, raising the level of the oil window, and elevating quartz cementation risk. Although a useful tool, gravity inversion is less reliable when the sediment thickness is the result of tectonics beyond just crustal thinning. In frontier exploration, using crustal thickness results from gravity inversion before one fully understands the structural evolution of a basin can lead to errors in basin modeling and diagenesis prediction.

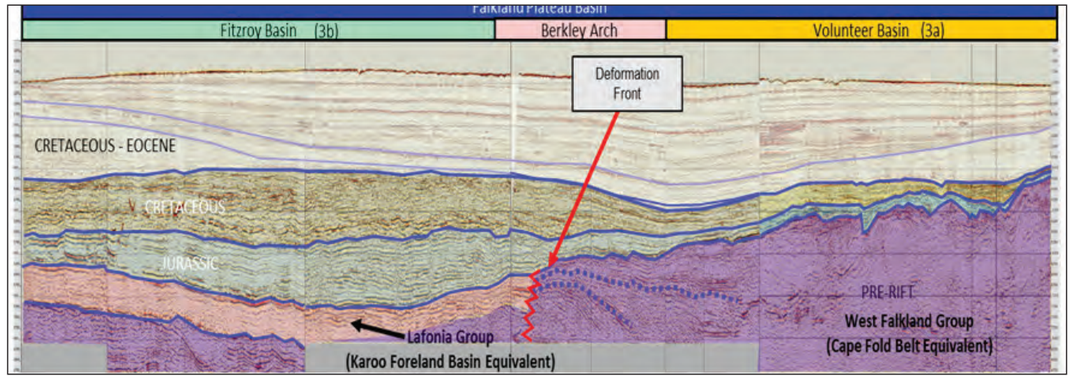


Figure 3b. *Antecedent Foreland, Loaded Plate in Fitzroy Basin (above left)*

Figure 3a. *Falkland Plateau Basin Antecedent Thrust Belt in Volunteer Basin (above right)*

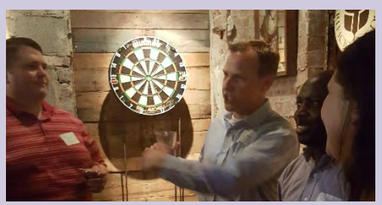
In the South Falkland Basin, the dominant tectonic events post-date deposition of the Mesozoic section (**Figure 2**). In the Cretaceous, it too displays many characteristics of a typical passive margin. However, in the Eocene South America and Antarctica separated and the Scotia Sea was created. The exact mechanism by which it formed are still debated, but many of the islands along both its northern and southern boundary are thought to be sheared remnants of the originally joined continents. The southern basin visible today is the result of the collision between Burdwood Bank and the southern Falkland Island. Seismic traverses clearly show a Tertiary fold and thrust belt which strongly overprints the original Mesozoic passive margin.

Biographical Sketch

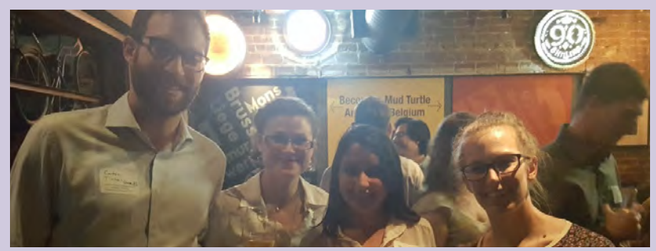
Carmen M. Fraticelli has spent over 16 years in the oil and gas industry. Since 2014 she has worked for Noble Energy as a Geologist Advisor, but has also worked for ExxonMobil, Imperial Oil (XOM affiliate), and Unocal spending much of her career in frontier exploration & research functions where integration of disparate datasets is critical. Besides the four basins of the Falkland Islands, she has also worked as a regional and petroleum systems geologist in Suriname, Eastern Canada, the Eastern Mediterranean, Canadian Beaufort & Banks Island, Alaskan Beaufort, Offshore Angola, Brazil (Campos, Santos), Gulf of Mexico, Laptev Sea, Mahakam Delta, Anadarko Basin, and Caspian Sea. She has a Master's degree from Louisiana State University and a Doctorate from Rice University.

She has served on the Technical Program Committee for both 2016 AAPG ACE (Calgary) and 2017 AAPG ACE (Houston) and as co-convener of the 2014 Hedberg Conference Latitudinal Controls on Stratigraphic Models and Sedimentary Concepts. She also currently serves on two AAPG committees (Research and Education), in addition to past service on AAPG's Technical Advisory, Student Expo, and Publication's Committees.

NeoGeos Pop-up Networking Happy Hour
Hosted with AAPG YP 2/23/2017 at the Hay Merchant



Scott McWhirter, Account Manager, Terra Guidance. Topic: Well Operations.



Tuesday, May 16, 2017

Southwestern Energy Conference Center, 10000 Energy Drive, Spring, TX 77389
Social 11:15 a.m., Luncheon 11:30 a.m.

Cost: Active/Associate Members - $30, Emeritus/Life/Honorary - $25

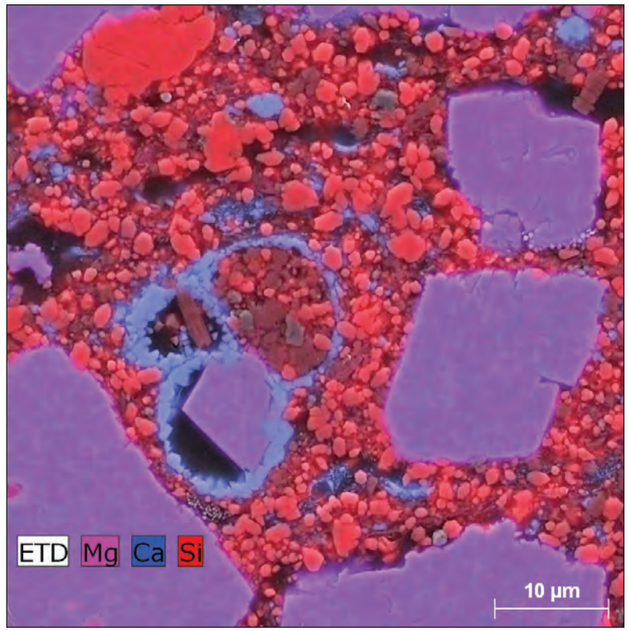
Students who are members of HGS - $10, Non-members - $40

To guarantee a seat, pre-register on the HGS website & pre-pay by credit card.
Pre-registration without payment will not be accepted.
Walk-ups may pay at the door if extra seats are available.

If you are an Active or Associate Member who is unemployed and would like to attend this meeting, please call the HGS office for a discounted registration cost. We are also seeking members to volunteer at the registration desk for this and other events.

Kitty Milliken
Bureau of Economic Geology
Jackson School of Geosciences
University of Texas at Austin

Mudrocks (Shales, Mudstones) at the Scale of Grains and Pores: Current Understanding



The fine-grained sediments and rocks that constitute most of the sedimentary record have received tremendous research attention in the past decade. This talk summarizes current knowledge of the diagenetic processes that drive the evolution of bulk rock properties of mud in the subsurface and reviews some of the technologies that have supported these advances. Electron microbeam instrumentation has been central to improving our understanding of fine-grained materials. In particular, improvements in resolution offered by field-emission electron guns and advances in sample preparation by various ion-milling techniques have allowed researchers to see tiny grains and pores in unprecedented detail. Grain assemblages in mudrocks vary across a very broad compositional range and the beginning compositions in muds have significant implications for the evolution of properties relevant to reservoir quality in mudrocks. It is now clear that the principal diagenetic processes of sandstones and limestones, compaction and cementation, also operate in mudrocks. Research efforts to quantify the roles of compaction and cementation are central in the quest to refine a predictive understanding of the evolution of mudrock properties in the subsurface. ■

Biographical Sketch

Kitty L. Milliken received a BA in geology (1975) from Vanderbilt University and MA (1977) and PhD (1985) degrees from the University of Texas at Austin. She is now Senior Research Scientist at the Bureau of Economic Geology. Her research focuses on the diagenesis of siliciclastic sediments and the evolution of rock properties in the subsurface. She has authored and co-authored around 90 peer-reviewed papers, over 100 abstracts, and also digital resources for teaching petrography. She served as Associate Editor of the *Journal of Sedimentary Research* (1993-2000) and as Co-Editor (2004-2008). She was elected a Fellow of the Geological Society of America (2008) and President of SEPM (2014-2015). She has been recognized by the AAPG with the J. Ben Carsey Distinguished Lectureship (2005-2006), the Robert Berg Outstanding Research Award (2015), the Pratt Award (with co-authors) for best paper in the *Bulletin* (2015), and a distinguished lectureship in 2016-2017. Her current work is focused on the application of electron microbeam imaging and analysis to interpret chemical and mechanical histories of mudrocks (oil and gas shales).

Monday, May 22, 2017

Westchase Hilton • 9999 Westheimer
Social Hour 5:30–6:30 p.m.
Dinner 6:30–7:30 p.m.

Cost: $45 Preregistered members; $50 non-members/walk-ups

To guarantee a seat, pre-register on the HGS website & pre-pay by credit card.
Pre-registration without payment will not be accepted.
Walk-ups may pay at the door if extra seats are available.

If you are an Active or Associate Member who is unemployed and would like to attend this meeting, please call the HGS office for a discounted registration cost. We are also seeking members to volunteer at the registration desk for this and other events.

HGS North American Dinner Meeting

Michel Bechtel
Co-Owner and President
Blue Moon Exploration

"The Ike Dike" The Clock is Ticking… A Coastal Barrier System Protecting the Houston/ Galveston Region from Hurricane Storm Surge.

This talk will provide an update on the efforts to protect the economic engine of Texas and the United States, the Galveston Bay-Houston Ship Channel Area, from the ravages of a hurricane. This is a critical area where geology, oceanography, economics, and public policy merge. Every 13.6 years, we can expect a category 3+ hurricane to hit the upper Texas coast. Hurricane Rita landed at Sabine Pass in 2005. Three years later, Hurricane Ike came ashore at Bolivar Roads. Although "only" a Category 2 storm with 110 mph winds, this large storm was the third costliest in U.S. history with estimated damages of over $30 billion due to storm surge. This is an update on the progress of the "The Ike Dike", a coastal barrier system protecting the Houston/Galveston Region from hurricane storm surge.

Remember the clock is ticking…

There will be a film as well as a talk. ■

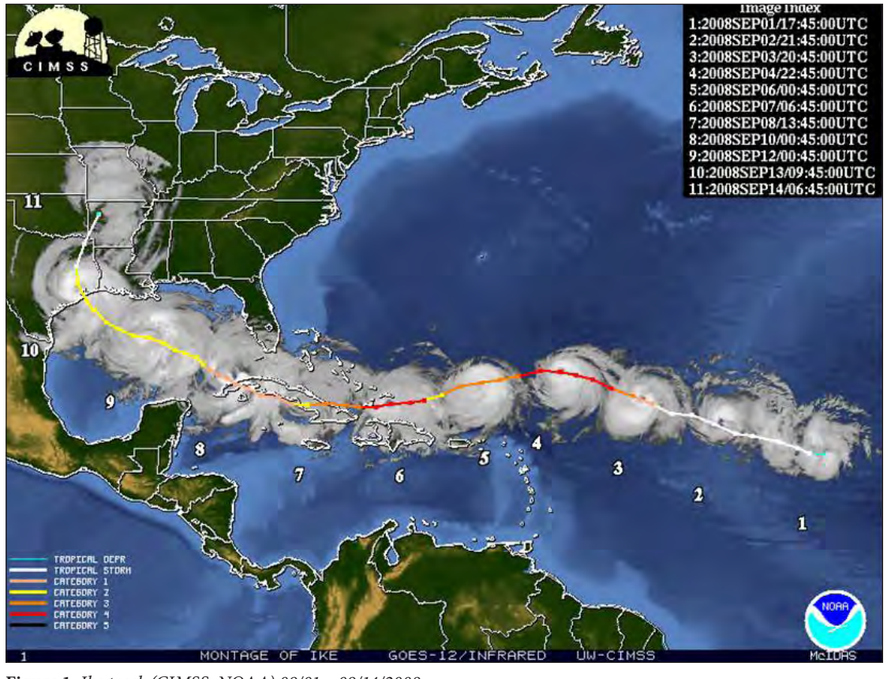


Figure 1. *Ike track (CIMSS, NOAA) 09/01 – 09/14/2008*

HGS North American Dinner Meeting

Biographical Sketch

Mr. Bechtel has more than 45 years of experience in the oil and gas industry, and 32+ years as an Independent managing his own exploration companies. Prior to founding Blue Moon Exploration in 1994 and Bechtel Exploration in 1984, his experience includes being Vice President of Exploration for Weaver Exploration, an Exploration Geologist for ODECO, and Geologist for U.S. Geological Survey and Pan Am Petroleum/Amoco. He is a member of the American Association of Petroleum Geologists, the Houston Geological Society, and New Orleans Geological Society. Mr. Bechtel holds a BS in Geology & Geophysics from Louisiana State University of New Orleans and a MS in Petroleum Geology from the University of New Orleans. Mr. Bechtel is very civic minded and is currently serving as the elected Mayor of the city of Morgan's Point, Harris County, Texas.

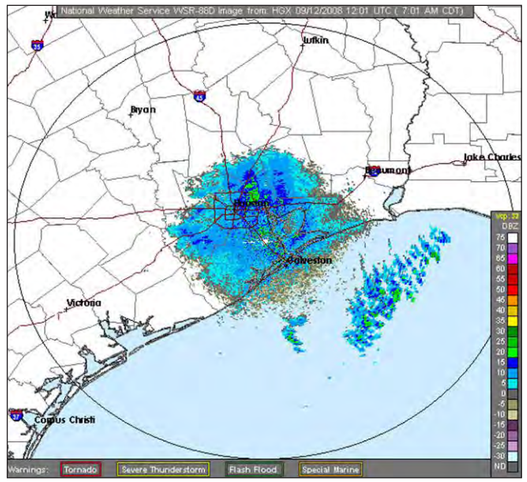


Figure 2. *Ike radar scan (NOAA) 09/12 – 09/13/2008*

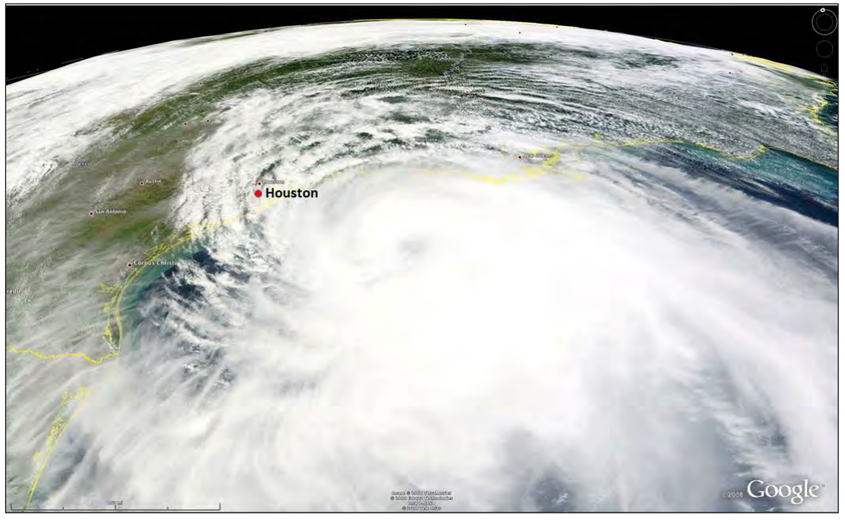


Figure 3. *Ike SSEC/CIMSS*

Figure 4. *Ike landfall*

Wednesday, May 24, 2017

Petroleum Club of Houston • 1201 Louisiana (Total Building)
Social 11:15 a.m., Luncheon 11:30 a.m.

Cost: $45 Preregistered members; $50 non-members/walk-ups

To guarantee a seat, pre-register on the HGS website & pre-pay by credit card.
Pre-registration without payment will not be accepted.
Walk-ups may pay at the door if extra seats are available.

If you are an Active or Associate Member who is unemployed and would like to attend this meeting, please call the HGS office for a discounted registration cost. We are also seeking members to volunteer at the registration desk for this and other events.

HGS General
Luncheon Meeting

Peter R. Rose, PhD
Rose & Associates, LLP
AAPG Distinguished Lecturer, 2015-17

Cognitive Bias, the "Elephant in the Living Room" of Science And Professionalism

WHY IS THIS IMPORTANT?

We depend upon modern Science to address and assess issues affecting the well-being of our Society. So it is essential that scientific results be as objective – free from Bias – as possible.

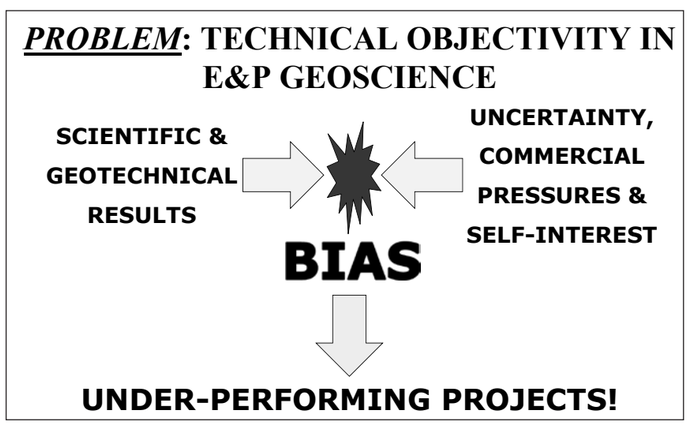
Accumulating research results show that Cognitive Bias is much more common in Science and Industry than previously realized -- and often not even examined-for.

Recent experience within the E&P sector has provided methods and experience for detecting and correcting Cognitive Bias that may be useful to other branches of Science.

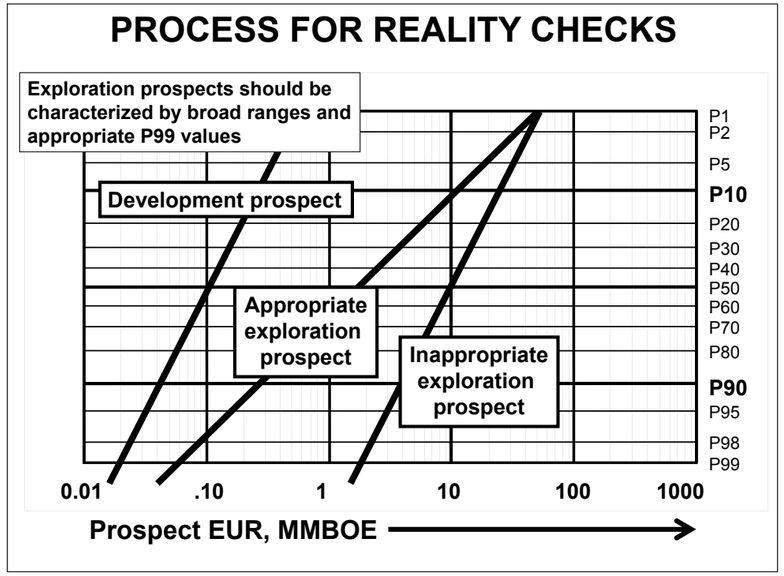
Cognitive bias, in its many manifestations, is the major cause of geotechnical overestimation and faulty probability forecasts in petroleum geoscience. The five most prevalent cognitive biases in petroleum E&P are: Confirmation Bias; Overconfidence; False Analogs; Anchoring; and Motivational Bias. They are caused by premature selection of theory, personal hubris, lack of perspective, lack of imagination, laziness, and excessive self-interest. Important influences include the existing organizational reward system, economic pressure for objective geotechnical results, and the anticipated consequences of project reviews and evaluations. In fact, the field of E&P Risk Analysis emerged during the 1980s to help identify and reduce bias in assessing the value of new plays and prospects. Companies that routinely utilize disciplined methods of Risk Analysis tend to deliver on their E&P promises.

Pioneering work by Nobel laureate Daniel Kahneman, his late colleague Amos Tversky, and others since the 1970s has made scientists much more aware of the dangers that Cognitive Bias pose for the practice of objective, reliable science. Even so, increasing awareness of obvious agenda-serving scientific publications, slanted peer review ("pal-review"), withholding of codes and formulae, unreproducible experimental results, and scientific fraud indicate that procedures to identify and limit Cognitive Bias are not being appropriately utilized throughout the scientific community. This is probably because many of the organizational and economic pressures routinely experienced by E&P geoscientists are not as intensely or widely operative within academic and governmental organizations.

The late physicist and Nobel laureate Richard Feynman recognized (1974) the danger of Cognitive Bias: "the first principle is that you must not fool yourself – and you are the easiest person to fool." Feynman knew that dedicated practice of the Scientific Method is the key to elimination of Cognitive Bias, recommending "a kind of scientific integrity, a principle of scientific thought that corresponds to a kind of utter honesty – a kind of leaning over backwards." A practical research approach familiar to many geoscientists is T. C. Chamberlain's "Method of Multiple Working Hypotheses", introduced in 1890. Also important is the separation of E&P activity into two essential and complementary components – 1) play and prospect generation; and 2) play and prospect risk assessment. Professionalism constitutes the conscious honoring of such principles.



Sound and objective science is essential to the continued progress of Society. Is it possible that methods widely applied by Petroleum Geoscience to identify and counter Cognitive Bias might also be useful to other branches of Science? ■



Biographical Sketch

Dr. Pete Rose (PhD, Geology, University of Texas, Austin) has been a professional geologist for 58 years, specializing in Petroleum Geology, E&P Risk Analysis, and Mineral Economics. Before going on his own in 1980 as an independent prospector and consultant, he worked for Shell Oil Company, the United States Geological Survey, and Energy Reserves Group, Inc, a small-cap Independent.

After 10 years as an internationally-recognized authority on economic risking of exploration drilling ventures, he founded Rose & Associates, LLP, in 1998. Pete retired in 2005; the firm continues as the global standard among consulting companies in that field, providing instruction, software and consulting services on an international scale.

Pete wrote the definitive geological monograph on the Edwards Limestone of Texas (Rose, 1972), and has continued related investigations to the present time. His 2001 book, Risk Analysis and Management of Petroleum Exploration Ventures, now in its 7th printing, is considered by many as the "Bible" on that topic, and has been translated into Chinese, Japanese, and Russian. He has authored or co-authored more than 80 published articles on an extremely wide variety of geological topics (Micropaleontology to Petroleum Economics). He was a Fellow of the Geological Society of America, the American Association for the Advancement of Science, and Geological Society of London.

In 2005 he was the 89th President of the American Association of Petroleum Geologists, an international organization that is the largest professional geological society in the world (>37,000 members).

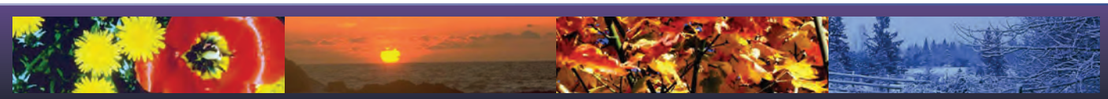
In 2006-07 he was a member of the National Petroleum Council, involved with their summary of the global energy situation, Facing the Hard Truths about Energy, and was also deeply involved in successful efforts to encourage the U. S. Securities and Exchange Commission to modernize its rules governing estimation and disclosure of oil and gas reserves, thus facilitating the investment component of the "shale revolution" in the U. S.

In 2013, the Geological Society of London awarded Peter R. Rose its prestigious Petroleum Group Medal for lifetime contributions to Petroleum Geology, the first American to be so recognized, and in 2014 the American Association of Petroleum Geologists honored him with its Halbouty Outstanding Leadership Award.

Pete is a 5th-generation Texan. He and his wife Alice have 5 children and 8 grandchildren, and divide their time between Austin and their El Segundo Ranch near Telegraph, Texas. In retirement, he took up a new career as a historian: in September 2012, Texas Tech University Press published his book, *The Reckoning: the Triumph of Order on the Texas Outlaw Frontier*, about the coming of Order and Law to the western Hill Country and Edwards Plateau regions of Texas (1873-1883). He is also well known for field trips he leads with Dr. Charles Woodruff into the Texas Hill Country that combine the topics of Geology, Wineries, and Frontier History.

HGS General Luncheon Meeting

May 2017 GeoEvents



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 **HGS Board Meeting** *6 p.m.*	3	4	5 **Don't wait, make your reservations online at hgs.org**	6
7	8 **HGS General Dinner Meeting** *"Frequency, Amplitude, and Phase: Re-integrating Geophysics for the Next Frontier in Seismic Stratigraphy," Andrew S. Madof* *Page 7*	9	10 **HGS Environmental & Engineering Dinner Meeting** *"The Moon: Stepping-Stone to the Planets," William A. Ambrose* *Page 11*	11	12	13
14	15 **HGS International Dinner Meeting** *"Exploring the Geologic Evolution of the Falkland Islands – Where Tectonics and Stratigraphy Merge," Carmen M. Fraticelli,* *Page 14*	16 **HGS Northsiders Luncheon Meeting** *"Mudrocks (Shales, Mudstones) at the Scale of Grains and Pores: Current Understanding," Kitty L. Milliken* *Page 19*	17	18	19	20 **2017 HGS Tennis Tournament** *Pine Forest Country Club Houston, TX* *Page 4*
21	22 **HGS North American Dinner Meeting** *"'The Ike Dike' The Clock is Ticking… A Coastal Barrier System Protecting the Houston/Galveston Region from Hurricane Storm Surge," Michel J. Bechtel, Page 20*	23	24 **HGS General Luncheon Meeting** *"Cognitive Bias, the "Elephant in the Living Room" of Science and Professionalism," Peter R. Rose* *Page 22*	25	26	27
28	29	30	31			

Reservations:

The HGS prefers that you make your reservations on-line through the HGS website at www.hgs.org. If you have no Internet access, you can e-mail office@hgs.org, or call the office at 713-463-9476. **Reservations for HGS meetings must be made or cancelled by the date shown on the HGS Website calendar, normally that is 24 hours before hand or on the last business day before the event**. If you make your reservation on the Website or by email, an email confirmation will be sent to you. If you do not receive a confirmation, check with the Webmaster@hgs.org. Once the meals are ordered and name tags and lists are prepared, no more reservations can be added even if they are sent. **No-shows will be billed.**

Members Pre-registered Prices:

Dinner Meetings members	$45
Emeritus/Honorary members	$40
Student members	$10
Nonmembers & walk-ups	$50
Except - Env. & Eng.	$30
Nonmembers & walk-ups	$35
Emeritus/Honorary members	$15

May 20, 2017
HGS Tennis Tournament
Pine Forest Country Club
Houston, TX., (Page 4)

June 10, 2017
HGS Skeet Shoot
Greater Houston Gun Club
Houston, TX (Page 8)

June 10, 2017
HGS Guest Night
Big Bones in Big Bend
Houston Museum of Natrual Science
Houston, TX (Page 6, 34)

August 18-22, 2017
AAPG Geosciences Technology Workshop
Astrogeology Total Solar Eclipse Field Seminar, Casper, WY

Aug 31- Sept 1, 2017
Africa Conference
London (Page 2)

November 8-9, 2017
HGS Applied Geoscience Conference
Geomechanics in Unconventionals
Houston, TX (Page 10)

AAPG House of Delegates Candidates

The House of Delegates of the AAPG is made up of delegates from affiliated societies and international regions throughout the world. They are selected by popular vote from within their respective areas and serve a three-year term.

Requirements of the delegates include:

- Familiarity with AAPG's Constitution and Bylaws
- Acquaintance with AAPG's current policies and programs
- Willingness to inform the leaders of their society or region regarding AAPG's program of activities, particularly as it relates to cooperative participation and service
- Ability to process AAPG Executive Committee requests for applicant information regarding membership eligibility
- Availability to serve on local certification committee to process Board of Certification requests for applicant information for AAPG Certification
- Willingness to actively solicit applications from eligible geologists for membership in AAPG

We are providing a brief informational summary of 18 candidates for the HGS delegation to the AAPG House of Delegates. A formal ballot will be sent to those eligible to vote by AAPG. Each voting member will be asked to vote for 11 individuals.

Michael A. Barnes

A candidate for reelection to the House of Delegates with plans, if elected to focus on methods of retaining and expanding membership within AAPG. My current activity involves research on Cretaceous trend production analysis in the quest for conventional prospects as an unaffiliated independent. Academic achievements include a BS degree in geology from The University of Texas in Arlington and minor degrees in biology and math. I hold three certifications, one as a State of Texas licensed professional geoscientist and one each from AAPG and SIPES. Active membership includes HGS, AAPG, SIPES and OEI. Employment history covers 49 years in Houston with Texaco, Mellon Energy, Sandefer Oil and Gas, Great Western Resources, Frontier Natural Gas, AAPG, Pines Exploration and consultancies with Wagner and Brown, Prime Natural Resources and Apache. Responsibilities for these companies include prospect generation, field development, prospect screening and serving as District Geologist, Exploration Manager and Vice President of Exploitation and Production. Professional related activities include continuing education, publications, volunteering and mentoring. I look forward to the challenge of contributing to the growth of The American Association of Petroleum Geologist.

Steven H. Brachman

AAPG & Affiliated Society Activities

Joined AAPG 1981
Member DPA, EMD

2016	Datapages, Inc. Board of Directors
2015-16	Vice President – Sections
2015	AAPG ad hoc committee on restructuring
2014	General chair, AAPG ACE, Houston, TX
2006-07	HGS President
2005-06	HGS President-elect
2006	Short course instructor, AAPG ACE, Houston, TX
2001-04	DPA Advisory Council
2000-05	AAPG mentor
2000	GCAGS Convention committee chair
1999-present	HoD delegate
1997-2001	HGS Finance Committee Chair
1995	Committee chair, AAPG ACE, Houston, TX
1993-94	HGS Secretary
1991-93	HGS Treasurer/Treasurer-elect
1988-91	HGS Personnel Placement committee chair
	AAPG Honors & Awards
2007	George C. Matson Award

Other Honors & Awards

Honorary Life Member – HGS
Distinguished Service – HGS

Career

2013-Present	Vice President of Development and Geoscience, Wapiti Energy, Houston, TX
2007-2013	Exploration manager, Petro-Hunt, Houston, TX
1997-2007	Division geologist, Pogo Producing Co, Houston, TX
1995-97	Senior geologist, Southwestern Energy, Houston, TX
1992-95	Geologist, Araxas Exploration, Houston, TX
1990-91	Senior geologist, Wintershall Energy, Houston, TX
1984-90	Senior geologist, SOHIO Petroleum/BP Exploration, Oklahoma City, and Houston, TX
1981-84	Development geologist, Gulf Oil Co, Oklahoma City, OK and Kilgore, TX

Academic Degrees

M.S., geology, Penn State University, University Park, PA
B.S., geology, Eastern Illinois University, Charleston, IL

Publications

Brachman, S.H., 2010, Thibodaux and Rousseau Fields, Oil & Gas Fields of South Louisiana, NOGS, pp.295-306.
Brachman, S.H., 2010, Lake Boeuf Southwest Field, Oil & Gas Fields of South Louisiana, NOGS, pp. 149-159.
Brachman, S.H., 2006, Integrated Approach Leads to Discovery in Mature Area, The American Oil & Gas Reporter, July Issue, pp. 141-145.

Maggie Dalthorp

Is currently working as a consulting geologist and has recently evaluated acquisitions in the SCOOP/STACK, Delaware, Williston and Gulf Coast Basins for clients. She is a SCOOP/STACK expert for Third Bridge Consultants, and teaches the Introduction to Petroleum Geology course for SPE and the Petroleum Investment Analysis course for Subsurface Consultants (SCA). Prior to consulting, she served as Exploration Manager for a Williston Basin operator, Murex Petroleum Corporation, where she was actively involved in assessing the Three Forks play. Her experience also includes running her own company, Moorhouse Associates, Inc. – a natural resource planning and oil and gas exploration company that generated prospects by shooting 3D seismic surveys in underdeveloped areas. Dr. Dalthorp also served as project manager for several watershed studies, pollution outreach activities and water planning projects both domestically and internationally. She began her career with Exxon Company USA and served in a variety of geological, exploitation and management roles working both onshore US and offshore Gulf of Mexico. Dr. Dalthorp holds a Doctorate in Coastal and Marine System Science from Texas A&M University - Corpus Christi, an MBA from Texas A&M University - Corpus Christi, and a Bachelor's in Geology from The University of Texas at Austin.

Maggie has been a member of HGS since moving to Houston in 2012. She gave a talk and chaired a session at the 2016 GCAGS meeting, and prior to moving to Houston, served as Secretary and Councilor for the Corpus Christi Geological Society. She has presented papers at AAPG conventions, served as a session chair and authored a book chapter for a joint AAPG-SEG publication "Hydrocarbon Seepage: From Source to Surface".

Sharma Dronamraju

Sharma Dronamraju, MS, MBA is Professional Geologist, worked for Petrobras USA, Marathon Oil, Halliburton, Landmark Graphics, Fugro, and ONGC for over 30 years of upstream oil and gas. Sharma earned his Masters in Applied Geology from Indian Institute of Technology, Master in Geology from Texas A&M University, College Station, and MBA from Rice University, Houston. He is a practicing Professional Geologist (TBPG#12543).

He was associated with some of the high-visibility deep-water developments in the Gulf of Mexico such as Lucius, Stones, and NakiKa; Offshore Nigeria such as Bonga, Usan, and Agbami; several exploration appraisals appraisals in GoM, deep-water Nigeria, Equatorial Guinea, and South China Sea; and onshore mature fields of varies tectonic settings, from Paleozoic to Early Tertiaries in Malaysia, Egypt, Iraq, Indonesia, Australia, Argentina, Colombia, Trinidad, Canada, and USA. His expertise lies in Regional Geology, Sequence Stratigraphy from regional to prospect scale, and Reservoir Modeling. He has worked on rejuvenation of mature fields, in several basins of the world.

Sharma has been an active member of Houston Geological Society, Vice-chair of International Explorationists, and been an active on Continuing Education Committee of HGS. He has been an Active Member and an AAPG Alternate on House of Delegates, a KEYS Mentor with Katy ISD, a Coach for Science Olympiad, and Judge at Future Business Leaders of America (FBLA), and a Volunteer Judge at the Science and Engineering Fair of Houston.

Mike Erpenbeck

Education:

B.S. Geology, San Diego State University 1977
M.S. Geology, Texas Tech University 1979
MBA, Finance, University of Houston 1990

Experience:

2013-present	Upstream Advisors Group - Consultant, Geologist - O&G Valuation and Field Development
1997-2013	Ziff Energy Group Manager U.S. Basin Studies, Consultant
1990-1997	UMC Petroleum, Revenue/Gas Balancing Accountant, Special Projects
1987-1990	Various Firms,Consulting Geologist/student pursuing Business Degree

AAPG House of Delegates Candidates *continued on page 28*

AAPG House of Delegates **Candidates**

AAPG House of Delegates Candidates continued from page 27

1983-1987 Hemus Oil &Gas, Manager of Geology
1981-1983 Pilgrim Exploration, Geologist
1979-1981 Texas Oil & Gas (TXO), Geologist

Summary and Statement:
I have performed various geological, engineering, and financial functions throughout my 35 year oil and gas career. I spent 10 years finding and developing small fields as a geologist for small independents. For 15 years I conducted and lead a wide range of technical and economic analyses in O & G as an upstream benchmarking expert and leader for an international management consulting firm. I am currently performing reserves valuations, and generating prospects in the Bend Arch area of the Fort Worth Basin. I am a Director on the HGS Board and have served previously as Treasurer to the Society, as well as Treasurer for the 2015 GCAGS Convention. As a past Chair of the Office Management Committee, I am well acquainted with administrative, personnel, and financial functions of the Society, and have served on several other HGS Committees. I enjoy serving my industry as a volunteer, and my experiences have given me insights in governance issues within our professional societies. I would welcome the opportunity to represent the interests of the Houston area petroleum geologists as Delegate to the AAPG.

Meredith Faber

Born and raised in Texas, Meredith attended Trinity University in San Antonio where she joined AAPG as a student member in 2003. She graduated with a Bachelor of Arts degree in English and a Bachelor of Science degree in geosciences in 2005.

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

After graduation, Meredith joined Swift Energy Company in Houston, Texas, to work in exploration in onshore South Texas. Meredith moved to Noble Energy in 2014 and currently works in the Marcellus Business Unit. She credits AAPG with providing the opportunities that resulted in her present career path and considers it a privilege to give back to the Association by serving as the Young Professionals Special Interest Group co-chair and as a House of Delegates alternate for the Houston Geological Society. In addition to AAPG and HGS, she is a member of GSA, SEG and the Phi Beta Kappa Society.

Why I Accepted the Invitation to Stand as a Candidate for the AAPG House of Delegates:
Since joining the AAPG Young Professionals (YP) Committee (now Special Interest Group) in 2008, I have had the opportunity to witness firsthand the growing emphasis the Association has placed on YP involvement. It has been an honor to assist standing AAPG Committees in acquiring YP volunteers, inform the membership of ongoing initiatives and events in the YP community through the AAPG Explorer ProTracks column, lend a YP perspective to the planning and execution of Annual and Section meetings, represent the HGS and YPs as a House of Delegates alternate and help develop future YP leaders at the Young Professionals Leadership Summit (YPLS). It is both an exciting and, given the current economic environment, tenuous time for YPs in industry and I feel that I could be of greater service to the YP demographic, and the Association membership at large, if I continued to serve a role in the governance of AAPG. It is with considerable appreciation and pride, therefore, that I accept the nomination to stand as a candidate for the AAPG House of Delegates. I have had the privilege to participate in a House of Delegates meeting as an alternate and, if the membership will permit me, I would like to build upon that experience by serving as a Delegate.

Inda Immega

I have served as an AAPG delegate, usually as an elected alternate, since the 80s, so I am aware of the issues that come before the House. I am retired from Shell and volunteer as a geology docent for the Houston Museum of Natural Science. I have the time and experience to do a good job representing the HGS.

Sean Kimiagar

Education
M.S. Petroleum Geology, University of Texas at Arlington (2013)

Experience
Geology Analyst – Detring Energy Advisors (2017 – Present)
Geoscientist & Director of Business Development – C&C Reservoirs (2015 – 2017)
Geologist & Earth Modeler – Halliburton (2013 – 2015)

Professional Affiliations
HGS, AAPG, SEG, SPE

Professional Activities
GCAGS Treasurer and Board Member (2015 – 2016)
AAPG (DEG) Secretary-Treasurer (2015 – 2016)
HGS NeoGeos Chair (2014 – 2016)
HGS Finance Chair (2013 – 2015)
AAPG HoD Alternate Delegate (2014 – 2017)

Statement
I am delighted to have been asked to stand for election for AAPG House of Delegates, to represent Houston. Before my career ever truly began, AAPG became a large part of my life. Participating in AAPG Student Chapter Leadership Summits, Young Professionals Leadership Summits, HoD local and annual meetings as an Alternate Delegate, as well as many other opportunities to serve the society have enriched my professional and personal lives immensely. Representing my Houstonian friends and colleagues and indeed the entire AAPG membership at the House of Delegates, would be an important responsibility and an honor I look forward to.

April Parsons

Education:
M.S. Geology, University of Texas at Arlington, 1990
B. S. Geology, University of Texas at Arlington, 1984

Experience
2013-Present Cobalt International Energy, Senior Exploration Geologist
2008-2013 Statoil, Leading Geologist
2005-2008 Spinnaker/Hydro GOM, Senior Explorationist
1999-2005 Coastal/El Paso, Principal Geologist
1997-1999 Statoil, Senior Geologist
1990-1997 Marathon Oil Company, Geologist

Professional Affiliations
AAPG, Houston Geological Society, Alaska Geological Society
Texas Professional Geoscientists License #2410

Professional Activities:
AAPG Grants in Aid Committee 2010-present
AAPG House of Delegates 2014-present

Statement
It has been an honor to serve on the AAPG House of Delegates and represent the Gulf Coast region. I have enjoyed the friendships I have made and gained an understanding of the issues impacting APPG. I would very much like to continue my service using the knowledge I have gained during my tenure to advance the organization and help it to remain strong and vibrant through these challenging times in our industry.

James V. Richards

Exploration Manager
Sola Oil and Gas, LLC

Education
Ysleta High School, El Paso Texas
University of Texas Austin, Texas BS in Geology
University of Texas Austin, Texas Post Graduate Study

Experience
57 Years in Oil and Gas Exploration
Certified AAPG Petroleum Geologist
Licensed Professional Geoscientist State of Texas #5845
Houston Geological Society, Executive Board 1996-1997
Present and Longtime AAPG Delegate
Past Treasurer of SIPES, Houston Chapter
Past Board Member University of Texas Jackson School of Geoscience Alumni Group
Texas Offshore Geological Manager King Resources Company and Coastal States Gas Producing Company, Houston, Texas and Area Geologist for Coastal States in Abilene, Texas and Lafayette, Louisiana Founding Director of Louisiana Offshore Ventures. Managed Weeks Petroleum Houston Office
(later became Santos U.S.A.)

Military Service
Retired Commander in the U.S. Navy with 20 years active and reserve service.

Anthony Salem

Anthony Salem (Tony) is a Structural Geologist with the Integrated Geosciences Research Team at Shell International Exploration and Production, Inc. in Houston. He has been an Active Member of AAPG since 2008 and has served as an Alternate in the House of Delegates and in the Visiting Geoscientist Program, both since 2015. Tony has been with Shell since 2009, with over 5 experience as a Production Geologist, working in deepwater Gulf of Mexico and onshore US unconventional plays. Tony has been his current role

AAPG House of Delegates Candidates *continued on page 30*

AAPG House of Delegates Candidates continued from page 29

with Shell since 2015, and provides structural geology expertise to exploration and development assets. Current research interests include natural fracturing in unconventional shales, static and dynamic fault seal potential and fold and thrust belt interpretation. Tony holds BS and MS degrees from Arizona State University in Tempe and a PhD from the University of New Mexico in Albuquerque, where he specialized in structural geology and tectonics. Tony lives in Houston where, when he's not working, enjoys spending time with his family and friends, and most anything that gets him outside. ■

Judy Schulenberg

It would be an honor and privilege to serve the HGS as a member of the AAPG House of Delegates. I have worked in the oil industry for 30 years with experience in both conventional and unconventional plays, beginning with Amoco, Geophysical Development, Geoquest, GeoGraphix and Landmark. I worked the last 15 years first with Swift Energy followed in 2008 by Southwestern Energy, as G&G supervisor and then in Training and Development. I am AAPG certified in both Geology and Geophysics. During a previous downturn, I was employed as a contract landman and as the lead litigation and technical assistant on a lawsuit concerning the Valdez oil spill.

I'm active with University of Houston (where I received my degree in Geology with Geophysics option), have worked on the HGS short courses committee and am currently serving on the Calvert Foundation Scholarship Board (secretary). At the University of Houston, I was a founding member of the College of Natural Science and Mathematics Alumni Organization and served that group as Scholarship Committee chair for several years. During my tenure there, we raised over one million dollars to endow student scholarships through the Quest for Excellence Gala. I continue my involvement with UH working with the College of Natural Sciences and Mathematics to develop a program of "soft skills" short courses to help students in their career quests. I have taught Landmark, Geographix and Unix courses at North Harris Community College (now Lone Star), helping both young professionals and senior interpreters get up to speed with new technologies to improve their chances for employment and/or promotion. ■

Skyler Smith

Skyler Smith works as the Senior Geoscientist for Foothills Petroleum. He conducts exploration and geologic mapping of prospects and producing properties in the onshore and deep-water environment. Skyler additionally participates in ongoing drilling projects via geologic mapping, seismic analysis and support for the onsite geologist. He advises the company on geologic reservoir mapping volumes, basin trend extensions and rock mechanics in conjunction with seismic attributes. He advises company management on partner generated geologic mapping accuracy and participates in offsite technical meetings. He counsels company management on geologic risk assessment of in-house generated exploration and development projects as well as non-operated deals.

Skyler's career began with Eni Petroleum in Houston, as an exploration geoscientist working new venture exploration of the ultra-deep water Gulf of Mexico. He specialized in Miocene and Jurassic exploration.

Smith is active in various professional organizations, including the American Association of Petroleum Geologists, the Houston Geologic Society, the Society of Exploration Geophysicists and Young Professionals in Energy. In addition, he serves at the Secretary Treasurer of the Division of Environmental Geology of the AAPG.

Smith graduated from Texas Tech University with a B.Sc. in Geosciences (Geology) (2011). His extracurricular activities at the university included membership Vice President of Alpha Phi Omega community service fraternity, Texas Tech Geological society and the AAPG. Skyler Graduated from the University of Texas at Arlington with a M.Sc. in Petroleum Geology (2013). His research focused on prediction of fracture density in rock bodies from elastic parameters. ■

Sarah Stanley

Why I want to serve in the Houston House of Delegates

It has been my great honor to serve in the Houston Geological Society's AAPG House of Delegates as a member, and this past year as the Houston HoD Foreman. These are challenging times for the AAPG and for all geoscientists. Houston, as the largest local society, must continue its dynamic participation and leadership within the AAPG. We are your voice, and I definitely want to continue contributing as a HoD member.

Current Position
Director, U.S. Operations Training and Certification, IHS Markit. Most recently responsible for developing and managing an internal training and certification program covering applications for the IHS Energy Technical staff. I also manage the Data Governance, Knowledge Management and Training team with the Energy Operations Operational Governance Team.

Prior to IHS
Director of Training for Seismic Micro Technology, 2002-20011; Supervisor of Curriculum Development, Supervisor Process Management, and Supervisor of Geolab for GeoQuest (Schlumberger) 8/98 – 5/2002.; Coordinator, Geoscience Technology Training, Center, North Harris College 1/95 – 8/98.; Consulting Geologist and Adjunct Faculty Member in Geology North Harris College 2/92 – 1/95.; Geologist for various independent petroleum companies 5/83 - 2/92.; Exploration Geologist for Cities Service International South and Central American Region 9/81-5/83.

Industry Experience: 36

Awards
Houston Geological Society President's award, 1997-1998; Midland College Geoscience Training Center Pioneer Award, 1998; AAPG Special Award, 1998; Presenter: AAPG Short course on Computer technology and training - Mid-Continent meeting, Oklahoma City, 1997; AAPG DPA Service Award, 2016, AAPG HoD Houston Foreman 2016-17. Presenter: GeoQuest International Forum, Houston "Workstation Technology: Maximizing Efficiency While Reducing Frustration Through Creative Training" December, l997; Featured speaker at the Geophysical Society of Tulsa, February 12th. 2009; Published "Seismic Analysis of the Sooner Field", E & P Magazine, July, 2007; AAPG Division of Professional Affairs Certificate of Merit June, 2016

Education
M. S. Geology - Ball State University, Muncie, Indiana; M. A. Ed. (Secondary Ed., Biology, and Gen. Science) Ball State University, Muncie, Indiana; B. S. Education (Biology and Gen. Science Majors, Earth Science Minor), Ball State University, Muncie, Indiana. ■

Rachel Todkill

Education
B.S., Geology, Texas A&M University, 2012
M.S., Geology, University of Texas at San Antonio, 2015

Experience
2016-Present, Drillinginfo, Technical Account Manager
2015-2016, Drillinginfo, Account Development Manager
2013-2015, University of Texas at San Antonio, Teaching Assistant: Historical Geology and Paleontology Laboratories

Professional Affiliations
2017, Houston Geological Society, Secretary
2012-Present, AAPG, Member
2011-2012, Texas A&M University College of Geosciences Recruitment Student Council, Member
2010-2012, Texas A&M University Recruitment Team for the College of Geosciences, Recruiter
2010-2012, Texas A&M University Geology & Geophysics Society, Member
2010-2012, Texas A&M University College of Geosciences Peer Mentor Program, Mentor

Statement
I would be honored to serve as a member of the AAPG House of Delegates. I hope to serve as keen presence during HGS events and meetings. As a young member of both the Geologic and Oil & Gas communities, I believe that the Houston Geological Society plays an important role by acting as a networking organization, providing resources for unemployed members during downturns, as well affording youth the opportunity to learn more about geological sciences. I hope to increase awareness of the amazing work that is done by the society. It is an honor to be a part of this organization. ■

J. W. "Jim" Tucker

I am grateful for consideration as a Delegate from this area. The House of Delegates is the overview decisionmaking body of our Association, and its democratic process differentiates us from most other professional groups. I have been a Delegate or Alternate from the Los Angeles Basin, Dallas, and Houston Geological societies, and from the Middle East Region. I have also served as Middle East Region Secretary and Association Treasurer, and on a number of committees. I am a licensed Geologist in California and Texas. ■

AAPG House of Delegates Candidates *continued on page 33*

AAPG House of Delegates Candidates

AAPG House of Delegates Candidates

continued from page 31

Gerrit Wind

Gerrit began his business career with Canadian affiliate of AMOCO (now BP), finding oil plays in Western Canada and offshore Nova Scotia. After spending two years at the AMOCO head office in Chicago, Gerrit was transferred first to Teheran and then to London and Houston. Since 1999 he has been engaged as a contractor in oil and gas exploration, appraisal and development projects in various parts of the world.

Gerrit has been a member of the AAPG for 40 years and a long time member of the HGS and is also a member of SIPES and SEG. Volunteer work for the last several years has been with the AAPG Publication Pipeline Committee ■

Joshua D. Woodworth

Josh Woodworth is an Exploration Geoscientist with Shell E&P in Houston. Seven years in the oil and gas industry has provided Josh with exploration experience in sandstone and carbonate plays throughout the Americas, including deep water exploration in Brazil, Guyana, Colombia and French Guiana, and onshore exploration in California's San Joaquin Valley. Currently, Josh is exploring for oil in aeolian sands in the US Gulf of Mexico. Josh holds a Bachelor of Science in Geosciences with an emphasis in Engineering Geology from San Diego State University and a Master of Science in Geosciences with an emphasis in Applied Geophysics from Colorado State University. Prior to his studies and experience in the oil and gas industry, Josh served six years in the US Navy, working in nuclear power generation. Josh is eager to give back to the geoscience community through the role of AAPG Delegate. ■

HGS Welcomes New Members

New Members Effective March 2017

ACTIVE MEMBERS
Mark Beach
Cyrus Bina
Gino Birbiglia
Edwin Buchwalter
Craig Edmonds
Tyler Evans
Elizabeth Gergurich
Jeremy Gillespie
Scott Jacobsen
Perry Johannson
Steven Johansen
Tessa Klein
Raj Malpani
Lanete Marcha
Mike Maruriello
Hong Mei
Catherine Pearson
Marzena Polowczyk
Fernando Rodriguez
Nathan Rogers
Charles Speice
Joel Speights
Carter Timbel
Patrick Tobin
Harvey Vick
Douglas Wilson

ASSOCIATE MEMBER
Joshua Fuller

EMERITUS MEMBERS
Mike Erpenbeck
James Sullivan

STUDENT MEMBERS
Victor Ajayi
Estella Arroyo
Melanie Bowen
Luis Carlos Carvajal
Vanessa Eni
Sarah Gerenday
Scarlette Hsia
Elizabeth Klovenski
Kimberly Moore
Didi (Sher) Ooi
Ane Slabic
Caleb Smith
Juan Suarez
Rahul Sudhakar
Lucia Torrado
Elizabeth Torres
Steven Grant Valentine
Rafael Villegas
Yue Yao
Sarah Zagurski

Welcome New Members

Guest Night to Feature Giant Fossils Found in Big Bend

By Linda Sternbach

Chasmosaurus wick lehman skull

Big Bend National Park has produced over 1200 different kinds of fossils, including species found nowhere else in the world. HGS Guest Night, Saturday June 10, at the Museum of Natural Science will feature Don Corrick, National Park Service Ranger and paleontologist. Corrick was the driving force behind the park's new $1.4 million Fossil Discovery Exhibit that showcases the park's world-class paleontological resources, including dinosaurs, giant alligators, and Tertiary mammals. The park's most famous fossil is Quetzalcoatlus, a pterosaur, or flying reptile, the largest known flying creature of all time. Big Bend National Park preserves 801,000 acres of Chihuahuan desert in western Texas. The park has a relatively complete geologic record of the past 130 million years. During that time, the ancient environment changed from a shallow sea to a coastline much like the coast of Texas today, but with dinosaurs and giant alligators. The environment then changed to an inland floodplain with a different set of dinosaurs. After the extinction of the dinosaurs, a variety of mammals roamed among volcanoes. Big Bend is the only National Park with strata that were laid down during the famous extinction of the dinosaurs at the end of the Cretaceous Period 65 million years ago.

This year's Guest Night will be held at Houston Museum of Natural Science (HMNS) as usual and we are trying some new ideas. Come early around 4:00 pm and see the Morian Hall of Paleontology during public hours until 5:00 pm. At 6:00 pm, go to the Burke Baker Planetarium. Guest Night attendees will be seated for the first of two free planetarium shows. Planetarium seating is open until seats are filled, with the first show starting at 6:15 pm. A second planetarium show queues up at 6:30 pm to see the 6:45 pm show. At 7:00 pm Guest Night attendees will be seated on the second floor of the HMNS for dinner. Dinner seating will be among the fantastic exhibits including the Cullen Hall of Gems and Minerals, Hamman Hall of Texas Coastal Ecology, Farish Hall of Texas Wildlife, and Frensley/Graham Hall of African Wildlife.

At 8:15 pm, guests will enter the Giant Screen Theater to welcome the student award winners of the Engineering and Science Fair, followed by Don Corrick's talk on "Big Bones in Big Bend." A post talk 3D movie is included for those who wish to stay late to see the spectacular IMAX experience. HGS thanks the following corporate sponsors: Thunder Exploration, Schlumberger, Roxanna, TGS, ConocoPhillips, Drilling Info, and Walter Oil and Gas Corp.

Don Corrick has been the Park Geologist at Big Bend National Park for the past 15 years. Don fell in love with the park while he was working in Midland, Texas, as a petroleum geologist for small oil companies, including working for George W. Bush at Arbusto Energy. After the collapse of oil prices in the mid-1980s, Don left Midland to study archeology at Texas A&M, which led to a summer job as an archeologist in the park in 1990. For the next 12 years Don worked in the park as an archeologist, while taking care of geological duties "on the side." Eventually, geology became a major part of his work load and Don's job title was changed to Geologist, allowing him to come full circle back to his first love – geology. Among the major projects that Don has worked on at Big Bend are the 2011 revised geologic map of the park and the just-opened Fossil Discovery Exhibit. Don holds a BS degree in Geology from Baylor University, and a MS in Geology from Sul Ross State University.

Get your tickets to Guest Night, June 10, online at the HGS website www.hgs.org by clicking the banner or going to the website monthly calendar for June. Learn more about Big Paleontology at https://www.nps.gov/bibe/learn/nature/dino.htm. To make a donation to help fund the new paleo exhibit at Big Bend National Park, mail a check to P.O. Box 200, Big Bend National Park, TX 79834, or donate online at www.bigbendfriends.org. ■

Alamosaurus dig

Guest Night to Feature Giant Fossils Found in **Big Bend**

HGS Vendor Corners Uncovering a Hidden Pot of Gold

By Rich Germano, *Houston Geological Society Vendor Corner Committee Chair*

Are you needing a little more luck with your geoscience sales efforts? Then take advantage of one of the industry's most affordable and productive sponsorship opportunities – the Houston Geological Society's Vendor Corner!

HGS Vendor Corners take place during the social periods prior to HGS Luncheon and Dinner meetings, when a service company, consulting firm, or other commercial organization has an opportunity to display their services, products, or commercial studies to the attendees of the technical meetings. HGS Vendor Corner sponsorships enable companies to make direct contact with interested geoscience buyers without being lost in the ocean of exhibitors common at trade shows, national conventions, and other technical meetings.

Listed below are the HGS technical presentations and speakers remaining for this business year. Perhaps your product aligns with the subject matter of the technical presentation scheduled for a meeting? What better way to connect with your targeted audience than to showcase how your results or services relate to the evening's topic? Check the list below for presentations scheduled for the next few months or visit https://www.hgs.org/events for the latest updates.

The money that is raised through HGS Vendor Corner goes 100% to the two HGS Scholarship Funds supporting Geoscience students.

HGS Vendor Corner fees for regular dinner meetings are just a nominal $250, in addition to any meal reservations made for your company's attendees. That's generally less than $5 per contact based on typical meeting attendance. Vendor Corner fees for an HGS luncheon or Environmental & Engineering Geology Group scheduled meeting are an even better value at only $150 due to the abbreviated social period. Consider raffling an elegant bottle of wine, book or another memorable item as a door prize to further the impact of your company's Vendor Corner.

Still available this year (and as a pre-purchase for next year) is the successful "4 Corners" package option: Commit to 4 Vendor Corners in advance and you will receive a Bonus 5th Vendor Corner at no charge. The Bonus must be used during the current HGS business year for the same category meeting and is subject to space availability on a first-come basis. "4 Corners" is a perfect opportunity for companies with globally appealing products or services to gain maximum exposure for minimal expenditure. Once you confirm plans to host a Vendor Corner, you'll be connected with the HGS Office staff to handle the financial arrangements.

If you are interested in scheduling a Vendor Corner, send an e-mail today to VendorCorner@HGS.org. In our challenging economic environment, the HGS Vendor Corner remains one of the best ways to stretch your advertising and marketing budgets. HGS and the next generation of geoscientists look forward to your participation!

Scheduled meetings (subject to change):		
Monday, May 08, 2017	**General Dinner** *Frequency, Amplitude, and Phase: Re-integrating Geophysics for the next Frontier in Seismic Stratigraphy,* Andrew S. Madof	Westchase Hilton
Wednesday, May 10, 2017	**Environmental & Engineering Geology Group** *The Moon: Stepping-Stone to the Planets,* William A. Ambrose	The Black Lab Restaurant
Monday, May 15, 2017	**International Group** *Exploring the Geologic Evolution of the Falkland Islands – Where Tectonics and Stratigraphy Merge*, Carmen M Fraticelli	Westchase Hilton
Tuesday, May 16, 2017	**Northsiders Group** *Mudrocks (Shales, Mudstones) at the Scale of Grains and Pores: Current Understanding*, Kitty Milliken	SWN Conference Center
Monday, May 22, 2017	**North American Group** "*The Ike Dike" The Clock is Ticking…*, Michel Bechtel	Westchase Hilton
Wednesday, May 24, 2017	**General Lunch** *Cognitive Bias, The "Elephant in the Living Room" of Science and Professionalism*, Peter R. Rose, Ph. D	The Petroleum Club of Houston

Additional Vendor Corners Details

Services or products may be displayed to the HGS meeting attendees during the social period prior to the meeting, when the attendees are registering, gathering, or having a drink (cash bar) before the sit-down dinner. Social periods for dinner meetings begin at 5:30, but vendors are encouraged to be set up and ready by 5:15 (for early arrivals). Luncheon socials begin at 11:15 AM with meal service at 11:30 AM. Arrive by 11:00 AM to be set up in advance of any early arrivals. You can set up a small pop-up style booth or utilize a table from the venue to display your wares. You may also hang maps or displays on the venue walls utilizing non-damaging tape/adhesive. There are electrical outlets around the venue's rooms for your utilization. No microphones are permitted but you may place handouts on the tables/chairs of the meeting attendees and, of course, may stay for the entire meeting. Easels, A/V equipment, and power strips are available at the venue by advance arrangement and at their standard rates.

Vendor Corner booth locations are handled on a first-come first-choose basis, so it is important to schedule early. Locating your Vendor Booth in the meeting room, fairly close to the cash bar is always a prime location! Some Vendors have chosen to place their booth outside of the meeting room if the cash bar is located in that area.

HGS will post your logo, website-link, and a brief company summary on the HGS website below the technical meeting's announcement and abstract. The summary should be 2-3 sentences about your product or services. Every effort is made to include a vendor recognition during the HGS meeting announcements (usually read by the HGS Technical Program Chair). Typically, this takes place after dinner and prior to the technical presentation, or just as the attendees sit down to their dinner.

The HGS does not provide the meeting attendee's names or contact information to Vendor companies. However, you may host a business card drawing with bottles of wine, or a book or some other sort of a door prize. In this case, the vendor can hold onto any business cards that are received for the drawing. If a vendor is doing a business card drawing, please communicate such at the time of reservation and to the Technical Program Chair at the meeting. ■

Letter to the Editor

Editor of HGS,

I want to compliment the HGS *Bulletin* on the Government Update piece (March 2017) by Henry M. Wise and Arlin Howles, International Energy Agency Releases 2016 World Energy Outlook. Hopefully, the article will inform HGS members that although some deny the ramifications of climate change and want to ignore global agreements, such as the Paris accord (COP21), the IEA is factoring these into their projections. IEA states that if nations adhere to the COP21 goal of limiting temperature rise to 2oC then "…global oil demand peaks by 2020, at just over 93 mb/d. The subsequent decline in demand accelerates year-on-year, so that by the late 2020s global demand is falling by over 1 mb/d every year." For OECD countries this equates to a 50% decrease in demand for oil in 2040 from 2015 levels (IEA 2017, Table 3.1). It is curious, however, that the most recent US Energy Information Administration projections (http://www.eia.gov/outlooks/aeo/) do not factor in measures necessary to attain the goal of COP21 of limiting global temperature rise to 2oC.

James M. Rine
Grosse Pointe Woods, MI

HGS Grand Canyon Field Trip

You are invited to join us as the HGS will once again be offering its Grand Canyon field trip in Summer 2018. This very special "Journey Through Time" will weave the impressive geologic story of the Canyon (with other natural sciences on display), the human history, plus the thrills of running many exciting rapids of the Colorado River.

We will float the River on motorized rafts, providing us the opportunity to see and discuss all the classic geology so beautifully portrayed – from some of the earliest Precambrian sediments found in the US, all the way up to modern processes which continue to shape the canyon. Geological concepts are introduced and magnificently illustrated in the Canyon in such a way that the geology comes alive for everyone. In addition to running rapids, we will take a number of short hikes in some of the many side creeks, eat like royalty, and sleep under the stars. Your river guides and gear are supplied by Hatch River Expeditions (Hatch), one of the most experienced outfitters serving the Grand Canyon. Past participants have stated this was the best geologic trip they ever took and many have brought one or more of their family along to share this incredible experience with them.

While this is not an overly strenuous trip, participants must be in good enough physical condition to climb in and out of the rafts. We will enjoy some hiking each day, the longest being six miles, and several hikes require some scrambling. While any of the hikes will be at your pleasure, I encourage you to take as many as you are comfortable doing to fully experience this extraordinary trip.

The trip begins in Las Vegas on June 3, 2018. We provide transportation from there to Marble Canyon by way of Zion National Park for an opportunity to view the geology. Also included are the first night in Cliff Dwellers Lodge, food and drink for our 8 days/7 nights on the river, a helicopter ride to Bar 10 Ranch the last day, and the flight from there back to Las Vegas. Costs not covered include round-trip airfare to Las Vegas, first night's dinner and breakfast in Marble Canyon, tips for our river guides, souvenirs purchased at Phantom Ranch or Bar 10 Ranch, and anything you might spend in Vegas should you decide to extend on either end. Optionally, you may join us in Marble Canyon and Hatch will arrange a return flight to there at the end.

Dates: June 3 – 11, 2018
Cost: $3600 / person
Reserve your spot now on the HGS website with a $500 deposit; the balance due is by December 15, 2017.

Reserve your spot now on the HGS website with a $500 deposit; the balance due is by December 15, 2017. *Please read the HGS's refund policy before booking your trip.* ■

Government Update

*by **Henry M. Wise, P.G. and Arlin Howles, P.G.***
If you'd like the most up-to-date Texas rules, regulations, and governmental meeting information we direct you to the HGS website to review The Wise Report. *This report, which comes out as needed but not more often than once a week, offers the most up-to-date information that may be of interest to Texas geologists.*

The Texas Legislature is now in session. To see which bills are of interest to Texas Geologists, go to the Wise Report: https://www.hgs.org/multimedia_WiseReport

AGI Geoscience Policy Monthly Review (January 2016)

House passes Weather Research and Forecasting Innovation Act

The House passed the "Weather Research and Forecasting Innovation Act" (H.R. 353), on January 9, 2017. The bill directs the National Oceanic and Atmospheric Administration (NOAA) to increase weather-related research, forecasting, and communication. Spurred on by the deadly tornadoes that impact Oklahoma, Rep. Frank Lucas (R-OK-3) introduced this bill to address extreme weather events and prevent the loss of lives and property through NOAA research measures.

The bill calls for increased research, communication, and partnership creation with industry and academia. The bill also directs NOAA to enhance the agency's basic weather research by focusing on weather-related observational systems, computing, and modeling capabilities.

H.R. 353 prioritizes dissemination and public understanding of weather data and will increase NOAA's internal communication and collaboration. The bill directs NOAA and the National Weather Service to exchange more information. This bill also requires NOAA to use commercial weather data for weather modeling, and to release NOAA computing infrastructure and prediction systems.

The bill was submitted to and received by the Senate on January 10,2017.

House Passes Two Bills Promoting Integration of Women in the Sciences

On January 10, 2017 the House passed two bipartisan bills to increase the number of women in the science workforce. Women compose less than 25 percent of America's science, technology, engineering, and mathematics (STEM) workforce. The bills, which encourage more women to pursue careers in science, are entitled the Inspiring the Next Space Pioneers, Innovators, Researchers, and Explorers (INSPIRE) Women Act (H.R. 321), introduced by Rep. Barbara Comstock (R-VA-10), and the Promoting Women in Entrepreneurship Act (H.R. 255), introduced by Rep. Elizabeth Esty (D-CT-5).

The INSPIRE Women Act directs NASA to encourage women and girls to study STEM fields. The act calls on NASA to encourage women in space science and exploration by supporting the NASA GIRLS and NASA BOYS, Aspire to Inspire, and the Summer Institute in Science, Technology, Engineering, and Research programs. These programs encourage female middle and high school students to work in science through education, mentoring, and exposure to exceptional women scientists.

The Promoting Women in Entrepreneurship Act directs the National Science Foundation (NSF) to use existing entrepreneurial programs to increase its focus on supporting and encouraging women scientists to market and commercialize their work.

Both bills passed the Senate Committee on Commerce Science and Technology without alteration. The Senate voted to pass these bills on February 14, 2017.

President Trump signed the bills into law on February 28, 2017.

Proposed Bill Calls for Assessment of Potential Oil Spills in Great Lakes

Representatives David Trott (R-MI-11), Debbie Dingell (D-MI-12), and Jack Bergman (R-MI-1) introduced the "Preserve Our Lakes and Keep Our Environment Safe Act" (H.R. 458) on January 11, 2017. This bill calls on the Department of Transportation (DOT) to conduct a study assessing potential economic and environmental risks of spills or oil leaks from pipelines in the Great Lakes within a year of the bill's passage. The study will consist of an environmental impact statement, a description of potential spill impacts, and an assessment of possible spill responses.

In addition to assessing spill risks, the bill requires the DOT to assess the condition and integrity of current pipelines in the Great Lakes region within one year of its issuance. The bill calls for the closure of any infrastructure this study identifies as a significant risk.

The act is currently being reviewed by the House Committee on Transportation and Infrastructure and the Committee on Energy and Commerce.

Government Update *continued on page 40*

Government Update continued from page 39

House Passes DOE Research and Development Legislation
On January 24, 2017 the House passed H.R. 589, the "Department of Energy Research and Innovation Act." Congressman Lamar Smith (R-TX-21) introduced this bill to promote U.S. technology transfer and commercialization and to establish and reform DOE science and energy research policies and development programs. If this bill becomes law, the Department of Energy (DOE) research policies may potentially be overhauled.

This bill aims to increase commercialization of new technologies, promote the development of advanced nuclear reactors, and create research initiatives on solar fuels and electricity storage. The proposed DOE restructuring will remove redundant research areas, ease departmental coordination and communication, and increase academia and private sector research contracts.

H.R. 589 prioritizes technology transfer by establishing more innovation hubs and authorizing funds for new projects. It would also create an all-encompassing DOE database outlining grants, energy research contracts, and cooperative agreements.

Congress Moves to Repeal Environmental Regulations
On January 30, 2017 the House passed Joint Resolutions H.J.Res.38 and H.J.Res.36, expressing disapproval of the Stream Protection Rule and a rule regulating natural gas leaks. These Department of Interior (DOI) regulations are subject to termination under the Congressional Review Act.

The Congressional Review Act enables Congress to remove a rule within 60 days of its issuance. If a rule receives a majority disapproval vote, it can be eliminated. The Congressional Review Act prohibits agencies from reissuing withdrawn rules, removing the possibility of similar rules in the future.

The DOI Stream Protection Rule came into effect on December 19, 2016. This rule establishes new water monitoring standards for streams and groundwater near coal mines. It is the first major update to these standards in 30 years. Some members of Congress believe this rule threatens coal surface mining practices and wish to remove it.

The Bureau of Land Management's rule to reduce methane emissions from oil and natural gas leaks, vents, and flares on public lands has received similar criticism. Congress members cite the cost of the rule to industry. The rule requires oil and gas companies operating on public land to identify and eliminate methane emissions.

The joint resolution for the Stream Protection Rule passed the House on February 1. On February 2 the Senate voted to repeal this rule. On February 6, 2017 President Trump signed the resolution into law.

On February 3, 2017 the House has voted to revoke the natural gas leak rule. The Senate received the joint resolution on February 3, 2017. As of March 6, 2017 the Senate has not voted on it.

Obama Administration Releases Plan to Address Potential Meteorite Strikes
The Obama Administration released the National Near-Earth Object Preparedness Strategy on December 30, 2016. This strategy acts to evaluate the nation's current capacity to identify near-earth objects (NEO's).

This document identifies which detection systems can be improved upon within our current infrastructure and recommends future investment areas. The strategy builds upon the National Aeronautics and Space Administration's (NASA) efforts to detect NEO's and the Federal Emergency Management Administrations plans to address impacts.

This document will provide a roadmap to future action for federal agencies or for the future formulation of congressional bills that authorize investigation into these hazardous impacts.

Federal Scientists Recommend Geoengineering Research
The National Global Change Research Plan 2012-2021: A Triennial Update was released by the U.S. Global Change Research Program on January 1, 2017. This report updates the current national global change research plan. For the first time, federal researchers recommend investment in geoengineering research. Geoengineering directly intervenes to make global atmospheric changes. One geoengineering proposal mimics the cooling effects of volcanic eruptions by increasing sulfate aerosol emissions from airplanes.

The effects and consequences of geoengineering are not well understood. The plan requests research that would provide a scientific framework to understand potential geoengineering impacts. The report calls for the explicit definition of implementation plans, including scale, scope, and modeling for future geoengineering experiments.

Geoengineering, the report states, while not a solution to the pressing matter of global climate change, could address part of this issue.

White House Releases America First Energy Plan
Following his inauguration on January 20, 2017 President Trump's administration released the America First Energy Plan. The energy plan emphasizes economic stimulation, national security, and environmental health.

The plan centers on lowering energy costs and removing dependence on foreign oil through increased use of American resources. It calls for a "shale oil and gas revolution" focus and developing resources on federal lands. President Trump's administration intends to revive the coal industry via clean coal technology. To address terrorism, the plan dictates an energy relationship with Gulf allies.

Finally, President Trump's energy policy calls for the removal of regulations affecting the energy industry, including the Climate Action Plan and the Waters of the U.S. Rule. These Obama administration actions mandate reduced greenhouse gas emissions and expand the Environmental Protection Agency's (EPA) jurisdiction. In place of these initiatives, the Trump Administration's plan proposes refocusing the EPA's primary mission towards protecting air and water.

Congresswoman Bonamici (D-OR) Introduces Tsunami Bill
Rep. Suzanne Bonamici (D-OR-1) introduced the Tsunami Warning, Education, and Research Act (H.R. 312) on January 10, 2017. This bill directs the National Oceanic and Atmospheric Administration (NOAA) to strengthen tsunami research, detection, forecasting, warning, and mitigation programs.

The act directs NOAA to collaborate with federal agencies, such as the U.S. Geological Survey and National Science Foundation, to develop and improve tsunami prediction and detection systems. Tsunami forecasting models will incorporate data from satellites, the global seismic network, the Advanced National Seismic System, and airborne remote sensing systems.

U.S. coastal regions are susceptible to potentially destructive tsunami events. This bill will improve current tsunami detection systems to enable earlier tsunami response times. These systems will enable coastal communities to evacuate earlier and act to minimize potential infrastructure and economic damages.

The House Committee on Science, Space, and Technology is currently reviewing the bill.

Gulf Shores to Receive Storm Resilience Boost
The Gulf Islands National Seashore will be the site of the largest coastal sand restoration project in U.S. history. As part of ongoing restoration and protection efforts an agreement between the Bureau of Ocean Energy Management and the United States Army Corps of Engineers will restore the seashore with sand from the outer continental shelf.

Ship Island within the Gulf Islands State Park will be restored with 19.6 million cubic yards sand. That is roughly the volume of 14 Empire State Buildings. The project will utilize outer continental shelf sand rather than near-shore sources because of potential impacts to coastal systems. ■

Remembrance

Leland H. Miller

February 13, 1924 – September 19, 2016

Leland H. Miller went to be with his Lord and Savior Jesus Christ Monday, September 19, 2016, at St. David's South Austin Medical Center.

Leland was born February 13, 1924, in the Buescher Community north of Columbus to Edwin and Henrietta (Meyer) Miller. His parents were lifetime farmers who raised cotton and other crops in the Cummins Creek bottom land. At Columbus High School, Leland lettered in football, track, and tennis. After graduation in 1941, he worked for one year in Eagle Lake as a bookkeeper loading railroad cars with gravel for the war effort.

In 1942, he was drafted in the Navy for World War II. Leland was assigned to the new aircraft carrier U.S.S. Intrepid to below deck damage control. The Intrepid was the most frequently hit ship in WWII. Leland survived Leyte Gulf, the largest naval battle in history. This battle led to Japan's surrender several months later. After the war, Leland went to the University of Texas and received a Bachelor of Science degree in Petroleum Engineering. He spent his career as a consulting engineer in the appraisal of oil and gas properties in the U.S., Canada, and South America.

Music was a special part of Leland's life. He played the coronet in the Columbus High School band. In 1942, he played regularly with the Ellinger Chamber of Commerce Band and the Arnold Ilse Orchestra. Leland played trumpet in the Navy Band on the U.S.S. Intrepid and then in the University of Texas Longhorn Band. He played in the SPJST Lodge 88 Czech Concert Orchestra. Leland was an original member of Kovanda's Czech Band and was the band's manager for eleven years. This band is respected all over the country for the quality of its Czech music.

Leland played fast-pitch softball in Houston for 35 years. He was the manager and pitcher of the Gulf Gleam (Gulf Oil) team, which won the City of Houston Softball Championship in 1953. He played on the Koenig Instruments team who came within one game of going to the Softball World Series.

Leland was the first president of the Fayetteville Community Foundation/Area Heritage Museum from 1990 to 2005. This foundation is dedicated to preserving the history of Fayetteville and acknowledging those individuals who contributed to that history. He was also a charter member of the Fayette County Czech Heritage Society. Leland was a member of both Fayetteville Brethren Church and St. Paul Lutheran Church in Fayetteville. He served as President of the Board of Elders at Fayetteville Brethren Church for 15 years.

Leland was preceded in death by his parents and his first wife, Bernice (Elsik) Miller. He is survived by his wife, Doris (Coufal) Miller; daughters Sheryl Miller of Leakey and Kathy Voshalike and husband Bill of Columbus; stepdaughter Sherry Fenn of Magnolia; stepson Tommy Henslee of Fayetteville, step-grandchildren Jason Fenn and wife Jenny in Magnolia; Lyndsay Hopper of McKinney; Erin Henslee of Freeport, Cheyenne Henslee of Houston, step-great grandchildren Adam, Austin and Autumn Fenn, Zane Hopper, and Nicholas Henslee; cousins Garrett Miller and wife Betty, W. J. Litzmann, and Billy Litzmann and numerous friends.

The family would like to thank Deacon Robert Jasek for his thirty-five years of devoted work for Leland.

Funeral services were Saturday, Sept. 24 at Fayetteville Brethren Church in Fayetteville. Interment followed in the church cemetery. Pallbearers were Joe Ripple, Gene Vasut, Edward Vasut, Robert Jasek, Bill Voshalike, Billy Graeter, Jerry Brown, and Will Anderson. Honorary pallbearers were Garrett Miller, Tommy Mitchell, Kovanda's Czech Band, Laddie Ripple, Tommy Henslee, Marty Anderson, and Tom Kubena.

Online condolences may be given at http://www.hennekefuneralhome.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.

Photographs may be digital or hard copy. Hard copies must be printed on glossy paper with the author's name, photo or figure number and caption on the back. Digital files must be submitted in .tif, .jpg or .eps format with 300-DPI or greater resolution at the printing size and 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 Issues	Random Eighth Page	Random Quarter Page	Random Half Page	Random Full Page	Inside Front Cover Full Page	Inside Back Cover Full Page	Page 2 Full Page	Outside Back Cover Half Page	Back of Calendar Full Page	Calendar Quarter 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
HGS Website Home Page Banner Ad	$800 – Monthly $1800 – 3 Months $2800 – 6 Months $3600 – 12 Months	275 x 875 pixels; home page top banner ad. All Home Page Banner Ads rotate every 10 seconds.
HGS Website Home Page Column Ad	$700 – Monthly $1500 – 3 Months $2400 – 6 Months $3600 – 12 Months	200 x 400 pixels; home page right column ad
HGS Website Event Page Ad	$600 – Monthly $1200 – 3 Months $1600 – 6 Months $2600 – 12 Months	200 x 400 pixels; calendar page left column ad. All Event Page Ads rotate every 10 seconds.
Geo-Jobs	$50 – 14 days $100 – 30 days $300 – 3 Months $600 – 6 Months $1200 – 12 Months	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.
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!	• 30% off website ads when combined with print ads in all 10 HGS *Bulletin* issues. • 20% off website ads when combined with print ads in 5 HGS *Bulletin* issues. • 10% off website ads when combined with print ads in 3 *Bulletin* issues.	

Application to Become a Member of the Houston Geological Society

Qualifications for Active Membership

1) 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)

1) Be involved in the application of the earth or allied sciences.
2) 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 $28.00; emeritus members pay $14.00; students are free.

Mail this application and payment to:
Houston Geological Society
14811 St. Mary's Lane, Suite 250 • Houston, TX 77079-2916
Telephone: 713-463-9476 Fax: 281-679-5504

Payment method:

❑ Check, ❑ VISA, ❑ MasterCard, ❑ American Express, ❑ Discover

Card # _____

Expiration Date: _____ Card I.D. _____

(Card I.D. – 3 or 4 digit number on front or back of card)

To the Executive Board: I hereby apply for q Active or q Associate membership in the Houston Geological Society and pledge to abide by its Constitution and Bylaws. q Check here if a full-time student.

Name: _____

Address: _____

_____

Home Phone: _____ ***Spouse's Name:*** _____

Email: _____

Job Title: _____

Company: _____

Company Address: _____

_____

Work Phone: _____ ***Fax Number:*** _____

Circle Preferred Mailing Address: Home Office

Professional Affiliations: _____

❑ AAPG member No.: _____

Professional Interest:

❑ Environmental Geology ❑ North American E&P (other than Gulf Coast)

❑ International E&P ❑ Gulf Coast E&P (onshore & offshore)

School _____

Degree _____ ***Major*** _____ ***Year*** _____

School _____

Degree _____ ***Major*** _____ ***Year*** _____

Earth Science Work Experience _____

Applicant's Signature _____ ***Date*** _____

Endorsement by HGS member (not required if active AAPG member)

Name: _____

Signature _____ ***Date*** _____

Membership Chairman _____ ***HGS Secretary*** _____

revised 7/30/14

Professional Directory

HOUSTON
GEOLOGICAL SOCIETY
14811 St. Mary's Lane, Suite 250 • Houston, TX 77079

Periodicals
U.S. Postage
PAID
Houston, Texas