The Bulletin
Houston Geological Society

Volume 46, Number 3 November 2003

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about the cover: The Volta Fan is located in eastern Ghana along the Romanche fracture zone. Seismic line by permission of Veritas DGC Ltd. The Mid-Atlantic ridge and fracture zones of location map are from satellite-derived free air gravity imagery (Sandwell and Smith, 1997); onshore and coastline portion are shown by open-file topography. *Dale Bird generated the map, it was featured on the cover of the September 2002 HGS* Bulletin.

Houston Geological Society
10575 Katy Freeway, Suite 290
Houston, TX 77024
Office Hours: 8 a.m.–5 p.m.
Phone 713-463-9476
Fax 713-463-9160
Reservations 713-463-8920

Office Manager:
Joan Henshaw
joan@hgs.org
submit your address changes to the Office Manager

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by Craig M. Dingler

President's **Letter**

Ten Reasons to Say "YES" to HGS

Each November, the membership roll of the Houston Geological Society shrinks because members who have not sent in their dues over the summer are deleted from the active roster. Eventually, some realize they have not paid (usually when they do not receive their *Bulletin*) and they send in their dues. However, the society loses a percentage of the membership every year for other reasons.

There are also a significant number of geologists in Houston who belong to national societies such as the American Association of Petroleum Geologists (AAPG) and the Geological Society of America, among others, who are not members of the HGS. This baffles me, as $20 for membership to HGS is an incredible bargain!

Personal and professional benefits of belonging to "The World's Largest Local Geological Society".

Recognizing that some will not join until they consider, "What's in it for me?" I offer the following 10 reasons why geologists in Houston should become members, or renew their membership, in the world's largest local geological society.

1. Access professional growth opportunities.
HGS offers many opportunities for professional development: networking, monthly programs, and leadership experiences.

2. Gain technical and professional skills.
HGS programs offer many opportunities to learn about diverse technical topics and gather professional information. HGS Continuing Education seminars and short courses offer enhanced, relevant, and timely training, and at low cost to members. Our monthly dinner and luncheon meetings have informative geology-related presentations.

3. Increase personal recognition.
Participating in HGS activities helps increase your visibility in the business and scientific community.

4. Receive the *Bulletin*, HGS-GSH Membership Directory, and surf our Web pages.
What else is there to say? The *Bulletin* may be the best advertisement for joining the HGS! Our new Web pages offer instant access to information, publications, job listings, and data.

5. Develop leadership skills.
Gain leadership experience in a nonthreatening environment by managing an event, participating on a committee, presenting a paper, or leading a field trip, among other activities.

6. Attend annual national and regional meetings.
The HGS is affiliated with AAPG on the national level and the Gulf Coast Association of Geological Societies (GCAGS) on the regional level. AAPG has its annual meeting each spring in various cities throughout the United States, and the GCAGS meets each fall in the host society's city. Come join us!

7. Increase self-esteem.
In the HGS, you can increase your self-esteem by learning new skills and attacking new challenges in a supportive and helpful environment. Get confidence and satisfaction by being a mentor to a younger colleague or by participating in a public outreach activity. Get recognized for your efforts.

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8. Meet new friends.
Make lifetime friendships through HGS involvement. Although our membership is diverse, a common interest unites us.

9. Help geology students with awards and scholarship programs.
HGS awards scholarships to deserving students working to achieve a degree in the geological sciences. Donations to the Houston Geological Society Foundation, which provides undergraduate scholarships to top students at seven local Texas universities, and to the Warren L. and Florence W. Calvert Scholarship Fund, which provides scholarships to graduate students, are tax deductible as charitable contributions.

10. Promote your profession.
By saying "YES" to HGS membership, you are recognized for your professional involvement. By promoting HGS's purposes, you can advance the science and enhance communication among geologists, while helping further the professional development and advancement of yourself and your colleagues.

Those are just some of the benefits you receive through an HGS membership. Yet, the relationship is symbiotic—the HGS is a volunteer organization that exists by members' involvement and participation. *The best reason to say "YES" to HGS is because You Enhance the Society!* ■

Thank you for renewing your membership and continuing your support of the HGS.

Editor's Letter

by ***Diane Yeager***

Riding the Fort Bliss Range

I recently had the great fortune to scout for wells on the Texas side of the Fort Bliss Military Range. This particular trip was fascinating because I was tasked with finding abandoned water wells located somewhere in one million acres of mostly undeveloped land. I had to find wells named "Hell Hole Well", "Hot Well" and "Navar Brothers Well". Fort Bliss Military Range is located at the western most edge of Texas and spans into New Mexico. Geologically, the Fort Bliss Military Range Camp is located within the Tularosa and Hueco Basins of the New Mexico Highland section of the Basin and Range province. The Sacramento and Hueco Mountains to the east and the San Andreas-Organ-Franklin Mountain chain to the west surround the basins. Armed with a USGS topographic maps, a GPS unit and a SUV, I embarked on the great desert lands of the Fort Bliss Military Range.

My range riders are the last of a special breed of law man. Kind of like the Texas Rangers of the old days.

The history of this area is as rich as the desert sands are hot. Fort Bliss began as a Calvary base in 1846. Locals will tell you stories of finding sabers and swords in these parts. What I found to be the most fascinating at the Fort Bliss Military Range were the Range Riders roaming the Range. A total of three men armed with pistols, horses and four wheel drive trucks - these men ride the range to scout for vandals, poachers, and to corral the cattle from the firing range. I didn't exactly meet up with these gentlemen on the best of terms as I was gently escorted off the range until I had filed the proper permit through Range Enforcement. But I don't think I've been in better company.

Range Enforcement Chief, Mr. George Bankston met with me at the Range Enforcement Office and helped facilitate the permitting process. Mr. Bankston was a joy to visit with. He has been doing his job on the range camp for 50 years and I considered it a privilege to be in his company. Mr. Bankston gave me some insights to the range riders: "My range rider's are the last of a special breed of law man. Kind of like the Texas Ranger's of the old days. Because of the wide open spaces and vastness of this 1.1 million acres they patrol by horse back, pickup, ATV, and airplane. Many times they are the only one's for miles and miles. The Range Riders protect this range, and provide safety, security, and law enforcement. Every once in a while they provide some life saving duties."

Mr. Bankston's knowledge of the range seemed to me to be as large as the range itself. He filled me with the history of the wells and told me about **Editor's Letter** *continued on page 11*

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the entire basin's water supply. I learned about the Indians and the thermal wells, the springs and salty water. Mr. Bankston cleared up the mystery as to how "Hot Well" and "Hell Hole Well" were named. These wells' namesakes were the thermal waters in which they were drilled. According to Mr. Bankston, water at the surface in some of the wells has been measured at a 170-degree fahrenheit.

After speaking with Mr. Bankston and having a good meal at the McGregor Range Camp, Dean Wood, a Range Rider since1960, escorted me to some prime well locations. Range Rider Wood has been riding this range for the past 40 years and knows every inch of it. I asked that Range Rider Wood verify well location "Hot Well" previously located by my GPS unit. As we drove through the dry desert dirt road, I told Range Rider Wood that I was unable to identify well casing at the GPS location; however, I did notice an empty barrel positioned nearby and I suspected this to be the "plugged" well location. This empty barrel was the only man-made thing visible within miles and I could only imagine it to mark a plugged well. Range Rider Wood knew immediately where the empty barrel was located in this vast desert land – drove straight to the barrel – and explained that it is simply a trash receptacle that the military uses during their camp-outs. It had nothing to do with a well! Wow, I was enlightened and a tad bit embarrassed. We didn't find the well.

Range Rider Wood drove me directly to the Navar Brothers well – off road and through the desert scrub. On our drive to the well, I learned that the well's name derived from the Navar family that once ranched these parts. The Navar family raised cattle on the range and used these wells to water the stock. I was enlightened about the ranching habits and family history of the area.

After finding the Navar Brothers Well our time together was at an end and our day was done. Range Rider Wood offered to do what ever he could to ensure our range experience remained safe and comfortable. He tipped his hat and called me "M'am" and rode off in the desert sunset. With admiration I tipped my GPS unit to him and said to myself "Whoow, a real cowboy." ■

In Remembrance of Warren L. Calvert

by ***Carl Norman***

Warren L. Calvert passed away in Houston on May 19, 2003, at the age of 91, thus ending a colorful and varied career as a petroleum geologist that began with part-time employment at Ohio Fuel Gas in Columbus, Ohio, in 1929. At his request, no funeral or memorial services were held. In his retirement years, Warren penciled out an autobiography titled "The Rocky Road: The Life and Times of a Petroleum Geologist," which will not appear in print, but which was made available for writing this tribute to him. After moving to Houston in 1970, Warren became a member of the Houston Geological Society. He received the HGS Distinguished Service Award in 1989, and he was awarded an Honorary Life Membership in 2001. Warren's interest in furthering the careers of blossoming geologists led him to donate $8000 in telephone company bonds to initiate a scholarship fund that would benefit graduate students planning careers in some area of economic geology. Known as the Warren L. and Florence W. Calvert Scholarship Fund, it was set up as a trust within the Houston Geological Society in 1974. Total assets of the fund now exceed $400,000. Since 1978, it has awarded a total of $180,800 in scholarships to 47 students studying at 15 different colleges and universities, most of which are in Texas and its bordering states.

Warren grew up in Altoona, Pennsylvania, the son of a merchant who held strong Protestant religious beliefs. When Warren finished high school in 1929, his father told him that he would somehow find the means to send him to Princeton University if he would study for the ministry, but Warren decided that his faith was not conventional enough to mesh with the religious paradigms of the time. Instead, he hitchhiked to Columbus where his uncle, an executive at Ohio Fuel Gas, recommended him for employment, as he had previously done for Warren's two older sisters. While there he came under the influence of K. Cottingham, a geologist with an MA from Ohio State University, who urged him to enroll in geology at OSU. Studying and working part-time (earning $55 per month), Warren earned a BA cum laude in geology in 1935. He continued on, completing course work, field work, and a master's thesis the following year, but instead of taking the time to revise it, as required by his advisor, he opted for immediate employment as a petroleum geologist.

After three years of working in Ohio, West Virginia, and Pennsylvania, Warren transferred to southern Illinois in 1939, where he remained until he was transferred to Oklahoma City in 1944. The army drafted him in 1942, but his company succeeded in getting him deferred on the grounds that he was its only geologist. When the company dissolved in 1945 he immediately joined Magnolia Petroleum Company, for which he worked prospects in Oklahoma and Texas. In 1946 he and a partner organized The American Exploration Company, a venture that survived only two years. In 1949 he returned to Illinois as a consulting geologist, taking overrides and purchasing mineral leases.

When drilling activity in the Illinois Basin abated in 1958, Warren returned to Ohio, where he worked as a production geologist for two years. In 1960 he accepted a position as head of Subsurface Geology at the Ohio Geological Survey, but a lucrative offer from Phillips Petroleum in 1964 lured him back to mid-continent oil fields. He resigned from Phillips in 1970 and accepted a position with Weaver Oil and Gas in Houston, where he remained until his retirement in 1981. Warren lost his loving wife, Florence, in 2001. His son, William, survives him.

Warren never forgot how difficult it had been to support himself and a young wife while attending the university, nor did he forget the joy of achieving that goal so successfully. The scholarship fund that bears his and his wife's name is their legacy to those who will follow a similar "rocky road."

Monday, November 3, 2003

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North American
Dinner Meeting

*by **Joshua Rosenfeld,** Yax Balam, Inc., Granbury, Texas and*
***James Pindell,** Tectonic Analysis Ltd., Cokes Barn, West Burton, West Sussex, England*

Early Paleogene Isolation of the Gulf of Mexico from the World's Oceans? Implications for Hydrocarbon Exploration and Eustasy

Deeply incised and backfilled paleo-canyons in lower Paleogene shelf strata along the western and northern Gulf of Mexico margin attest to large relative sea-level fluctuations but pre-date the accepted age for the onset of Cenozoic continental glaciation. Using Pleistocene canyons as a crude yardstick, the scale of these paleo-canyons suggests relative sea-level changes at least as large as the Pleistocene fluctuations. Therefore, we speculate that the water level in the Gulf of Mexico was drawn down while the Gulf was isolated from the world ocean during the Late Paleocene/Early Eocene interval. We suggest that the cause for isolation was the progressive collision of the Cuban arc with the Yucatán and Bahamas carbonate platforms, thereby temporarily closing off the southeastern Gulf of Mexico. In the Miocene Mediterranean and the Holocene Black Sea examples of marine basin isolation, evaporation greatly exceeded rainfall and runoff, and our examination of the Gulf of Mexico case suggests that the water level may have dropped at least once by at least several hundred meters, and possibly much more, below the level of the world ocean.

The recognition that the early Paleogene relative sea- level changes seen in the Gulf may pertain to basin isolation is grounds for treating "eustatic" curves derived for or from the Gulf with suspicion.

Implications for geology and hydrocarbon exploration in the Gulf may include
• bypass of enormous quantities of coarse detritus into the deep basin;
• seaward collapse of exposed clastic shelf margins;
• triggering and/or acceleration of salt evacuation (basinward "squeegee" effect of slumping sediments);
• release of gas hydrates from sediments under shallower and warmer water, thereby contributing to the ~100,000-year-long worldwide Paleocene/Eocene boundary heating event;
• development of secondary porosity in both platform and deep water carbonate sections by dissolution and phreatic diagenesis - (e.g., the Golden Lane/Poza Rica area of Mexico);
• hypersalinity and possible sea-bottom stagnation with source rock deposition in areas left marine;
• deposition of fine-grained condensed sections (seal and source rock) during flooding period(s) when connection with the world ocean was re-established, creating stratigraphic traps at canyon flanks and turbidite reservoirs within the canyons.

The recognition that the early Paleogene relative sea-level changes seen in the Gulf may pertain to basin isolation is grounds for treating "eustatic" curves derived for or from the Gulf with suspicion. In addition, catastrophic basinward transfer and collapse of mass near the shelf edges would have caused isostatic unloading (rebound) of shelf margins that was proportional to the mass transfer. In the case of a discreet slumping event, such as the Lavaca "Megaslump" event of south Texas, this effect may have caused uplift of several to a few tens of meters of footwall areas within about 100 km from the slump. Larger downslope movements such as that related to the collective Wilcox fault province would have caused far larger isostatic rebounds on the shelf, perhaps in excess of 100 m if sedimentation did not keep pace with faulting.

A body of circumstantial evidence continues to grow in support of this hypothesis, whose potential implications, both academic and commercial, merit further **North American** *continued on page 17*

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investigation. Integration of information from Cuba, Mexico, the United States, and the Bahamas will be required to fully test the hypothesis. ■

Biographical Sketch

Joshua Rosenfeld earned his bachelor's degree at the City College of New York in 1960, his master's degree at the University of Miami in 1978, and his PhD at the State University of New York – Binghamton in 1981. His early career included geological reconnaissance, mineral exploration, and mining geology in Central America followed by 19 years of petroleum exploration experience with Amoco plus 2 years with Veritas. Most of this time was spent studying areas in and around the Gulf of Mexico within the United States, Mexico, Guatemala, and Belize. He is presently semi-retired in Granbury, Texas.

Thursday, November 6, 2003

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Emerging Technology Dinner Meeting

*by **Dr. John P. Castagna,***
University of Oklahoma

Identifying Stratigraphy and Fluids Using Spectral Decomposition: The Current State of the Art

Various wavelet transform techniques have resulted in spectral decomposition with improved vertical resolution and more accurate frequency spectra. Some of these algorithms are matching pursuit of various kinds, the continuous wavelet transform, and various optimization methods. Spectral decomposition has been used successfully in both direct hydrocarbon indication and stratigraphic interpretation. The next major hurdle to overcome in the interpretation of spectrally decomposed data is separating fluid and stratigraphic effects. Experience has shown that integrated analysis of spectral decomposition with other attributes (such as AVO) combined with stratigraphic interpretations yields the best results. ■

Spectral decomposition has been used successfully in both direct hydrocarbon indication and stratigraphic interpretation.

Biographical Sketch

Dr. John P. Castagna holds the Edward L. McCullough Chair in Geology and Geophysics and is director of the Institute for Exploration and Development Geosciences at the University of Oklahoma, where his main technical interest is quantitative seismic analysis in exploration and reservoir characterization. Dr. Castagna joined the University of Oklahoma in 1996. From 1980 to 1996 he worked for ARCO in a number of research, exploration, field-development, and management positions.

In 1995 Dr. Castagna was visiting research scientist at the Geotechnology Research Institute of the Houston Advanced Research Center, where he was principal investigator for research projects funded by the Gas Research Institute, the Energy Research Clearing House, and a consortium of energy companies. Also in 1995, he was named distinguished lecturer for the Society of Exploration Geophysicists (SEG), lecturing on "Applied AVO analysis: use and abuse of amplitude variation with offset." He has been chairman of the *Leading Edge* editorial board and first vice-president of the SEG. In addition to numerous technical papers, he is the author of the book *Offset-Dependent-Reflectivity: Theory and Practice of AVO Analysis.*

Dr. Castagna is a graduate of Brooklyn College, where he earned a bachelor of science degree in geology in 1976 and a master's degree in high-temperature geochemistry in 1981. He completed his doctoral degree in exploration geophysics at the University of Texas at Austin in 1983.

Monday, November 10, 2003

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HGS General
Dinner Meeting

by ***J. C. Van Wagoner, D.C.J.D. Hoyal, T. Sun*** *and* ***N.L. Adair***

Energy Dissipation: Origin of Structure and Organization in Siliciclastic Sedimentary Systems

Siliciclastic strata are nested bundles of sedimentary bodies classified and named according to depositional environment, geometry, and scale. Our analysis of 482 sedimentary bodies formed by unidirectional, fully turbulent flows, ranging in length scales from <10 cm to thousands of kilometers, from most depositional environments, reveals that the shapes of these bodies are statistically similar, scale invariant, and independent of depositional environment. This similarity suggests that these bodies were deposited by a common global physics. We postulate that this fundamental physics is non-equilibrium thermodynamics, in particular, energy dissipation and dissipative structures.

We believe that all sedimentary bodies, from current ripples to submarine fans, are dissipative structures

Geologically significant flows are far-from-equilibrium open systems with large energy gradients. The Second Law of Thermodynamics requires that these gradients be minimized. Far-from-equilibrium flows do this through the formation of dissipative structures. The primary dissipative structure in flows in all environments of deposition is the jet/plume pair linked through a hydraulic jump. Such flow structure is self-similar and scale invariant, from the scale of the entire flow down to the viscous sublayer. For this reason, the bodies produced by this type of decelerating flow are also scale invariant.

The jet/plume pair dissipates kinetic energy though entrainment in the jet portion of the flow causing flow deceleration. In the process, deposition occurs if the flow is carrying particles. As the resulting sedimentary body grows and interacts with the flow, it also becomes a dissipative structure. We believe that all sedimentary bodies, from current ripples to submarine fans, are dissipative structures. That is, a sedimentary body is the framework to optimally deliver kinetic energy through channels or flow pathways to new dissipation sites where jets are active. As a result of deposition and consequent vertical growth of the sedimentary body, flows are superelevated by being locally forced up and over the deposit. This creates the energy dissipation paradox: in the process of dissipating kinetic energy, potential energy is created. Potential energy gradients are minimized by another dissipative mechanism, avulsion.

This evolution of sedimentary bodies from the initial jet deposits to complex avulsive bodies such as deltas and submarine fans follows a specific pathway from jet deposit nonavulsive or leaf deposit avulsive or tree deposit. We call this the energy dissipation pathway. It is the scale invariant pathway along which all sedimentary bodies evolve. We believe that current ripples, bars in rivers, deltas, and submarine fans all form and evolve along this pathway. If correct, this hypothesis of energy dissipation and the energy dissipation pathway provides a new, unifying context for the analysis and interpretation of sedimentary systems. ■

Biographical Sketch

Mr. Van Wagoner obtained his PhD from Rice University in Houston, Texas, in 1977. He is currently senior research advisor to the reservoir geometry and Continuity Division at ExxonMobil Upstream Research Company. Teaching responsibilities have included instructor on Advanced Clastic Facies and Sequence Stratigraphy, and Overview of Sequence Stratigraphy schools. Before 1999 his responsibilities included conducting nonmarine sequence stratigraphy, performing research application work, leading field trips, writing papers for company and outside publication, and giving talks on sequence stratigraphy. ■

Thursday, November 13, 2003

Petroleum Club • 800 Bell (downtown)
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Joint HGS/HEC Luncheon Meeting

*by **John Gibson**, President and CEO*
Halliburton Energy Services Group

The Ethics Storybook

Throughout the ages, people have told stories. Tales and legends flow from chief to tribe, grandfather to child, colleague to colleague. Some stories begin with "Long ago…" or "Once upon a time…" Others are shared as memories: "Do you remember when…?" And then there's gossip: "Did you hear what happened?" Today we are bombarded with stories in the news, e-mail, advertisements, phone calls, personal conversations, songs on the radio. The point is the stories that flow through our cultures continue to shape our beliefs and behaviors in that culture.

Stories have power.

True tales from the oil patch introduce the tools and techniques for ethical decision-making

Business leaders can use the power of stories within their organizations to drive "right behavior" and build an ethical culture. True tales from the oil patch introduce the tools and techniques for ethical decision-making. During this lecture, an objective will be to work through ethical dilemmas by examining an issue from all perspectives, weighing the impacts of various choices, and making thoughtful decisions that send the right messages to constituents. People in the oil patch can develop an ability to use stories within their organizations to strengthen ethical values. ■

Biographical Sketch

John Gibson was appointed president and chief executive officer of Halliburton's Energy Services Group in January 2003. He had been president of Halliburton Energy Services since March 2002. Mr. Gibson had previously been with Landmark Graphics Corporation, serving as president and chief executive officer since 2000 and earlier as chief operating officer. He joined the company in 1994 and held various executive positions, including executive vice president of Landmark's Integrated Products groups, and president and vice president of Landmark's Zycor Division.

Mr. Gibson's career in oil and gas began as an exploration geophysicist for Gulf Oil Company. Following the acquisition of Gulf by Chevron, Mr. Gibson became manager of geophysical and geological subsurface imaging for Chevron's Oil Field Research Company. He holds a bachelor's degree in geology from Auburn University and a master's degree in geology from University of Houston.

Mr. Gibson serves on the board of directors of Parker Drilling Incorporated. He is a member of the Indiana University Department of Geological Sciences Advisory Board and a director of the National Association of Manufacturers and serves on the board of trustees for the Houston Grand Opera. He also has several roles at St. Paul's Episcopal Church in Katy, Texas.

HGS International Dinner Meeting

University of Houston Department of Geosciences
and UH Geoscience Alumni Association
in association with the HGS International Group
PRESENT:

THE FIFTH ANNUAL ROBERT E. SHERIFF LECTURE SERIES

Large-Scale Continental Extension

Featured Speaker: Dr. Brian P. Wernicke, Chandler Family Professor, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, California

Date: Monday, November 17, 2002

Place: Westchase Hilton, 9999 Westheimer

Time: Social 5:30 p.m., Dinner 6:30 p.m.

ROBERT E. SHERIFF LECTURE SERIES:

The lecture series is sponsored by the University of Houston Department of Geosciences and UH Geoscience Alumni Association in association with the Houston Geologic Society International Group.

Mr. Bill Beck, president of the University of Houston Geoscience Alumni Association (UHGAA), will serve as master of ceremonies. Dr. John F. Casey, Department of Geosciences chairman, will present an overview of current activities at UH. There will be posters and presentations on current thesis and dissertation research activities of UH graduate students.

Come and meet the next generation of geoscientists from UH!!

The Robert E. Sheriff Lecture Series was initiated in 1999 by the UHGAA. For the past four years it has been co-sponsored by the International Explorationists Group of the Houston Geological Society. The series honors Dr. Sheriff as an educator, scholar, and proponent for the geosciences. Its mission is to:

1. Bring some of the best known geologists and geophysicists in the world to the Houston community to share highly relevant ideas to exploration geology and geophysics
2. Showcase geoscience activity at the University of Houston.

Biographical Sketch

DR. BRIAN P. WERNICKE holds the position of Chandler Family Professor in the Division of Geological and Planetary Sciences at California Technology University in Pasadena, California. He received his bachelor's degree from the University of Southern California in 1978 and a PhD from Massachusetts Institute of Technology Department of Earth and Planetary Sciences in 1982. He was a recipient of the Presidential Young Investigator Award in 1985. Harvard University bestowed upon him an honorary AM degree in 1987. He was named a Fellow of the Geological Society of America and awarded the Society's Young Scientist Award (Donath Medal) in 1991. Wernicke's research interests include tectonic evolution of the continental lithosphere, physical processes governing the large-scale structural evolution of orogenic belts, and neotectonics.

Department of Geosciences, University of Houston—*Sheriff Lecture: Posters & Authors List*

Authors: Student Posters	Poster Titles
1. Nasher Al-Bin Hassan	Fault Detection Using Hough Transforms
2. Saleh Al-Dossary	Fracture-Preserving Smoothing
3. Saleh Al-Dossary, and Nasher Al-Bin Hassan	Comparative Study of Edge Detection Algorithms
4. Saleh Al-Dossary	3-D Volumetric Multispectral Estimates of Reflector Curvature and Rotation
5. Debleena Banerji	Characterizing the Oceanic Crust Formed at Ultra-Slow Spreading Southwest Indian Ridge
6. Tathagata Banga	Integrated Study on Stratigraphy, Seismic Interpretation, Fluid Flow and Reservoir Compartmentalization in the Gulf Coast Salt Domes
7. Mary Sue Bell	Prospecting for Martian Ice from Orbit
8. Charles Blumentritt	Structural Fabric on the Central Basin Platform Revealed by Seismic Curvature Attributes
9. Neda Bundalo	2D Gravity Modeling along LARSE(Ca) and SIGHT(New Zealand) Transects: A Comparative Study
10. Angel Callejon	Source Rock Evaluation of Tertiary Coals and Their Potential Contribution to the Eastern Venezuela Basin Petroleum Systems
11. Craig Clements	Thermally-Driven Wind Systems and Boundary-Layer Structure in Yosemite National Park, Sierra Nevada
12. Maria Djordjevic,	Effect of Anisotropy on Isotropic Images of Vinton Dome
13. Diana Dragoi	Gravity Studies of the Ocean-Continent Transition (West Africa, Walvis Basin)
14. Warren Duncan	Improving Seismic Fidelity Using Frequency Analysisand Seismic Attributes, Vinton Dome Louisiana
15. Vsevolod Egorov	Evidence of Mechanical Extension Mode at Spreading Centers: Mid-Atlantic Ridge Between 14° and 16° N.
16. Joel Famini	Effect of Seismic Processing on Geometric Attributes: A Case Study in the Permian Basin
17. Dongjun Fu	Reservoir Characterization of Devonian Chert Reservoirs in West Texas
18. Hao Guo	A Geochemical Study on 4 Fields from Southeast Texas Basin
19. Douglas Hinkle	Delineating Areas of Critical Concern for Erosion Along the Trinity River, Liberty County, Texas
20. Cory Hoelting	Constrained Least–Squares Migration
21. Katarina Jovanovic	P and S Wave Separation from Vector VSPS
22. Prasad Jyosyula	Azimuthally Dependent Seismic Attribute Analysis
23. Li Li	3D Tomographic Velocity Analysis
24. Jianlei Liu	3D Kirchhoff Beam Migration with Attenuation Surface Waves
25. Ma Long	A Preliminary Analysis of Depositional Setting of the Green River Formation of Green River Basin, Uinta Basin, and Piceance Creek Basin
26. Gabriel Perez and Luis Montes (University Of Columbia)	Modeling and Removal of Back-Scattered Noise from Rough Topography in Land Seismic Data
27. Mariana Popa- Dumitru	Elastic Kirchhoff Migration – 3D VSP Vinton Dome, Louisiana
28. Andrea Quintanilla	Rift to Drift: Chemostratigraphic Analysis and Provenance in the Iberia Abyssal Plain
29. Isabel Serrano and Charles Blumentritt	Unraveling Subtle Structural Features of the Dollarhide Field In West Texas Utilizing New Seismic Attributes
30. Simona Simonovic	Strain Localization and the Role of Oxides within the Oceanic Crust: Evidence from ODP Hole 1105A, Leg 179
31. Jerry Wagstaff	Thermogalvanic Detection of Liquidus and Eutectic Crystallization in the System SiO2-FeO
32. Lili Yu	Application of GIS and Remote Sensing in Tectonic and Petrological Study of Bay Island Ophiolites Complex, West Newfoundland
33. Alex Zhao	Using GIS to Derive the Centroids
34. Yong Zhou	Deformation Mechanism of the Fold – Thrust Belt of Sierra Madre Oriental
Authors: Faculty Posters	**Title of Poster**
Dr. Charlotte Sullivan, Dr. Al Lacazette and Dr. Kurt Marfurt	Multi-Trace Seismic Attributes Help Identify Origin of Ellenburger Collapse Structures in the Fort Worth Basin Structure, Stratigraphy and More
Dr. Don Van Nieuwenhuise	The Accelerated Masters Program in Petroleum Geosciences
	Petroleum Short Courses from the Department of Geosciences
Dr. Shuhab Khan	Remote Sensing and GIS Research at University of Houston

Tuesday, November 18, 2003

The Woodlands Conference Center • 2301 N. Millbend Drive • The Woodlands
Social 5:30 p.m., Dinner 6:30 p.m.

Cost: $28 Preregistered members; $33 Nonmembers & Walk-ups

Make your reservations now by calling 713-463-9476 or by e-mail to Joan@hgs.org (include your name, meeting you are attending, phone number, and membership ID#).

HGS Northsiders Dinner Meeting

*by **R.A. Nelson***
Broken N Consulting, Inc.
Simonton, Texas

Exploration for Fault-Related Fractured Reservoirs

Fractured reservoirs associated with faults produce oil and gas throughout the world. They occur in carbonates, clastics, and crystalline rocks. Recent examples include Monte Alpi and Tempa Rosa in Italy (carbonate), Bach Ho in Vietnam (granite), and several Trenton-Black River Fields in the Northeastern USA (carbonate). This kind of fractured reservoir is quite variable in opportunity, from small volumes of hydrocarbons up to 400+ MBO. The key to these reservoirs, which often occur in low-porosity matrix rocks, lies in the inhomogeneous distribution of fracture intensity. These fracture systems are inherently variable in nature along strike and with depth. The essentials to predicting optimum well locations lie in depicting and predicting the areas along the fault trends that are most fractured and have the best reservoir communication and drainage. Predictions are based on rock mechanics principles and a detailed understanding of the geometry of the fault surfaces in 3-D. In addition, depiction can come from well-selected seismic attributes designed to highlight highly fractured volumes of rock. In particular, attributes associated with coherency and amplitude have proved to be very useful.

The key to these reservoirs, which often occur in low porosity matrix rocks, lies in the inhomogeneous distribution of fracture intensity.

Experience tells us that target zones of high fracture intensity associated with faults are often only a few hundred feet in width but have high fracture intensity and permeability draining large volumes of low-porosity matrix storage. Properly selected, wells in fractured reservoirs associated with faults can drain large volumes of hydrocarbons and require few wells to obtain the accessible volumes.

Exploration philosophy and technological approaches will be discussed using recent examples from Venezuela, Italy, Vietnam, Appalachians, and the Rockies. ■

Biographical Sketch

Dr. Ronald A. Nelson has worked the majority of his 29-year professional career with Amoco and BP Amoco. Since 2001, he has been the principal investigator for Broken N Consulting in Simonton, Texas. His expertise lies in structural geology, rock mechanics, and fractured reservoir evaluation and management. His knowledge in these subjects is recognized worldwide. Ron has worked on some 85 fractured reservoirs and an equal number of fractured reservoir exploration plays. He has been an AAPG Distinguished Lecturer twice, SPE Distinguished Author, and author of two editions of a textbook titled *Geologic Analysis of Naturally Fractured Reservoirs*. He is a past-president of HGS, and a past-vice president of AAPG.

Directions to the NorthSiders Dinner talk

From Bush Intercontinental Airport: Take I-45 North or Hardy Toll Road North to Woodlands Parkway (Exit 76B). Follow Woodlands Parkway to Grogan's Mill Road. Watch for The Woodlands Resort & Conference Center signs. Stay in right lane exiting at Grogan's Mill Drive. At traffic light, turn LEFT and continue to North Millbend Drive, and make a RIGHT. The entrance to the resort is immediately following on the LEFT.

From Points North: Take I-45 South to Robinson Road/ Woodlands Parkway (exit 76), which will bring you to The Woodlands. Turn right onto Woodlands Parkway. Watch for The Woodlands Resort & Conference Center signs. Stay in right lane exiting at Grogan's Mill Road. At traffic light, turn LEFT and continue to North Millbend Drive, and make a RIGHT. The entrance to the resort is immediately following on the LEFT.

You can download a map at www.woodlandsresort.com.

Wednesday, November 19, 2003

Petroleum Club • 800 Bell (downtown)
Social 11:15 a.m., Lunch 11:45 a.m.

Cost: $28 Preregistered members; $33 Nonmembers & Walk-ups

Make your reservations now by calling 713-463-9476 or by e-mail to Joan@hgs.org (include your name, meeting you are attending, phone number and membership ID#).

HGS General Luncheon Meeting

Paul Constance
Output Exploration LLC

Santa Fe Ranch Field: A Recent Significant Onshore Vicksburg Discovery

No abstact available.

Biographical Sketch

Mr. Paul Constance has twenty four years of experience in seismic reflection acquisition, processing and interpretation. His technical experience includes sequence stratigraphy, all aspects of 3D seismicand downhole seismic methods.

Mr. Constance's domestic geological experience includes; the Oligocene-Miocene Frio and Vicksburg of South Texas; the Tannehill, Strawn, Canyon Reef and Ellenburger of West Texas; the Oligocene-Miocene Frio, Hackberry, Yegua, and Wilcox of East Texas; the Wilcox, Tuscaloosa, Cotton Valley, Frisco City, Smackover and Norphlet of Alabama and Mississippi;the Oligocene-Miocene Frio, Hackberry and Cotton Valley of Louisiana; and the Springer, Skinner, Redfork, Atoka and Morrow of the Anardarko basin in Oklahoma. His experience also includes seismic work in the Eocene, Paleocene and Upper Cretaceous of the Sacramento Basin, California.

Mr. Costance's exploration experience includes a variety of play types and settings from stratigraphic traps to salt domes and from exploitation/development drilling to wildcat exploration.

Annette Mather's Retirement Party

Annette Mather will be greatly missed! Her dedication to the HGS was celebrated at her retirement party on September 30, 2003. Annette and her husband Tom plan to travel.

Annette, have fun on your many future adventures!

NorthSider News and Happenings

The second NorthSider meeting of the year will be a dinner held Tuesday Nov. 18 at the Woodlands Conference Center, 2301 N. Millbend Drive in The Woodlands. Social hour will begin at 5:30 and will feature a bar sponsored by Beicip-Inc. Dinner will be served at 6:30. The cost is $28 for HGS members who register in advance and $33 for others and at the door. We are delighted to have Ron Nelson as our speaker, giving a talk entitled "Exploration for Fault Related Fractured Reservoirs".

The HGS Northsiders, a group of North Houston geoscientists who are organizing lunch and dinner HGS meetings for the greater north Houston area, held their first 2003-2004 technical meeting Tuesday Sept 16 at 11:30 at the Wyndham hotel in the Greenspoint area. Seventy-six attendees heard Dr. Mark McCaffrey of OilTracers LLC present a talk entitled "Using Petroleum Geochemistry to Solve Field Development and Production Problems". The talk was well received and is expected to be one of 6 given on the Northside during the 2003-2004 season.

NorthSider committee members include (from left to right): Peter Bartok, Chris Veeder, Frank Walles, Hege Legatt, Jim Wilson, Gary Coburn, Bob Olson, Sherrie Cronin, and Eric Paauwe. Not pictured are Richard Fink, Karl Joern and Janet Combes.

HGS President-elect Steve Levine and HGS treasurer Parrish Erwin join NorthSider Chair Sherrie Cronin in kicking off the NorthSiders 2003-04 year.

The NorthSiders plans for 2004 include a lunch meeting Jan 20 with Kevin Bohacs speaking on "Lacustrine Hydrocarbon Play Elements Within a Continental-environment Phase Stability Framework" and a dinner meeting Feb 17 with Charles Kerans speaking on "Predicting the Stratigraphic Architecture of Carbonate Reservoirs".

CALL FOR PAPERS
The Geology of the Houston/Galveston Region

The Houston Geological Society is looking for authors to participate in the production of a new HGS publication. *The Geology of the Houston/ Galveston Region* has been long studied but never chronicled in one volume. Our goal is to generate a comprehensive collection of papers that will capture Houston's rich geologic past, present, and future.

Contact: **Tom Fiorito, tfior@sextantenergy.com**
(or 713-224-1877) for more information.

Feature Article

Africa: New Plays—New Perspectives HGS-PESGB Second International Symposium A Great Success

by ***Arthur E. Berman*** *and* ***Victor Schmidt***

The symposium "Africa: New Plays—New Perspectives" was perhaps the most successful and enthusiastically received technical meeting of 2003 so far in the Houston area. Organized and hosted by the Houston Geological Society (HGS) and the Petroleum Exploration Society of Great Britain (PESGB), it was held September 3 and 4 at the Westchase Hilton and attended by nearly 400 people. Participants were attracted from both sides of the Atlantic and included representatives from 12 African countries.

Most authors of talks and posters came from the United States but important contributions also came from authors from the UK, Africa, Brazil, Australia, and Canada. Poster sessions accompanied the oral presentations and 25 sponsors and exhibitors filled two ballrooms of the Westchase Hilton. The two-day meeting spotlighted both the major and future producing regions of Africa beginning with the well-known plays offshore western Africa and then proceeded around the continent examining both offshore and onshore potential.

Africa provides 11% of the world's production while holding 900 billion bbl of proved reserves, 9% of the world's known oil supply. It also holds 8% of the world's proven natural gas reserves.

The meeting opened with two overview presentations. Stephen Hayes, president of the Corporate Council on Africa, gave the keynote address. He highlighted Africa's growing importance to the U.S. economy, pointing out that 25 percent of U.S. oil imports will come from the region by 2015. Africa provides 11% of the world's production while holding 900 billion bbl of proved reserves, 9% of the world's known oil supply. It also holds 8% of the world's proven natural gas reserves. Most of the producing countries are not aligned with OPEC with only Nigeria being an OPEC member.

photo by A.E. Berman

Africa Symposium Convenors (left to right): Paddy Keenan, Nick Cameron, Al Danforth, Ian Poyntz, Steve Henry, Ray Bates. Not present: Gabor Tari, Art Beall, and Rich Medziuch.

Richard Charpentier from the USGS reviewed the agency's assessment of Africa's 11 producing provinces. This overview came from *2000 Assessment of Petroleum Potential*, a recent USGS report covering the world's petroleum basins. Discovered volumes for Africa include almost 24 billion bo in 354 fields and nearly 75 tcf of gas. These volumes are based on discovered fields from the 1996–2000 period and do not include any assessment of undeveloped basins. USGS estimates that an additional 93 billion bo and 330 tcf remain to be found in existing African trends.

Total attendance at the symposium was about 386 of which continued on page 39

Africa: New Plays—New Perspectives

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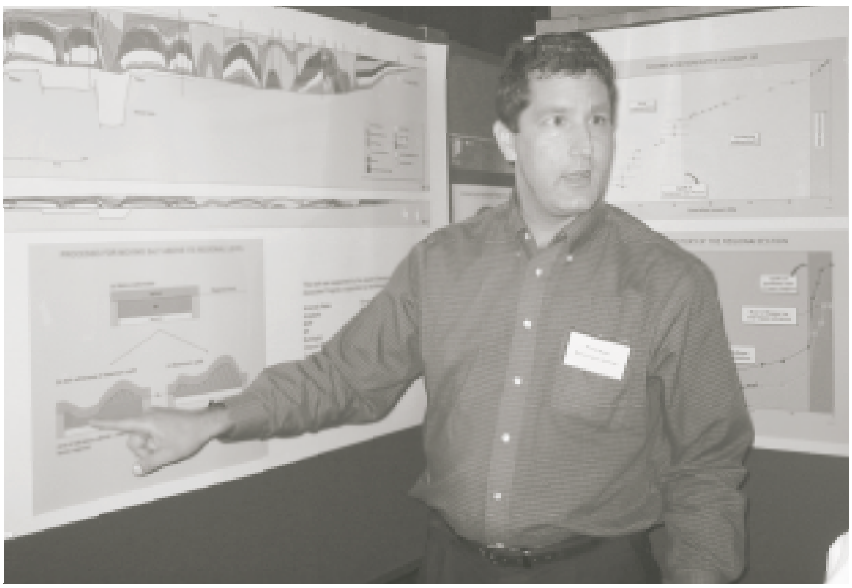

photo by A.E. Berman

Poster session

45% were HGS members, 25% PESGB members, and the remaining 30% not members of either society. The largest group of participants was from major oil and gas companies, followed by service companies, mid-size oil and gas companies, university faculty and students, and consultants.

The symposium was envisioned by its organizers, the HGS and PESGB, as the second in a series of annual international conferences on the petroleum geology of Africa. Building on a series of successful meetings on Africa, this year's program focused on new plays and new perspectives and also emphasized the conjugate margins of the African continent, such as the prolific basins of Brazil. Next year the venue of this meeting will shift back to London in September for the 3rd annual International Symposium, which will be organized by the PESGB and supported by the HGS.

Convenors of "Africa: New Plays—New Perspectives" included Al Danforth, Gabor Tari, Ian Poyntz, Steve Henry, Art Beall, Paddy Keenan, Rich Medziuch, Ray Bates, and Nick Cameron.

The technical presentations began with an examination of South Atlantic plate tectonic relationships and the similarities between African and South American continental shelf basins and their respective hydrocarbon potential. Understanding of transcurrent fault movement has improved in recent years and reveals that different faults grew at variable rates along their traces. This, in turn, sets up timing issues for basin formation, oil expulsion, and entrapment.

The style of salt tectonics on either side the South Atlantic is similar moving from the continental slope into deeper water. Generically, salt rollers change to diapiric structures, which then become salt canopies and terminate in toe-thrust fairways riding on a décollement surface.

Timing of basin development and source rock maturity were common themes throughout the symposium, as were discussions of petroleum "kitchens" and oil windows. All these topics showed the importance of and need for regional studies, which apparently are not as commonly undertaken by oil companies as in the past.

New paradigms in exploration thinking have resulted in the drilling of wells in basins previously considered to be "gas-prone" that are now also known to also be oil-productive. In particular, Richard Bray of Exploration Consultants Ltd described a newly recognized Tertiary petroleum system in the Douala Basin offshore Cameroon. The basin contains oil source rocks in the Eocene and Oligocene section. All oils are derived from terrestrial material deposited in shallow marine environments.

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photo by A.E. Berman

Audience

Africa: New Plays—New Perspectives

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Xijan Liu from ConocoPhillips described new thinking by his exploration team and his company's persistence in understanding the trapping mechanisms offshore Cameroon. He reviewed the company's Coco Marin 1 well in permit PH-77 offshore Cameroon, which produced oil from a stratigraphic trap formed by incised slope channels. The well produced 3,000 bopd and 1.8 MMcfpd proving that the Douala Basin is not limited to gas production and that structural traps are not the only way to find reserves.

photo by A.E. Berman

Crowd by exhibits

"The Coco discovery has the potential to completely change the exploration landscape in a presumed 'gas-prone' basin", stated Xijin (CJ) Liu and Ritchie Wayland of ConocoPhillips.

New seismic surveys offshore Namibia and South Africa are opening these lesser-known regions to exploration consideration. In particular, in the Orange Basin off western South Africa over 7 km of clastic fill has been successfully imaged seismically. An Upper Cretaceous toe-thrust complex 80–120 km wide is underlain by a décollement surface. Growth faults on the shelf have contributed to the construction of large basin floor fans that await drilling. Stratigraphic plays are also evident in turbidite fans and channelized fan systems.

East Africa has extensive areas that hold potential waiting for explorers. In the interior rift basins lacustrine source rocks that produce oil are expressed at the surface by large oil seeps. Many exploration companies have considered the interior basins to be gas prone but this seems in conflict with the presence of oil seeps. Well results in Kenya, Tanzania, and Uganda demonstrate the liquid-prone nature of many petroleum systems and their exploration potential. As with new evidence about Africa's gas-prone basins, these areas need new exploration models and companies willing to consider more unconventional trapping theories to locate the oil trends.

Important basinal areas offshore Mozambique and Madagascar have received limited attention to date. In many ways the region is as complicated as western Africa's offshore. Failed rifts and the separation of Madagascar from the continent set up complicated basin histories and their accompanying petroleum systems. However, major sediment columns exist and three trapping styles are well developed: tilted fault blocks, anticlines, and stratigraphic traps.

In the eastern Mediterranean of offshore North Africa the Levantine Basin is another poorly understood exploration region. Here, major rift basins underlie thick layers of tabular salt. David Peace of AOA Geophysics highlighted over fifty large structures that await acreage licensing and drilling. Activity in the plays of Egypt's deepwater Nile delta include many analogues that can be used to support similar prospects and potential production in offshore Israel.

Northwestern Africa was reviewed with a focus on Dome Flore, offshore Guinea-Bissau and Senegal. The search for lighter gravity oils is occurring across the whole region, which includes Mauritania and Conakry. Multiple petroleum systems exist but little production has been found to date. Salt diapirs are important for petroleum maturation, providing avenues of heat flow to shallower sedimentary sections. Emerging play types include deep water channels and fans, Cretaceous fault traps, distributary channel systems, and carbonate reefs with both karst and diagenetically produced reservoir porosity.

While the general emphasis of the Africa Symposium was the offshore, several talks and poster sessions provided important information and insight into the interior basins of the continent. Topics on the onshore included rift and failed rift basins of East Africa, specifically addressing Kenya, Tanzania, and Uganda as well as the island of Madagascar. North Africa was highlighted during an evening session with talks on Libya, Algeria, Tunisia, Morocco, Egypt, Chad, and the Sudan.

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Feature **Article**

Africa: New Plays—New Perspectives

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Exploration opportunities in onshore Angola and Cameroon were described as well as exploration implications of salt tectonics of onshore Gabon.

"There was a little bit for everybody," said Jim Coleman about the conference. He is an HGS member involved with the exploration in West Africa for many years. For Coleman, an important "take-away" from the Symposium was a ConocoPhillips-Petronas Caragali well drilled on 2D seismic data only in the Douala Basin offshore Cameroon.

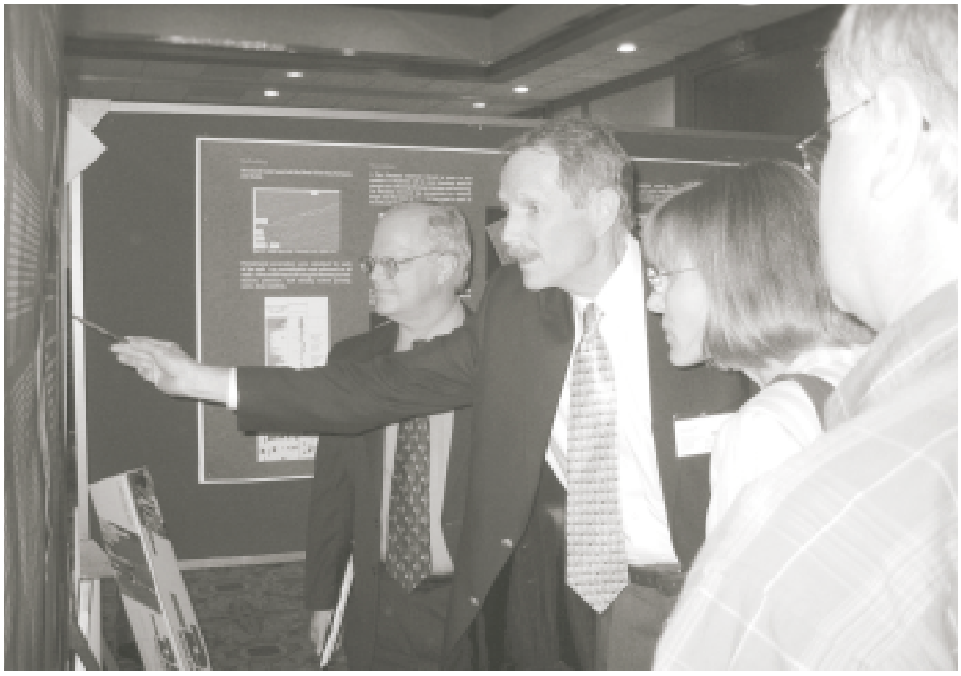

photo by A.E. Berman

Poster session

Another take-away for Coleman was the strategy used by some independents in bidding on offshore leases. "This happened as a result of talking to some people about exploration strategies at a poster session," said Coleman: "It showed the lack of depth that went into buying leases" compared with the very science-oriented approach of the majors.

Valdis Budrevics, another HGS member, commented, "a regional view was fulfilled and predominated. I was a perfect candidate. I didn't know much about the regional Africa picture but my current job assignment demanded information. I could go from zero to an understanding of African regional geology—the play types and why the basins are where they are—in just a few days."

photo by A.E. Berman

Audience question

A somewhat unusual aspect of the Africa Symposium was locating poster sessions and vendor booths in the same hall in which talks were given. This arrangement got mixed reviews by participants and attendees. Some felt that it was distracting while others thought this contributed to a spontaneous and direct linkage between talks and posters. Coleman suggested that if vendors had real-time data sets pertinent to the conference for participants to "demo" that this would be a benefit.

While positive overall about the conference, Budrevics was critical of some of the talks. "I didn't like the prospect-specific talks that went into excruciating detail about all the prospects on a

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Africa: New Plays—New Perspectives

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company's block." He also objected to co-locating vendors and technical poster sessions, saying it was difficult for the technical people to compete with the vendors' well-staffed, professional booths.

Keith Skipper, executive vice president of Antrim Energy Inc., commented, "The standard of presentations and technical material presented was first rate. This was a demonstration of the caliber available to the (smaller) virtual oil companies who need to outsource much of their work. Clearly, professional petroleum explorers are responding to competition in today's market to demonstrate one's technical prowess in order to obtain funding (or employment) for key concepts and projects. Responding to the comment that many companies face a shortage of prospects, it was noted what we really have in today's industry is a vacuum of informed and consistent risk takers."

I could go from zero to an understanding of African regional geology – the play types and why the basins are where they are – in just a few days.

When asked if the geographic focus (Africa) of this meeting should be continued or if it filled a gap, Jim Coleman offered, "HGS should have a similar meeting every quarter—South America, Southeast Asia, China, frontiers of North America and Europe." Coleman felt that the geographic venue supplemented the more thematic nature of the national society meetings (e.g., deep water) that he ordinarily attends. Valdis Budrevics concurred with the type of ongoing venues suggested by Coleman, "Wouldn't it be great to learn the geology of all the world's margins in something like two-and-a-half years?" ■

Dr. Norman S. Neidell Wins HGS Best Paper Award

Each year, the Houston Geological Society gives a Best Paper award for the presentation judged the best from the society's general dinner and luncheon meetings. The competition was very close during the past year, with many outstanding speakers and talks arranged by Vice President Robert Pledger.

In a ceremony at the September 2003 general dinner meeting, Dr. Norman S. Neidell received the Best Paper award for his talk, *Geopressure and Seismic Estimation of Enhanced Reservoir Quality—Subsalt Analogs*, which he gave at the November 11, 2002, general dinner meeting. The HGS ***Bulletin*** features the abstract of his talk and a short biography on page 19 of the November 2002 issue.

Congratulations to Dr. Neidell!

APPEX 2003 – A Pictorial Overview

by ***Arthur E. Berman***

The 2003 APPEX Prospect & Property Expo was held September 9–11, 2003, at the George R. Brown Convention Center, Houston, Texas. HGS was a co-convener of the event along with AAPG, SIPES, and PLS, Inc. In its third successful year APPEX has become a great forum to bring prospect generators and investors together to discuss opportunities and to "make deals." Hundreds of prospects were exhibited that included drilling and leasing opportunities all over North America as well as Australia, Colombia, New Zealand, Pakistan, Ghana, and Nicaragua. Paul Hoffman and Deborah Sacrey of the HGS were co-chairpersons for the event.

The forum "Perspectives on the Upstream Business of Oil & Gas" and the short course "Risk and Asset Development" were presented. The "Perspectives" forum led off with a talk on global perspectives titled "Issues and Outlook" by Pete Stark, vice president of IHS Energy, sponsor of the forum. Subsequent forums included Africa, Asia, and Latin America perspectives. The North America gas perspectives forum was presented in three parts focusing on deep water, North America gas business model and coalbed methane.

More on APPEX 2003 will follow in next month's HGS *Bulletin.*

photos by A.E. Berman

Paul Hoffman, APPEX co-chair

Deborah Sacrey, APPEX co-chair

Houston APPEX
AAPG PROSPECT & PROPERTY EXPO
CO-CONVENERS: SIPES, HGS and PLS
SEPTEMBER 9-11, 2003

The forum "Perspectives on the Upstream Business of Oil & Gas" and the short course "Risk and Asset Development" were presented


AAPG

CHAIRFEST 2003

*by **Arthur E. Berman***

The annual HGS "Chairfest" event was held August 27 at the Cadillac Bar in Houston. I arrived early at the Cadillac Bar just south of I-10 on Shepherd. I entered a large room whose walls were covered with grafitti, writing, notes to lovers, and various popular and profane "art" with a decided Tex-Mex flavor.

¿Dónde más puedes escribir en las paredes sin que te digan nada? (Where else can you write on the walls and nobody says anything about it?)

That's the motto of The Cadillac Bar. In a way it could be an informal motto for volunteer work in the HGS: Where else can you decide to undertake whatever makes sense to you and nobody says, "Don't do it?"

In front of me was a chair on a table along with a marking pen. Ken Nemeth, HGS Finance Committee chairperson and the only person in the room besides me, other than the bartender, said, "The chair is the sign-in register." And so it was. Soon Claudia Ludwig, Engineering Council of Houston co-chairperson, wandered in followed by George Klein, AAPG Delegates foreman, and Kara Bennett, Continuing Education chairperson. The room quickly filled with chairpersons and Executive Board members and soon everyone was ordering drinks and eating Tex-Mex food and getting to know each other.

Chairfest is an opportunity for the chairpersons of all the many Houston Geological Society committees to meet each other and the Society's Executive Board members. It is a social gathering of volunteers as the HGS begins its year as well as an opportunity to socialize and learn about the diverse activities the organization undertakes each year.

For most HGS members the only contact with the Society's volunteer committees comes when dues cards are filled out and members can check activities on which they might be willing to work. If you checked any of these committees, those at Chairfest are the members who will call on you throughout the year.

Chairfest is an opportunity for the chairpersons of all the many Houston Geological Society committees to meet each other and the Society's Executive Board members

At Chairfest the highlights of these committees and their plans and expectations for the new year are described and celebrated. Craig Dingler, HGS president, found a microphone and, when he had almost everyone's attention, gave an impromptu introduction to Chairfest along with his thoughts on the importance of the event. Craig was followed by Paul Hoffman, co-chairperson of the APPEX Prospect Expo that was then a week or so away, and then by Steve Levine, HGS president-elect, who added their own comments.

photo by A.E. Berman

Kara Bennett (Continuing Education chairman) signing the chair at Chairfest

The benefits of this group's programs and those who volunteer to help them are valued and appreciated throughout the membership whether or not individuals are presently able to participate or not. These committees take their direction largely from the members in response to issues raised on the HGS Website or brought to the attention of committee chairs or Board members.

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Chairfest continued from page 51

Many popular and successful events, symposiums, and regular talks and meetings we enjoy and benefit from are initiated and maintained by those at Chairfest. Examples include the recent, hugely successful Africa Symposium that drew nearly 400 participants from Houston and around the world. Earth Science Week and CAST, the annual convention of secondary school science teachers, will involve thousands of geoscientists from all over the country in the coming months. Lesser publicized but equally important functions like the HGS Scholarship Fund grew out of and continue as a result of volunteer committees, not to mention the many popular talks, short courses and general meetings held every month.

photo by A.E. Berman

Directors Marsha Bourque and Andrea Reynolds (foreground), President-Elect Steve Levine, and Advisory Chairperson Charles Sternbach (background)

photo by A.E. Berman

Steve Earle (N. American Explorationists chairperson, left), Paul Hoffman (APPEX co-chairperson, center), Craig Dingler (president, right)

At its foundation the HGS exists to help bring about what its members want and need. The beauty of the HGS is that members can choose to actively participate or simply attend and benefit from the many events and activities the Society sponsors.

I had a good time at Chairfest and met a lot of people I had heard of but didn't know. I learned about many diverse aspects and activities of the HGS.

Basically what I took away from these conversations and Chairfest is: HGS is big enough and we have so many proactive and motivated members that all the organization has to ask from its members is to tell someone what is needed and some group will likely work to make it happen!

Steve Levine, HGS president-elect, and Paul Babcock, HGS vice president provided some of the thoughts contained in this article. ■

See page 3 for a list of HGS committees. Call today to volunteer!

HGS Welcomes New Members

Effective September 1, 2003

ACTIVE MEMBERS

Peter Allen
Lowell Armstrong
Randall Bacon
Cyrus Behseresht
William Bippus
Charles Bondurant:
J Callaway
Fernando Cerda
David Chastain
Richard Clark
Scott Daniel
Tom Fletcher
Eric Gardner:
R. Hall
Ernest Hull
William Keller
Ohmyoung Kwon
Peter Lascelles
Fonda Lindfors
Tom Mize
Edward Murphy
David Nickson:
Susan Nickson
F. Pace, Jr.
Norman Paterson
Chris Payton
David Prouty
Michael Quinn
Jill Savage
Bud Smallwood
Marcelo Solano
Dawson Soth
Sylvia Sundquist
Henry Timperley
Bruce Trudgill
D Turner
Art Valdez
Donald Vossler
David Welch
Mitchell Williams
Carole Wright

ASSOCIATE MEMBERS

April Colbert
David Dushman
Deborah Gill
Daryl Bailey
Jerry Donalson
Joan Laury

Welcome New Members

Association for Women Geoscientists—Re-establish a Local Chapter

The Association for Women Geoscientists is trying to re-establish a local chapter here in the Houston/Austin area. This is a call for AWG members, as well as other geoscience students and professionals, who may wish to become more involved with AWG at the local level. The original Lone Star Chapter closed in spring 2003. However, the chapter is planning to reopen this fall because of renewed interest among AWG members in the Houston area.

Many of our members participate in outreach activities for K-12 students, such as science and career fairs, Earth Science Week events, and field trips or presentations for Girl Scouts and other groups.

What is AWG?

AWG was started in 1977 to address the continuing under-representation of women geoscientists in academia, government, and industry. The Association's goals are to encourage the participation of women in the geosciences; to exchange educational, technical, and professional information; and to enhance the professional growth and advancement of women. AWG works to achieve these goals through support for undergraduate and graduate students, programs for professionals, and outreach to girls. Other activities benefit the geoscience profession and our broader society. With about 800 members and 15 chapters, AWG is the largest such organization in the world. Several thousand people have been members at some stage of their careers (mainly women in the United States but also men and citizens of other countries). The AWG Foundation works closely with AWG to support its educational and outreach programs. AWG is also a member or affiliated society of AAAS, AGI, GSA, and AAPG.

Member benefits include AWG's informative newsletters and varied programs at the national and local levels. *Gaea* (our printed newsletter) and E-Mail News highlight AWG activities, reprint articles of special interest, and publicize career openings. Local and national activities provide many opportunities for networking, mentoring, and professional growth. Programs that specifically benefit geoscience students include several scholarships and awards. Both students and professionals participate in field trips and workshops, a free resume review service, and research internships at national parks. AWG also arranges lectures about geoscience topics and presents awards to outstanding educators and others. Many of our members participate in outreach activities for K-12 students, such as science and career fairs, Earth Science Week events, and field trips or presentations for Girl Scouts and other groups. Several AWG programs also benefit our broader society. For example, members have researched the status of women in the geosciences, attended a conference to promote diversity, and met with legislators to discuss earth science issues. AWG also conducts joint programs with other organizations; for example, we have supported the AGI Government Affairs Program and a publication about teaching evolution. In summary, AWG members develop curiosity, learn about issues, and engage the public, and demonstrate their competence of women in science.

Who can join?

Membership is open to all persons who support AWG's goals. Our members include professional women and men from industry, government, museums, and academia; students from a cross-section of colleges and universities; retirees; and others. You can join by downloading and submitting a membership application from the Website, www.awg.org. More information about AWG can also be found there. Member benefits include (but are not limited to): free resume services, community outreach and mentoring, scholarships, external scholarship sources, member listing for mentor opportunities, annual field trips, conferences and short courses and the bi-monthly newsletter *Gaea* and AWG E-Mail News. If you would like to speak with an AWG representative, please contact Allyson K. Anderson, AWG president-elect at 713.431.2049 or president-elect@awg.org.

Events

A bimonthly luncheon series is being organized for Houston-area AWG members and nonmembers who are interested in becoming involved with the Lone Star Chapter. Informal monthly meetings will begin in October (dates and times will be announced). AWG members will also participate in Earth Science Week activities with the Houston Geological Society. Future AWG events will be planned at the first luncheon and information about all events will be posted in advance on the Website. Please watch for more information and plan to join the new Lone Star Chapter at one of the upcoming events! ■

HGA *and* GeoWives **News**

*by **Norma Jean Jones,** First Vice President of HGA*

The first event on the 2003–2004 HGA calendar was held at the HESS Club on Wednesday, September 17. The food was delicious and beautifully presented. Our program featured Ann Thomas, a truly lively and interesting speaker, who delighted us as she reviewed, with a unique and entertaining style, a selection of notable, current books. Co-Chairpersons Sally Blackhall and Narda Martin did a fantastic job with all the details. The fall centerpieces were exceptionally beautiful and, to the delight of several winning members, were given as door prizes.

Begin your holiday celebrations with us at the Great Caruso on Thursday, December 4. We will lunch together and enjoy a musical program the likes of which you can find only at the Great Caruso. Members are encouraged to bring their spouses, significant others and friends. Make your reservations early to ensure yourself a place. This is a fabulous opportunity. Tickets will be $27 for members of HGA and HGS and $30 for other guests. This will cover a 3-course lunch and a fantastic Holiday show. There will be a cash bar. Chairperson for this event will be Suzanne Howell.

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HGA *and* GeoWives **News** *continued from page 61*

GeoWives plan an evening at the races at Sam Houston Race Park on Friday, November 14, 2003. First post time is 7 p.m. Join us at the Winners' Circle for dinner with reserved seating. Spouses and friends welcome.

Future events: Monday, December 8, Christmas caroling at Tremont Retirement Community, preceded by brunch at 10.30 a.m. at the Memorial Drive Presbyterian Church. Monday, December 15, an evening at Daisy Wood's, 8800 Woodway Drive #7, Houston TX 77063.

Save these dates:

January 21, 2004 Book review by Margaretta Bolding.
February 11, Museum of Fine Arts and lunch.
March 11, Martha Lou Broussard and Linnie Edwards have their annual day trip returning to Independence and Brenham to continue the life of Sam Houston.
April 25, "Spring Fling, Member Talent Show"
May 17, Installation of officers and year-end brunch.

As a member of HGA you are invited to join

GeoWives

2003–2004 dues are $7.50

make check payable to *GeoWives* and mail to:

Dene Grove
12715 Pebblebrook
Houston, Texas 77024

Please provide the following

Name: _____

Sreet Address: _____

_____

City/State/Zip: _____

_____

Telephone: _____

email: _____

Please accept the Editor's apology for not posting the OOO Tango event in October's Bulletin.

You are invited to become a member of

Houston Geological Auxiliary

2003–2004 dues are $20.00

make check payable to *Houston Geological Auxiliary* and mail to:

Audrey Tomkins • 3007 Stalley • Houston, Texas 77092

HGA YEARBOOK INFORMATION

Last Name	First Name	Name Tag

Spouse Name	Name Tag	HGS Members Company

Home Phone	Business Phone	Business Fax
( )	( )	( )

Street Address	City	Zip

Birthday, Month, Day ONLY	Email Address	Home Fax
		( )