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The SPE-GCS Board of Directors has been exploring initiatives to collaborate with related technical societies and non-profit research organizations. Russ Neuschafer (Tech Transfer) and Greg Palmer have led the discussions with the Research Partnership to Secure Energy for America (RPSEA). The Board of Directors has approved a proposal to form an Inter-Society Liaison committee in Tech Transfer. Greg Palmer has volunteered to lead this new committee. The SPE-GCS Inter-Society Liaison committee will become members of RPSEA and have access to all programs and communications. The SPE-GCS has no financial obligation for membership. The Inter-Society Liaison committee will coordinate with study groups and program chairs to inform them of topics and speakers that may be of interest for study group events.

The SPE-GCS was one of the Founding Organizations of the Offshore Energy Center (OEC) when donations were requested for the Ocean Star Offshore Drilling Rig Museum and Education Center in Galveston. The SPE-GCS has a representative serving on the OEC Board of Directors in 2013-14. In 2012, over 190,000 people attended OEC’s education outreach activities and museum visits. We have a great opportunity to continue collaboration and educate our community about the energy industry. I recommend that you, your family and friends visit the Ocean Star Offshore Drilling Rig and Museum in Galveston.

The SPE-GCS is a Founding Organization of the Collaborative in Houston to Advance Science and Engineering (CHASE). The mission of CHASE is to promote and enhance science and engineering education in the Houston metropolitan area. Motivating and inspiring students in mathematics is a critical element in preparing students for higher education in the science and engineering fields. CHASE believes that equipping and energizing Master Math Teachers at the middle school level will serve as a catalyst to stimulate students’ interest in high school math and science and will significantly increase the number of students completing science and engineering degrees in college. CHASE program was formed in 2006 and a pilot program was started in May 2007 with seven local teachers. The pilot program involved the Society of Petroleum Engineers Gulf Coast Section, Houston Community College, and the University of Houston Victoria campus. Funding for the pilot program was contributed solely by the SPE-GCS. In 2008, the pilot program was reviewed by the Rice University Executive MBA community service program. The MBAs provided strategy and scale up recommendations resulting in the creation of the CHASE Advisory Board and the support of the program’s first industry sponsor, Shell. Between Phase 1 and 2, changes were made to the administration of the program whereby the University of Houston was selected as the program administrator to support CHASE growth in the future. Funding for Phase 2 was contributed by SPE-GCS and Shell. The number of teachers participating in the program has grown from seven in Phase 1 to more than twenty-five in Phase 3.

Dr. Guan Qin holds the SPE Gulf Coast Section Endowed Professorship in Petroleum Engineering at the University of Houston. The number of students pursuing undergraduate degrees in Petroleum Engineering has grown from twenty in the fall 2009 semester to nearly four hundred in the fall 2012 semester. The first class of Petroleum Engineers (fourteen students) graduates this month and the SPE Student Chapter is active and growing. Jeanne Perdue (Membership) is the SPE-GCS representative on the Petroleum Engineering Advisory Board.

The annual SPE-GCS Awards Banquet recognizes the students who have received a SPE-GCS scholarship for the 2013 academic year. We will recognize our Legion of Honor award recipients and our SPE Regional and Sectional award winners. Clarence Cazalot, Chairman, President and CEO of Marathon Oil will be our speaker. I encourage you to attend. We would like to know how we can serve your interests with programs and activities organized by the SPE Gulf Coast Section study groups and committees. Please send us your comments and suggestions. My email address is sbaugartner@marathonoil.com.
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**BOARD OF DIRECTORS MEETING**

**THU May 9**

7:30 AM TO 10:30 AM

**LOCATION**  
SPE Houston Office  
10777 Westheimer Rd.  
Suite 1075  
Houston, TX 77042

**EVENT CONTACT**  
Sharon Harris  
713-457-6821 EXT. 821  
713-779-4216 FAX  
sharris@spe.org
May 1963

After many years of being an anomaly in the business world by having boards of directors dominated by “insiders,” E&P companies are now moving to seek more of a balance of industry “insiders” and “outsiders.” The only E&P companies that are remaining firm on insiders: Standard Oil of New Jersey (Surprise! Surprise!), Standard Oil offshoot Marathon Oil, and family-controlled operators Superior, Sun, and Signal.

The world’s first ocean-going catamaran drilling vessel built from the keel up is proposed by Reading & Bates. Its design advantages include stability in bad weather, ease of towing, and storage space.

Despite years of indifference towards the productivity prospects of the Appalachian Basin, recent promise shown by pre-Devonian zones, especially the Oriskany, are spurring a rush on leasing (Look out Marcellus…they’re getting close!). Iran is preparing to get into some major phases of the oil business on its own and in a big way. The government oil company reports plans to build a natural gas transmission system that would serve Tehran, a 50,000 b/d refinery in Tehran, and a crude oil pipeline to supply the refinery.

U.S. active rig count - 1,507

May 1988

The Reagan administration announces plans to permit U.S. warships to protect neutral merchant ships under attack in the Persian Gulf. Previously, the U.S. navy only provided protection to U.S. flag vessels.

Iraq’s latest and most destructive air raid on Iran’s Larak Island transhipment facility in the Strait of Hormuz has left the world’s largest tanker, the 564,739 dwt Seawise, ablaze and possibly a total loss.

South Africa reports its first commercial oil discovery, a 6,000-7,000 b/d strike by state-owned Soekor drilled in Mossel Bay about 60 miles from their Mossgas gas field. The combination of the Sasol oil from coal plant, the Mossgas project, and recent oil discoveries is expected to make South Africa self-sufficient in oil.

Mexico will limit its exports to 1.35 million b/d and is reportedly ready to proceed with a serious and constructive dialog with OPEC on long-term output cuts.

WTI crude oil - $17.37/bbl; U.S. active rig count – 897

May 2003

OPEC’s latest meeting, described by one analyst as looking like a Chinese fire drill, ended with a decision to raise their official output quota by 900,000 b/d and in the process, served to hold U.S. crude oil prices at least $5/bbl below their inventory-supported prices.

The U.S. commits $1.7 billion for the first five years of an R&D program for hydrogen, hydrogen infrastructure, fuel cells, and hybrid-vehicle technologies. Ramco Oil, Marathon, Statoil, and Enterprise Energy all commit to expanded exploration activities in Ireland, particularly in the Celtic Sea. Rumors have it that some of them will back off from conventional seismic-based drill site identification in favor of a new tighthole Irish-developed technology called “Rainbow POG” prospecting.

Petrobras reports plans to build a $2 billion refinery in northeast Brazil that will be capable of refining heavy crude oil. You’ll never guess who has been frequently seen visiting with Brazil’s President Luiz Inacio Lula da Silva in Brazil’s northeastern state of Pernambuco - Venezuela’s President Hugo Chavez. (It sounds like some sort of deal may be in the offing.)

Light sweet crude oil - $26.63/bbl; Natural gas - $5.69/MMbtu; U.S. active rig count – 1,021

It must be said that at the heart of Standard Oil was a solid business operation, characterized by a top-notch workforce, consistent improvements in efficiency, and excellent products at reasonable prices. The compelling combination of good commercial practices and unethical activity made the company virtually unbeatable. By the 1880’s, Rockefeller, who by this time had moved to New York City with his family, owned the greatest corporate empire the world had ever known.
If you would like to participate in this month’s quiz, e-mail your answer to contest@spe.org by noon, May 15. The winner, who will be chosen randomly from all correct answers, will receive a $50 gift card to a nice restaurant.

Many Americans were, however, alarmed by the rise of unchecked industrial monopolies, fearing they would threaten not only free competition but democracy itself. Public outrage escalated in 1902 when monthly magazine McClure’s launched a 19-part expose on the Standard Oil trust. Rockefeller became a focal point for the nation’s unease, loathed and widely feared.

To illustrate just how vast the Standard Oil empire was at its peak, among the companies that formed from its breakup are the following: Chevron, Amoco, Exxon and Mobil.

“Get money, get it honestly, and then give it wisely,” his minister had preached years before. Rockefeller spent the first half of his life pursuing the beginning of that precept, and the second half fulfilling the last.

In the September issue, Rockefeller begins to distribute his wealth.

Who is credited with building the first successful four-stroke cycle gas engine, and what type of fuel did it utilize?

The most cost-effective solution to the dust problem common on English roads in the early 1900’s following the introduction of motor cars was oiling the roads with Texas crude oil.

Congratulations to Last Month’s Winner

JOHN JACKSON,
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Read the case study at slb.com/ACTive
The Houston Association of Professional Landmen is delighted to introduce the Energy Entrepreneurs Social, an exciting new networking event premiering Thursday, June 13, 2013.

This innovative social will bring together entrepreneurial landmen, geoscientists, engineers and financiers into a networking opportunity specifically focused on the formation of new management teams for E & P Company startups. The purpose of this event is to unite new and prospective entrepreneurs who are looking to strike out on their own or are actively assembling management teams.

The event will be held at Sambuca Houston, 909 Texas Avenue, Houston, Texas 77002, from 5:00 p.m. until 8:00 p.m. We will offer beverages, appetizers and door prizes, and we will have a speaker giving a short talk on entrepreneurship. We are also actively recruiting sponsors, so please contact our event coordinator (see event web page for details) if you or your company would like to participate.

Register now at http://www.hapl.org/en/cev/487 to join us in celebrating the debut of the HAPL Energy Entrepreneurs Social. We hope to see you there!

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To schedule a meeting, or receive more information, go to Halliburton.com/Complete1

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*Based on Spears & Associates Difficult Market Report.
This month the SPE Gulf Coast Section wishes to recognize the efforts of our Scholarship Chair, Tanhee Galindo, a Technical Specialist at BASF. She helped get the word out about our scholarship program to high schools, collected applications, sent them out to fellow SPE members for grading, made arrangements for the Saturday interviews, and communicated results to all the applicants. She also will compile the scholarship information for the Awards Banquet, where the students will be recognized. That’s a lot of work, and we appreciate her leadership.

Tanhee was recently promoted to a Technical Specialist at BASF, she is now responsible for providing expert technical service in a key growth area, hydraulic fracturing chemicals. Last year, she was coordinating test procedure development with R&D scientists for testing polymers, surfactants and other chemical additives. Her most recent work was accepted for presentation at the SPE International Symposium on Oilfield Chemistry. She has shown exceptional dedication in bringing fresh innovations to her business segment, including a project request, assignment and tracking system that resulted in her earning an Extra Mile Award for Innovation and Change Orientation in October 2012.

After graduating from Sam Houston State University in 2007 with a BS in Biology and Chemistry, Tanhee worked as a Chemist at Baker Hughes for three years, testing and developing new technologies in fracturing and acidizing chemicals. She planned and conducted research to show the benefits of new products and their application to existing or new Baker Hughes product lines, identifying appropriate test methods to characterize these benefits.

Since January 2012, Tanhee has also volunteered with Child Advocates, Inc., a nonprofit organization that mobilizes court-appointed volunteers to break the vicious cycle of child abuse. “I am one of many who speak up for abused children who are lost in the system and guide them into safe environments where they can thrive. It is a great opportunity to make a difference in someone’s life,” Tanhee explained.
Reserves for Unconventional Reservoirs
Houston, March 7-8
This two-day short course will examine methods available to forecast production and estimate reserves in unconventional (low to ultra-low permeability, hydraulically fractured, shale gas) reservoirs, and will identify the strength of weaknesses of commonly used methods.

Houston, May 9th
MPUR fosters the sharing of emergent ideas in multiphase pumping and provides a focus on topics such as Subsea, Heavy Oil and Facility Minimization in Shale Gas/Oil Developments.

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Join us for a wonderful evening as we celebrate the achievements and support of SPE-GCS members. The annual SPE-GCS Awards Banquet recognizes the high school seniors and college students who have received an SPE-GCS scholarship for the 2013 academic year. In addition, this event also recognizes our Legion of Honor award recipients as well as our SPE Sectional and Regional award winners.

Clarence P. Cazalot Jr. is Chairman, President and Chief Executive Officer of Marathon Oil Corporation. He joined Marathon in May of 2000. Prior to this, he served as Vice President of Texaco Inc. and President of Texaco’s worldwide production operations. Mr. Cazalot has held a number of high-ranking positions within Texaco, notably President of International Production and Chairman of London-based Texaco Ltd. He was also the President of Texaco International Marketing and Manufacturing, President of Texaco Exploration and Production, Vice President of Texaco Inc and President of Texaco’s Latin American/West Africa Division.

Mr. Cazalot joined Texaco in 1972 as a geophysicist in Bellaire, and transferred to the company’s offshore division in New Orleans, Louisiana, in 1974. He subsequently held a number of posts of increasing responsibility before being named assistant district geologist in 1976, district geologist in 1977, assistant division geologist in 1979 and regional manager of exploration in 1981.

He is a native of New Orleans and graduated from Louisiana State University with a bachelor’s degree in geology. In May 2007, he was awarded an Honorary Doctorate of Humane Letters from Louisiana State University.

He serves on the Boards of Directors of Baker Hughes Incorporated, the American Petroleum Institute, the LSU Foundation and the Greater Houston Partnership as well as the Advisory Board of the World Affairs Council of Houston and the James A. Baker III Institute for Public Policy. He also serves on the Board of Visitors of the University of Texas M.D. Anderson Cancer Center, the Executive Advisory Board of the Houston Minority Supplier Development Council and the board of the Bipartisan Policy Center Energy Project.

Mr. Cazalot is also a member of the Business Roundtable (BRT), the American Association of Petroleum Geologists, the National Petroleum Council and the All-American Wildcatters Organization.

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Microbes in Drilling & Production – Keep Your Friends Close & Enemies Even Closer

Microorganisms are more abundant and diverse than most people imagine and have the ability to drive biogeochemical processes on a global scale. Despite their importance, there is little understanding of the potential negative effects of microorganisms on oilfield operations or how to enhance their positive effects. Negative effects can include microbial induced corrosion and plugging of equipment, biogenic souring of wells, interference with drilling operations and loss of formation permeability. Positive effects can include assistance in locating reserves, enhancing oil recovery, mitigation of deleterious microbial processes and bio-remediation of waste products created by oilfield operations. This presentation will include a discussion of topics related to microorganisms and the oil and gas industry. We will also explain the use of culture independent techniques for studying microbes with emphasis on how it has vastly increased our understanding of them. The presentation will include original research and specific examples to demonstrate the progression of our understanding and the potential for that knowledge to have significant impact on oil and gas operations.

James “Buddy” Gaertner, PhD

James “Buddy” Gaertner, PhD, is Director of Research and Development for ViChem Specialty Products (Conroe, TX). ViChem specializes in environmentally friendly drilling fluid systems and additives. During his time with ViChem, he has authored several technical papers and presentations on topics from drilling fluid performance to microbial contamination of drilling fluids. He has worked with the company since graduating from Texas State University, San Marcos, in 2010 with a PhD in Aquatic Resources. His PhD work included extensive work with biofilms and 13 publications in peer-reviewed journals. Before graduate school, he worked for six years as an environmental consultant on industrial air quality.
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Utica Midstream – Utilizing Private Equity to Fuel Opportunity and Growth

Join us at the Four Seasons Hotel as Rick Moncrief will update us on Caiman’s role in fulfilling the industry’s critical need for midstream takeaway in the quickly expanding Utica Shale. Dennis McCanless will fill us in on how private equity has become a core fuel for this critical expansion. The popular format of a Business & Social Networking hour, with complimentary Hors d’oeuvres and a cash bar, followed by an hour-long program, will begin at 5:00 PM in the Mezzanine.

The tri-state area containing the Utica and Marcellus Shales has a long history of shallow low rate/long life production. The phenomenal growth of production from these world class unconventional resources quickly overwhelmed any existing infrastructure and has required the construction of entirely new gathering and processing capacity, particularly in the rich-gas Marcellus and Utica plays. Midstream entities are quickly expanding to meet this critical need, overcoming the hurdles of difficult terrain, strained regulatory structures and large capital requirements. How have Caiman and Flatrock successfully worked together to fulfill this need? What were the chief takeaways from the Marcellus that will be used to accelerate Utica development? What are the new Utica challenges that will require different solutions to overcome?

We welcome you to join us for this informative discussion as well as the fellowship and networking of the popular Social Hour at 5:00 PM.

Richard D. (Rick) Moncrief

Richard D. (Rick) Moncrief is Caiman Energy’s Co-founder, President and COO. Previously as Executive VP of BD, Rick led Caiman’s commercial efforts in West Virginia and Pennsylvania, successfully deploying over $700 million in capital for the creation of various midstream assets. Rick also negotiated critical aspects of Mariner West purity ethane pipeline to Sarnia, Canada, which was vital for the rapid development of the Marcellus Shale. Previously, Mr. Moncrief held positions of increasing responsibility with multiple companies including Regency Energy Partners, Sid Richardson Energy Services and Koch Midstream Services. Rick graduated in 1981 with a BS in Petroleum Engineering from Texas A&M University.

Dennis J. McCanless

As Managing Director, Dennis J. McCanless is responsible for coordinating major commercial and investment activities with EnCap Flatrock’s asset portfolio companies along with the origination of new management teams. Prior to joining Flatrock Energy Advisors in 2007, Mr. McCanless held positions of increasing responsibility with Gas Solutions Holdings, Inc., Enbridge Energy, El Paso Field Services, Aquila Gas Pipeline Corporation and Delhi Gas Pipeline Corporation. He holds a BS in Petroleum Engineering from Texas A&M University and an MBA from the University of Houston.
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  - June 10-21, Sept 16-27, Dec 2-13

- **Applied Reservoir Engineering – RE:**
  - June 17-28, July 15-26, Nov 4-15, Dec 2-13

- **Completions and Workovers – CAW:**
  - June 24-28, October 7-11, November 11-15

- **Evaluating and Developing Shale Resources – SRE:**
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For details on these or our other 250 sessions in the Gulf Coast, contact Patty Davis, (832) 426-1203 or patty.davis@petroskills.com, or see details and full selection at [www.petroskills.com](http://www.petroskills.com).
How Many Fracs Are Producing In My Horizontal Well?

A well producing from multiple fractures exhibits a characteristic response during production or pressure transient testing that can be used to identify the geometry of the fracture system. Both well test and production data analyses methods are available, or being developed, that focus on identifying the productive fractures using intrawell fracture interference observed in either transient or production data.

New interpretation methods require observation of interference between fractures along a single wellbore, or intrawell interference, which must be differentiated from the more commonly observed interwell interference. Since interference between fractures occurs relatively quickly, the analysis methods focus on matching early-time transient or production data to type curves.

A key to interpreting the early-time production data is a prefrac measurement of permeability-thickness, $k_h$, and often a DFIT or fracture-injection/falloff test is the preferred well test prior to hydraulic fracturing. This presentation also demonstrates the latest interpretation methodologies of DFIT data and shows how DFIT data is used with production data to infer the number of fractures producing in a multifractured horizontal well. Field examples are included to demonstrate the methodology for both DFIT analysis and interpreting intrawell interference.

David P. Craig, PhD

David P. Craig is owner of Reservoir Development Company in Denver, which focuses on state-of-the-art fracture-injection/falloff analysis, refracture-candidate identification, and multifractured horizontal well production analysis to determine the number of fractures producing along a lateral. Previously, Dr. Craig was a Chief Engineer for Halliburton where he developed a prototype model for propagation of complex hydraulic fracture patterns.

Dr. Craig earned a BS in Petroleum Engineering from Texas Tech University in 1989, an MS in Petroleum Engineering from Texas A&M University in 1991, and a PhD in Petroleum Engineering from Texas A&M University in 2006. He is also a licensed engineer in the State of Colorado.
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A Data-driven Approach to Modeling and Optimization of a North Sea Asset Using Real-time Data

Installing increased numbers of sensors on existing and new well stock does not necessarily result in increased production. New methods of analysis must also be developed to capitalize on the new data streams to maximize safety and value delivery. A novel approach to modeling gas coning, which has been difficult to characterize using first-principles models, has been developed for one of BP’s assets. It is based on the integration of several data-driven models representing different aspects of a well’s performance characteristics. These models use the well data that is captured by existing sensors.

In this presentation, we describe how the data-driven approach has been developed and successfully tested on a North Sea reservoir operated by BP. The suite of data-driven models provides the capability to predict the fluid and gas rates for use in short-time-loop optimizations.

Eric Ziegel

Eric Ziegel is Senior Statistician at BP and a project manager in the Decision Analytics Center of Expertise in BP Upstream. He is the senior computational technology advisor for the research and development work in using data mining, predictive analytics and artificial intelligence in upstream applications. He is an SPE member and active in the Petroleum Data-Driven Analytics Technical Section. Eric has been a Fellow of the American Statistical Association since 1989 with association experience as chair for program, meetings and publications committees and more than 20 years as a statistics journal editor.

Eric has 44 years of industry experience in oil and gas. He has an MSc in Applied Statistics from Purdue University. The early part of his career was spent in support of petrochemicals. Since 1984, he has been at Amoco and subsequently BP’s principal statistician, working from corporate centers in Chicago and Houston. He consulted and taught statistics globally across both organizations. Eric became full-time in BP Upstream in 2005. He was the co-developer of the original Data Analytics Program in BP’s Field of the Future technology flagship.
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Ethical Principles in Business

Ethical Principles in Business is part two of a three part ethics series developed by the author to review the interrelationships between people’s beliefs and actions and frequent conflicts that occur in business settings. This one-hour interactive study will touch on social utility, entitlements, rights, tolerance and permissiveness. Several examples from a business perspective will be presented for topical discussion. The goal of this presentation is to allow us to recognize that sometimes, competing and conflicting standards undermine one’s expectations and, even if we disagree, we can at least understand others’ perspectives and motives.

James Pappas, P.E., M.B.A.

James Pappas is Vice President of Ultra-Deepwater Programs for RPSEA, the Research Partnership to Secure Energy for America, in Sugar Land, TX. He has held past positions as Global Technology Coordinator, Facilities Engineer in the Deepwater & International Well Engineering & Facilities Division, Deepwater Project Coordinator for Devon Energy, as well as Production Engineer in the Gulf of Mexico Division for Devon and Santa Fe Snyder prior to their merger. He has also held drilling, completions, production, operations superintendent, reservoir and acquisitions and divestitures (A&D) positions with Fina Oil and Chemical Company, UPRC and Amoco Production Company.

He has been involved with the Society of Petroleum Engineers for 34 years. He is both a past SPE International Production and Operations Technical Director and SPE Technical Programs and Meetings Committee Chair, and is a former chair of the GCS Scholarship Committee, General Meeting, Drilling Study Group and SPE-Gulf Coast Section Board of Directors. He is a member of the GCS Scholarship and Awards & Nominating Committees and chairs the SPEI Production & Operations Awards Committee.

James has authored or contributed to over 80 papers or spoken at various conferences and interviews on various technical and professional topics including: Monte Carlo reservoir simulation, hydraulic fracture analysis, well conformance remediation, subsea tiebacks, flow assurance issues, floating platform concepts, project management, drilling, government and the oil and gas industry, engineering, professionalism, recruiting, training and development, retention, volunteerism and ethics.

James earned a Bachelor of Science degree in Chemical Engineering, as well as a Bachelor of Arts in Chemistry with Math and Spanish minors, from the University of Texas at Austin in 1979. He graduated with a Master of Business Administration with highest honors from the University of Texas at Tyler in 1993.

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The Coming of Age of Controlled In-Situ Burning - Transition from Alternative Technology to a Conventional Offshore Spill Response Option

The first successful controlled In Situ Burn (ISB) was conducted in 1989 during an offshore spill response in Prince William Sound, Alaska following the grounding and spill of the T/V Exxon Valdez. That ISB consisted of one burn and the removal of approximately 700 bbl. In years following that incident, there have been many studies and tests of the effectiveness and impacts of controlled ISB of oil in different environments.

This presentation summarizes the ISB operational successes during the Deep Water Horizon (DWH) response, which demonstrated the large-scale application of safe and effective controlled burning of oil. Approximately 400 controlled burns were conducted removing an estimated 220,000 to 310,000 bbl from Gulf of Mexico. It concludes that under appropriate circumstances, ISB can now be considered a conventional, primary offshore response tactic. With the positive DWH experience in hand, industry and government have an opportunity to transition from considering ISB as an alternative technology to leveraging it as an early-response.

Neré Mabile

With more than 30 years of experience in the petroleum industry, Neré has a unique set of technical competencies involving oil spill response (OSR), integrity management, corrosion engineering, operations, and project management. Neré is currently a Technology Theme Leader for ISB, mechanical recovery, and booming as a part of BP’s Oil Spill Response Technology Team in Crisis & Continuity Management Central. Neré was the ISB technical lead during the DWH response and, in that capacity, led an enormously successful ISB operation that removed more than 300,000 bbl from the Gulf of Mexico.

For four years, Neré served as the initial incident commander for ORS in Prudhoe Bay, Alaska, where he responded to more than 100 hydrocarbon spills. During that time, Neré was involved with ISB testing and helped develop new equipment designs for mechanical recovery response in the arctic environment. He also successfully interfaced with state and government agencies regarding OSR plans post-OPA 90 regulations. In compliance with stringent environmental response plans, Neré has trained responders in a variety of environments.
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Emerging Industry Challenges & SPE

In October 2011, the world population was estimated to have hit seven billion and predictions were that in another 14 years, this number would grow by another one billion. It was also expected that the per capita consumption of petroleum products would increase in emerging countries. This, along with the economic activities in China and India were expected to drive the increase in demand for petroleum.

The challenge in the future is how to ensure that the industry will supply and meet the world’s needs. SPE is positioned to help improve future supply by a number of ways. In this presentation, Mr. Imomoh will discuss the multitude of ways that SPE can help bridge the gap between where we want to be and where we are today; be it in deployment of technology, membership, or image.

Egbert Imomoh

Imomoh is the Non-Executive Chairman and Co-founder of Afren. His petroleum industry career began in 1968, when he joined Shell as a petroleum engineer in Nigeria after completing training in The Netherlands. During his career, Imomoh has worked in Nigeria, the UK, and The Netherlands. He rose to the position of Deputy Managing Director of Shell Petroleum Development Company of Nigeria, which he held until his retirement in February 2002. He then worked with Shell International, London, as a Senior Corporate Adviser in Nigeria from 2002-04.

Imomoh has been a member of SPE since 1972 and was a founding member of the local SPE organization in Nigeria. He was Chairman of SPE Nigeria Council during 1988-89, became an SPE Distinguished Member in 1989, and was named an Honorary Member in 2011. He served as the first Africa Region Director on the SPE Board of Directors during 2000-03, chairing the Board Committee on Membership, Education, and Professional Activities in 2002-03. He has been chairman of the SPE Nigeria Council Board of Trustees since 2007. He holds a degree in Mechanical Engineering from the University of Birmingham, England.

Event Info

SPEAKER
Egbert Imomoh
Chairman and Co-Founder
Afren

LOCATION
Norris Westchase Center
9990 Richmond Ave, Suite 102
Houston, TX 77042

EVENT CONTACT
Michael Cherif
713-656-7303
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The Evolving State of Natural Gas

In mid-2008, oil prices climbed to almost $150/barrel, then dropped to around $40 and have now moved back to $100. Natural gas prices have remained very uneven throughout the world. In the U.S., it sells for about one fourth of its “BTU-parity” with oil. There are many reasons for this situation: the considerable demand destruction in Russia; large new capacity of liquefied natural gas (LNG) in Qatar and elsewhere; and of course, the inertia of the success in shale formation activities in the United States.

Massive new deposits of natural gas are discovered continuously such as the recent feats in Eastern Mediterranean. The International Energy Agency has suggested that ultimate world recovery is over 30,000 Tcf of natural gas, which is 300 years of supply at current rate of use. Price gyrations affect all aspects of the natural gas world including LNG trade, the desirability or lack thereof of arctic pipelines, conventional, and especially unconventional gas production. A significant feature of future gas prices is that they are likely to be technology-driven, similar to oil prices, rather than resources driven. Shale production and widely available LNG facilities will unify the price of gas internationally and reduce its seasonality in the not too distant future. It is likely that the United States will be exporting LNG within two years from today to a hungry China and a Russian-dependent Europe. Other modes of transportation, including new versions of compressed natural gas will also be brought into the market to serve niche applications.

Xiuli Wang

Dr. Xiuli Wang is currently the Vice President and Chief Technology Officer of XGas, a natural gas conversions and transportation company in Houston, Texas. She is also an adjunct professor at the University of Houston. Before her current position, Dr. Wang spent over seven years with BP in both technology and business units with roles as Reservoir Engineer, Completion Engineer, Lead Production Engineer and Project Manager. She became a specialist on oil and natural gas completions, production, and project management, covering the spectrum from upstream to midstream and downstream.
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Solving challenges.
SWOT Analysis of Carbon Capture and Storage

How much CO₂ could EOR actually sequester in the U.S.? CO₂ EOR is thought by many to be a first step in getting Carbon Capture and Storage started, but is the amount of CO₂ that is delivered to the field more than the amount of CO₂ emitted through EOR operations?

Carbon emissions can be estimated using a detailed process of counting up emissions from each emissions source at a field and plant, or they can be estimated by more simple means using a spreadsheet published by the API. What is the difference between these two methods?

What does a recent study performed by the Bureau of Economic Geology say about whether CO₂ is leaking to the surface from the Canyon Reef formation at the SACROC CO₂ flood to the surface? This presentation will discuss these questions and more.

Chuck Fox

Chuck Fox is Vice President of Operations and Technology at Kinder Morgan CO₂ Company, LP in Houston, Texas. In addition to managing operations of the McElmo Dome CO₂ source field located in SW Colorado, he is also responsible for his company’s oil and gas CO₂ EOR operations which include the 5 billion barrel (OOIP) Yates field and the 3 billion barrel OOIP SACROC field.

Mr. Fox is one of the authors of the SPE Monograph, Practical Aspects of CO₂ Flooding, published in 2002. He is a co-instructor of the SPE course on Practical Aspects of CO₂ Flooding and CO₂ Sequestration and of the SPE course, Geological Sequestration of CO₂. Mr. Fox holds an MS degree in Petroleum Engineering from Stanford University and a BS degree in Mechanical Engineering from Rice University. He is a registered Professional Engineer in Texas and New Mexico.
Best Practices for Implementation of a Chemical Management Program in Eagle Ford Shale Developments

Since the discovery of the Eagle Ford Shale Play in 2008, South Texas has once again seen a significant boom in oil and natural gas activity. With an estimated 3 billion barrels of oil in recoverable reserves, some $30 billion will be spent on developing the play in 2013 alone. With the numerous challenges facing operators in developing these plays, the implementation of a sound and effective chemical management program is quite often overlooked. Overwhelmed operators typically rely upon the chemical providers to support and implement these chemical programs, while realizing too late that the ability of managing the program has slipped from their grasp.

This presentation will outline some of the key chemical challenges operators face in the Eagle Ford Shale, particularly in the area of mitigation of H$_2$S and paraffin deposition. Using data obtained from lab audits, field trials and advance-data analytics from Field Service reports, a metric-driven chemical management program can be realized. Implementing such a program provides the operator with economic and operational efficiencies, ultimately resulting in a more reliable and consistent production portfolio.

Dr. Huz Ismail

Dr. Huz Ismail is currently a Production Chemist with Maxoil Solutions. He has a MS in Chemistry from Brandeis University and a PhD in Chemical Physics from MIT. He has over six years of experience in addressing oil & gas production chemistry needs and challenges. Prior to joining Maxoil, Dr. Ismail was employed at Baker Hughes as a Sr. Researcher. He has authored over 20 technical articles and white papers and holds numerous patents. He is a 5-year member of SPE and currently co-chairs a NACE committee on Corrosion Monitoring.
Developing and Applying Technological Innovation Across ConocoPhillips

In May 2012, ConocoPhillips spun off its downstream operations and emerged as the world’s largest independent E&P company based on production and proved reserves. The primary corporate objectives are profitable organic growth, aiming for organic hydrocarbon production growth of 3-5% per annum through 2017 while simultaneously increasing net margins at 3-5% per annum. Among the capabilities needed for organic growth, the company has recognized the need to strengthen its capabilities in sourcing, developing and applying technological innovation in its different businesses. The presentation will outline the elements needed to develop a strategy to position the technological capabilities of the company for the future, including culture, infrastructure and people.

Ram Shenoy

An electrical engineer by training, Ram Shenoy has 20 years of oil and gas industry experience. Before taking on his current role at ConocoPhillips, Shenoy was Vice President of Research for Schlumberger Limited. He was responsible for all of Schlumberger’s corporate scientific research laboratories. In prior years, he held a series of marketing and technology management positions with increasing responsibility including Managing Director of Schlumberger-Doll Research Boston and Director and Technology Center Manager of Schlumberger K.K. overseeing all the engineering, manufacturing and sustaining activities of Schlumberger’s R&D center in Tokyo, Japan.

Shenoy earned a B.A. and M.A. in Electrical Sciences from Cambridge University UK in 1986, a Ph.D. in Electrical Engineering from Cornell University, NY in 1991 and a MBA from the Stern School of Business, New York University in 2000. He is a member of the Institute of Electrical and Electronic Engineers, the Society for Industrial and Applied Mathematics and the Society of Petroleum Engineers.

Event Info

SPEAKER
Ram Shenoy
Chief Technology Officer
ConocoPhillips

LOCATION
Norris Westchase Center
9990 Richmond Ave., Suite 102
Houston, Texas 77042

EVENT CONTACT
Skip Davis
281-359-8556
skdavis@technologyintermediaries.com

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Improving Well Performance: Techniques for Analyzing Liquid Loading in Complex Completions

Operators of natural gas wells have long used the Turner equations to calculate critical gas velocity to keep gas wells unloaded. The original Turner method was developed for vertical wells with analysis performed using wellhead conditions. However, this methodology is only applicable to high pressure, vertical wells with simple completion geometry. Modern well design most often employs complex geometries including slant, s-shaped and horizontal well paths as operators seek to reduce costs and the environmental footprint while maximizing the production rate potential. These geometries require special consideration when estimating critical velocity. Wells produced below the critical velocity will develop a static liquid column, which can damage the reservoir and impede well productivity. Proper diagnosis of this problem will improve well performance and ultimate recovery.

The purpose of this presentation is to provide an overview of historical techniques for detecting liquid loading and to provide modification to the classical Turner method that address contemporary well designs. The discussions will include recent advances that address the proper evaluation point based on reservoir and well conditions. The talk will also compare the modified Turner methods to the use of multiphase flow pressure drop models for predicting liquid loading and will demonstrate the superiority of using a modified Turner’s method to determine critical velocity. Flow loop videos are used to illustrate the result of producing below the critical velocity. Potential improvements will be quantified through field examples for conventional, unconventional and horizontal well applications.

Robert P. Sutton

Rob Sutton is a Senior Technical Consultant for Marathon Oil Company in Houston where he works in the Well Performance Group under the Upstream Technology organization. He has worked for Marathon for almost 35 years starting in the Gulf Coast Offshore District in 1978. He moved to Marathon’s Technology Center in 1985 where he worked in the Reservoir Management Department and developed Marathon’s in-house nodal analysis software. He moved with the technology organization to Houston in 2001.

Rob received a BS in Petroleum Engineering from Marietta College. He also holds a MS in Petroleum Engineering from the University of Louisiana at Lafayette. He has authored 25 papers for SPE along with 10 journal publications. He wrote the chapter on oil PVT correlations in the recently updated Petroleum Engineering Handbook as well as coauthored a chapter in Gas Well Deliquification.
Please join the Reservoir Study Group for this one day forum to review the latest topics in Reservoir Engineering.

8:00 AM Registration / Continental Breakfast
8:15 AM Introduction and Safety Briefing
8:30AM – 9:30AM Session 1 – Unconventional Resources
Tom Blasingame
Texas A&M University
Rakesh Rai, Weatherford
Analyzing Performance of North American Shale Gas Resources
Matt Honarpour
Hess Corporation
10:30AM – 11:30AM Session 2 - Reserves
John Lee
University of Houston
Workflow for Applying Simple Decline Models to Forecast Production in Unconventional Reservoirs
Krunal Joshi, Oxy
Forecasting Production in Shale Reservoirs – A Better Assessment of Reserves
12:00PM – 1:00PM Keynote Luncheon
Speaker TBA
1:00 PM – 2:15 PM Session 3 – Panel Discussion: Maximizing Portfolio Value
Brad Berg, Senior Vice President for Exploration, Anadarko
Jimmy Murchison, Senior Vice President, Energy Investment Banking, Raymond James & Associates
Rod Sidle, Reserves Manager, Sheridan Production Company
Ellen Coopersmith, Founder and President, Decision Frameworks
2:30PM – 3:30PM Session 4 - Re-Energizing Aging Assets
Joe Lynch, SPT/Schlumberger
More Bang for your Simulation Buck - Experimental Design for Efficiency
David Castineira & Sebastien Matringe, QRI
New Reservoir Models for Aging Assets
3:30PM – 4:30PM Wrap-up and Adjournment
Development of Downhole Tools for Use in Ultra-HPHT Environments

The completion and servicing of ultra-HPHT wells presents unprecedented challenges to operators. These challenges are primarily attributable to extremes in temperature, pressure and depth. Today, there are a number of industry projects underway or planned in which downhole tools are required to operate over long periods of time at temperatures beyond 450° F, hydrostatic pressures in excess of 20,000 psi, and depths greater than 25,000 ft. Ultra-HPHT tool requirements and offshore compliance requirements are driving the development of a new class of extremely high performance completion and service tools. Product reliability and longevity are challenges for these tools, as well as their conveyance, retrieval, and removal methods. Ultra-HPHT tools are usually developed on a well-by-well basis, and end-users are increasingly funding the development of these fit-for-purpose service and completion tools. Thus, the objective of this presentation is to explore these challenges and to discuss ways in which operators can effectively communicate their performance requirements to tool developers. By using a comprehensive, well-crafted set of requirements, the ultimate objective of fit-for-purpose tools can be achieved.

Doug Lehr

Doug Lehr is currently Director of Wellbore Intervention Engineering at Baker Hughes in Houston and has over 30 years experience in the development of downhole tools for production and well servicing applications. He has held management positions in engineering and quality assurance and has worked both domestically and internationally. Doug has authored papers on various completion and well servicing topics including multizone stimulation, stage cementing and HPHT service packers. He holds a B.S. degree in Mechanical Engineering from the University of Texas and a M.A. degree in Finance and Marketing from the University of Houston. Doug has been awarded 16 U.S. patents, a Meritorious Engineering Award, was a finalist in the 2008 World Oil Awards, is a 2012 BHI Technology Award winner and was a recent SPE Distinguished Lecturer.
OIL PATCH ORIENTATION

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The event will begin with an introduction and an outline of the day. The following topics will be discussed: the economics & future of the petroleum industry, theory of the origins of hydrocarbons, reservoir parameters (e.g., porosity and permeability), geology of petroleum & geophysics, drilling basics, well logging, well completions, reservoir drive mechanisms, production equipment (subsurface & surface) and midstream & downstream topics.

SPEAKERS

John Farina Independent Petroleum Engineering Consultant and Technical Training Advisor
Ron Hinn Upstream Technical Consultant
Susan Howes Horizons Manager, Chevron
Ken Arnold Independent Projects, Facilities and Construction Consultant
Marty Stetzer Training Design, Operations Improvement & Large-Scale Systems Implementation Consultant

LOCATION
Hilton Houston Westchase
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Tournament Sponsorship

- **Diamond Sponsor** $7,500
  As a diamond sponsor, your company will be recognized as a Corporate Sponsor of the tournament and the company name will appear on the sponsor board. Your sponsorship entitles you to four (4) complimentary teams in the tournament and V.I.P. parking.

- **Platinum Sponsor** $5,000
  As a platinum sponsor, your company name will appear on the sponsor board. Your sponsorship entitles you to two (2) complimentary teams in the tournament and V.I.P. Parking.

- **Gold Sponsor** $3,500
  As a gold sponsor, your company name will appear on the sponsor board. Your sponsorship entitles you to one (1) complimentary team in the tournament and V.I.P. parking.

- **Silver Sponsor** $2,000
  As a silver sponsor, your company name will appear on the sponsor board. Your sponsorship entitles you to V.I.P. parking.

- **Bronze Sponsor** $1,500
  As a bronze sponsor, your company name will appear on the sponsor board. Your sponsorship entitles you to V.I.P. parking.

- **Entry Gift Sponsor (limited to 3)** $5,000
  As an entry gift sponsor, your company name will be on the sponsor board and on entry gifts (to be determined by committee) handed out to each shooter.

- **Shuttle Cart Sponsor (limited to 3)** $2,000
  As a shuttle cart sponsor, your company name will appear on the sponsor board and on the shuttle carts used at the tournament.

- **Shotgun Sponsor** $1,200
  As a shotgun sponsor, your company name will appear on the sponsor board. Your sponsorship entitles you to personally present the shotgun on stage at the tournament to the winner.

- **Shooter # Sponsor** $1,000
  As a Shooter # Sponsor, your company name will appear on each competitor # that all participants will display.

- **Scorecard Sponsor** $1,000
  As a scorecard sponsor, your company name will be on the sponsor board, competitor #, and on each scorecard

- **Corporate Sponsor** $500
  As a corporate sponsor, your company name will be on the sponsor board.

- **Hospitality Tent Sponsor (limited to 5)** $500
  As a hospitality sponsor, your company name will be on the sponsor board. As part of your sponsorship, you will be allowed to set up at or near the pavilion to provide one of the following: (1) Breakfast, (2) Lunch, (2) Drinks, or (1) Gun Cleaning Service.

- **Station Sponsor** $250
  As a station sponsor, your company name will appear on the sponsor board. As part of your sponsorship, you will be asked to set up a tent at an assigned station to provide refreshments for shooters throughout the day.

*SEE BACK OF THIS PAGE FOR SPONSORSHIP FORM*

In order to receive full advertisement benefit of your sponsorship, your sponsorship form and payment must be received by May 1st, 2013.
Sponsorship Form

PLEASE CHECK THE LEVEL OF SPONSORSHIP YOU WISH TO CHOOSE
All sponsorship levels will receive next year’s tournament information approximately one month before the general membership mail-out. All sponsors receive preference on shooting times when possible. All profits will be used for SPE scholarships, local charities, community service projects, and member services.

☐ Diamond Sponsor $7,500  ☐ Bronze Sponsor $1,500
☐ Platinum Sponsor $5,000  ☐ Entry Gift Sponsor $5,000
☐ Gold Sponsor $3,500  ☐ Shuttle Cart Sponsor $2,000
☐ Silver Sponsor $2,000  ☐ Shotgun Sponsor $1,200
☐ Corporate Sponsor $500

Company
Mailing Address
City/State/Zip
Contact Name
Phone
Fax

METHOD OF PAYMENT
Payment:  ○ Check  ○ Visa  ○ MC  ○ AMEX  ○ DISC

Card Number  Expiration Date

Name as it appears on card
Signature

Email
(Card holder’s email address required for all credit card payments)

Total to Charge Card
(Make checks payable to SPE-GCS)

COMMITTEE AUXILIARY

MAY 2013 ACTIVITIES

COMBINED LUNCHEON AND STYLE SHOW:
HOUSTON SPE AUXILIARY + HOUSTON PETROLEUM AUXILIARY COUNCIL

Please watch for news of the Houston SPE Auxiliary opening luncheon in September. We will welcome continuing and new members. This will be a special occasion because we will celebrate the birth of the Houston SPE Auxiliary…..40 years ago!! Please help us as we honor former members, and especially, former presidents of our auxiliary. This will be a special event for all.

EVENT
May 3, 2013, 10:30 AM

LOCATION
Racquet Club

COST
$31

CONTACT
Phyllis Carter
phcarter@sbcglobal.net

BOOK CLUB
May 22, 2013

BOOK
Remarkable Creatures by Tracy Chevalier

MORE INFO
Martha Lou Broussard
713-665-4428
NCEES and the State Engineering Boards released their 2012 Professional Engineering Exam results in February. Nationwide, the Petroleum Engineering Exam recorded a 68% pass rate. The Petroleum first time takers passed at a 79% rate. The estimated pass rates of a few other engineering disciplines were:

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Pass Rate</th>
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<tbody>
<tr>
<td>Chemical</td>
<td>58%</td>
</tr>
<tr>
<td>Civil</td>
<td>56%</td>
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<tr>
<td>Electrical</td>
<td>58%</td>
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<tr>
<td>Environmental</td>
<td>55%</td>
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<tr>
<td>Mechanical</td>
<td>64%</td>
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<tr>
<td>Nuclear</td>
<td>56%</td>
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<tr>
<td>Agricultural</td>
<td>71%</td>
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<tr>
<td>Fire Protection</td>
<td>52%</td>
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<tr>
<td>Industrial</td>
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<tr>
<td>Metallurgical</td>
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<tr>
<td>Mining</td>
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<tr>
<td>Control Systems</td>
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<tr>
<td>Alaska</td>
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<tr>
<td>California</td>
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<tr>
<td>Colorado</td>
<td>88%</td>
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<tr>
<td>Environmental</td>
<td>71%</td>
</tr>
<tr>
<td>Louisiana</td>
<td>71%</td>
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<tr>
<td>Oklahoma</td>
<td>88%</td>
</tr>
<tr>
<td>Texas</td>
<td>67%</td>
</tr>
</tbody>
</table>

Interested? Contact the Texas State Engineering Board at (512) 440-7723 for application forms. State web sites are also available at: www.ncees.org/licensure/licensing_boards.

The Texas application deadline to take this year’s PE Exam is July 12, 2013. This year’s test will be given on Friday, October 25, 2013.
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Photo Submissions
We are looking for member photos to feature on the cover of upcoming issues! Photos must be at least 9” by 12” at 300 DPI. Email your high resolution picture submissions to:
editor@spegcs.org

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Member Services Dept.
P.O. Box 833836
Richardson, Texas 75083-3836
1.800.456.6863
service@spe.org

Contact
For comments, contributions, or delivery problems, contact editor@spegcs.org.
### Calendar

**May 2013**

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<th>Sunday</th>
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<td><strong>Digital Energy</strong></td>
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<td><strong>Drilling</strong></td>
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<td><strong>Permian Basin</strong></td>
<td><strong>Completions &amp; Production</strong></td>
<td><strong>SPE-GCS Awards Banquet</strong></td>
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