Recycling for Drilling & Fracturing: Lower Costs & Good for the Environment

What Have We Learned About Fracturing Shales After 12 Years of Microseismic Mapping?

Developing an Artificial Heart with Assistance from Cameron, an Oil Field Equipment Manufacturer

Annual Technical Symposium: Automation, Does It Bring Value?

Technology, Culture, and Change – Exploring Change in the Oil and Gas Market
Although international schools attended in previous years, it was a challenge for many due to cost, cultures and timing. Following the ATCE 2013, a Global PetroBowl Work Group was formed. It included YP’s from around the globe, SPE International and the Gulf Coast Section. They took the global vision and formulated a plan to implement a pilot approach for ATCE 2014. The key concepts included Regional Qualifiers to reach more schools and rewards to make it financially possible for the winners to attend ATCE. The pilot has two Regional Qualifiers: Asia Pacific was March 28th in Kuala Lumpur, Malaysia, and Africa will be April 25th in Warri, Delta State, Nigeria. The winners of those events will be supported financially so that they can attend and compete in the PetroBowl World Championship at ATCE 2014 in Amsterdam.

The SPE-GCS YP’s are at the front of this global vision and we applaud them for their accomplishments. Success of these Regional Qualifier pilots will enable the Global PetroBowl to expand to a truly worldwide process for ATCE 2015 and beyond. The industry is a global business and this expansion reflects that reality.

Thank you to all the members of the Global Work Group and in particular the YP members and their companies: Tony Fernandez, Noble Energy; Sathish Kulathu, Sanchez O&G; Nikhil Shindgikar, Schlumberger; Roy Borkhoche, Baker Hughes; Mitchell Sherston, Apache; Charles Meyer, ExxonMobil; Leonel Perez, Ecopetrol; Etta Agbor, Shell; Katie Horner, Chevron; and Chris Giuffreda, ConocoPhillips.

The SPE Gulf Coast Section was a Platinum Sponsor of the 2014 Student Summit at Texas A&M. Over the course of the 3-day event, 220 students from 17 universities both in the US and China: listened to speakers and panel sessions; visited vendor exhibitions; networked; had the opportunity to learn from 5 site visits, and enjoyed a golf tournament. Thank you to Valerie Walker who represented the Section and spoke about the value of SPE. Overall, the 2014 Student Summit was a huge success. Congratulations to Michael Stewart, Student Summit Director SPE-TAMU Chapter and the team that supported him for a job well done.

In February, we had our first ever Movie Night. Attendance reached 116 and was a great multi-generational mix. They watched the documentary FrackNation and heard renowned experts discuss the important topic of fracturing. We would like to thank our sponsors: Flotek, Baker Hughes, Schlumberger, Halliburton, FTI Consulting, HDR and ERM. They made this event more affordable and provided great content in the discussion. Thanks to Trey Shaffer, Pavitra Timbalia, Kathy Galpin and Chet Teaford who were key in making this a success.

Do not forget Annual Golf Tournament is April 14. Sign up and have some fun!

**THOUGHT YOU SHOULD KNOW...**

SPE has a Certification Program for petroleum engineers. The particulars are found on SPE.org under the Training tab. The benefits of having a certificate include: recognition for your compliance with industry standards, demonstration of your commitment to the profession and expansion of your technical knowledge. An exam is required, but can be waived if you have passed a written competency exam. The SPE also offers a review course for the Professional Engineer Registration required in certain states. See the SPE site for details.

We want you to be involved with the section’s activities, as the GCS will be better with everyone’s active involvement. I personally welcome your comments and ideas to help the SPE Gulf Coast Section serve you and your career better. Please contact me at mike-strathman@att.net.
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April 2014

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SPE-GCS MEMBERSHIP REPORT

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THU April 10
7:30 AM TO 10:30 AM

BOARD OF DIRECTORS MEETING

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

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MEMBERSHIP HIGHLIGHTS

SPE and SWE (Society of Women Engineers) Houston sections have historically held several joint efforts in supporting STEM (science, technology, engineering and mathematics) initiatives. SPE-GCS was recognized as a gold sponsor at this year’s annual SWE FY14 Region C Conference. This energizing annual event was co-hosted by Rice University and the University of Houston science and engineering students.

The conference offered multiple informational sessions including a dynamic leadership panelist, moderated by Jennifer Bell, featuring Pamela Roche, Judy Moses, Mary Studlick and Donna Garbutt in a Q&A session. These professional women leaders spoke of their career paths in the oil and gas industry, offering the students insight on business opportunities, and work/life balance experiences. Riteja Dutta, SPE-GCS YP Program Coordinator, Gabrielle Guerre, SPE-GCS Education Chair and Xuan VandeBerg, SPE-GCS Membership Chair, organized a booth at the student Career Fair to help expose students and promote awareness of SPE’s mission. At the Awards Banquet, the representatives were invited to speak on behalf of SPE to the diverse group of students and professionals. In a team presentation, Ms. Guerre, Ms. Dutta and Ms. VandeBerg highlighted the numerous member benefits, including the sponsored student fees to encourage membership.

The SPE-GCS Membership Committee would like to congratulate Dr. Nathan Meehan for his significant achievement as this section’s winner for the 2013 Build the World of SPE membership recruitment contest.

Are you a member who is interested in being recognized and rewarded for increasing the value and benefits of SPE? For more information about how to recruit new members and contest details, visit: http://www.spe.org/recruit/
What was the hot new target in South Texas in early 1964? Would you believe the Smackover at 20,000-22,000 ft in La Salle and McMullen counties? And to think, they passed right on by the Eagle Ford at about half that depth!

Pennzoil, over the past 15 months, has plugged over 7,400 wells in Appalachia which were producing a total of 1,000 bbl/day (Yes, less than 1 bbl/day on average per well.)

The exploration picture in western Canada looks promising for this year, with 61 new field discoveries in the first quarter alone, most of which were in Alberta.

Money continues to flow into the Texas treasury as a result of new judgments against slant-hole drillers in East Texas, currently totaling $725,000 with more to come.

East Texas crude oil - $3.10/bbl; U.S. active rig count – 1,405

One month after the Exxon Valdez spills 242,000 bbl of North Slope crude oil in Prince William Sound, Alaska, environmental issues involving oil operations offshore and in wilderness areas are heating up.

Amoco is proceeding with plans to cut U.S. staff by 10% and to consolidate its New Orleans personnel and functions into its Houston office.

All sorts of changes associated with the changeover from leaded to unleaded gasoline are in the offing. BP plans to introduce unleaded gasoline in 1,500 outlets by midyear; Shell will discontinue marketing leaded gasoline as soon as current stocks are depleted; and the U.K. has cut the tax on unleaded gasoline and increased the duty on leaded gasoline by a similar amount.

Despite recent scandals involving former Pemex officials and oil workers’ union officials, the Mexican government reports that they have no plans to privatize Pemex (Stay tuned on this one!).

Marathon reports that it has cancelled its proposed $1.5 billion LNG complex in Baja California, while Freeport-McMoRan files an application to develop a $440 million deepwater LNG terminal near Venice, Louisiana.

Fuel oil slick monitoring continues off the coast of Virginia and Maryland following the explosion last month of a Norwegian tanker that left three crewmen dead and 18 missing. The “horrendous explosion” reportedly occurred in the ship’s bow in close proximity to six ethanol tanks.

Three majors (ChevronTexaco, Shell and ExxonMobil) agree to supply crude oil for the Strategic Petroleum Reserve instead of paying cash for certain Gulf of Mexico leases.

Strengthening oil and natural gas prices has accelerated U.S. drilling activity by 313 rigs since January of 2003.

Light sweet crude oil - $35.22/bbl; Natural gas - $5.72/MMbtu; U.S. active rig count – 1,160

An early sign of Henry’s egocentrism came in 1912. Since the inception of the Model T four years earlier, Ford had refused to allow any fundamental changes in the car. He believed, with some justification, that any basic design change would lead to an unnecessary manufacturing expense, but he also invested inordinate emotional energy in the car. He felt it was, in a sense, him. He perceived any criticism as a personal attack.

In 1912, Ford vice presidents and engineers got together and built a T with a few modest improvements. Henry was traveling at the time, and the group hoped to surprise and delight him upon his return.
“What is that over there?” Ford asked when he got back. “A new car,” someone said. Ford walked over and inspected it, circled it, gazed at it with his hawk-like intensity. Then he suddenly reached out and grabbed its left-hand front door, and with a furious tug, ripped it off the hinges. Car doors were flimsy in those days, but witnesses were nevertheless stunned at his explosive strength. He then kicked out the car’s windshield and attacked its roof. He did everything he could in the space of a minute to destroy the car, and then he stalked off, leaving behind the shambles of an automobile, a cascade of broken glass, and a group of shaken men.

Another sign of the new egocentric Henry Ford came in 1915, during World War I, when he decided he knew why the international community had been plunged into such chaos. “I have evidence here,” he barked, slapping his hand on a document in his pocket. “Facts!”

Next month, Henry shares his “facts.”

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**Then & Now April Quiz**

**What field was the site of the first oil production in Oklahoma?**

---

**Answer to March’s Quiz**

*In the Babylonian Empire, circa 500 B.C., a shekel would buy 600 lb of asphalt, 11 lb of iron, 3 lb of copper, 2 lb of wool, and 1 ounce of Tyrolean purple dye.*

---

**Congratulations to February’s winner**

**MARIO RODRIGUEZ, PETROLEUM ENGINEERING STUDENT AT THE UNIVERSITY OF HOUSTON**

**If you would like to participate in this month’s quiz, e-mail your answer to contest@spe.org by noon, April 15th. The winner, who will be chosen randomly from all correct answers, will receive a $50 gift card to a nice restaurant.**

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Recycling for Drilling & Fracturing: Lower Costs & Good for the Environment

This is one instance where you can “get your cake and eat it too”. Almost everyone is driven by the same metric: improve the internal rate of return by driving costs down. Eventually, this approach asymptotes to a limit. Once costs are driven down to a certain level, service quality starts to suffer: mistakes are made, inefficiencies start to outweigh the product cost savings, etc. Clearly, a fresh approach to the problem is needed and recycling offers a new paradigm that will reset the cost bar to a new low level.

This approach is possible if key cornerstones are in place. First, the ingredients need to be green by measurable standards in order to satisfy the regulatory agencies. The drilling fluids must be easy to run and able to obtain a consistently better Rate of Penetration (ROP) than that of Oil-Based Muds (OBM’s) and Saline-Based Muds. Then, those cuttings need to be reused to build strong, impenetrable locations that are spill resistant. Finally, fresh or saline frac water and produced water should be reused to build new drilling fluids and frac fluids that are superior to those currently in use today.

Tom Wentzler

Tom Wentzler graduated from Pennsylvania State University with a BS and MS in Engineering. He then graduated from the University of Michigan with an MBA in Operations Research and Statistics. After graduating, he worked for Dow Chemical in Midland, Michigan in chemical plant optimization, as Technical Manager for uranium recovery, and Market Manager for copolymer bead sales into the oil industry. Dow moved him to Houston to run their Clear Brines Business in 1979.

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Oasis and the Williston Basin: A Tale of Opportunity, Growth, and Efficient Exploitation

Join us at the Four Seasons Hotel as Oasis Petroleum’s Thomas Nusz discusses the 4 strategic elements that comprise their “Resource Conversion” strategy. These include aggressively developing their Williston Basin lease hold position while enhancing returns through focusing on operational and cost efficiencies, adopting and employing leading drilling and completion techniques, and finally, pursuing acquisitions within their core area and other basins consistent with this strategy.

What are the opportunities for (and challenges associated with) downspacing, stacked pay development and increased well density? How has vertical integration impacted operations and costs?

Please join us for this informative discussion. The popular format of a Business & Social Networking hour, with complimentary hors d’oeuvres and a cash bar, followed by an hour and a half long program, including a Q&A session, will begin at 5:00 PM in the Mezzanine.

Thomas B. Nusz

Thomas Nusz is the Chairman and Chief Executive Officer of Oasis Petroleum Inc. He co-founded the company in 2007 with private equity sponsorship from EnCap. In June of 2010, the company completed a successful IPO and is listed on the NYSE with the ticker symbol OAS. Oasis is an oil-weighted, upstream, independent operator with more than 500,000 net acres in the Williston Basin, focused on drilling in the Bakken/Three Forks formations. Nusz and his team have built Oasis into a top-tier pure Williston player with a production of approximately 42 Mboepd and an average annual Total Shareholder Return of over 40% since going public.

Nusz has over 32 years of industry experience, including over 20 years with Burlington Resources, Inc., where he held various engineering and management positions. While he was with Burlington, he was responsible for the Burlington corporate planning group, which led the strategic assessment and portfolio repositioning initiatives starting in 1998. Overall, both the strategic initiatives and the acquisitions contributed to Burlington being consistently one of the leaders in Total Shareholder Return in its E&P peer group in the years leading up to the $36 billion purchase of Burlington by ConocoPhillips in 2006.

Nusz is a 1982 Petroleum Engineering graduate of Mississippi State University. He is a current member of the National Petroleum Council, a federal advisory committee to the Secretary of Energy of the United States, and he played significant roles in both the 1999 and 2003 NPC studies on North American natural gas.
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Fracturing Fluids in the Eagle Ford Shale: Characteristics, Compositions, & Case Histories

This presentation will provide information on commonly used frac fluid systems and requirements for conducting successful fracturing treatments in the Eagle Ford Shale. Included in the discussion will be an overview of friction reduced—“slickwater”—fluids, linear gels, and cross-linked frac fluid systems; guidelines on generating proper frac fluids; and the application of common breakers. Background information on commonly used frac fluid recipes and additives, such as pH buffers, biocides, scale inhibitors, instant/delayed cross-linkers, surfactants, and common clay control products will be presented. Additionally, accepted best practices and field-level troubleshooting of frac fluids will be covered, with examples of “good” and “not-so-good” fluids drawn from case histories.

Pete Eichelberger

Pete Eichelberger is Senior Business Development Manager of the WellChem Technologies Division, Nalco Champion. He has over 30 years of experience in functional chemistry for the Energy Industry and 18 years of experience in fracturing fluid chemistry. Prior to joining Nalco, he was Manager, Production Enhancement, GOM, for Baker Hughes Pressure Pumping Services. His involvement in fracturing fluid chemistry and product development chemistry began with Dresser Titan in 1980, which included field analysis for hydraulic fracturing operations in the Austin Chalk, Permian Basin and Canada. Over the last few years, his technical support and field troubleshooting activities have taken him to Siberia, Poland, Italy, Canada, Mexico, Venezuela, Brazil, Argentina and Indonesia. He holds a BA degree in Biology and Chemistry minor from the University of St. Thomas, and has studied Biochemistry, post-baccalaureate at the University of Houston. He is a patent holder in environmentally acceptable drilling fluid additives and production enhancement chemistries.
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Annual Technical Symposium: Automation, Does It Bring Value?

Automation has become a big part of our industry. As we work to bring on new technologies, data, and related management tools we need to ask: does it bring value? Is it driving us toward improved efficiency, less NPD, and reduced HSE events? How are we using automation effectively and how can we grow this technology to help us with challenges on the horizon? Our Technology Talk Presenters will highlight how they have impacted the industry with Automation technology. The operator panel will weigh in with their perspectives, and we will open up for panel discussion facilitated by Richard Spears.

SCHEDULE OF EVENTS:
7:30 - 8:30 am: Registration, Coffee and Conversation
Keynote/Kick-Off: Richard Spears - Spears & Associates

TECHNOLOGY TALKS
Technology Talk 1: “Evaluation of Closed Loop Downhole Automation Performance and the Potential Economic Benefits of this System”
Tony Pink, National Oilwell Varco
Technology Talk 2: “Developments in Architecture for Drilling Automation”
Clinton Chapman, Schlumberger
Technology Talk 3: “Data Informed and Engineering Guided Autonomous Downhole Drilling System”
Robello Samuel, Halliburton
Technology Talk 4: “Design Aid for Charting a Drilling Automation Roadmap”
Mario Zamora, M-I Swaco
Technology Talk 5: “Subsea Sealing at the Touch of a Button”
—Ben van Bilderbek, Plexus
Technology Talk 6: “From Mechanization to Automation: What’s Still Missing?”
Andreas Sadlier, Nabors Industries
Lunch Presentation: “3-D Communications Technology and Oilfield Automation”
Oliver Diaz, Fuel FX
Operator Perspectives: Darren Pais – ExxonMobil, John Willis – Oxy, Matthew Isbel – HESS, Mark Sundland – Anadarko, Patrick Johnson - Shell
Operator Panel Discussion: Facilitated by Richard Spears

Richard Spears

With an engineering degree from Oklahoma State University and graduate work in industrial engineering, Richard Spears has worked in the upstream oil and gas industry since 1979, starting as a field engineer for Halliburton. Today, he is one of the managing directors of Spears & Associates, an oilfield market research firm founded in 1965. The firm has 500 clients worldwide, including all major oil companies, all major service companies and over one hundred private and institutional investors. He has been with the firm since 1985.

In addition to his responsibilities as Chairman of the Board of Abrado International, Spears is on the board of directors of several additional oilfield service companies: Varel International, a global drill bit manufacturer; Federal, a subsea connector manufacturer; Allied Wireline, an openhole and cased hole logging company; and W-Technology, a manufacturer of MWD components. Board responsibilities include Audit, Compliance, Compensation and Strategy. Spears is a 25-year member of the Society of Petroleum Engineers.
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Leveraging Sustainability in the Oil & Gas Supply Chain

Successful project execution and business operations depend on the performance of a strong supply chain. Weak links in a supply chain may be caused by a range of drivers beyond the safety, financial, quality and schedule indicators that have historically been considered in supplier selection and management. Sustainability aspects including environmental, social and governance issues can weaken supplier performance by causing lost production, supply interruptions, schedule delays, material inefficiencies, price increases, safety impairment, regulatory violations, employee issues and community resentment. This presentation describes elements of ConocoPhillips’ Supply Chain Sustainability program as expanded in 2013 to support the improvement of our project execution and operations management through strengthening our supply chain on sustainability drivers that impact our business. A summary of the benefits of collaboration on sustainability issues to both oil and gas companies and suppliers will be presented.

Jan Dell

Jan Dell has extensive experience in corporate and supply chain sustainability programs in industries ranging from the oil and gas sector to consumer products. She is a registered professional chemical engineer (M.S. University of California, Berkeley) with over 25 years of experience with international and national oil companies, and their suppliers, extending across more than 40 countries. She is experienced in technical and policy issues faced by the energy sector in unconventional and conventional fossil fuels, power, renewable energy, climate, water and other environmental issues.

CAREER HIGHLIGHTS INCLUDE:

• Energy, Water and Climate Nexus: Convening Lead Author of the Energy Supply and Use chapter of the 2014 U.S. National Climate Assessment and member of the National Climate Assessment Development and Advisory Committee (NCADAC).

• Creator of WBCSD Global Water Tools and GEMI Local Water Tools: Jan Dell led business groups to develop water risk assessment, management and reporting tools which have been used by over 400 companies.

• Global Energy Projects: Jane Dell led technical, commercial and public policy teams on numerous strategic assessment and project developments for energy companies spanning renewable energy, nuclear, oil sands, climate adaptation, shale production, sour gas and water. She led a Program Management Contractor team responsible for Procurement, Contracting, Owner’s Engineer and Information Systems in support of the $40 Billion Denali Alaska Gas Pipeline Development.
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Maersk Oil: A Global Oil and Gas Company

The International Study Group is honored to host Bruce Laws, who will be presenting on Maersk Oil’s recent international exploration and production investments. Maersk Oil is part of the A.P. Moller-Maersk group of companies, headquartered in Copenhagen, Denmark. Turning marginal and challenging fields into commercial successes has been the cornerstone of Maersk Oil’s business since 1962. Maersk Oil focuses on pioneering technologies and harnessing talent to operate safely and successfully. Core interests include shallow water exploration and production in the North Sea and Qatar, deepwater operations in Angola, Brazil and the US, and onshore activities in Kazakhstan, Kurdistan and Algeria. Entitlement production is envisioned to increase from about 250,000 bopd to about 400,000 bopd, driven by a portfolio of major capital projects.

Bruce Laws

Bruce Laws joined Maersk Oil in 2008 as the President of the Houston office. A member of the Maersk Oil Executive Team in Copenhagen, he is responsible for activities in the U.S., Brazil and the Chisongga deepwater development project offshore Angola. Prior to joining Maersk Oil he worked exclusively in the international arena with Chevron followed by Murphy Oil, including overseas assignments in Papua New Guinea, Nigeria and Angola. While with Chevron, he held positions of increasing responsibility in the development exploration and new ventures functions. As Vice-President for Latin America, Africa and Europe Operations for Murphy, his responsibilities included the world’s first FDPSO, which developed the Azuite field, offshore The Republic of Congo. Bruce earned a Bachelor’s Degree in Geology and a Master’s Degree in Geophysics from the University of California, Santa Barbara.
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Shawn Maxwell

Shawn Maxwell is Chief Geophysicist and Advisor for Schlumberger’s microseismic services, and is based in Calgary, Alberta. Previously he introduced commercial microseismic hydraulic fracturing imaging services to the oil and gas industry and was a Lecturer at Keele University in England. He was awarded a Ph.D. in microseismicity from Queen’s University. He has authored over 80 publications in journals and professional abstracts, acts as the passive seismic associate editor for Geophysics, is the Education Director for the CSEG, has lead numerous microseismic industry technical short courses, and chaired various industry workshops for the SPE, SEG and EAGE. He is also appointed the 2014 SEG Distinguished Instructor Short Course.
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Reservoir Engineering
- Applied Reservoir Engineering - IIC, 2-6 June
- Basic Reservoir Engineering, 5 May - 7-11 July
- Enhanced Oil Recovery and Geothermal Methods to Performance Forecasting, 19-23 May
- Enhanced Oil Recovery with Gas Injection, 21-25 July
- Reservoir Sensing Strategies, 24-26 June

Production & Completions
- Acidizing Applications in Sandstone and Carbonates, 19-23 May
- Boil Pumps, 13-16 May
- Completions & Workovers, 22-27 June
- Formation Damage Causes, Prevention, and Remediation, 15-20 May (in Gujarat)
- Core Wettability, 8-12 June
- Performance Analysis, Prediction, and Optimization Using HFDM * Analysis, PDS 2-6 June
- Production Operations, 1-15, 2-13 June
- Programming Floaters, 22-27 June
- Surface Production Operations, 24-28 May
- Uncertainty Management, Resource Card, and Simulation, 19-23 May

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The Petroleum Future

Dr. Ehlig-Economides will be presenting an overview and forecast of the oil and gas industry. This talk will engage the audience to explore together the implications of energy needs and consumption on everyday life and on potential career opportunities in the petroleum industry.

Dr. Christine A. Ehlig-Economides

Dr. Ehlig-Economides has been full professor of petroleum engineering at Texas A&M University in the Albert B. Stevens endowed chair since 2004. Before that she worked for Schlumberger for 20 years in well test design and interpretation, integrated reservoir characterization, modern well construction design, and well stimulation. She has worked in more than 30 countries and authored more than 60 papers. Dr. Ehlig-Economides has received a number of technical awards including the SPE Formation Evaluation, Lester C. Uren Awards and the Anthony Lucas Gold Medal, and she was inducted into the National Academy of Engineering in 2003. She is currently a member of the National Academy Board on Energy and Environmental Systems (BEES). She is developing courses and academic programs in Energy Engineering at Texas A&M University.

Event Info

SPEAKER
Dr. Christine A. Ehlig-Economides
Professor of Petroleum Engineering
Texas A&M

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

EVENT CONTACT
Amy Timmons
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GIS Tips and Tricks for Data QC and Analysis

SQL, Python and VBScript have many functions that are not exposed through the standard Attribute Query and Calculator dialogs in ArcGIS Desktop, but nevertheless can be used. These functions, along with some other Desktop tools, are great resources for data QC and Analysis in ArcGIS. This seminar will discuss a few of the Data QC and Analysis tips and tricks.

Jennifer Harrison has a BA in Mathematics and an MS in Geosciences from Murray State University in Murray, Kentucky. She has been consulting in the GIS field since 1992 and has been teaching Esri software (ArcGIS, Workstation ARC/INFO, AML® and ArcView) since 1997. Harrison has been named one of ESRI’s top 5 instructors in the US for several quarters. She is the owner of Inner Corridor Technologies, better known by their website name – TeachMeGIS, one of the largest GIS Training companies in the nation. TeachMeGIS helps many Fortune 500 companies across the US and internationally incorporate geospatial technologies into their workflows.

Event Info

SPEAKER
Jennifer Harrison
President
Teach Me GIS

LOCATION
Sheraton Houston Brookhollow Hotel
3000 North Loop W
Houston, TX 77092

EVENT CONTACT
Lilly Lee
832-714-5615
lilly.lee@nexenusa.net

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Lifting the Veil from Unconventional Production

The Project, Facilities and Construction Study Group is pleased to announce our Spring Lecture Series for 2014. These events shall focus on “Lifting the Veil from Unconventional Production”.

Unconventional production has changed the U.S. oil and gas industry, moving the focus and more importantly CAPEX spend from deepwater offshore and international to domestic onshore. The reason for this shift of focus is of course economics and geologic success rate. Unconventional resources tend to be measured in billions of barrels and trillions of cubic feet in place, an order of magnitude higher than typical conventional resources with enormous areal extent. Whether tight rock, immobile fluids or captured in source rock, the sheer quantity of the resource provides a strong interest to make development feasible.

This series is intended to ‘Lift the Veil’ on the differences, and highlight the similarities, between conventional and unconventional production and field development techniques. These 1-hour lectures will be technical, provide valuable lessons learned, and are followed by 30 minutes of questions and discussion in order to promote understanding of the presented principles.

We fully expect a large turnout so please book early and we hope you make all attempts to attend all four lectures. The PF&C Study group appreciates the support of our SPE GCS members and we look forward to seeing you there.

Abstract

The first presentation in this series on April 23 comes from George King of Apache. This presentation will provide a good overview of a prospect development. The work process, stakeholders as well as regulatory and permitting challenges will be presented along with an overview of the equipment to provide some insight to the Drilling, Completions, Production and Custody Transfer kit required to undertake a development.

In the second installment in the series on April 30, Ellen Coopersmith will offer insight into Decision Analysis and Scenario Thinking as it applies to Asset Strategy. The goal is to achieve “front-end loading” of a company’s existing decision processes to focus the asset team early, speed the analysis, and most importantly, bring greater clarity and value to each decision. Ellen is the founder of Decision Frameworks and a Petroleum Engineer with a degree from the Colorado School of Mines. Prior to founding Decision Frameworks in 1999, Ellen spent 16 years at Conoco, where she led their implementation of Decision Analysis in Upstream for five years.

Please be sure and check back in the May issue of Connect for the abstracts describing the continuation of our Spring Series; Series III – Unconventional Production Process Configuration and Series IV – Broaching Water Management Challenges and Handling Issues.
Developing an Artificial Heart with Assistance

The R&D Study Group will be hosting John Bartos, Vice President, Development and Technology for Cameron. In November 2010 the Texas Heart Institute contacted Cameron to ask if they would participate from an engineering standpoint in the design and development of the next generation total artificial heart. The doctors contacted Cameron based on the fact that they have significant expertise in the design of all kinds of pumps and compressors, plus the fact that Cameron will be around to support it. Cameron agreed to take this on and put together the engineering team that exists today. The engineers work on this project on a voluntary basis.

John Bartos

John Bartos serves as the executive sponsor for the Cameron Artificial Heart team. He was named corporate Vice President, Development and Technology for Cameron in May 2007. He is responsible for identifying and implementing new technology that supports Cameron's engineering processes and product development initiatives.

Bartos previously served as Vice President, Engineering and Product Development for Cameron's Compression Systems division beginning in 2003. He joined Cameron in 2000 as Vice President, Engineering for Compression Systems' centrifugal compressor business and also held leadership roles in the division’s Lean Six Sigma program, as well as in reciprocating engineering, information technology and technical training functions. Before joining Cameron, Bartos held similar positions with Ingersoll-Rand and with A-C Compressor. He has a Bachelor of Engineering degree in Mechanical Engineering from Stevens Institute of Technology in Hoboken, NJ.
The use of horizontal drilling and hydraulic fracturing has been credited for much of the success that has been achieved in ultra-low permeability shale reservoirs, making it possible to produce natural gas, natural gas liquids and crude oil at economic rates. Even though thousands of wells have been drilled and completed using these techniques, there are relatively few modeling tools available to the industry that are designed specifically for these applications, which leaves much of the optimization process up to trial and error techniques that are costly and time consuming.

This presentation will cover a recent case history where new software tools and workflows were used to more effectively design and predict well performance, including the use of shale reservoir characterization, hydraulic fracture simulation, and reservoir simulation tools designed specifically for these complex well geometries and difficult reservoir conditions. The workflow is focused on designing stimulation treatments that maximize the stimulated volume of the reservoir around the wellbore and also maximizes the connected fracture area within this volume. This combination can result in increased production rates while also increasing the possible ultimate recovery that can be achieved from a given wellbore. This presentation provides information on these new tools, the workflows generated for these new tools and the results of an early application that has yielded impressive results, even when applied in an established shale field within the USA.

Ron Dusterhoft

Ron Dusterhoft is a Halliburton Technology Fellow for Production Enhancement with 30 years of industry experience. Dusterhoft’s specific areas of thought leadership include hydraulic fracturing, FracPac completions, sand control screens, sand consolidation, sand control down hole tool systems and reservoir simulation for shale.

Dusterhoft is currently focused on drilling and completion optimization and stimulation design for unconventional shale assets. This involves the use of full asset workflows and more effective data management to maximize collaboration and knowledge sharing between Geoscience, Drilling and Completion Engineering. This also includes defining user stories and applications for a new generation of stimulation design models and reservoir simulation tools designed for unconventional assets. He has over 30 technical publications and has issued 54 US patents. He received his BSc in Mechanical Engineering from the University of Alberta, Canada. He is an active member in the SPE and served as an Editor and Peer Reviewer for the SPE Drilling and Completions Journal for the past 10 years.
Examination of Fracturing Completion Reliability Based on Intra-Well Pressure Interference

Because of its great financial and operational impact, the fracturing community has always been very interested in the assessment of the reliability and performance of the downhole tools. This is particularly critical for multi-stage fracturing of horizontal wells. By necessity, the background technical data for the performance of these tools usually come from backyard and laboratory tests which are conducted under ideal conditions and often do not reflect the real world.

This presentation has two main parts: demonstrating how downhole pressure data in multi-stage fracturing treatments can be used for tool reliability assessment, and presenting the results of a study performed on actual hydraulic fractures conducted in multiple cemented and openhole liner completions. The presentation focuses specifically on the performance of downhole isolation tools (openhole packers and liner plugs). It shows the consequences of the absence of isolation on the created hydraulic fractures.

Ali Daneshy

Ali Daneshy is President of Daneshy Consultants International and adjunct professor in The Cullen College of Engineering at The University of Houston, where he teaches a graduate course in hydraulic fracturing. He has over 40 years of experience in the technology and application of hydraulic fracturing and has published numerous papers on the subject. At present, his main focus is on consulting and teaching short courses related to horizontal well fracturing.
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Event Info
LOCATION  Blackfinn Bar and Grill
1910 Bagby Street
Houston, TX

EVENT CONTACT  Brittany Niles
281-782-8194
Brittany.niles@shell.com

Are you looking to get involved with the SPE-GCS Young Professionals Board?

Come out to our monthly Board Meetings, Networking Events, Luncheons, and Community Service Events to get to know us better!
Applications for the 2014-2015 Board will be released in late April.

QUESTIONS  Pavitra Timbalia
Pavitra.a.timbalia@exxonmobil.com

DATE  Friday, April 11, 2014
11:00 AM
Deadline: Tuesday, April 8

LOCATION  Phillipe’s
1800 Post Oak Blvd,
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EVENT CONTACT  Nancy Hill
(281) 435-1619
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TECHNOLOGY, CULTURE, AND CHANGE – EXPLORING CHANGE IN THE OIL AND GAS MARKET

Please join the Technology Transfer Committee from Society of Petroleum Engineers Gulf Coast Section for a special luncheon previewing how technology can impact the organization and create disruption leading to the need for cultural and organizational change.

Along with the increase of system complexity, safety mandates and workforce changes are driving a new imperative - change or be outperformed. There are several questions we can ask when considering change and its far-reaching outcomes. What is change? What is required to embrace change? How does change depend on mindset? Does culture impact one’s ability to embrace change? “Change has a considerable psychological impact on the human mind. To the fearful it is threatening because it means that things may get worse. To the hopeful it is encouraging because things may get better. To the confident it is inspiring because the challenge exists to make things better.” (King Whitney Jr.)

Join this luncheon to hear Patrick Johnson of Baker Hughes explore his experiences with cultural change from several different perspectives from oil & gas to other vertical markets.

PATRICK JOHNSON

Patrick Johnson is the Manager for D&E System Software Testing for Baker Hughes. With over 15 years of experience in the software industry, Johnson has served in multiple roles ranging from strategy, planning, execution and implementation, development and more. He is an Electrical Engineer with extensive skills and experience in Quality, Testing, and the Software Development Lifecycle. He has experience with top oil and gas organizations, as well as other vertical markets and is a certified Trainer, Consultant and Software Test Engineer.

SPE-GCS AWARDS & SCHOLARSHIP BANQUET

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 2014 academic year. In addition, this event also recognizes our Legion of Honor award recipients as well as our SPE Sectional and Regional award winners.

LOCATION
Rice Hotel, Crystal Ballroom
909 Texas Avenue
Houston, TX 77002

CONTACT
James Rodgerson
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james.rodgerson@bp.com

TIME
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The Society of Petroleum Engineers Gulf Coast Section will present a continuing education seminar which will discuss ethics. This 1-hour seminar will qualify attendees for their annual ethics training requirement by the Texas Board of Professional Engineers.

CHARLES PENNINGTON
The Board employed Mr. Pennington on February 19, 2002 as an Engineering Specialist. In his role, he provides engineering expertise to the Board investigators as well as participates in outreach programs to educate the public and licensed engineers on engineering matters pertaining to the Engineering Practice Act. Mr. Pennington is also engaged in the research and development of policy advisories for the Board.

Prior to his six-year career with the State of Texas, Mr. Pennington was a mechanical engineer with Applied Materials for ten years. Mr. Pennington has 25 years of mechanical engineering experience in the semi-conductor, robotic and construction industries.

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  As a Shooter # Sponsor, your company name will appear on each competitor # that all participants will display.

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  As a scorecard sponsor, your company name will be on the sponsor board, competitor #, and on each scorecard.

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We want to thank the Young Professionals, HSSE-SR Study Group and the Community Service Committee for submitting their photos this month. If you would like your group to be recognized in the Connect with your wonderful photos, please send your photos by the 25th of every month to the Connect editor at editor@spegcs.org.
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