

# CONNECT

SPE GULF COAST SECTION NEWSLETTER

# WHY ARE DOWNTURNS ALWAYS THE DRIVER BEHIND INNOVATION?

**GENERAL MEETING P. 12** 

MARCH 2017

DFITS IN THE BAKKEN THREE FORKS: ARE WE GETTING OUR MONEY'S WORTH?

**WESTSIDE P. 15** 

44TH ANNUAL SPE-GCS
GOLF TOURNAMENT

GOLF P. 27

OIL PATCH ORIENTATION

CONTINUING EDUCATION/CAREER MANAGEMENT P. 22

UPSTREAM OIL AND GAS PROFESSIONALS HIRING EVENT

MEMBERS IN TRANSITION P. 26

SPEGCS ORG



# CHAIR'S CORNER DEEPAK M. GALA, SHELL 2016-2017 SPE-GCS Chair

SPE International

**MEMBERS IN TRANSITION** 

We as professional members of SPE are always in transition, whether between jobs, roles, or varied projects. To help members navigate these transitions, the Gulf Coast Section has focused and expanded its efforts over the past 18 months for **Members in Transition**. The MiT subcommittee resides within the **Career Management/Continuing Education** Committee.

The CM/CE Committee provides continuing education opportunities to aid members in their professional development and career management. The committee has delivered consistent and relevant programs over the past 18 months. For example, the Accelerated Learning Tutorials are offered at subsidized costs for our members. The program has been a success and has been expanded to two more courses this fiscal year, bringing the total to 10. The latest topic was "Introduction to IP Laws," which was well received by our members. The tutorials are provided by industry-renowned experts. Below is the upcoming schedule of technical courses.

March 17, 2017	Applied Understanding of PVT			
April 28, 2017	Introduction to Reservoir Simulation			
May 2017	Introduction to Petroleum Economics			
June 23, 2017	Multistage Completions in Unconventional Reservoirs			
July 21, 2017	Introduction to Petroleum Geomechanics			
TBD	Introduction to Petrophysics			

The **MiT initiative** includes a monthly seminar series focused on non-technical topics (12 have been held so far); access to free computer software licenses and training from service providers (five companies); Job Search Work Teams, where groups of six to 12 people meet weekly to work on their job searches together; and a hiring event scheduled for March 28.

Over the past few months, some Work Team members have been successful, as we see some early signs of recovery. US land rig count has increased to 689 rigs. It was up 55 rigs in the last two weeks of January, which is the largest two-week gain since August 2011. Additionally, global oil inventories declined in the fourth quarter of last year from the previous quarter, confirming that inventory builds are now reversing as the market shifts from oversupply to undersupply — at least for now.

The upcoming **Upstream Oil and Gas Professionals Hiring Event** is to connect job seekers with employers that have open positions. Job seekers will also have access to resources from sponsors; collaborating organizations such as Houston Geological Society, Pink Petro, Society of Women Engineers, and Geophysical Society of Houston; startup employers; and staffing agencies active in the upstream oil and gas industry. The event committee is still looking for sponsors and employers. For any questions related to the event, please contact spegcs.mit.hiringevent@gmail.com

The event will be the first hiring initiative for SPE Gulf Coast Section. More hiring events will be planned in coming months.

### **SPE-GCS Update**

The new **Data Analytics** Study Group, under the leadership of Supriya Gupta and her team, was pleased to welcome Dr. Satyam Priyadarshy of Halliburton for its inaugural event on January 18. Dr. Priyadarshy provided an enriching talk on data analytics and the associated challenges facing the E&P industry. He spoke about the state of the E&P industry in adopting digital transformation. Dr. Priyadarshy also educated the audience on what it takes to develop a data analytics capability and how organizations can grow this skill set. The event was sold out, with over 100 professionals attending.

The **Reservoir** Study Group, under the leadership of Freddy Alvarado and his team in conjunction with the SPEE team, was pleased to welcome Stephen R. Gardner, an Executive Director with BBVA Compass Bank, on January 4.

Mr. Gardner spoke on "Volumes and Value: a Banking Reservoir Engineer's Perspective." He led an open discussion on how banks determine the value for sizing reserves-based loans. He explained how the value is determined and how the SEC and PRMS use it. He also shared his view on recent changes in the oil industry with the ever-changing commodity prices and rules.

The event was hosted at the Petroleum Club, with a record-breaking 126 in attendance. This generated the highest revenue from a single Reservoir Study Group luncheon.

Stay engaged, stay safe,

Deepak M. Gala

# March 2017

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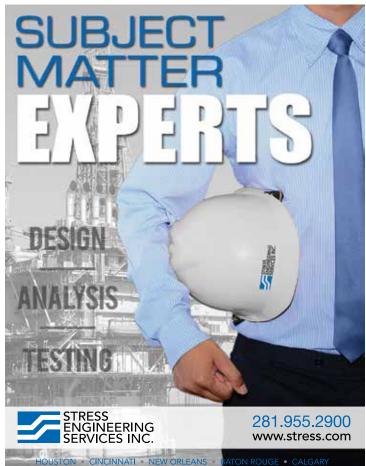
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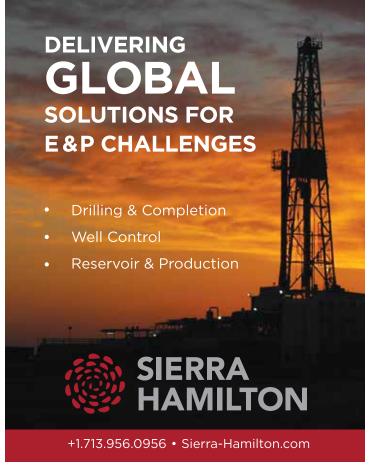
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# **BOARD OF DIRECTORS MEETING**

THURSDAY, MARCH 23 | 7:30 TO 10:30 AM | HOUSTON SPE OFFICE







This month the SPE Gulf Coast Section is excited to feature Terry Thoem and Sunil Lakshminarayanan as Volunteers of the Month.



TERRY THOEM

erry was introduced to SPE in 1991 with the organization of the first International HSE conference. Terry was the Corporate Environmental Manager for Conoco, and the SPE President at the time was Roger Abel of Conoco.

Since then, Terry has been involved with SPE in a number of capacities. He served as the International HSE Conferences Committee Chair, Chair of the 2015 SPE Americas, Chair and member of the HSE Person of the Year Committee, member of the HSSESR Technical Committee, member of the Leadership Committee of Houston International Study Group, and member of the SPE Awards/Recognition Committee. In 2005, he was awarded the SPE HSE Person of the Year Award. In 2013, he was honored as a Distinguished Member of SPE, and in 2015 he was given the GCS Outstanding Service Award.

Terry has performed HSE for energy companies for 49 years. He spent 10 years with EPA and 25 years with Conoco in a variety of management positions. Terry established his own HSE consulting business in 2000 and has about 20 clients. Terry has a BS in chemical engineering from Iowa State and an MS in environmental engineering from the University of Washington.

Having worked in the industry for almost 50 years, Terry views his volunteer efforts in mentoring young professionals, leading conferences, participating in SPE committees, and more as payback to an industry that has been great to him.



# **SUNIL LAKSHMINARAYANAN**

unil has been a member since he started graduate school at West Virginia University in 2004. Sunil has been a part of the Reservoir Study Group for around 10 years, serving in a variety of positions. He also served on the SPE-GCS Board of Directors as section Secretary in 2014 and 2015 and has been serving as the Chairman of Continuing Education and Career Management since 2015.

Sunil is a Senior Reservoir Engineer at Occidental Petroleum Corporation. He has a bachelor's in chemical engineering from the University of Madras and a master's in petroleum engineering from West Virginia University.

Giving back to the organization is what motivates him as a volunteer. Sunil is grateful to SPE. The organization played a huge part in him getting his first job. Once he moved to Houston, an ex-colleague and one of SPE's long-serving volunteers, Jaime Villatoro, introduced Sunil to the Gulf Coast Section. From then on, SPE has been an integral part of his life. He enjoys helping to educate the most deserving kids and the brightest minds in the country, as well as meeting new people and making lifelong friends. "If you're not making someone else's life better, then you are wasting your time. Your life will become better by making other people's lives better," he says.

COLUMN BY BUDDY WOODROOF

# **MARCH 1946**

A rapidly rising enrollment, made up largely of returning WW II veterans interested in studying "oil engineering," has led to plans for a new \$350,000 petroleum and chemical engineering addition to the main building of the college of engineering at the University of Oklahoma.

Scientists at MIT report that fatty acids isolated from ocean-bottom mud can be turned into oil-type hydrocarbons by bombardment in a cyclotron, thus suggesting that radioactivity may have played a role in the conversion of protoplasm, proteins, fats, and other complex materials into oil.

East Texas crude oil - \$1.35/bbl

# **MARCH 1976**

A special Cabinet-level task force has been created by President Ford to investigate foreign payoffs by US corporations operating abroad. US law does not specifically forbid such payoffs, but there may be illegal tax deductions involved (so bribery is condoned as long the taxes are getting paid).

Total reports plans to spud the first wildcat off Greenland in 600 feet of water, assuming permission from the Danish government is granted.

(Beware of icebergs!)

**US rig count - 1,498** 

# MARCH 2006

Tough sledding overseas, as Venezuela hits BP PLC with a \$61 million bill for back taxes; Oxy offers the Ecuadorian government a \$1 billion settlement over disputed taxes; and Bolivia reports plans to complete the nationalization of the country's hydrocarbon resources by midsummer.

Encore Acquisition Co. in Fort Worth agrees to team up with ExxonMobil to further develop seven natural gas fields in the Permian Basin and will target the Barnett, Devonian, Ellenberger, Mississippian, Montoya, Silurian, Strawn, and last, but we now know not least, Wolfcamp horizons.

Light sweet crude oil - \$67.07/bbl; Natural gas - \$7.02/MMbtu; US active rig count - 1,579

# THE REST OF THE YARN

This month we begin a look back at the rise and fall of a legendary Texas wildcatter, Houston's own ... "The Man Who Was Texas."

n the years after World War II, the first great Texas oilmen—H. L. Hunt, Hugh Roy Cullen, Sid Richardson, and Clint Murchison—had emerged as a handful of the richest individuals in America, and virtually no one knew it. Outside of Texas, almost no one knew they existed. In their cumulative 231 years of life, despite Hunt's historic purchase of the great East Texas oil field, Cullen's groundbreaking philanthropy, and Richardson's private dinners with the Roosevelts, the so-called Big Four had earned precisely three references in the nation's newspaper of record, *The New York Times*.

At least initially, the Big Four were too canny to engage with snooping reporters. Hunt gave only a single interview, to the *Dallas Morning News* in April 1948, then scrambled for cover. Still, to the chagrin of those in the state who prized discretion and taste, many writers found the kind of Texan they were looking for. He was the stereotype of the raw, hard-living, bourbon-swilling, fist-fighting, cash-tossing Texas oil millionaire that had not existed before he came on the scene in the late 1940s. He would make the cover of *Time* magazine as the symbol of a new Texas, the inspiration for the James Dean character in the movie *Giant*, an oil well driller who amassed a fortune with which he built a vast hotel in Houston, and then fell into obscurity. He was Glenn McCarthy.

Next month: The McCarthy legend begins.

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



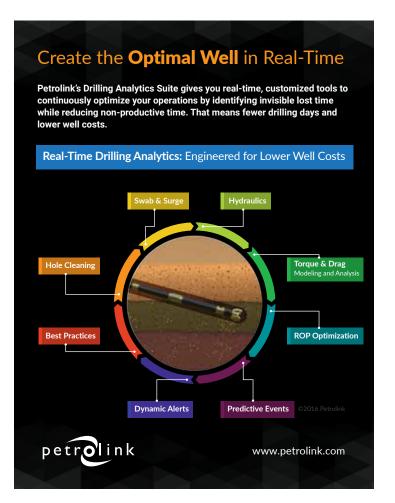
Other states excluded from consideration, arrange the following states in the order of increasing daily average oil production circa first quarter 1946 (1 being the highest): Illinois, Kansas, New Mexico, Colorado, and Arkansas.

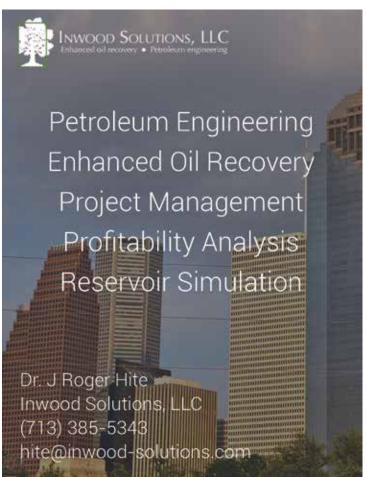
# ANSWER TO FEBRUARY'S QUIZ

In the heyday of the Los Angeles
Basin oil field in the first half of the
20th century, the Huntington Beach
community was a major contributor to
California's daily oil production.

#### JANUARY'S WINNER

Steve Creger Swift Energy





# WORTHWHILE CONVERSATIONS JUSTIFIABLE OPTIMISM?

# Phillip: This new 2017 optimism on Washington change – how does it affect wealth planning?

Carolyn: It is an over-simplification to conclude everything changed based on the November 8th elections – either for better or for worse. In our firm's 45-year history, we have watched 12 Presidential election cycles, with the Democrats taking 5 and the Republicans taking 7. Each generated speculation about the impact on wealth planning, but, in retrospect, the outcomes have had minimal influence on our clients' actual progress.

# Phillip: Are we saying people should ignore these political shifts?

Ryan: At a recent Q&A session with some Houston clients, we explained it this way. The political party in power likes to herald a "new day" with all the promise that implies. However, our political system is designed with appropriate checks and balances that suggest economic and tax policies are unlikely to change radically over short periods of time, and that is not all bad. The economy and markets are not standing idle, waiting to see what happens in Washington; frankly, it is not as important as politicians imply. We do not suggest a "head in the sand" approach, but the quote attributed to

Yogi Berra (among others), nails it: "Predictions are difficult, especially if they involve the future."

# Phillip: To what then, should those aspiring for financial success, be paying attention?

Heidi: The fundamentals -- sound wealth decisions on saving, spending, investing, and protecting. When you need advice, make sure your financial advisor has only your agenda in view. Your financial advisor should operate within the fiduciary standard, with a legal obligation to put your interest first -- something you have the right to expect.

# Phillip: And L&W follows such a fiduciary approach, right?

Harold: Yes. Our firm's professionals span multiple disciplines – attorneys, CPAs, CFA® charterholders and CFP® practitioners, and they are 100% committed to this fiduciary standard. It gives us focus. Imagine being able to tune out the sales "noise" and maintain focus on what brings long-term success. If folks are distracted by noise in their financial life, it's time for a new approach from an experienced firm with no products to sell. We have a team of professionals to deliver that second opinion at our Galleria or Woodlands offices.



Left to right: Phillip Hamman, CFA, CFP® Ryan Patterson, CFA CFP® J. Harold Williams, CPA/PFS, CFP® Carolyn Galfione, CPA, CFP® Heidi Davis, CPA/PFS, CFP®

For more information, or a copy of our Form ADV, Part II, with all of our disclosures, call Harold Williams at 713 840 1000 or visit www.linscomb-williams.com



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Thursday 3.2.17

# **SPEAKER**

John Barratt CEO

Oil & Gas Innovation Center

# LOCATION

Norris Center - Westchase 9990 Richmond Ave, Ste 102 Houston, TX 77042

#### **EVENT CONTACT**

Kitty Harvey 281-901-3245 kitty.harvey@c-a-m.com

# MEMBERS

\$40/50 Walk-In

# **NON-MEMBERS**

\$50

# STUDENT/MIT

\$15

# RESEARCH & DEVELOPMENT

# **External Technology Can Transform an Industry**

External technologies can transform even well-established industries. For example, the automotive industry is undergoing fundamental changes brought about by the introduction of technologies developed in other industries. The speaker will review some of the external technologies changing the automotive sector and the factors supporting the growth of these technologies. He will then evaluate a number of external technologies that may also have a significant impact on the petroleum industry. Attendees should come away from this talk with a better appreciation for the transformative role of external technologies and the merits of seeking out the small, entrepreneurial companies developing these technologies.

# **JOHN BARRATT**



John Barratt is the founder and CEO of the Oil & Gas Innovation Center in Palo Alto, CA. The Oil & Gas Innovation Center identifies and profiles crossover technologies from other industries able to address the key challenges faced by the upstream oil and gas industry. Barratt has bachelor's and master's degrees in geology and an MBA. He has over 30 years of experience in the petroleum industry and was one of

the speakers at the R&D Technical Section Lunch at the 2015 SPE ATCE in Houston.

# Special Announcement BUSINESS DEVELOPMENT



# **Current Views on the Scoop/Stack**

Please join the Business Development group at the Four Seasons Houston as Ali Ahmed, President of Highmark; Jeff Tanner, EVP of Geoscience and Business Development of Jones Energy; and James P. Royal, CEO of Staghorn Petroleum LLC, present an exciting story of their SCOOP and STACK activities and a glimpse of what's to come and what has quickly emerged, as two of the top economic plays in the United States.

Additional details and speakers bios can be found at spegcs.org/events/3366/

# **WEDNESDAY 3.29.17**

5:00 PM - 7:30 PM

# **LOCATION**

Four Seasons Hotel - Downtown 1300 Lamar, Houston, TX 77010

# **EVENT CONTACT**

Cody Felton cody.felton@energynet.com

# **MEMBERS**

\$40/55 Walk-In

# **NON-MEMBERS**

\$50

# STUDENT/MIT

\$15



# DRILLING

# Applying Data Analytics to Mitigate Risk For Hole Enlargement While Drilling in Deep Water

Deepwater drilling often requires simultaneous hole enlargement while drilling to improve project economics and preserve hole size for reaching deep reservoir. One potentially disastrous scenario is if the under reamer has been severely damaged, but the drill bit is still in good condition. If such a situation is not detected promptly and drilling continues, the hole-enlargement-while-drilling operation could create a significantly under-gauged hole section whose diameter is similar to the drill bit. That could cause enormous difficulty in running/cementing the casing string, resulting in costly remedial operations or, in severe cases, hole abandonment.

An advanced data analytics method was developed for early detection of the failure of the under-reamer. The method utilizes the standard drilling mechanics data from both surface and downhole sensors. This patent-pending method includes the development of new performance metrics based on rock-cutting physics and wearing mechanisms. A warning signal can be displayed immediately to the drilling crew on the rig and the drilling engineers at the office when the underlying failure pattern is detected. Historical drilling data and failure events are used to train the model with the additional inputs from subject matter experts. This presentation will include the development roadmap of this data analytics method and its implementation results at deepwater wells in the Gulf of Mexico.

# XIANPING WU



Xianping "Sean" Wu is a staff well engineer at Shell based in Houston. He started his career in 2006 as a research engineer for ExxonMobil working on rock-cutting physics and BHA dynamics modeling. He joined Smith International (acquired by Schlumberger in 2010) as engineering advisor to lead the technical development of the industry-leading drilling dynamics optimization service (i-DRILL) for the

North American market from 2008 to 2012. At Shell since 2012, he provides technical consulting for Shell's global drilling operation in Deepwater and Unconventional to optimize ROP and reduce NPT. He also worked as rig site drilling supervisor for Shell's Permian asset during 2015 and 2016. His latest work is focused on applying data analytics and machine learning to generate actionable insights for reducing well-construction cost during well planning and real-time operation.

He has a PhD in materials science and a BS in mechanical engineering. He has served as Technical Editor for *SPE Drilling & Completion Journal* since 2012. He received the SPE Outstanding Service Award in 2014 and 2016. He is co-chair of the SPE-GCS Drilling Symposium in 2016.



EVENT INFO

Wednesday 3.8.17

# **SPEAKER**

Xianping Wu Well Engineer Shell

# LOCATION

The Petroleum Club 1201 Louisiana St, 35th Floor Houston, TX 77003

# **EVENT CONTACT**

Tom Wick 713-806-2631 fieldsieck2@gmail.com

#### **MEMBERS**

\$40/\$50 Walk-In

**NON-MEMBERS** 

\$50

STUDENT/MIT/RETIRED SPE \$15





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# HSSE-SR

# Resiliency and Human Performance

The saying "People are our most important resource" has become a well-accepted principle in business. The statement recognizes the essential link between human resources and business success. Recent studies also show that engaged, high-performing, and resilient people have a positive impact on business performance in multiple ways, including increased productivity, reduction in safety incidents, and improved work quality. But how do you lead the cultural change necessary to build this type of organization? What tools, training, and environmental supports provide employees with the foundation necessary for this step change in performance? During this webinar our speakers will discuss what two major companies have done to improve human performance and employee resilience, what parameters they use to measure success, and their plans for the future.

# DR. HUMA ABBASI

Dr. Huma Abbasi is General Manager, Global Health and Medical, for Chevron Corporation, working out of the company's headquarters in San Ramon, CA. Abbasi is Chevron's Chief Medical Officer. She oversees the design and implementation of programs and services to meet the health and medical needs of the company's 60,000 employees, and she addresses health and medical services associated with operations.

# ALISTAIR FRASER

Alistair Fraser is the Vice President of Health for Royal Dutch Shell based in The Hague, Netherlands. He has worked in a variety of health roles at Shell for the past 27 years. After working in the Antarctic, Madagascar, and Scotland, Fraser joined Shell as an offshore emergency physician for search-and-rescue services in the East Shetland basin. Since then, he has worked in the UK, Oman, Sarawak, the US, Nigeria, and the Netherlands.

# **JILL STAATS**

Jill Staats is the General Manager for HSE Systems & Culture for Royal Dutch Shell. Staats is a chemical engineer and has over 28 years of experience with increasing responsibilities in the oil and gas industry. She leads a global team of subject matter experts in behavioral safety, operational safety, and process safety that drive safety improvements and safety culture programs across Shell, which are designed to unlock leadership at all levels of the organization to deliver Goal Zero through a culture of care and proactive risk management.

# PARKING AND ADDITIONAL INFORMATION

Parking is available in the Visitor Garage, levels G-1 and G-2. All visitors must check in on Level 2, either with the Tower Concierge or Marathon Oil Corporation Reception. Photo identification is required.

Lunch will start at 11:30; the presentation will follow at 12:00.



# **EVENT INFO**

Thursday 3.8.17

#### **SPEAKER**

Dr. Huma Abbasi GM for Global Health and Medical Chevron Corporation

> Alistair Fraser Vice President of Health Royal Dutch Shell

Jill Staats GM for HSE Systems & Culture Royal Dutch Shell

# LOCATION

Marathon Oil Tower 5555 San Felipe St Houston, TX 77056

### **EVENT CONTACT**

Kathleen Antoine
713-496-5456
kathleencantoine@gmail.com

### **MEMBERS**

\$40/\$50 Walk-In

**NON-MEMBERS** 

\$50

STUDENTS/MIT/RETIRED SPE \$15



Thursday 3.9.17

# **SPEAKER**

Brian Skeels Senior Technical Advisor TechnipFMC

# LOCATION

Petroleum Cub 1201 Louisiana St, 35th Floor Houston, TX 77002

### **EVENT CONTACT**

Barry Faulkner 281-627-8790 barryfaulkner@gmail.com

### **MEMBERS**

\$40/\$50 Walk-In

# **NON-MEMBERS**

\$50

STUDENTS/MIT/RETIRED SPE \$15

# GENERAL MEETING

# Why Are Downturns Always the Driver Behind Innovation?

In the current "lower-for-longer" oil and gas price environment, offshore and subsea petroleum prospects face significant cost hurdles to stay economically competitive with other hydrocarbon sources and lower risk areas. During upturns and shortages in the petroleum industry, technology may take a back seat to production runs, delivery volumes and schedules, and installation schedules.

But when there is a downturn in the petroleum industry, everyone looks to new technology to be the savior. New technology is perceived as the mechanism to shift the paradigm. This presentation will look at historical events and technology metrics from past upheavals in the petroleum industry to stimulate discussion about what might be next in our industry.

# **BRIAN SKEELS**



Brian Skeels has 37 years of experience in subsea completion and pipeline design and installation. He spent five years with Exxon Production Research Company working on Exxon's famous SPS and UMC subsea systems and the rest of his career with FMC Technologies. As a TechnipFMC Senior Technical Advisor, he serves as a technical advocate for new technologies and strategic planning specialist for

frontier technologies, HPHT, and remote well intervention, including efforts delving into riserless light well intervention, ROV interfaces, remote robotics technology, and hydrate remediation programs.

Skeels has been part of API's Upstream Standards for 32 years and serves on API Subcommittee 17 executive committee. He serves as task group chairman for 17G on subsea intervention systems, co-chair for 17D on subsea tree and wellhead equipment, and chairs 17TR8 for HPHT equipment design. Skeels also serves on several industry and professional society conference program boards.

Skeels has a BS in mechanical engineering from Cornell University and an MS in ocean engineering from the University of Rhode Island. He has won numerous professional awards and is an adjunct professor in subsea engineering at the University of Houston.

ONLINE REGISTRATION: spegcs.org/events/3509/





# **NORTHSIDE**

# Two-Stage Compression With Elevated Cooler Discharge Temperatures Improves Wellsite Gas-Lift Operations: SPE 181773

This event will present opportunities to improve the standard three-stage wellhead gas-lift compressor design for application to unconventional shale reservoirs. A two-stage design will be presented, with two field installations in the Eagle Ford Shale reviewed as a case study.

The shale revolution began with gas reservoirs and preceded development of shale oil resources. This resulted in the need for many new compressors, and the rental compressor industry accelerated production of the standard three-stage compressor. No substantive design changes were made, as compressors that could meet either wellhead/gas-lift or gathering applications were preferred due to their versatility.

As the shift was made to horizontal oil wells, problems appeared with the standard compressor design in handling natural gas liquids components. The standard design provides extra after-cooling, in part to support glycol dehydrator operation. As a result, these components often condense in compressor gas coolers, resulting in operational and environmental problems. Downtime and emissions related to these problems contributed to some operators viewing gas-lift as the artificial lift method of last resort, despite its superior ability to handle sand production, deviated wellbores, and high fluid volumes.

The capabilities of two-stage vs. three-stage compressors for gas-lift will be compared in the case study. The lower suction pressures afforded by three-stage compression are negligibly beneficial to horizontal shale oil wells, where slugging is an issue, and higher separator pressures are selected to mitigate slugging and aid liquid displacement from separation equipment.

# **WILLIAM G. ELMER**



William G. Elmer, P.E. is co-founder of Encline Artificial Lift Technologies LLC, and is responsible for both new artificial lift and IoT product development. Before creating this startup R&D company, Elmer spent 33 years as a production and facilities engineer for Sun Oil, Conoco, and, for the last 14 of those years, EOG Resources. His main areas of research include artificial lift, gas compression, and

automation, and he has co-authored nine technical papers on these topics. Elmer holds one patent, with six patent applications pending, and received a BS degree in chemical engineering from Texas A&M University.





EVENT INFO

Tuesday 3.14.17

### **SPEAKER**

William G. Elmer
P.E., Co-Founder
Encline Artificial Lift Technologies

### LOCATION

Southwestern Energy Company 10000 Energy Dr Spring, TX 77389

### **EVENT CONTACT**

Jon Spencer 281-844-0104 jon.spencer@tracerco.com

Matt Boothe 281-731-3140 matt\_boothe@swn.com

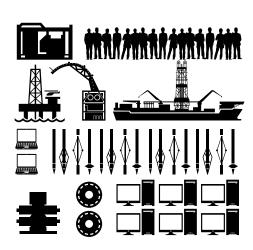
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- · Identify position and quantify water inflow over several years
- Packer / plug / sleeve integrity measurement

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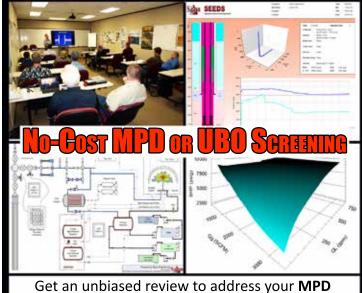




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Dr. Sagar Nauduri, PE
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# WESTSIDE

# DFITs in the Bakken Three Forks: Are We Getting Our Money's Worth?

Diagnostic Fracture Injection Tests (DFITs) have become the standard method for evaluating closure stress and reservoir parameters in unconventional plays. ConocoPhillips alone has performed over 50 DFITs in Bakken Three Forks (BTF) wells since 2010. In the process, it has been determined that DFITs conducted in down-spaced wells in the BTF play yield estimates of reservoir pressure that are often far less than the initial reservoir pressure — and sometimes sub-hydrostatic in wells that offset the parent well. Are these DFIT results reliable enough to aid in the design of treatments for infill wells and to guide in well-spacing decisions, or should they be heavily discounted due to inadequacies in the testing conditions? This presentation will highlight perplexing DFIT results and is intended to generate a spirited discussion among attendees on the merits of DFITs in unconventional plays.

# BHARATH RAJAPPA



Bharath Rajappa is a Staff Completions Engineer in the Global Completion Engineering group at ConocoPhillips. He joined ConocoPhillips in 2011 and has held completion engineering roles in the global technology group and in the Bakken asset (field and office). From 2000-2011, he worked for Baker Hughes in the Rockies, where he focused on pressure pumping aspects of well completions. He

received his MS in petroleum engineering from the Colorado School of Mines in 2000.





Wednesday 3.15.17

11:30 AM - 1:00 PM

# **SPEAKER**

Bharath Rajappa
Staff Completions Engineer
ConocoPhillips

# LOCATION

Norris Center - Westchase 9990 Richmond Ave, Ste 102 Houston, TX 77042

# EVENT CONTACT

Stephen Loving 713-328-2244 stephen.loving@corelab.com

# MEMBERS

\$40/\$50 Walk-In

**NON-MEMBERS** 

\$50

STUDENT/MIT/RETIRED SPE \$15



Tuesday 3.21.17

### **SPEAKER**

Dr. Jim Erdle VP, US & Latin America CMG

#### LOCATION

Sullivan's Steakhouse 4608 Westheimer Rd Houston, TX 77027

# **EVENT CONTACT**

Alexsandra Martinez adinorah.martinez@gmail.com

### **MEMBERS**

\$40/\$50 Walk-In

**NON-MEMBERS** 

\$50

STUDENTS/MIT/RETIRED SPE

See website for details

# RESERVOIR

# Comparison of Numerical vs. Analytical Models for EUR Calculation and Optimization in Unconventional Reservoirs

Analytical models available in rate-transient-analysis (RTA) packages are widely used as fast tools for history matching and forecasts in unconventional resources. In addition, recently, there has been an increasing interest in numerical simulation of unconventional reservoirs. In this study, we use both methods to history match fractured unconventional wells, followed by forecast calculations. This study aims to reveal large differences in estimated ultimate recovery (EUR) predicted by analytical models and numerical simulation in unconventional reservoirs.

First, we consider a single-phase shale oil reservoir as a base case for this study. The base case also satisfies other assumptions inherent in analytical models, such as homogenous reservoir properties and fully penetrating planar fractures with constant half-length and conductivity. We then impose different real-world deviations from RTA assumptions and investigate reliability of EUR predictions made by both approaches.

Example results show that, in the presence of real-world deviations from RTA assumptions, analytical models can still match the historical production data; however, key reservoir and fracture parameters need to be modified drastically to compensate for lack of sufficient physics in analytical models. For the cases presented in this study, analytical models under-predict EURs by 10-20% although history match of two-year production looks good. For all cases, we also apply an efficient simulation workflow for probabilistic forecasting of brown fields. This workflow provides multiple history-matched models that are constrained by historical production data. The probabilistic forecast provides P90 (conservative), P50 (most likely), and P10 (optimistic) values for EUR. In all examples, range of P90 to P10 values includes the reference EUR and the P50 values are within 7% error of the reference EUR.

# DR. JIM ERDLE



Dr. Jim Erdle is CMG's Vice President for software sales and support for the US and Latin America. He has 42 years of industry experience, primarily in reservoir and production engineering-related positions within the services and software segments of the E&P industry. He has been involved in several recent SPE papers on modeling unconventional wells (SPE Nos. 125530, 125532, 175122, 180209,

180974), and is the author of Chapter 8 ("Application of Numerical Models") in the 2016 SPEE Monograph # 4 (Estimating Ultimate Recovery of Developed Wells in Low-Permeability Reservoirs). He graduated from Penn State with BS (1971) and PhD (1974) degrees in petroleum engineering.

**ONLINE REGISTRATION:** spegcs.org/events/3405/



# COMPLETIONS AND PRODUCTION

# Assessment of Fracture Initiation from Multi-Clustered Perforations and Impact of Geomechanics on Completion Efficiency

To maximize the formation contact in unconventional reservoirs, multi-stage horizontal well completion with multiple short perforation clusters is widely adopted to facilitate simultaneously initiating multiple fractures from the perforation clusters in each stage.

Many previous field observations have shown that a significant percentage of perforation clusters are often not effectively stimulated to contribute to the production. Efforts have been made to improve the effectiveness of horizontal completions by focusing on using lateral measurements to place perforation clusters in rock of similar stress so they are more likely to be successfully stimulated.

While this has significantly improved the completion efficiency, the fundamental understanding of the fracture initiation process in a completion configuration with multiple clusters of spiral perforations is still lacking and hence unable to provide a quantitative means to predict and assess the completion efficiency.

To address these issues, a near-wellbore fracture initiation calculator based on analytical elastic solution for the cased and perforated completion configuration has been developed. It predicts fracture initiation pressure from a perforation of any phase angle, the initiation location and fracture orientation relative to the wellbore.

For a multiple clustered perforated completion, with many perforations oriented in different angles and possibly subjected to different local stresses, fractures may initiate only from some of the perforations. The model predicts a breakdown pressure for a given pump rate and a subset of perforations that are broken down.

In this presentation, the fracture initiation model will be described, along with some examples and comparison with 3D numerical simulations and experimental results. A series of sensitivities have been performed to quantify the impact of injection rate, tectonic setting, stress variation between clusters, and perforation properties on hydraulic fracture creation, orientation and complexity at each perf cluster. They demonstrate that fractures may not initiate from some clusters and that within an active cluster some perforations may not be accepting fluid. Incorporating the results from the model can help engineers design completions that maximize effective stimulation of perforation clusters and reduce near-well fracture complexity.

# XIAOWEI WENG



Xiaowei Weng is an Advisor in Hydraulic Fracture Modeling and Project Manager of Modeling and Mechanics in the Pressure Pumping and Chemistry Product Center based in Sugar Land. He received his MS and PhD degrees in engineering mechanics from the University of Texas at Austin. He has 27 years of industry experience: nine with ARCO E&P Technology and 18 with Schlumberger. He has engaged in

the research and simulation model development in hydraulic fracturing, acid fracturing, multi-fractured horizontal well completion and production, wellbore hydraulics, coiled tubing cleanout, and DTS inversion. He is a member of SPE and ARMA and has authored and co-authored over 40 technical papers. He is a member of the organizing committee of the SPE Hydraulic Fracturing Technology Conference.



Wednesday 3.22.17

# **SPEAKER**

Xiaowei Weng Project Manager of Modeling and Mechanics Schlumberger

#### LOCATION

Norris Center - Westchase 9990 Richmond Ave, Ste 102 Houston, TX 77042

# **EVENT CONTACT**

Reza Safari reza.safari@weatherford.com

### **MEMBERS**

\$40/\$55 Walk-In

NON-MEMBERS \$55/\$55 Walk-In

STUDENTS/MIT/RETIRED SPE \$15





# **SPEAKER**

Tasos Boulis Sr. Reservoir Engineer, NM Reservoir Management Team Occidental Oil & Gas

# LOCATION

Norris Center - Westchase 9990 Richmond Ave, Ste 102 Houston, TX 77042

# **EVENT CONTACT**

Amy Timmons atimmons1114@gmail.com

#### **MEMBERS**

\$40/50 Walk-In

**NON-MEMBERS** 

\$50

STUDENT/MIT

\$15

# PERMIAN BASIN

# Yeso Acidizing Program: A Systematic Approach for Reducing Scaling Effects and Enhancing Production in Depleted Carbonate Reservoirs

Scaling mainly in the form of CaCO3 and/or Fe2S has been a major issue for almost all of OXY's vertical and horizontal wells in the North New Mexico area and the Yeso formation (carbonates). In the past, scaling squeezes with scale inhibitors have given inconsistent results in mitigating scale deposition. Several wells need to be treated regularly to maintain their productivity and the associated costs are significant. Additionally, the evidence of paraffin problems and potentially perforation/fracture closure due to gel residues created the need for a new, more efficient approach that can drastically target these problems.

The OXY North New Mexico asset team has developed a new methodology that has successfully been applied in more than 20 vertical wells. The new procedure consists of a combination of chemicals and acid treatments that can significantly reduce the scaling and recover the productivity of the wells. The results over the past 1.5 years are very encouraging, and the treated wells showed an average incremental oil rate increase of 630% while the projects are paying out within the first month of production after treatment.

# TASOS BOULIS

Tasos Boulis is a Senior Reservoir Engineer with Occidental Oil & Gas and the North New Mexico asset team. He has 10 years of experience, focusing on unconventional resources, reservoir management, and production optimization. Before joining OXY in 2014, he worked for Weatherford International as a Reservoir Engineering Consultant, where he had the opportunity to work on most of the major unconventional plays in North America and worldwide. Boulis has been an SPE member since 2007 and has authored many SPE papers and articles. He holds a MS in petroleum engineering from Texas A&M University and a BS in drilling and mining engineering from the National Technical University of Athens.

# WATER AND WASTE MANAGEMENT

# Changing Water Budget Related to Transitioning from Conventional to Unconventional Oil Production in the Permian Basin

How does increasing oil production from unconventional reservoirs using hydraulic fracturing and horizontal drilling affect the water budget of an oil field? Here we evaluate the evolving water issues in the Permian Basin with increasing production from unconventional reservoirs and potential synergies in terms of water management. We compare water used for and produced with oil and gas from conventional and unconventional reservoirs using a detailed well-by-well analysis of  $\sim$ 78,000 wells.

Water use is dominated by hydraulic fracturing, with increasing water use per well by a factor of ~10 and per foot of lateral by a factor of ~7 over the past decade. Produced water is generated primarily by conventional wells, averaging ~13 barrels (bbl) of water/bbl of oil, relative to ~3 bbl water/bbl of oil from unconventional wells (2005-2015). However, the large volumes of produced water from conventional wells are readily accommodated by injection into pressure-depleted reservoirs (water flooding), whereas produced water from unconventional wells cannot be directly injected back into the low permeability reservoirs but is injected into non-producing horizons, resulting in over-pressuring in some shallow zones and could induce seismicity. Joint management of water from conventional and unconventional wells and reuse of produced water for hydraulic fracturing may help resolve some of the water issues, such as water scarcity for hydraulic fracturing and over-pressuring from disposal of produced water.

# DR. BRIDGET SCANLON



Dr. Bridget Scanlon is a Senior Research Scientist at the Bureau of Economic Geology, Jackson School of Geosciences, University of Texas at Austin. Her degrees are in geology with a focus on hydrogeology with a BA Mod. from Trinity College in 1980, Dublin; MS from the University of Alabama (1983); and PhD from the University of Kentucky (1985). She has worked at the University of Texas since

1987. Her research group focuses on water energy issues related to unconventional reservoirs and electricity generation. She is an Associate Editor at *Water Resources Research and at Environmental Research Letters*. She is a Fellow of AGU and GSA and a member of NAE.

**ONLINE REGISTRATION:** spegcs.org/events/3512/

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EVENT INFO

Wednesday 3.29.17

### **SPEAKER**

Dr. Bridget Scanlon Senior Research Scientist University of Texas at Austin

### LOCATION

Marathon Oil Tower & Conference Center 5555 San Felipe St Houston, TX 77056

# **EVENT CONTACT**

Reshmy Mohanan 713-309-5238 reshmy.mohanan@ griffindewatering.com

# MEMBERS

\$40/50 Walk-In

**NON-MEMBERS** 

\$50

STUDENT/MIT \$15

# How to Write and Present a Technical Paper for SPE

Workshop Agenda:

- 1. Objectives
- 2. Communication process
- 3. Why write for SPE
- 4. How to write the abstract
- 5. Writing the paper

- 6. Presenting the paper/report
- 7. Publishing in SPE
- 8. Summary of the writing and presentation process
- 9. Q&A and discussion

# BYRON HAYNES JR.

Byron Haynes Jr. is the Reservoir Engineering Learning Advisor for Shell in Houston. He delivers and teaches all internal reservoir engineering training worldwide for Shell. He presented the workshop "How to Present a Technical Paper" at ATCE 2012-2015. Haynes has also presented internal Shell courses on how to write and present technical reports. He has over 30 years of industry experience in operations and development projects in the United Sates, South America, North Sea, and the Middle East.

# **ONLINE REGISTRATION**

spegcs.org/events/3507/
Pre-registration pricing ends 3.2.17.

# **LOCATION**

SPE Houston Office 10777 Westheimer Rd, Ste 1075 Houston, TX 77042

# **EVENT INFO**

# FRIDAY

3.3.17

9:00 AM - 12:00 PM

### **SPEAKERS**

Byron Haynes Jr. Reservoir Engineering Learning Advisor Shell

# **EVENT CONTACT**

Kumar Pugazhenthi 361-522-3859 kumaresan.pugazhenthi@gmail.com

Sunil Lakshminarayanan 281-248-1443

MEMBERS/NON-MEMBERS \$40/\$45/\$50 Walk-Ins

STUDENTS/MIT \$15

Entrepreneurship Cell

# Oil & Gas Startups: Pitfalls to Avoid

Join the Entrepreneurship Cell for a discussion about various forms of financing available to oil and gas startups. This interactive discussion will feature industry veterans who have dozens of years of experience raising funds and financing O&G startups.

# **TODD BUSH**



Todd Bush founded Energent Group to focus on well lifecycle and frac market intelligence — how much sand operators use, who's pumping, what they're pumping. Energent Group helps sales and marketing teams commercialize new products, work with up-to-date operator data, and track well completions in top US shale plays.

Prior to Energent Group, he was the Director of Products & Marketing at RigData. And at Chevron, Bush led digital oilfield projects for the Midcontinent business unit and the energy technology organization. His projects varied from upstream technical software to reservoir and production surveillance and analysis to environmental and safety compliance.

Bush received an MBA from the Rice University Jones School of Management and an undergraduate degree from Texas A&M University.

# **EVENT INFO**

**THURSDAY** 

3.16.17

5:30 PM - 8:00 PM

# **SPEAKERS**

Todd Bush Principal Energent Group

#### LOCATION

Station Houston 1301 Fannin St, #2440 Houston, TX 77002

# **EVENT CONTACT**

Nii Ahele Nunoo 507-304-5416 nii.nunoo@nov.com

MEMBERS/NON-MEMBERS \$15

# **Accelerated Learning Tutorial: Applied Understanding of PVT**

This practical course will provide attendees with a working knowledge of pressure volume temperature (PVT) and equation of state (EOS) theory and application, following a path from field sampling to the lab and on to the examination of common practices and analyses used in classical and simulated reservoir engineering.

Learning Objectives (see website for complete outline):

- Understand the field separation process and sampling procedures.
- · Identify fluid types and their phase behavior.
- Select methods of sampling at the well site location.
- Learn how to read PVT lab reports for DLE, CCE, CVD.
- · Construct black oil PVT tables for volumetric and simulation models.
- Explain why and how EOS was developed.

# RONALD L. LANG

Ronald L. Lang has over 40 years of experience in all aspects of reservoir engineering, including classical and simulation applications. He is a consultant in domestic and international studies requiring application of PVT equation of state principles. Lang received a BS degree in petroleum engineering in 1974 from Texas Tech University.

# **ONLINE REGISTRATION**

spegcs.org/events/3448/ Pre-registration pricing ends 3.16.17.

# LOCATION

SPE Houston Office 10777 Westheimer Rd, Ste 1075 Houston, TX 77042

# **EVENT INFO**

# FRIDAY

**3.17.17**8:00 AM - 4:30 PM

#### **SPEAKERS**

Ronald L. Lang, P.E. Reservoir Engineering Consultant

### **EVENT CONTACT**

Kumar Pugazhenthi 361-522-3859 kumaresan.pugazhenthi@gmail.com

Sunil Lakshminarayanan 281-248-1443

MEMBERS/NON-MEMBERS \$350

**MIT/STUDENTS** \$175/\$100

Committee: Young Professionals

# **A Data Scientist's Journey**

In this talk, Ted Petrou will discuss the steps he took to transition his career to become a data scientist, as well as the journeys many of his engineering co-workers took to reach the same level. Engineers can make the best data scientists because domain expertise is critical to possess before applying machine learning to solve complex problems.

# TED PETROU



Ted Petrou is a data scientist at Schlumberger. His projects include using targeted sentiment analysis to discover the root cause of part failure from engineer text and developing customized client/server dashboarding applications and real-time web services to avoid mispricing of sales items. He also enjoys teaching the fundamentals of data science. Petrou received his master's degree in statistics from

Rice University and used his analytical skills to play poker professionally and teach math before becoming a data scientist. He is head of Houston Data Science and the author of the upcoming *Pandas Cookbook*.

ONLINE REGISTRATION spegcs.org/events/3520/

**LOCATION** 

Please see website for details

# **EVENT INFO**

TUFSDAY

3.21.17

6:30 PM - 8:00 PM

# **SPEAKER**

Ted Petrou Data Scientist Schlumberger

# **EVENT CONTACT**

Doo Hyun Chung 909-451-3362 cdhdc77@gmail.com

MEMBERS/NON-MEMBERS \$25/\$30

MIT/RETIRED \$15

# **Oil Patch Orientation**

This seminar is the most popular SPE-GCS course. The course is a non-technical, audio-visual guided tour through the oil patch, illustrating the basic equipment and techniques used in the discovery, development and production of petroleum.

### Course Outline:

- · Introduction/outline of the day
- · The economics and future of the petroleum industry
- · Theory of the origins of hydrocarbons
- Reservoir parameters (e.g., porosity/permeability)
- · Geology of petroleum and geophysics
- · Drilling basics
- Well logging
- · Well completions
- Reservoir drive mechanisms
- Production equipment (sub-surface and surface)
- Midstream and downstream topics
- Offshore and deepwater drilling and production

# **JOHN FARINA**

Petroleum Engineering Consultant

As a petroleum engineer with over 50 years of experience, he specializes in well evaluation, completion and stimulation.

# RON HINN

Vice President, PetroSkills

A petroleum engineer with over 35 years of experience in exploration and production. Specializes in providing technical training for the industry.

# **SUSAN HOWES**

Vice President of Engineering, Subsurface Consultants & Associates, LLC A petroleum engineer with over 30 years of experience in the upstream area in reservoir management and as a learning and organizational development manager.

# KEN ARNOLD

Senior Technical Advisor, Worley Parsons

Over 50 years of experience in facilities engineering for projects worldwide. In 2005, in recognition of his accomplishments, he was elected to membership in the National Academy of Engineers.

# MARTY STETZER

President, SEKT Interactive

A mechanical engineer with an MBA, he has over 40 years of experience in both upstream and downstream operations. He is currently developing and delivering operations and safety e-learning programs for oil and gas companies worldwide.

# DR. TERRY GARDNER

Mechanical Engineer/Consultant

A mechanical engineer PhD, with over 40 years of experience in offshore construction and operations. At Exxon and BP, he led development of deepwater risers and platforms. He regularly teaches his own deepwater technology overview course.

# **EVENT INFO**

# FRIDAY

3.31.17

8:30 AM - 4:30 PM

# **SPEAKERS**

John Farina

Petroleum Engineering Consultant

Ron Hinn

Vice President

PetroSkills

Susan Howes

Vice President of Engineering Subsurface Consultants & Associates

Ken Arnold Senior Technical Advisor

Worley Parsons

Marty Stetzer President

SEKT Interactive

Dr. Terry Gardner

Mechanical Engineer/Consultant

# **LOCATION**

SPE Houston Office 10777 Westheimer Rd, Ste 1075 Houston, TX 77042

### **EVENT CONTACT**

Kumar Pugazhenthi 361-522-3859 kumaresan.pugazhenthi@gmail.com

Sunil Lakshminarayanan 281-248-1443

MEMBERS/NON-MEMBERS \$350

**MIT** 

\$175

**STUDENT** 

\$100

# **ONLINE REGISTRATION**

spegcs.org/events/3508/ Pre-registration pricing ends 3.30.17.

# Where Are They Now?

PAST SCHOLARSHIP WINNERS

The Scholarship Committee conducted a survey of past recipients of the SPE-GCS scholarship. If you're considering donating to the SPE-GCS scholarship fund or hiring an SPE-GCS scholarship winner, you'll be glad to know that the program has enjoyed considerable success over the past six decades. Here's Lois Katharine Giese Folger's story:

In high school, I knew that I wanted to be an engineer, but I was uncertain which discipline to choose. Attending the Offshore Technology Conference in the Astrodome as a high school senior helped solidify my decision to study petroleum engineering. At The University of Texas, my favorite class was calculus with Dr. Guy, who could masterfully teach theory while uncovering the practical applications. I can still vividly recall his demonstration of Gabriel's Horn, which, he explained, was a very long horn that we were going to fill with orange paint so we would have a burnt orange Longhorn. The paradox was that we could fill the horn with paint but we would not have enough paint to cover the outside because the limit calculations yield a finite volume with an infinite surface area. If only we had more calculus teachers like Dr. Guy.

Upon graduation, I began my career in West Texas, where I joined the Society of Petroleum Engineers Permian Basin Section and volunteered on the Scholarship Selection Committee. I served in a variety of positions on the Board of Directors and ultimately became Section Chairman.

My work experience includes 13 years with Texaco, where I worked as a field engineer, production engineer, reservoir engineer, evaluation engineer, and enhanced oil recovery engineer. In 1997, I left Texaco and joined the startup Concho Resources, where we built the company from scratch, sold it, and then repeated the process.

After seven years with Concho Resources, I decided it was time to fulfill my dream to form Folger Energy, LLC, a non-operating independent oil and gas company, where I serve as President.

My advice to students is to get involved with SPE, network, and continue your education. Who knows? You might make some lifelong friends.

**CONTACT:** folger@suddenlink.net.

LOIS KATHARINE GIESE FOLGER



# **CAREER OVERVIEW** President of Folger Energy, LLC

- Stratford High School 1981
- · University of Texas at Austin, BS & MS in petroleum engineering
- University of Texas Permian Basin,
- University of Notre Dame, MS in finance

### **SPONSORSHIP**

spegcs.org/sponsorship-opportunity/

#### **DONATION INFO**

spegcs.org/spegcs-scholarship-fund/

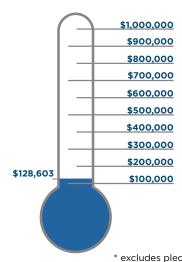
Committee: Education

# **SPE-GCS Scholarship Fund Update**

We are excited to announce the status update for our fundraising efforts. As of February 1, 2017, we have raised \$128,603\* to support our scholarship program! So far, we have received donations from past scholarship recipients who wanted to give back, SPE-GCS Board of Directors, SPE-GCS Study Group and Committee Leaders, SPE-GCS event attendees, SPE-GCS members and associates, SPEi leaders, and company donations.

For more information about our scholarship fund, scholarship program or our current donor list, please visit www.spegcs.org/spegcs-scholarship-fund/. You will find testimonials from past scholarship recipients and learn about the impact that SPE-GCS scholarships had on their lives and professional careers. If you have not yet donated, we invite you to visit our website and support our efforts as a member of the SPE-GCS family and fellow industry professional. As a reminder, all donations are tax-deductible. We also encourage you to find out if your company has a matching program that could make your individual donation go even further!

# **FUND STATUS**



\* excludes pledges

# **Members in Transition Initiative**

14TH SEMINAR SERIES

The SPE Members in Transition Seminar Series includes topics of interest to SPE members who are between jobs during the current industry downturn or who are looking for new career opportunities. The 14th seminar in the series will include: "The Impact of US Shale Resources on Global Energy," "Jumpstart Your LinkedIn Profile," and a discussion of resources for SPE members.

# **Program 1: The Impact of US Shale Resources on Global Energy**

The global energy mix has been transitioning away from the foundational energies of oil as feedstock for transportation fuels and coal as fuel for electricity generation. Until recently, the US energy portfolio was facing a less certain supply and price future, but shale resources have impacted that significantly. Rapid acceleration of shale gas production led to a collapse in natural gas prices and a reduction in natural gas drilling activity. Shale oil production followed a few years later, leading OPEC to respond with increased production to maintain market share. Global oil price collapsed along with US rigs drilling for shale oil. Shale oil and shale gas now account for 50% of US oil and natural gas production. Will the world follow? Concerns include size of the resource, recoverable reserves, economic production potential, and environmental risk.

### SCOTT W. TINKER



Scott W. Tinker is the director of the Bureau of Economic Geology, the State Geologist of Texas, a professor holding the Allday Endowed Chair, and acting Associate Dean of Research in the Jackson School of Geosciences at The University of Texas at Austin.

### SVETLANA IKONNIKOVA



Dr. Svetlana Ikonnikova is a Research Scientist and Senior Energy Economist in the Bureau of Economic Geology at The University of Texas at Austin. She received BS and MS degrees in applied mathematics and a PhD in economics and management science. Her postdoctoral research was in energy and environmental regulation.

# **Program 2: Jumpstart Your LinkedIn Profile**

Michelle Peavy will share LinkedIn tips, tricks and secrets. Learn the top three components of your LinkedIn profile, how to optimize your LinkedIn headline, why your headshot can make or break your LinkedIn profile, how to use your LinkedIn summary to tell your story, and how to increase visibility and expand your connections. Bring your laptop for informal coaching on your LinkedIn profile at the end of this session.

# **MICHELLE PEAVY**



Michelle Peavy owns Rimi and Company, an executive recruiting firm specializing in hiring for upstream oil/gas positions between Houston and Calgary, Canada.

# **EVENT INFO**

FRIDAY

**3.3.17**10:00 AM - 3:00 PM

**SPEAKERS** 

Scott W. Tinker Director BEG-UT

Svetlana Ikonnikova Research Scientist BEG-UT

Michelle Peavy Owner Rimi and Company

# **LOCATION**

Houston Technology Center 410 Pierce St Houston, TX 77002

#### **EVENT CONTACT**

Susan Howes 713-553-5020 c.susan.howes@gmail.com

Ashish Fatnani 832.415.6835 ashish.fatnani@halliburton.com

MEMBERS \$40/\$50 Walk-In

NON-MEMBERS \$50

STUDENTS/MIT/RETIRED SPE \$15

Registration capped at 70

# Leveraging Analytics to Improve Drilling Performance and Safety: The Experience of Shell and CoVar

# Topic 1: Automated Kick Detection During Connections:

In 2010 Shell began investigating how to automate the initial response to a well-control incident. Since at least 25% of kicks in deepwater GoM wells occur on connections, it was quickly realized that robust kick detection during connections was important but especially challenging due to the associated transient flow and pit volume signatures. A work stream was kicked off to develop new software based on pattern recognition technology and machine learning. The resulting IDAPS (Influx Detection at Pumps Stopped) software has now been implemented as a real-time monitoring application for all Shell-operated GoM deepwater wells. The presentation will include IDAPS development roadmap and implementation results, including adding a ballooning discriminator.

# **BRIAN TARR**



Brian Tarr is a Senior Well Engineer at Shell based in Houston. He has a master of petroleum engineering degree from Heriot-Watt University, Edinburgh, Scotland, and is a registered Professional Engineer in Texas.

# Topic 2: CoVar Adaptive Alarms and CoVar Computer Vision

Machine learning technology, including data analytics and computer vision, has been maturing rapidly over the past decade, and applications range from autonomous driving to facial recognition to defense applications. CoVar has developed applications for these technologies in the oil and gas drilling industry. This talk will focus on two technology lines: CoVar Adaptive Alarms and CoVar Computer Vision. CoVar Adaptive Alarms applies machine learning pattern recognition approaches to real-time drilling traces to better inform the driller of impending issues and hazards. CoVar Computer Vision offers a new sensing modality for rig-floor sensing problems that are difficult or impossible to instrument with conventional instrumentation.

# MARK W. HIBBARD



Before founding CoVar, Mark W. Hibbard was Executive Vice President and Chief Technology Officer of NIITEK Inc. He has a bachelor of science in physics from the College of William and Mary and a master of business administration from the Robert H. Smith School of Business, University of Maryland.

# **EVENT INFO**

# THURSDAY

3.23.17

5:30 PM - 7:30 PM

# **SPEAKERS**

Brian Tarr Senior Well Engineer Shell

Mark W. Hibbard
President and CEO
CoVar Applied Technologies Inc.

#### **LOCATION**

IHS Markit 5333 Westheimer Road Houston, TX 77056

### **EVENT CONTACT**

Supriya Gupta 857-264-9460 supriya026@gmail.com

MEMBERS \$40/\$50 Walk-In

NON-MEMBERS \$50

STUDENTS/MIT/RETIRED SPE \$15

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# **Upstream Oil and Gas Professionals Hiring Event**

The Upstream Oil and Gas Professionals Hiring Event strives to provide a platform for upstream oil and gas employers and quality oil and gas professionals to interact. The primary objective is to connect job seekers with employers that have open positions. Job seekers will also have access to resources from sponsors, collaborating organizations, startup employers, and staffing agencies active in the upstream oil and gas industry.

# **Program 1: Keys to Job Search Success**

Coach yourself to job search success. Johana Lopez will help attendees examine ways to find the right opportunities and land the jobs they want. This includes four keys to job search success: 1) Increase your professional visibility (not you). 2) Be more effective and expand your network. 3) Create a job search plan and manage your time efficiently. 4) Enhance your professional development opportunities.

# DR. JOHANA LOPEZ



Johana Lopez is the Training Coordinator and Career Coach for the Gulf Coast Oil and Gas Initiative. She holds a BA in psychology from Pontificia Universidad Javeriana in Colombia, an MA in administration from Western Kentucky University, and a PhD in organizational leadership from Purdue University.

# Program 2: Life Is a Marathon

Katie Mehnert has lost her job a few times, been fired, and lived to tell the stories. In March 2015, she poured her savings, severance, and belief into our industry by launching Pink Petro, a niche community aimed at busting the gender gap and getting our industry the much-needed positive voice it deserves.

# KATIE MEHNERT



Katie Mehnert is the Chief Everything Officer of Pink Petro™. She is a graduate of Louisiana State University in communications, RiceUniversity's Executive Energy program, and The Center for Houston's Future.

# Program 2: Going from your comfort Zone to your Growth Zone

When you are in the middle of a storm or chaos, sometimes you just need to jump off the ship and focus on your promise or dream. You'll be surprised that you are actually walking and sometimes running on water. Those who have a dream that they would like to pursue or they want to try something new, but don't have all the answers, and are too afraid to make a jump. it essentially is Going from your Comfort Zone (Think, Feel, Act Habitual) to the Growth Zone (Fear, Doubt, Anxiety, Discomfort, Inconvenient, Uncertain, Disappointment, Time it Takes, Criticism).

# **EDNA SANGEL**



Edna Sangel is Chairman Elect for 2018 and Board Member for the Spring Klein Chamber of Commerce and the Houston Gateway Academy. She is the residing President for the NAPW Woodlands Chapter. Sangel is the CEO and Founder of Favor and Wealth, which is a business and personal growth consulting firm based in the Galleria that works exclusively with entrepreneurs, CEOs, leaders of startups, and struggling

businesses and organizations globally to transform business and personnel performance.

# **EVENT INFO**

# TUFSDAY

3.28.17

# **SPEAKERS**

Dr. Johana Lopez Training Coordinator and Career Coach Gulf Coast Oil and Gas Initiative

Katie Mehnert Chief Everything Officer Pink Petro

Edna Sangel CEO and Founder Favor and Wealth

# LOCATION

Trini Mendenhall Community Center 1414 Wirt Rd Houston, TX 77055

#### **EVENT CONTACT**

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Susan Howes 713-553-5020 Spegcs.mit.hiringevent@gmail.com

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# SPE Electric Submersible **Pumps Symposium**

24-28 April 2017

The Woodlands Waterway Marriott Hotel & Convention Center The Woodlands, Texas, USA





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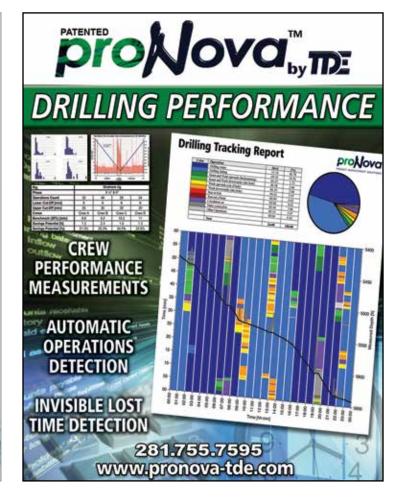
FOR ADDITIONAL DETAILS PLEASE GO TO: spe.org/events/en/2017/symposium/17esp/ homepage.html



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# SPE-GCS STUDENT CHAPTERS

# TEXAS A&M UNIVERSITY

# Recruitment

The Recruitment Committee strives to recruit prospective members and encourage member participation in the TAMU-SPE student chapter.

# Freshmen Seminars

Freshmen seminars are a comprehensive series designed to give freshmen a well-rounded learning experience to motivate prospective petroleum engineering students. TAMU-SPE partners with the Harold Vance Department of Engineering to educate these freshmen engineering students about the unique disciplines of petroleum engineers, what being part of the department offers, and how to become involved with organizations such as SPE. Two seminars were hosted in the fall semester: one covering production engineering by Dr. Ding Zhu and one covering reservoir engineering by Dr. Michael King. Thank you to these professors for their time and giving their respective seminars!

# Department Tours

A wide variety of audiences pass through the doors of our petroleum engineering building, and the Recruitment Committee shows these audiences around our department. High school groups from all over Texas, prospective out-of-state students and their families, and international students visit Aggieland to see our university and our department. Tour groups are usually shown the Production Lab and sometimes our Drilling Lab, followed by a lecture hall and a presentation about the department. These tours are scheduled through the Dwight Look College of Engineering or the Harold Vance Department of Engineering.

# High School Recruiting

Last November, SPE-GCS held its annual High School Recruiting Fair at Memorial High School in Houston. This event is for prospective college students interested in petroleum engineering. It provides them with the opportunity to meet recruiters from universities and learn about the oil and gas industry. Represented by Katie Dickinson and Recruitment Committee Director William Nelson, Texas A&M University SPE was one of the many universities in attendance. Thank you to SPE-GCS for organizing the event and giving TAMU-SPE the opportunity to attend!



# UNIVERSITY OF HOUSTON

# UH-SPE Welcomes Industry Advisory Board

The Society of Petroleum Engineers
University of Houston Student Chapter
extends a warm welcome to our newly formed
Industry Advisory Board. The board members
bring with them nearly a century of combined
experience within the petroleum industry,
which we hope to take advantage of to better
our chapter and members. Their advice
will give University of Houston students a
competitive edge in an ever-more competitive
industry. We look forward to their mentorship,
guidance and expertise.

- Abe Abraham Eagle Hydrocarbons Inc.
- Srimoyee Bhattacharya Shell
- Eric Kocian ExxonMobil (Retired)
- Edward Lewis Shell
- Jeanne Perdue Occidental Petroleum

We also extend our gratitude to SPE HSSE-SR Technical Director Trey Shaffer. On January 24, he gave a presentation on climate change policy objectives during our first general meeting. After the well-received presentation, students asked a host of questions on the present and future of climate science. We look forward to hosting more speakers and events.

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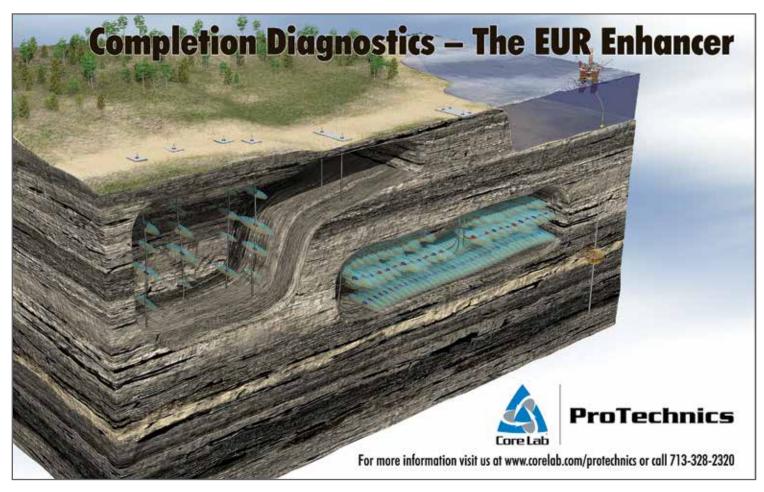
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# March 2017 CALENDAR

SUNDAY	MONDAY	TUESDAY	WEDNESDAY 1	THURSDAY  Research & Development	SPE-GCS Office Closed Cont. Ed/Career Mgmt Members in Transition (MiT)	SATURDAY 4
			Drilling HSSE-SR	General Meeting		
5	6	7	8	9	10	11
		Northside	Westside	Entrepreneurship Cell	SPE-GCS Office Closed Cont. Ed/Career Mgmt	
12	13	14	15	16	17	18
		Reservoir Young Professionals	Completions & Production	Board of Directors Meeting		
19	20	21	22	Data Analytics 23	24	25
	Permian Basin	Members in Transition (MiT)	Water & Waste Mgmt. Business Development		SPE-GCS Office Closed Cont. Ed/Career Mgmt	
26	27	28	29	30	31	