



Gulf Coast Section

FEBRUARY  
2017

# CONNECT

SPE GULF COAST SECTION NEWSLETTER

## THE ROLE OF NATURAL FRACTURES IN SHALE GAS PRODUCTION: WHAT DOES PRODUCTION DATA TELL US?

DISTINGUISHED LECTURER, IAN C. WALTON  
WESTSIDE P. 12

### INTRODUCTION TO HPHT FLUIDS

CONTINUING EDUCATION/CAREER MANAGEMENT P. 19

### 44<sup>TH</sup> ANNUAL SPE-GCS GOLF TOURNAMENT

GOLF P. 21

### DATA ANALYTICS PANEL DISCUSSION

RESERVOIR P. 15

### HEIKKINEN ENERGY ADVISORS OUTLOOK FOR 2017

NORTHSIDE P. 13



# CHAIR'S CORNER

**DEEPAK M. GALA, SHELL**

2016-2017 SPE-GCS Chair

## NOMINATIONS



An important aspect of any professional society is recognition. SPE is no exception. The SPE Awards Program provides an opportunity for members to recognize the professional, technical and service accomplishments of their colleagues at both the regional and international level. The call for nominations is going on now through February 15, 2017. It's time to get your nominations prepared and submitted.

The SPE Award Program is nominator-driven. SPE relies on members to identify people worthy of recognition. Award committees cannot select a recipient unless that person has been nominated by an SPE member. Preparing an effective nomination is the key to presenting the accomplishments of your candidate to the award committee. Globally diverse award committees rely on concise and complete nominations. Well-written nominations allow committee members to use their time effectively, and poorly prepared nominations will not highlight the accomplishments of your candidate, no matter how impressive.

Members/volunteers can look around at their colleagues and think about what they have accomplished and how the industry has benefited. They can look to the research out of the universities or look at innovations in the field that made a difference in the industry regionally or globally and nominate the lead for a technical award. Look for steady and reliable volunteers who have influenced membership growth and retention or who have gone above and beyond in supporting section activities. Nominate them for a service award, or for the DeGolyer Medal if they have influenced the engineering or geology profession as a whole. Find out if colleagues have done amazing public

service in the community and nominate them for the Public Service Award.

Historically, Gulf Coast Section has not awarded all the awards which were eligible for the section due to low nominations of awards submissions. Gulf Coast being the largest section of SPE, the award nominations have been low compared with other sections, especially given the relevance of Houston for our industry. Also, the number of awards awarded to members has been a low 44% when compared with other sections in the below table. Surprisingly, even sections comparatively smaller than Gulf Coast did a better job at recognizing their volunteers by awarding 100% of the award allotments. We as a community should recognize the talent as this is the only reward we give back to our strong volunteers.

You can visit [www.spe.org](http://www.spe.org) to find out

REGION	Total Awards Available 2016	Regional Service Awards Available	Awards Given 2016	
North Sea	18	6	18	100%
Russia & Caspian	15	3	15	100%
South America & Caribbean	17	5	17	100%
South Central & East Europe	16	4	13	81%
Southwestern North America	16	4	13	81%
Canada	17	5	12	71%
Mid-Continent North America	17	5	11	65%
Rocky Mountain North America	16	4	10	63%
Western North America	15	3	9	60%
<b>Gulf Coast North America</b>	<b>18</b>	<b>6</b>	<b>8</b>	<b>44%</b>
Southern Asia Pacific	16	4	7	44%
Northern Asia Pacific	18	6	4	22%
Eastern North America	16	4	3	19%
South Asia	16	4	3	19%
Africa	16	4		0%
Middle East	18	6		0%
<b>TOTAL</b>	<b>265</b>	<b>73</b>	<b>143</b>	<b>54%</b>

information on regional and international awards, as well as resources to help make an effective nomination. Let's challenge the members of the Gulf Coast Section to make at least one nomination for each of the regional and international awards.

**SPE-GCS Update**

The Houston Engineers Week Committee will host the **Young Engineer of the Year (YEOY) Awards Banquet** on February 20 to recognize the outstanding young engineers from around the Houston area. The awardee for SPE-GCS is Aniket Kumar with Halliburton. Aniket has been an active volunteer with the Young Professionals Committee and Drilling Study Group. He has applied for 15 patents and published 17 technical articles in peer review journals and at technical conferences. More details on YEOY and Houston Engineers Well Committee can be found at [www.HoustonEngineersWeek.org](http://www.HoustonEngineersWeek.org).

Stay engaged, stay safe,



Deepak M. Gala

**AWARDS NOMINATIONS:** [spe.org/awards/](http://spe.org/awards/)

**YOUR AD COULD BE HERE! ADVERTISE WITH US & REACH OVER 16,000 OIL AND GAS INDUSTRY INFLUENCERS EVERY MONTH!**

**ADVERTISING COORDINATOR**  
[advertising@spegcs.org](mailto:advertising@spegcs.org)

SHALE PLAYS: HOW TECHNOLOGY, GOVERNMENTS, REGULATORS, ACADEMIA, AND THE PUBLIC HAVE CHANGED THE WORLD'S ENERGY SUPPLY AND DEMAND EQUATION

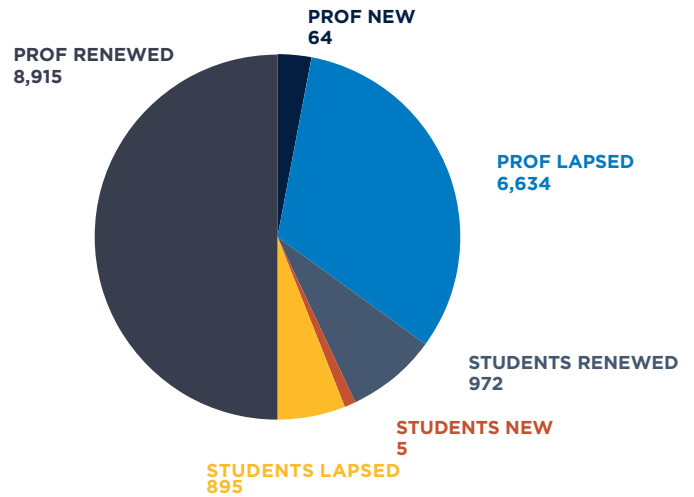
EC-DRILL: A MAJOR PRESSURE DRILLING SYSTEM FOR DRILLING

A STANDARDIZED AND REPLICABLE ASSISTED HISTORY MATCHING WORKFLOW

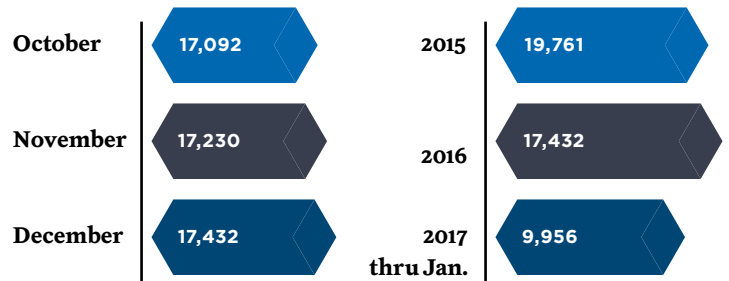
THE EVOLUTION OF THE RED FOLDER: AFE WORKFLOW

# SPE-GCS MEMBERSHIP REPORT Through January 2017

## TOTAL SPE-GCS MEMBERSHIPS



## CURRENT MEMBERSHIP TRENDS



## STUDENT MEMBERSHIPS

STUDENTS	RENEWED	NEW	TOTAL
HCC	27	0	27
Prairie View	14	0	14
Rice	17	0	17
Texas A&M	633	1	634
UH	256	4	260
Unassigned	25	0	25
<b>TOTALS</b>	<b>972</b>	<b>5</b>	<b>977</b>

\*This chart does not reflect lapsed student memberships

**DON'T MISS OUT RENEW YOUR DUES TODAY!**

# February 2017

# CONTENTS

---

## STUDY GROUPS

- 8 Research & Development**  
2.2.17  
Leading Technology Organizations in a Downturn Market
- 9 Drilling**  
2.8.17  
Drill Rig Control Systems: Debugging, Tuning, and Long-Term Needs - (SPE-181415)
- 11 General Meeting**  
2.9.17  
Oil & Gas & People - An Early Glance at 2017
- 12 Westside**  
2.9.17  
The Role of Natural Fractures in Shale Gas Production: What Does Production Data Tell Us?
- 13 Northside**  
2.14.17  
Heikkinen Energy Advisors Outlook for 2017
- 15 Reservoir**  
2.14.17  
Data Analytics Panel Discussion
- 16 Permian Basin**  
2.21.17  
Becoming More Technically Aggressive During a Low Commodity and Cost Period
- 17 Business Development**  
2.22.17  
Sanchez Oil & Gas: Managing at the Granular Level for Capital Efficiency

## COMMITTEES

- 18 Young Professionals**  
2.12.17  
Volunteering at The Beacon  
  
Young Professionals  
2.16.17  
The Crossroads Between Two Exploration Programs: How Space Exploration Missions and Aerospace Intersect Oil and Gas
- 19 Continuing Education/Career Management**  
2.17.17  
Introduction to HPHT Fluids  
  
Auxiliary  
2.10.17  
Final Annual Meeting
- 20 Education**  
Where Are They Now? Past Scholarship Winner, Stefan Kristopher Koszutski Lattimer  
  
Education  
Scholarship Fund Update
- 24 Education**  
Thanks for Successful High School & College Recruiting Fair

## MORE

- 21 Golf**  
4.10.17  
44th Annual SPE-GCS Golf Tournament
  - 22 Members in Transition (MiT)**  
2.3.17  
13th Seminar Series
  - 23 Entrepreneurship Cell**  
2.9.17  
Raising Money for an O&G Startup
- ## IN EVERY ISSUE
- 3 SPE-GCS Membership Report**  
January 2017
  - 5 Volunteer Spotlight**  
Aniket Kumar  
Catalina Leal
  - 6 Then & Now**  
Buddy Woodroof
  - 24 SPE-GCS Student Chapter Section**  
TAMU
  - 26 Event Recap**  
Young Professionals: Volunteer at The Beacon  
SPE & SWE Wine Tasting Event  
Young Professionals: Cycle Houston  
Young Professionals: Christmas Party
  - 28 SPE-GCS Directory**

---

**BOARD OF DIRECTORS MEETING**  
**THURSDAY, FEBRUARY 16 | 7:30 TO 10:30 AM | HOUSTON SPE OFFICE**

---



# SPE-GCS VOLUNTEER SPOTLIGHT

This month the SPE Gulf Coast Section is excited to feature Catalina Leal and Aniket Kumar as Volunteers of the Month.



## CATALINA LEAL

**C**atalina started her involvement with SPE by attending professional events and volunteering. She is a member of the board of directors of SPE-GCS Young Professionals Group and has been the chair of the Community Outreach Committee for two consecutive years. She also collaborates on the different conferences hosted by the Young Professionals.

Catalina is a Drilling Engineer for the Integrated Operations business segment of Baker Hughes. She started her career in the oil and gas industry as a field engineer seven years ago in Colombia, and has worked in countries including Ecuador, Mexico, and UAE. Currently, her role is based in The Woodlands, where she supports drilling projects for both North and Latin America from conception to execution, using products and services from Baker Hughes. In addition, she serves as a mentor and technical coach for younger engineers. Catalina holds a BS in chemical engineering from Universidad de Los Andes in Colombia and is pursuing an MBA.

Catalina is very passionate about giving back to the community and helping others. She organizes and promotes diverse events that benefit the Houston community. With an average of two events per month, the Community Outreach Committee has become one of the most active committees of the Gulf Coast Section, increasing attendance and hosting a variety of events — including serving at the Food Bank, serving lunch at a homeless center, and many others — but most importantly, motivating other Young Professionals to contribute to making the world a better place.



## ANIKET KUMAR

**A**niket has been involved with SPE since 2011, when he moved to Houston to pursue a graduate degree in petroleum engineering at the University of Houston. During this time, he started a Graduate Committee under the umbrella of SPE's student chapter aiming to enhance practical learning opportunities for students and conducted student trips to major oil and gas companies in the Houston area.

In addition to the Graduate Committee, Aniket has volunteered with the Drilling Study Group, the Members in Transition Committee, and the Continuing Education Committee. He has served as a member of the Young Professionals Board since 2014. He co-chaired the PetroBowl this past year and co-chaired the annual Emerging Engineers Conference that aims to promote the career development of young professionals in Houston.

Aniket serves on the Innovate Committee of SPE-GCS, and, with the help of a four-member team, has set up a forum called the Entrepreneurship Cell that aims to promote the exchange of entrepreneurial ideas in the oil and gas industry by conducting a series of monthly events.

Aniket is a Product Engineer at Halliburton. He focuses on solving some of the challenging drilling problems that the industry faces with an aim to develop products for clients based on solutions he develops. Aniket has an undergraduate degree in mechanical engineering and an MS degree in petroleum engineering from the University of Houston.

Aniket's main motivation for being active in SPE is to develop a broader industry perspective and to make his own contribution toward growth in the industry. He has thoroughly enjoyed working alongside his peers and fellow Young Professionals from diverse backgrounds and developing lasting friendships. Aniket believes Winston Churchill said it best when he said, "We make a living by what we get, but we make a life by what we give."

**THANK YOU BOTH FOR ALL THAT YOU DO FOR SPE!**

# THEN & NOW

COLUMN BY BUDDY WOODROOF

## FEBRUARY 1957

A professor at the “Harvard of the South Plains” (Texas Tech) publishes a book titled *Pipeline Archaeology*, in which he outlines some of the many archaeological discoveries that have occurred while digging trenches for pipelines laid across New Mexico and Arizona for El Paso Natural Gas Co. (It’s a good thing that the locals opted against pipeline protests, as many valuable artifacts dating back to the Aztecs and Pueblos have been uncovered.)

Famed wildcatters Richardson & Bass (Sid and Perry) plug back the world’s deepest well 720 feet to a depth of 20,741-45 feet in Plaquemines Parish south of New Orleans due to sand problems and end up flowing oil at 270 bbl per day, and the well remains the world’s deepest well.

Oil Centennial Corp., a nonprofit organization, is chartered in Pennsylvania to commemorate the upcoming 100th anniversary of the industry in 1959. Appropriately so, the petition for charter is presented by 16 men in Oil City, Titusville, Warren, and Bradford.

**East Texas crude oil - \$3.25/bbl;  
US active rig count - 2,264**

## FEBRUARY 1977

Sparks are expected to fly as meetings are scheduled for the new Senate Energy and Natural Resources committee, which includes two consistent antagonists of the oil and gas industry, namely Democrat Howard Metzenbaum (Ohio) and Democrat James Abourezk (South Dakota). (Their attitudes might have been different if more had been known about the Utica and Bakken at the time.)

The Israelis move their own rig into an area of the Gulf of Suez where late last year they had driven off an Egyptian-leased rig that was attempting to drill a well on an Egyptian tract held by Gulf of Suez Petroleum Co.

**US active rig count - 1,830**

## FEBRUARY 1997

In retaliation to the US decertifying Colombia from being able to receive certain US-sponsored trade/finance benefits due to its poor progress in stemming the flow of drugs to the US, Colombian officials propose controls on crude exports to the US by Colombia, Mexico and Venezuela.

Some of the biggest gains year-over-year 1995 to 1996 in net income by US independents are reported by Kerr-McGee, Seagull Energy, and Oryx. (And now, another verse of *Where Have All the Flowers Gone.*)

**Light sweet crude oil - \$23.48/bbl;  
Natural gas - \$2.36/MMbtu;  
US active rig count - 833**

## THE REST OF THE YARN

This month we take an unplanned diversion to share a contributed vignette about one of our favorite oilfield characters, namely, Harry Sinclair. This vignette was contributed by one of the faithful readers of this column, Laurence Shallenberger.

**G**eorge Shallenberger (Laurence’s father) grew up in Tulsa, OK, but traveled back East in 1908 to attend Carnegie Tech (now Carnegie Mellon) where he ultimately received a BS degree in mechanical engineering. While in school, he would return to Tulsa during the summers to work in the oilfields of Cushing and Drumright, where he dressed tools on cable tool rigs and strapped tanks. One summer he got a job with a guy who needed help building wing dams in the creeks of the Cushing field to trap oil that had leaked

from the redwood tanks common in those days. He and his boss would skim the oil off, run it by hand through a small separator, collect the oil in barrels, and run it to the local refinery on a buckboard and sell it. His boss was Harry F. Sinclair, a principal in the Wyoming Teapot Dome Scandal of 1922.

One day while George and Harry were eating their lunch under a shade tree, George asked Harry how he got started doing this oil skimming, and Harry recounted the following story:

“Son, I’ve made and lost two fortunes and I’m on my way back. I was

born in Independence, Kansas. My father owned a drugstore, and after high school, the only job I could get was a soda jerk behind the fountain. One day they struck oil just outside of town. I thought, by golly, if I had some money, I could invest in an oil well. If it struck oil, that would be my ticket out of here.

"Well, I didn't have any money, but I did have an insurance policy that paid for dismemberment. I was desperate to make something of my life. I knew that my dad kept a Colt revolver underneath the cash register. I waited until my dad was gone one Saturday. I took the gun, went out behind the store, and blew my little toe off. I wrapped the wound up with bandages and limped home. The next day I put in a claim, got the money, invested it in a new well they were spudding, and it hit oil. I've been in the oil business ever since."

Laurence asked his father if he thought Harry actually shot off his little toe, and his father answered, "Well, he took off his boot and showed me that his left little toe was missing. I don't know if he really did that or not," his father continued, "but I'll tell you one thing, I believe Harry Sinclair was capable of it."

Thanks, Laurence, for sharing this vignette of a story that has often been thought of as an oilfield yarn but which now has an added layer of credibility.

**THEN & NOW**

F E B R U A R Y

# QUIZ

In the heyday of the Los Angeles Basin oil field in the first half of the 20th century, which of the now famous SoCal beach communities was a major contributor to California's daily oil production?

## ANSWER TO JANUARY'S QUIZ

*Despite the expansion of the periodic table of elements to a current total of 118, the letter J has yet to be included in any of the symbols for those 118 elements.*

## DECEMBER'S WINNER

# No Winner

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

## The latest stator elastomer technology from PV Fluid Products!



Drive down non-productive time with drilling solutions that work!!

- Minimal chemical swell
- Improved stator life in aggressive applications
- Able to maintain higher differential pressures
- Advanced fit philosophy provides broader temperature range
- Reduced chunking failures
- Higher ROP
- Increased bottom line



**PV Fluid Products**  
The PROGRESSIVE  
rotor and stator company



[www.pvfluid.com](http://www.pvfluid.com)





**EVENT INFO**

*Thursday 2.2.17*  
**11:30 AM - 1:00 PM**

**SPEAKER**

Rustom Mody, PE  
VP-Technical Excellence -  
Enterprise Technology  
Baker Hughes Inc.

**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/RETIRED SPE**

\$15

RESEARCH & DEVELOPMENT

**Leading Technology Organizations in a Downturn Market**

This presentation will discuss how to keep innovating during a slow market and what should be done to keep our technology moving forward. Even existing products can be improved.

**RUSTOM MODY**



Rustom Mody holds bachelor of science and master of science degrees in mechanical engineering and a master of business administration in finance. He holds 17 patents and is the author of over 70 articles, technical presentations, and publications. He has won numerous Meritorious Awards for Engineering Innovation and has more than 35 years of experience in drilling and completion.

He is an active member of SPE, American Association of Drilling Engineers, International Association of Drilling Engineers, and American Society of Mechanical Engineers. He serves on various sub-committees for all of those organizations. He serves on the Board of Advisors at the following universities and organizations:

- Offshore Technology Conference Advisory Board
- Society of Petroleum Engineers Advisory Board
- University of Houston Energy Advisory Board
- University of Oklahoma Engineering Department
- University of Oklahoma
- Mewbourne School of Petroleum and Geologic Engineering
- Texas A&M TEES Executive Advisory Board
- Pumps & Pipes, an organization of professionals from medicine, aerospace and energy
- World Oil ShaleTech North America Conference
- ASME Hydraulic Fracking Conference

Recently he was appointed to the advisory board of Council on Competitiveness Technology Leadership and Strategy Initiative - Washington, DC.



## DRILLING

# Drill Rig Control Systems: Debugging, Tuning, and Long-Term Needs - (SPE-181415)

This presentation documents some of the key findings on the data required and methods used to detect and correct issues with drilling control systems such as auto drillers, top drive active torsional damping systems, and heave compensation systems.

It has been found that the rig control systems and how they are tuned can have an impact on drilling dynamics. Issues related to drilling dynamics have varied widely among rigs, even among those that are in the same field and that have the same equipment and specifications. While there are differences in the drilling environment and between crews, recognition of the effects of the control systems employed can explain many of these differences and expand the tools and techniques available to improve drilling performance and reduce dysfunctions.

Opportunities abound for improvement in oilfield drilling control systems, their basic design, and documentation on how they should be tuned and best used. There are also opportunities in crew training catered to different audiences: drilling engineers, rig supervisors, drillers, directional drillers, and rig electricians. Lastly, there is often a knowledge and communication gap between the software/control/user experience and engineers designing the control systems. Since rig control systems are not usually identified as the source of drilling dysfunction, requests for software or interface redesign have not often been initiated in the past.

Challenges for the future are to continue to upgrade rig site manuals, arrange for more crew training, upgrade the control system design, and to incorporate the control system response as part of the topside boundary condition for future drilling dynamics models.

### PAUL PASTUSEK



Paul Pastusek is the Quality Control Coordinator in the Well Asset Group at ExxonMobil Development Company. His interests are screens, packers, hangers, SSSVs, and other well completion equipment and processes. For the past 38 years, he has been working in drilling mechanics. His areas of expertise are drill string dynamics, steerable systems, borehole quality, bit applications, cutting mechanics, rig instrumentation and control systems, and failure analysis. He has a BSME from Texas A&M University and an MBA from the University of Houston. He is a Registered Professional Engineer, holds 37 US patents, and has written 21 papers on drilling technology.

### 2016 PROFESSIONAL ENGINEERING EXAM RESULTS FOR PETROLEUM ENGINEERING

First Timers 66% Second+ Timers 40%  
National Average Pass Rate 60

PE Exam Application Deadline Date: July 1, 2017  
Next Petroleum PE Exam Date: October 27, 2017

2017 HOUSTON COURSES  
August 21-25, October 2-6

P: 405-822-6761 | E: bingwines@cox.net  
winrockengineering.com



### EVENT INFO

Wednesday 2.8.17

11:30 AM - 1:00 PM

### SPEAKER

Paul Pastusek  
Quality Control Coordinator,  
Well Asset Group  
ExxonMobil Development Company

### LOCATION

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

### EVENT CONTACT

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

### MEMBERS

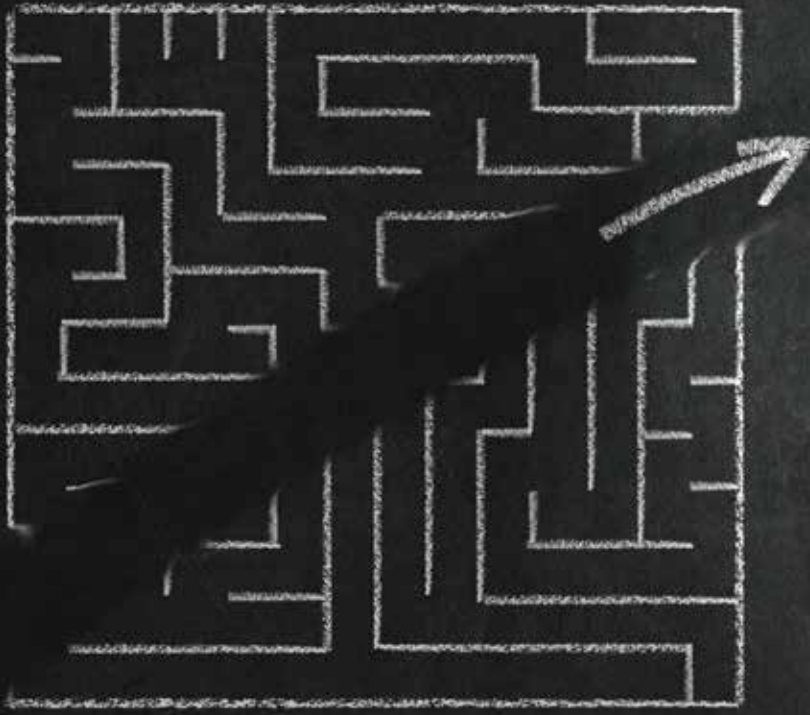
\$40/\$50 Walk-In

### NON-MEMBERS

\$50

### STUDENT/MIT/RETIRED SPE

\$15



Navigate uncertain times.  
**Rethink how you work.**



# Entero<sup>®</sup> MOSAIC<sup>™</sup>

Reserves, Economics, and Decline Software

Isn't it time to stop manipulating data through the backend, creating manual queries to report in Excel, questioning your application security, getting frustrated with poor scenario comparisons, or using 3rd party tools to enter and edit data?

Entero MOSAIC delivers *ASSET INTELLIGENCE* to help you do your work faster, with less effort. It is **one comprehensive solution** that supports corporate, project, and well level processes for reserves, economics, and declines.

- ◉ **EFFICIENCY:** Experience up to 50% in productivity gains
- ◉ **SPEED:** Go from weeks to hours in entry, editing, evaluating, reconciling, and reporting
- ◉ **INTEGRITY:** Have confidence in your data with better visibility
- ◉ **TRUST:** Improve security through role based user/data management
- ◉ **INSIGHT:** Built-in stored results with scenario comparisons at the portfolio level

Learn more at [www.entero.com/mosaic](http://www.entero.com/mosaic), or call toll-free at 877.261.1820.

**entero**  
energy software

# GENERAL MEETING

## Oil & Gas & People - An Early Glance at 2017

Oil prices are starting to creep up, and many people think the industry is finally poised for a modest recovery. What form this recovery will take and what it will mean for the industry's people are still open questions.

This presentation will examine the fundamental economic and demographic factors that drive workforce decisions and look at how individuals can help position themselves for opportunity. And we will boldly go where no one has gone before to ask what the Trump Effect is likely to be.

### JIM MARCHIORI



Jim Marchiori is the Executive Director of the Global Energy Management (GEM) Program at the University of Colorado Denver Business School. Over his 30-year career, Jim Marchiori has been a champion for the use of technology and innovation in workforce development for the oil and gas industry. Under his leadership for the past seven years, GEM has been leading the way in utilizing technology to deliver energy-focused graduate business education to professionals around the world.

He has worked with International Human Resources Development Corporation, Scimitar Oils Limited, S.A. (Dubai Natural Gas Company), and DCP Midstream. He has consulted for clients all over the world, including all major US and European oil and gas companies, HOVENSA, Petronas, Pertamina, Kuwait Oil Company, Abu Dhabi National Oil Company, Qatar Petroleum, Egypt General Petroleum Company, Kazakhcaspishelf/Kazakhoil, the Bangladesh Ministry of Oil, Gas, and Minerals, USAID, and the World Bank.

Marchiori has a BA in political science/international relations from Michigan State University and an MBA from the Stanford Graduate School of Business.

**REGISTRATION LINK:** [spegcs.org/events/3480/](http://spegcs.org/events/3480/)

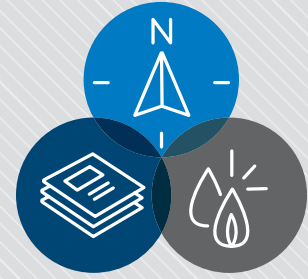
**Critical Well Engineering**

- Petroleum Consulting
- Multi-String Analysis
- Material Selection
- Well Construction
- QA/TPI Surveillance
- Failure Investigation
- Training

[www.vikingeng.net](http://www.vikingeng.net)

**VIKING ENGINEERING**

The Way Tubular Design Should Be



### EVENT INFO

Thursday 2.9.17

11:30 AM - 1:00 PM

### SPEAKER

Jim Marchiori  
Executive Director - Global Energy Management (GEM) Program  
Colorado Denver Business School

### LOCATION

The Petroleum Club  
1201 Louisiana St, 35th Floor  
Houston, TX 77002

### EVENT CONTACT

Barry Faulkner  
281-627-8790  
[barryfaulkner@earthlink.net](mailto:barryfaulkner@earthlink.net)

### MEMBERS

\$40/\$50 Walk-In

### NON-MEMBERS

\$50

### STUDENTS/MIT/RETIRED SPE

\$15



**EVENT INFO**

*Thursday 2.9.17*  
**11:30 AM - 1:00 PM**

**SPEAKER**

Ian C. Walton,  
**2016-17 SPE Distinguished Lecturer**

Senior Research Scientist  
 Energy & Geoscience Institute,  
 University of Utah

**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

**STUDENTS/MIT/RETIRED SPE**

\$15

WESTSIDE

**The Role of Natural Fractures in Shale Gas Production: What Does Production Data Tell Us?**

Natural fractures are very common in shale gas plays. It is often presumed that because the formations are so tight, gas can be produced economically only when extensive networks of natural fractures exist. The creation of large fracture surface area in contact with the reservoir is regarded as essential to commercial success. This is facilitated by multi-stage hydraulic fracturing of long horizontal wells using large volumes of low-viscosity (low-cost) fracturing fluid. The fracture systems that are created by this process are indeed large and often complex, due essentially to intersection of the hydraulic fractures with the natural fracture network. However, the efficiency of this process in terms of water usage is now coming under close scrutiny, not least because of growing environmental concerns.

The success of these operations is beyond doubt, but what can be inferred about the accuracy of this conceptual picture in light of many years' accumulated production data? What does production data tell us about the role of natural fractures, whether initially closed (mineralized) or open, in the production process? This presentation addresses these issues by using a semi-analytic shale gas production model to analyze and interpret production data from many shale gas wells across several different plays. Among the many inferences that can be drawn from the results of this investigation is a fresh appraisal of the role of natural and hydraulic fractures in the production process.

**IAN WALTON**

Ian Walton is a Senior Research Scientist in the Energy & Geoscience Institute at the University of Utah and an Adjunct Professor in the Department of Chemical Engineering. He holds a PhD in applied mathematics from the University of Manchester. Walton has more than 25 years of petroleum industry experience, most recently as a Scientific Advisor for Schlumberger and more than 15 years of university teaching experience. He has published many technical reports and papers and has been awarded eight patents. He has made numerous technical presentations at industry conferences, forums, and workshops. His current research centers on modeling and forecasting gas and oil production from shales.

**Is challenging project documentation draining your resources?**

**WE can help with;**

- ✓ Technical Writing
- ✓ Data Book Compilation
- ✓ Project Management
- ✓ Printing & Binding

**ZAETRIC®** 281-298-1878 www.zaetric.com

## NORTHSIDE

# Heikkinen Energy Advisors Outlook for 2017

David Heikkinen will present the State of the Union for investing in public energy equities and the Heikkinen Energy Advisors outlook for upstream, oilfield services, midstream activities, capital spending, and the best-performing stocks in 2017. As February 14 is Valentine's Day, "Roses are red/Violets are blue/Investing in energy stocks/Is something you should do!"

### DAVID HEIKKINEN



David Heikkinen serves as Chief Executive Officer of both Heikkinen Energy Advisors and its wholly owned broker/dealer, Heikkinen Energy Securities LLC. Before founding the firm in December 2012, he served as Global Head of E&P Research at Tudor, Pickering, Holt & Co. and led the E&P research team at Capital One Southcoast. He gained industry experience at Shell, where he served in various operations and engineering roles focused in the Gulf of Mexico. He serves on the Board of Directors at Red Mountain Resources, a publicly traded E&P company under RDMP. He holds a BS in mechanical engineering from the Missouri University of Science and Technology and an MBA from Tulane University. He holds the Series 7, 24, 63, 86, and 87 licenses.



### EVENT INFO

*Tuesday 2.14.17*  
**11:30 AM - 1:00 PM**

### SPEAKER

David Heikkinen  
CEO  
Heikkinen Energy Advisors

### LOCATION

SWN  
10000 Energy Dr  
Spring, TX 77389

### EVENT CONTACT

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

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

### MEMBERS

\$40/\$50 Walk-In

### NON-MEMBERS

\$50

### STUDENT/MIT/RETIRED SPE

\$15

### CEMLab—Cement Lab Data Management



- Web-based
- Slurry design
- Test results
- Search



Pegasus Vertex, Inc. | Drilling Software  
(713)981-5558 | info@pvisoftware.com



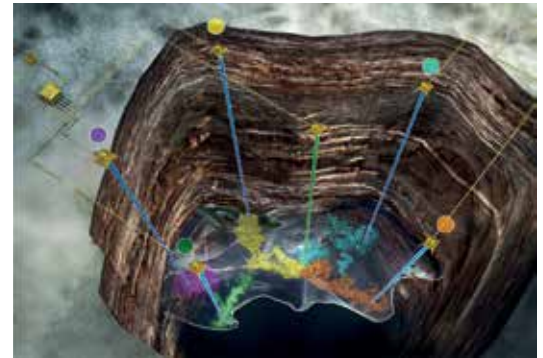
Johnson Matthey

# Understand well connectivity using tracer technology

A Tracerco interwell chemical tracer study gives you critical data to help you optimize field development.

- Well connectivity determination
- Cross flow evaluation of faults and layers
- Pore volume swept calculation
- Sweep efficiency measurement
- Residual oil saturation determination

Flood smart, recover more with Tracerco technologies.



To learn more about our local field and lab capabilities contact:

**4106 New West Drive, Pasadena, TX 77507, USA**

Tel: +1 281-291-7769 | Fax: +1 281-291-7709 | <http://hubs.ly/H03-lkQ0>



**No-Cost MPD or UBO SCREENING**

Get an unbiased review to address your MPD needs using **ADVANCED HYDRAULIC SOFTWARE**

- Get insight into managing your challenging wells
- Review your best-fit solution: Conventional, MPD, UBO
- Get a blueprint for all your service needs (training, execution, personnel, analytics)



- Walk away with your analysis and results
- No-obligation consultation
- By appointment only, Thursday afternoons in Houston, TX, USA

Signa Engineering Corp.  
Houston, TX USA, 281.774.1000  
[www.signaengineering.com](http://www.signaengineering.com)

Contact:  
Dr. Sagar Nauduri, PE  
281.774.3116  
[snauduri@signa.net](mailto:snauduri@signa.net)

## Reduce water. Save money.

Hexion's AquaBond™ proppants reduced water by 92% without hindering the flow of oil compared to traditional resin coated sand in laboratory testing.

AquaBond proppants are enabling operators to reduce formation water disposal costs, maximize well profitability, and lower cost per BOE.

Visit us at [hexion.com/oilfield](http://hexion.com/oilfield)

© 2016 Hexion Inc. All rights reserved. ® and ™ denote trademarks owned by or licensed to Hexion Inc.

# RESERVOIR

## Data Analytics Panel Discussion

The Reservoir Study Group welcomes you to participate in a panel discussion about the current use of data analytics and future trends in its application in the petroleum industry (or in reservoir engineering). We will have three industry experts presenting relevant material involving data analytics, and we'll then dive into a Q&A session between the panelists and the audience for the rest of the allotted time.

### DR. HECTOR KLIE



Dr. Hector Klie has held the position of Data Science Department Lead at Sanchez Oil & Gas Corporation since March 2016. He leads the technical development of advanced analytics and machine learning solutions aiming at unlocking novel business opportunities, reducing costs, and maximizing production in unconventional. Klie completed his PhD in computational science and engineering at Rice University in 1996 and a master's degree in computer science at Simón Bolívar University, Venezuela, in 1991.

### DR. SHAHAB D. MOHAGHEGH



Dr. Shahab D. Mohaghegh is a Professor at West Virginia University and President and CEO at Intelligent Solutions Inc.

He is a pioneer in the application of artificial intelligence and data mining in the exploration and production industry. He holds BS, MS, and PhD degrees in petroleum and natural gas engineering. He has authored more than 170 technical papers and carried out more than 60 projects for NOCs and IOCs. He is an SPE Distinguished Lecturer and has been featured in the Distinguished Author Series of SPE's *Journal of Petroleum Technology* four times.

### DR. SÉBASTIEN MATRINGE



Dr. Sébastien Matringe is the Vice President of Technology at QRI. His group focuses on creating new quantitative reservoir management technologies and takes an open-minded approach to problem-solving, using a variety of solutions from the purely data-driven to the heavily physics-based. Matringe is a reservoir engineer by training and has worked on a number of fields worldwide. Matringe holds a diplôme d'ingénieur in fluid mechanics from ENSEEIHT and MSc and PhD degrees in petroleum engineering from Stanford University.

**REGISTRATION LINK:** [spgcs.org/events/3403/](http://spgcs.org/events/3403/)



### EVENT INFO

Tuesday 2.14.17  
11:30 AM - 1:00 PM

### SPEAKER

Hector Klie  
Data Science Department Lead  
Sanchez Oil & Gas Corporation

Dr. Shahab D. Mohaghegh  
CEO  
Intelligent Solutions Inc.

Dr. Sébastien Matringe  
VP of Technology  
QRI

### LOCATION

Sullivan's Steakhouse  
4608 Westheimer Rd  
Houston, TX 77027

### EVENT CONTACT

Alexandra Martinez  
adinorah.martinez@gmail.com  
956-249-0994

### MEMBERS

\$40/\$50 Walk-In

### NON-MEMBERS

\$50

### STUDENT/MIT/RETIRED SPE

Please see website for details



**EVENT INFO**

*Tuesday 2.21.17*  
**11:30 AM - 1:00 PM**

**SPEAKER**

Michael Lattibeaudiere  
 Director of Operations, Permian  
 Noble Energy

**LOCATION**

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

**EVENT CONTACT**

Amy Timmons  
 281-384-0882  
 atimmons1114@gmail.com

**MEMBERS**

\$40/\$50 Walk-In

**NON-MEMBERS**

\$50

**STUDENTS/MIT/RETIRED SPE**

\$15

PERMIAN BASIN

**Becoming More Technically Aggressive During a Low Commodity and Cost Period**

The presentation will cover the need to be more technically aggressive during a low commodity and cost period. This technical understanding will allow you to capitalize and reduce the learning curve during an increasing capital cost cycle, enabling organizations to maximize the NPV of projects and improving economic viability.

**MICHAEL LATTIBEAUDIÈRE**



After graduating from the University of Texas at Austin in 2001 with a degree in petroleum engineering, Michael Lattibeaudiere began his career at Conoco Inc. Throughout eight years at ConocoPhillips, he worked multiple roles in various areas, including San Juan, South Texas (Lobo), Permian Basin, East Texas (Cotton Valley), and Algeria.

In 2009, Lattibeaudiere began a new role at Rosetta Resources as a completions engineer working South Texas, DJ Basin, Eagle Ford, Pinedale, and Bakken. Over the next seven years, he advanced to the role of General Manager of Permian Basin Operations.

In 2015, Rosetta Resources and Noble Energy merged, and Lattibeaudiere became the Director of Operations for Permian, where he manages completion, production, and field operation.

Lattibeaudiere has co-authored five Society of Petroleum Engineers papers and served as a committee member for the SPE Applied Technical Workshops.

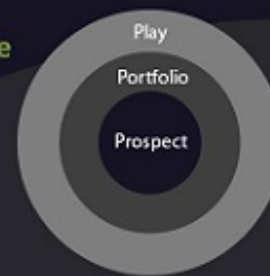
**Rose & Associates**

Courses Consulting Software

**Unconventional Resource Valuation and Assessment Course**  
 (3 to 5 days)

**UCRA Software**  
 To model, value and risk drilling in resource plays

www.roseassoc.com





## BUSINESS DEVELOPMENT

# Sanchez Oil & Gas: Managing at the Granular Level for Capital Efficiency

Please join us as Chris Heinson, Sanchez Oil & Gas Corporation Senior Vice President and COO, presents Sanchez's experiences adapting manufacturing processes and controls to improve operational efficiency and reduce procurement costs.

Sanchez has a strong asset base with over 200,000 net acres throughout the Eagle Ford and about 3,000 drilling locations. Sanchez Oil and Gas's proprietary planning tools and procurement strategies have allowed the company to become a manufacturing-focused organization. The combination of optimized drilling and completions practices, along with utilization of direct sourcing and vertical integration, has resulted in total well costs decreasing in the Eagle Ford from over \$10 million to below \$3 million for a 6,500-ft Eagle Ford lateral with 25 stages.

The networking hour will begin at 5:00 PM in the mezzanine. An hour-long program, including a Q&A session, will follow.

### CHRISTOPHER D. HEINSON



Christopher D. Heinson serves as Senior Vice President and Chief Operating Officer of Sanchez Energy. He also is Senior Vice President and Chief Operating Officer for Sanchez Oil and Gas Corporation, which he joined in 2013. He was previously Senior Manager of Reservoir Engineering. As COO, Heinson oversees oil and gas operations, including business development, supply chain, exploration, production, corporate planning, engineering, and land management.

Heinson has a strong background in reservoir engineering, business planning, and project management for upstream oil and gas operations. Before joining the company, he served as a Senior Planning Engineer for Occidental Petroleum's Williston basin division and Staff Reservoir Engineer for Oxy's Permian Basin division. He has extensive experience in a wide range of unconventional oil plays, including the Permian Basin, the Bakken, and the Eagle Ford. Heinson also has comprehensive field redevelopment and enhanced oil recovery expertise. He holds a BS degree in petroleum engineering from The University of Texas at Austin.

**YOUR AD COULD BE HERE! ADVERTISE WITH US & REACH OVER 16,000 OIL AND GAS INDUSTRY INFLUENCERS EVERY MONTH!**

**ADVERTISING COORDINATOR**

advertising@spegcs.org



### EVENT INFO

*Wednesday 2.22.17*

**5:00 PM - 7:30 PM**

### SPEAKER

Christopher D. Heinson  
Senior Vice President and  
Chief Operating Officer  
Sanchez Energy Corporation

### LOCATION

Four Seasons Houston  
1330 Lamar St  
Houston, TX 77010

### EVENT CONTACT

Cody Felton  
281-221-3042  
Cody.Felton@energynet.com

### MEMBERS

\$40/\$55 Walk-In

### NON-MEMBERS

\$55/\$55 Walk-In

### STUDENTS/MIT/RETIRED SPE

\$15

## Volunteering at The Beacon

Please join SPE-GCS Young Professionals in their support of The Beacon, a nonprofit organization helping the poor and homeless populations of the Houston area. Since opening in 2007, the Beacon has grown from serving 80 clients per day to serving 600-800 clients daily in four core programs: The Beacon Day Center, Cathedral Clinic at The Beacon, Brigid's Hope at The Beacon, and Cathedral Justice Project at The Beacon. These four programs come together under one roof to provide meals, showers, laundry service, case management, medical and psychiatric care, pro bono legal services, and pastoral care.

More than 85% of the services of The Beacon are operated by volunteers. On February 12, it will be the SPE-GCS Young Professionals that answer the call to service. Please come and bring friends or family.

Please have a good breakfast to stay energized throughout the event, which extends beyond the regular lunchtime and involves some physical activity. Donations of gently used or new items are appreciated.

## The Crossroads Between Two Exploration Programs: How Space Exploration Missions and Aerospace Intersect Oil and Gas

Curiosity, innovation, and a drive to optimize have powered and revolutionized the oil and gas industry since the first oil well in 1859. The space industry is driven by similar principles of unending curiosity, overcoming challenges, and pushing beyond what is considered possible. Whether it is drilling in HPHT environments or overcoming the physiological challenges of microgravity in a six-month spaceflight to Mars, the technologies and people powering these two industries are remarkably similar. This talk will discuss the similarities between these two seemingly disparate industries and how your skills in oil and gas could be possibly used to make the human mission to Mars a reality.

### JOHN SAIZ



John Saiz is a Principal Industrial Fellow at the University of Cambridge Institute for Manufacturing (IfM). Saiz and his team at the IfM Centre for Technology Management work with technology-intensive organizations worldwide to refine their capabilities across the three core elements of innovation and technology management: the strategy, the system, and the people and organization. Saiz has also supported industry consortia and academia including BioPhorum,

OrthoWorx, Purdue University, UCLA, and the University of Maine. He managed a portfolio of nearly 200 internal research and technology development activities during his tenure as the Chief Technology Officer of NASA's Johnson Space Center. While at NASA, Saiz directed technology and flight development projects that spanned the spectrum of technology-readiness levels. Saiz holds degrees in petroleum engineering and mechanical engineering. His industry experiences include a brief stint as a mud logger with Integrated Drilling and Logging Inc. in the Texas and Louisiana oilfields, along with engineering and technology management roles at Honeywell Defense Systems, Oceaneering, and Halliburton.

### EVENT INFO

SUNDAY

**2.12.17**

10:30 AM - 2:00 PM

#### LOCATION

The Beacon - John S. Dunn  
Outreach Center  
1212 Prairie St  
Houston, TX 77002

#### EVENT CONTACT

Catalina Leal  
832-729-5462

### EVENT INFO

THURSDAY

**2.16.17**

11:00 AM - 1:00 PM

#### SPEAKER

John Saiz  
Principal Industrial Fellow  
University of Cambridge  
Institute for Manufacturing

#### EVENT LOCATION

Houston Technology Center  
410 Pierce St  
Houston, TX 77002

#### EVENT CONTACT

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

#### MEMBERS/NON-MEMBERS

\$25/\$35

#### STUDENTS/MIT/RETIRED

\$15

#### LINK

[spegcs.org/events/3489/](http://spegcs.org/events/3489/)

## Introduction to HPHT Fluids

This event will give a broad understanding of fluids and their challenges in an HTHP environment. Topics will include:

1. Non-aqueous systems
2. Water-based fluids
3. Chemistry and properties of fluids

### AGENDA:

8:00 – 9:00 AM: Define HTHP  
9:00 – 9:30 AM: Rig Preparation  
9:45 – 10:30 AM: Introduction to Drilling Fluids-Testing  
10:30 – 12:00 PM: Non-Aqueous Systems-Synthetic and Diesel  
12:00 – 1:00 PM: Lunch  
1:00 – 2:30 PM: Water-Based Fluids  
2:30 – 3:00 PM: Hydraulics  
3:00 – 4:00 PM: Additional Equipment  
4:00 – 5:00 PM: Case History

### MICHAEL REDBURN



Michael Redburn earned a BS degree in mechanical engineering from Ferris State University in 2007 and an MBA degree from Colorado State University in 2013. In 2005, Redburn served as a Mechanical Design Engineer in the automotive industry with a major focus on process improvement and machine design. Since 2014, Redburn has had a strong focus on statistical improvements, earning green and black belts in Six Sigma. Since May 2007, Redburn has worked for Newpark Drilling Fluids, being promoted from a drilling fluids engineer. He is now the Engineering Manager for Newpark's Global Technical Group working in various roles, including operations, research, and technical services.

### AHMED SAID AMER



As a Global Deepwater Technical Manager for Newpark Drilling Fluids, Ahmed Said Amer focuses on supporting Newpark's technology portfolio in the complex domains of deepwater, wellbore strengthening, and lost circulation applications. In a career spanning 10 years, he worked in operations, business development, and technical services in a major service company before joining Newpark. Amer is a certified Project Manager. He is also member of API Subcommittee 13, AADE Fluids Management Group, and AADE Fluids and National Conferences Committee. He has participated as a judge, steering committee member, session chair, reviewer, panelist, and presenter in internal and external workshops, symposia and conferences.

### EVENT INFO

FRIDAY

**2.17.17**

8:00 AM – 5:00 PM

### SPEAKERS

Michael Redburn  
Technology Support  
Engineering Manager  
Newpark Drilling Fluids

Ahmed Said Amer  
Global Deepwater  
Technical Manager  
Newpark Drilling Fluids

### LOCATION

Newpark Drilling Fluids  
21920 Merchants Way  
Katy, TX 77449

### EVENT CONTACT

Kumar Pugazhenth  
361-522-3859  
kumaresan.pugazhenth@gmail.com

Sunil Lakshminarayanan  
281-248-1443  
sunil.lakshminarayanan@gmail.com

### MEMBERS & NON-MEMBERS

\$350

### STUDENTS/MIT

\$175/\$100

### REGISTRATION

Ends 2.16.17

## Final Annual Meeting

The Houston SPE Auxiliary is officially dissolving after 40 years and around 275 scholarships awarded. This Annual Meeting will be our last formal gathering. We give our thanks to the Gulf Coast Section for its continued support through the years.

### EVENT CONTACT

Evelyn Earlougher  
281-419-1328  
earlougher@comcast.net

### LOCATION

McCormick & Schmick's  
1151-01 Uptown Park Blvd  
Houston, TX 77056

### EVENT INFO

FRIDAY

**2.10.17**

11:00 AM

## 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 winner Stefan Kristopher Koszutski Lattimer's story:

In spring 2003, I was introduced to the petroleum industry and SPE by Dr. Tim Taylor. At the time, Dr. Taylor was head recruiter for the petroleum engineering department at UT. Dr. Taylor invited me to campus for a tour, and suggested I look into SPE. With Dr. Taylor's encouragement, I applied for a scholarship from SPE-GCS that significantly impacted my college journey.

At the time, winners of a SPE-GCS scholarship were also awarded a pre-college internship with Anadarko. Being from The Woodlands, Anadarko was in my "backyard" and was known to be a big deal. I joined Anadarko for summer 2003, working in the International Operations group. The opportunities from working with an operator like Anadarko significantly aided in my understanding of the industry and my roles during the internship were far beyond anything I could have ever dreamed. In a way, you can say I was thrown into the deep end of the pool, and I am very grateful for that opportunity. In addition to the internship, the scholarship helped me to spend more time on my studies and to be able to graduate with honors and a degree in petroleum engineering.

After graduation, my career took me to Chevron, where I have spent nine years in multiple roles with a wide range of responsibility and work focus. My focus has been around production and stimulation while working for assets in Western Africa, the Gulf of Mexico, and many other international fields. I have gained company recognition for my work with new technologies and working with recruiting teams, interns, and the training of new hires.

My advice to students is that no matter what type of engineering you are looking at pursuing, I strongly encourage you to apply for this wonderful opportunity. A real bonus is the internship that comes with the scholarship. The job experience prior to college is a major step above the rest of the other students who are competing for other scholarships and internships each year.

## STEFAN KOSZUTSKI LATTIMER



### CAREER OVERVIEW

#### Petroleum Engineer at Chevron

- The Woodlands High School - 2003
- University of Texas at Austin, BS in petroleum engineering

### CONTACT

slattimer@chevron.com

### SPONSORSHIP

[spegcs.org/sponsorship-opportunity/](http://spegcs.org/sponsorship-opportunity/)

### DONATION INFO

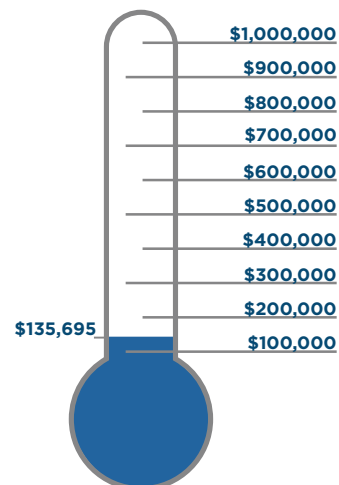
[spegcs.org/spegcs-scholarship-fund/](http://spegcs.org/spegcs-scholarship-fund/)

## SPE-GCS Scholarship Fund Update

We are excited to announce the status update for our fundraising efforts. As of December 22, 2016 we have raised **\$135,695** 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/](http://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



# 44<sup>TH</sup> Annual SPE Gulf Coast Section Golf Tournament

*Monday*

**4.10.17**

MORNING AND AFTERNOON

Now in its 44th year, the annual SPE-GCS golf tournament is one of the section's most important fundraisers. Please join us at the beautiful courses of Kingwood and Deerwood Country Clubs to enjoy a wonderful day of golf in support of SPE-GCS scholarships. These scholarships benefit young engineers embarking on the adventure of an oilfield career.

As always, there will be fabulous door prizes for everyone and a chance to enter a raffle for electronics and United Airlines and Lufthansa flight vouchers. It's all courtesy of our generous sponsors. You will also love the wonderful food provided out on the course by our fabulous oilfield cook teams. So bring your customers out for the day and treat them to a fun experience they won't forget!

Your support goes directly to funding valuable scholarships for many Gulf Coast Section students embarking on careers in petroleum engineering or related fields. We know how tough these times are, but we all know that we still need to attract new talent to this great industry. Every penny made by the golf tournament is invested in the drive to educate more young engineers.

Thank you for your support!  
Gulf Coast Section Golf Committee

**REGISTRATION**  
[spegcs.org/golf](http://spegcs.org/golf)

**WHERE**  
Kingwood Country Club  
1700 Lake Kingwood  
Kingwood, TX 77339

**QUESTIONS**  
Marc Davis  
[golf@spegcs.org](mailto:golf@spegcs.org)  
713-248-3956

For more information and registration & sponsor forms, please visit [spegcs.org/golf](http://spegcs.org/golf)

# Members in Transition Initiative

## 13TH SEMINAR SERIES

The SPE Members in Transition Seminar Series features topics of interest to SPE members who are between jobs during the current industry downturn or who are looking for new career opportunities. The agenda for the 13th seminar in the series will include “Houston Technology Center and the SPE-GCS Ideas Launch Pad,” “Blue Ocean Technological Entrepreneurship in Energy,” “Entrepreneurship in Oilfield Manufacturing,” and a discussion of resources for SPE members.

### Program 1: Houston Technology Center and the SPE-GCS Ideas Launchpad

The Houston Technology Center is a technology business accelerator and the largest technology business incubator in Texas. SPE-GCS partners submit new technology ideas to HTC via the Ideas Launch Pad. SPE-GCS invites members to submit new technology ideas to via the Ideas Launch Pad initiative. Our objective is to help assess technology that has the potential to be launched as a commercial venture and to help you kick-start your dream.



#### MARYANNE MALDONADO

Maryanne Maldonado is Vice President and COO at Houston Technology Center. She leads the team to provide strategic, tactical, and operational guidance, as well as investment-related advice, to early-stage companies developing innovative technologies. Maldonado holds MBA and BS degrees from LeTourneau University.



#### NICK TILLMANN

Nick Tillmann is Director of Client Acceleration for the Energy Sector at Houston Technology Center. Tillmann is a seasoned energy executive whose experience includes more than 25 years with ConocoPhillips. He has an MBA from Thunderbird School of Global Management and a BA from the University of Illinois at Chicago.

### Program 2: Blue Ocean Technological Entrepreneurship in Energy

How do you start, fund and develop a technology company in the energy sector as a young professional, creating a blue ocean opportunity in an otherwise mature field?



#### PEDRO SANTOS

Pedro Santos is a serial energy technology entrepreneur. He holds four issued patents and more than 19 pending applications. Santos holds a bachelor of science degree in engineering from Pontificia Universidad Católica Madre y Maestra, a BS in international business from Rochester Institute of Technology, and an MBA from MIT's Sloan

School of Management.

### Program 3: Entrepreneurship in Oilfield Manufacturing

Founded in 1930 as L-K Pump Valve Company, LK Industries has become one of the best-known names in oil testing. LK Industries' founder, Louis Hill Kennon, believed that quality products and service were the pillars to building a long-term company, and he was right. Eighty-seven years later, LK Industries continues operating with the same guiding principles. In 2015, the company started a new chapter and was acquired by Eric R. Calderon.



#### ERIC R. CALDERON

In 2013, Eric Calderon, after working as a petroleum engineer, fulfilled his entrepreneurial dream and purchased a small business in the oil and gas industry. He will discuss his decision to pursue an MBA and his desire to become a business owner. He'll explain how he raised the necessary capital, and examine the dramatic differences between working as an engineer for a large company and operating his own small business.

## EVENT INFO

FRIDAY

**2.3.17**

10:00 AM - 3:00 PM

### SPEAKERS

Maryanne Maldonado  
Vice President and  
Chief Operating Officer  
Houston Technology Center

Nick Tillmann  
Director of Client Acceleration for the  
Energy Sector  
Houston Technology Center

Pedro Santos  
Director and Founder  
Hicor Technologies Inc.

Eric R. Calderon  
President and Chief Executive Officer  
LK Industries

### 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

# Entrepreneurship Cell: Raising Money for an O&G Startup

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

## MATT DAWSON



Event moderator Matt Dawson is an Investment Director with Statoil's venture capital division. He is the Chief Technology Officer of Statoil spin-out Reveal Energy Services, which is based on a breakthrough technology that he developed when he worked in Statoil's Research & Technology group. He started his career as a researcher at ExxonMobil's Upstream Research, where he developed numerous technologies. He has over 25 filed patents in the oil and gas space on more than 10 new technologies. He received his PhD in mechanical engineering at the age of 24 from MIT, where he also launched his first successful startup.

## MARIO PORTELA



Mario Portela is an investor and Managing Director with TPG ART. Before joining TPG in 2009, Portela held several senior management positions at Lyondell, where he was last an Officer and Vice President for Strategy and Corporate Development. He has a BS in engineering from IMPE, Lisbon, and has studied finance and marketing throughout his career at ESADE, INSEAD, IMD, and the Wharton School of the University of Pennsylvania. Portela currently serves on the Boards of Directors of Advantek Waste Management Services LLC, Anuvia Nutrients LLC, ChemEor Inc., and EBES S.A.

## JIM SLEDZIK



Jim Sledzik, senior partner and president of the US office of Energy Ventures, has more than 26 years of experience in the worldwide oil and gas industry. Since 2002, Energy Ventures has raised \$950 million in five funds that target technology-driven, high growth potential companies in the upstream oil and gas sector. Sledzik serves on the board of directors of three portfolio companies: Wireless Seismic, Hicor and Sagerider. He holds an MBA in international business from Joseph M. Katz Graduate School of Business at the University of Pittsburgh and a BSc in geosciences from Pennsylvania State University.

## JIM LAWNIN



With over 35 years in the O&G industry, Jim Lawnin started his career as a Petroleum Engineer for a major oil and gas company in the Gulf Coast area, later starting an independent O&G company of his own. After completing graduate school for an MBA and accounting designation, he has held senior executive positions at major consulting firms. Lawnin is a Licensed Professional Engineer, Certified Public Accountant, Chartered Financial Analyst, and Black Belt Six Sigma. He co-leads the oil and gas investment subgroup of the Houston Angel Networks and serves on the leadership board of Jubilee Prison Ministries.

**NOTE:** There is no parking validation; attendees should self-park.

## EVENT INFO

THURSDAY

**2.9.17**

5:30 PM – 8:00 PM

### SPEAKERS

Matt Dawson  
Investor Director  
Statoil

Mario Portela  
Investor and Managing Director  
TPG ART

Jim Sledzik  
Senior Partner and President,  
Houston Office  
Energy Ventures

Jim Lawnin  
Board Member  
Houston Angel Network

### LOCATION

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

### EVENT CONTACT

Mikhail Alekseenko  
281-513-7078  
maalekseenko@marathonoil.com

### MEMBERS/NON-MEMBERS

\$15

# THANKS FOR A SUCCESSFUL HIGH SCHOOL & COLLEGE RECRUITING FAIR

SPE-GCS held its recruiting fair for the greater Houston area on November 8, 2016 at Memorial High School. All area high school students and parents were welcomed.

## Volunteers and Companies Represented

- Trey Shaffer – Speaker/SPE-GCS Vice Chair/ERM
- Noel Bayaborda – Memorial HS STEM Teacher
- Patrick Sombilla – Memorial HS STEM Teacher
- Simeon Eburi - Chevron
- Susan Howes - Subsurface Consultants & Associates, LLC
- Leigh Whittington - Nextera Energy
- Terri Garza - Chevron
- Hannah Luk - Chevron
- Marissa Turner - Schlumberger
- Jordan Black – Petrobras
- Kory Izard – Chevron

## Colleges Represented

- University of Wyoming
- University of Houston
- Marietta College
- Houston Community College
- Rice University
- Missouri University of Science and Technology
- University of Texas-Austin
- University of Oklahoma
- Texas A&M University
- UT-Permian Basin
- University of Tulsa



## SPE-GCS STUDENT CHAPTERS TEXAS A&M UNIVERSITY

### *The Well Log*

*The Well Log* is Texas A&M SPE's student-run publication. Started in September 2014, *The Well Log* has now transitioned from a journal publication to an online platform.

Since this transition in 2016, *The Well Log* has attracted a more global, larger audience outside of TAMU-SPE members, increased content output, and diversified our promotion initiatives. The website features review articles, original research from graduate students, interviews with distinguished professors, and other insightful content pertaining to the oil and gas industry.

Visit *The Well Log* at [thewelllog.com](http://thewelllog.com). The purpose of *The Well Log* is to provide students with an opportunity to express their thoughts and analyses of important events within the industry through the platform of a reputable technical journal with a worldwide audience. Furthermore, graduate students are able to utilize *The Well Log* as an outlet to publish summaries and in-depth technical articles pertaining to their research.

### *Student Mentorship Program*

Completing its first iteration in fall 2016, the Student Mentorship Program is a tool for freshman and sophomore SPE members looking to better prepare themselves for recruitment.

The program pairs eligible applicants with qualified mentors who advise mentees and provide them with a competitive edge during recruitment. It involves a one-on-one experience between an upperclassmen mentor and student mentee, both of whom are selected by the TAMU-SPE Mentorship Committee.

The effectiveness of the program stems from selecting mentors who have recently undergone the recruitment process and thus have the most current know-how on what is required to get the job. The program's mentees averaged multiple interviews and received internship offers from companies such as Shell, Apache, Hilcorp, ConocoPhillips, Concho Resources, Pioneer Natural Resources, and many more.

Applications to become a mentor are still open, and mentee applications will open up soon. We hope to provide our SPE members with a multitude of resources to strengthen their resumes, networking abilities, and interviewing skills, but also to help connect our upperclassmen and underclassmen.

### Student Chapter Directory

#### HOUSTON COMMUNITY COLLEGE

Raymond McCoy  
rqm3rd@yahoo.com

#### RICE

Yichen Liu  
astron.liuy@gmail.com

#### TEXAS A&M

Alex Lambros  
alex.lambros@tamu.edu

#### UNIVERSITY OF HOUSTON

GQ Guo  
president@uhspe.org

#### PRAIRIE VIEW A&M

Aja Castano  
ajac762@yahoo.com



**SCALEGUARD**  
Proppant-delivered  
scale-inhibiting technology

0553  
4

DAYS

0000

WORKOVERS

Reduce your LOE with the longest-lasting scale inhibition treatment by far...and counting

SCALEGUARD® proppant-delivered scale-inhibiting technology is a unique, long-term well maintenance solution that assures optimal production and significantly reduces LOE.

Each treatment can be designed to last the life of the well, and one Uinta operator is saving over \$160,000 per well in maintenance costs each year.

[carboceramics.com/scaleguard](http://carboceramics.com/scaleguard)

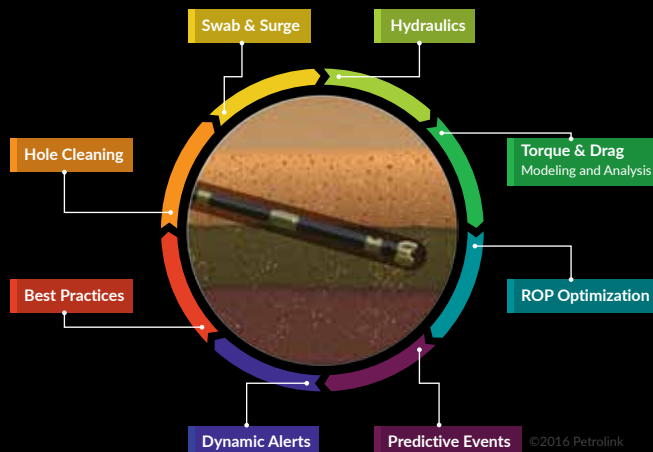
**CARBO**

Production. Enhanced.

## Create the **Optimal Well** in Real-Time

Petrolink's Drilling Analytics Suite gives you real-time, customized tools to continuously optimize your operations by identifying invisible lost time while reducing non-productive time. That means fewer drilling days and lower well costs.

Real-Time Drilling Analytics: Engineered for Lower Well Costs



**petrolink**

[www.petrolink.com](http://www.petrolink.com)



**INWOOD SOLUTIONS, LLC**  
Enhanced oil recovery • Petroleum engineering

Petroleum Engineering  
Enhanced Oil Recovery  
Project Management  
Profitability Analysis  
Reservoir Simulation

Dr. J Roger Hite  
Inwood Solutions, LLC  
(713) 385-5343  
[hite@inwood-solutions.com](mailto:hite@inwood-solutions.com)

# Completion Diagnostics – The EUR Enhancer



**ProTechnics**

For more information visit us at [www.corelab.com/protechnics](http://www.corelab.com/protechnics) or call 713-328-2320

## SUBJECT MATTER EXPERTS

DESIGN  
ANALYSIS  
TESTING

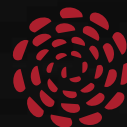
 STRESS  
ENGINEERING  
SERVICES INC.

281.955.2900  
[www.stress.com](http://www.stress.com)

HOUSTON • CINCINNATI • NEW ORLEANS • BATON ROUGE • CALGARY

## DELIVERING GLOBAL SOLUTIONS FOR E & P CHALLENGES

- Drilling & Completion
- Well Control
- Reservoir & Production



**SIERRA  
HAMILTON**

+1.713.956.0956 • [Sierra-Hamilton.com](http://Sierra-Hamilton.com)

**SPE-GCS CONNECT**

**EVENT**

**RECAP**

We had another great volunteering event at the Beacon homeless shelter in December. Thank you to all of our SPE volunteers who helped to serve lunch to over 300 clients. Let's keep making this world a better place one step at a time!



Young Professionals - Volunteer at The Beacon



Young Professionals - Volunteer at The Beacon



Young Professionals - Volunteer at The Beacon



Young Professionals - Volunteer at The Beacon



Young Professionals - Volunteer at The Beacon



SPE & SWE Wine Tasting Event



SPE & SWE Wine Tasting Event



SPE & SWE Wine Tasting Event



Young Professionals - Cycle Houston



Young Professionals - Cycle Houston



Young Professionals - Cycle Houston



Young Professionals - Cycle Houston



Young Professionals - Cycle Houston



Young Professionals - Cycle Houston

Thank you to all SPE volunteers who came December 3 to build bikes for CycleHouston. Each year, this organization partners with elementary schools to encourage students in kindergarten through third grade to improve reading skills, behavior, and attendance. Those students who commit to a special monitoring program and fulfill all necessary requirements are rewarded with a bike. Our SPE group contributed by building around 60 bikes of the 10,000 bikes that were delivered to these students the week before Christmas. We also had fun while getting to know other people from our industry.



Young Professionals - Christmas Party



Young Professionals - Christmas Party



Young Professionals - Christmas Party

# PHDWIN™

Integrated Economics & Decline Curve Analysis

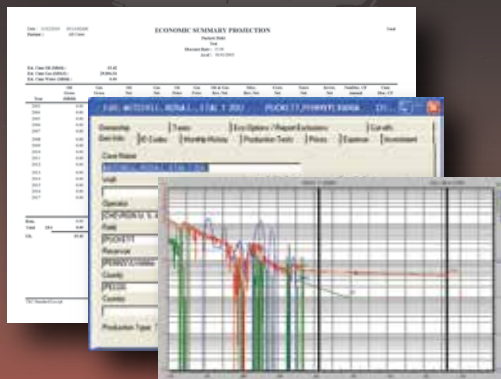
NOW EVEN MORE POWERFUL WITH

# PHDRMS™

Reserves Management System

The *complete solution* for evaluating, managing, and reporting reserves and performance data.

Schedule an **online presentation**  
**TODAY!**



TRC Consultants, LC    888-248-8062    www.phdwin.com



Your Clear Solution  
for Deepwater Completions

TETRA CS Neptune™ is a high-density (up to a density of 15.4 ppg, 1.85 g/ml), solids-free fluid that provides a viable alternative to zinc bromide and cesium formate brines.

- ▶ Zinc-free with global environmental acceptability
- ▶ Does not require zero-discharge system of work
- ▶ Formulated from renewable products, ensuring continuity of supply
- ▶ Can be reclaimed for reuse, using standard technology
- ▶ Requires no special mixing, handling, or storage equipment at rigsite
- ▶ Can be formulated as a low-solids, reservoir drill-in fluid

TETRA CS Neptune fluid is another innovative solution from TETRA Technologies, Inc.

tetrathec.com

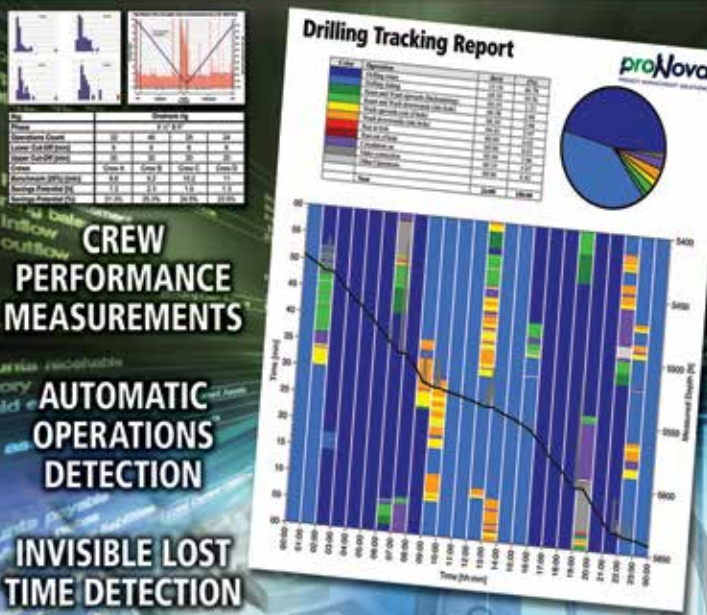


DEDICATED TO THE CORE

© 2016 TETRA Technologies, Inc. All Rights Reserved. TETRA and the TETRA logo are registered trademarks, and TETRA CS Neptune is a trademark of TETRA Technologies, Inc.

# PATENTED proNova™ by TDE

## DRILLING PERFORMANCE



281.755.7595  
www.pronova-tde.com

# DIRECTORY

## 2016-2017 Board of Directors

### CHAIR

Deepak Gala, Shell  
832-377-2732  
deepak.gala@shell.com

### VICE CHAIR

Trey Shaffer, Environmental Resource Mgmt.  
281-704-3664  
trey.shaffer@erm.com

### PAST CHAIR / ADVANCEMENT COMMITTEE

Ivor Ellul, CiSK Ventures  
713-240-2740  
iellul@ciskventures.com

### SECRETARY

Marise Mikulis, Baker Hughes  
281-723-2901  
marise.mikulis@bakerhughes.com

### TREASURER

David Flores  
281-381-5828  
david\_p\_flores@yahoo.com

### VICE TREASURER

Prashant Sainani, ConocoPhillips  
214-315-5427  
prash87@gmail.com

## Board Committee Chairs

### CAREER MANAGEMENT, MIT

Sunil Lakshminarayanan, Occidental  
713-344-1249  
sunil\_lakshminarayanan@oxy.com

C. Susan Howes,  
Subsurface Consultants & Associates  
713-789-2444  
c.susan.howes@gmail.com

### COMMUNICATIONS

Bryan Marlborough,  
Gate Premier Solutions  
985-232-0318  
bryan.marlborough@gmail.com

### COMMUNITY SERVICES

Lisa Li, Williams  
281-814-6849  
yuli2008@comcast.net

### EDUCATION

Simeon Eburi, Chevron  
832-854-3134  
simeon.eburi@chevron.com

### INNOVATE COMMITTEE

John Reichardt, RPS Group  
713-595-5121  
john.reichardt@rpsgroup.com

### MEMBERSHIP

Kris Pitta  
281-658-3708  
pittakris@gmail.com

### PROGRAMS

Fady Chaban, CDEUS  
832-387-7249  
chabanf@gmail.com

### SOCIAL ACTIVITIES

James Jackson  
281-376-1993  
jjackson5223@gmail.com

### YOUNG PROFESSIONALS

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

### DIRECTORS AT LARGE 2016-2018

Mohammad Tabatabaei  
Newfield Exploration  
281-674-1535  
mtabatabaei@newfield.com

Robert Estes  
713-204-5141  
ra-estes@att.net

Ernie Prochaska, NOV  
281-221-1434  
ernie.prochaska@nov.com

### DIRECTORS AT LARGE 2015-2017

John "J.J." Jackson, Unimin Corp.  
832-247-0233  
jsjackson@unimin.com

Alvin Barber, Schlumberger  
713-689-2725  
abarberspe@gmail.com

Mark Fleming, Suntrust Robinson Humphrey  
832-603-2305  
mark.fleming@suntrust.com

### SPE GULF COAST NORTH AMERICA REGIONAL DIRECTOR

J. Roger Hite, Inwood Solutions, LLC  
713-385-5343  
hite@inwood-solutions.com

## Committee Chairs

### AUXILIARY

Nancy Giffhorn  
rgiffhorn@aol.com

### OILFIELD GAMES

Lindsey Ferrell, Frontline Group  
spevolunteer@frontline-group.com

### AWARDS BANQUET

Jeremy Viscomi,  
Petroleum Technology Transfer Council  
jviscomi@pttc.org

### ESP WORKSHOP

Barry Nicholson, OXY  
barry-nicholson@oxy.com

### GOLF CO-CHAIR

Robin Smith  
robin77095@att.net

### INTERNSHIPS

David Li, DSL Ocean Group  
dsl6625@yahoo.com

### NEWSLETTER

Brittini Romero, Unimin  
editor@spegcs.org

### PUBLICITY

Pablo Perez, Bardasz  
pablo.perez@bardasz.com

### SCHOLARSHIP

Jennifer Pinnick, Chevron  
gcssholarship1@gmail.com

### SPONSORSHIP

David Pantoja, Citi A&D Group  
david.pantoja@citi.com

### SPORTING CLAYS

Paul Conover, NOV  
paul.conover@nov.com

### TENNIS

Erin Chang, BP  
erin.chang@bp.com

### WEB TECHNOLOGY

Lindsey Newsome,  
Newsome Marketing Group  
lindseynewsome@gmail.com

## Study Group Chairs

### BUSINESS DEVELOPMENT

David Pantoja, Citi A&D Group  
david.pantoja@citi.com

### COMPLETIONS & PRODUCTION

Jonathan Godwin  
jongodwin@hotmail.com

### DRILLING

Ernie Prochaska, NOV DDS  
ernie.prochaska@nov.com

### GENERAL MEETING

Robert Saucedo, ASHMIN  
rsaucedo@ashmin.com

### HSSE AND SOCIAL RESPONSIBILITY

Trey Shaffer, Environmental Resources  
Management (ERM)  
trey.shaffer@erm.com

### INTERNATIONAL

Mary Beth Snodgrass, Local Content LLC  
mbs@localcontent.com

### NORTHSIDE

Sumitra Mukhophadhyay, Superior Energy  
sumitra.mukhophadhyay@  
superiorenergy.com

### PERMIAN BASIN

Amy Timmons  
atimmons1114@gmail.com

### PETRO-TECH

Jessica Morgan, Blackstone Minerals  
jmorgan@blackstoneminerals.com

### PROJECTS, FACILITIES, CONSTRUCTION

Chris Shaw, Shell  
c.shaw@shell.com

### RESEARCH & DEVELOPMENT

Kitty Harvey, Cameron  
kharvey4@cameron.slb.com

### RESERVOIR

Freddy Alvarado, Chevron  
freddy.alvarado@chevron.com

### WATER & WASTE MANAGEMENT

Barbara Denson, Weston Solutions  
barbara.denson@westonsolutions.com

Kelly Steinberg, Test America  
kelly.steinberg@testamericainc.com

### WESTSIDE

Steve Loving, Core Laboratories, LP  
stephen.lovings@corelab.com

# CONNECT INFORMATION

### EDITOR

**Brittni Romero** | editor@spegcs.org

### ADVERTISING COORDINATOR

advertising@spegcs.org

### BOARD LIAISON

Bryan Marlborough  
bryan.marlborough@gmail.com

### LAYOUT & DESIGN

**DesignGood** | designgoodstudio.com  
kristie@designgood.com

### GULF COAST SECTION ADMINISTRATOR

**Taylor Wright** | spe-gcs@spe.org

### HOURS & LOCATION

10777 Westheimer Rd, Ste 1075  
Houston, TX 77042  
713-779-9595 x 813 | F 713-779-4216  
Monday - Friday 8:30 a.m. to 5:00 p.m.  
**Work Schedule - 09/80**

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

## YOUR AD COULD BE HERE! ADVERTISE WITH US & REACH OVER 16,000 OIL AND GAS INDUSTRY INFLUENCERS EVERY MONTH!

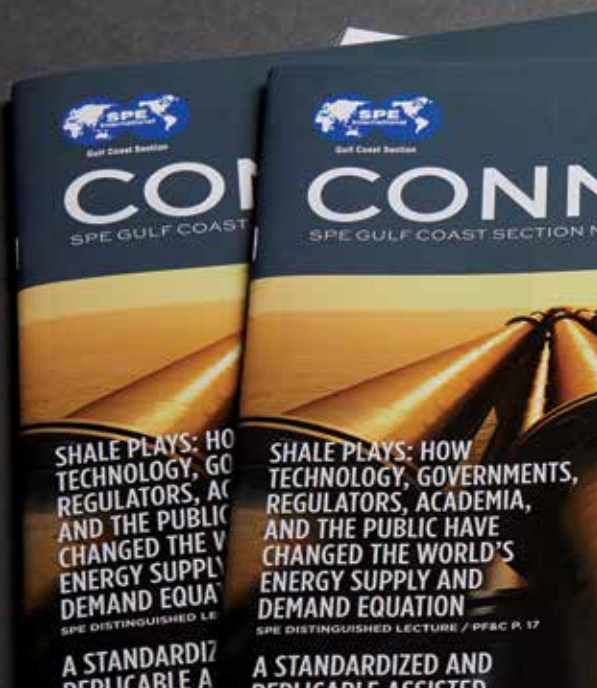
Buy ads that really produce

SPE-GCS hits your target  
audience

Flexible ad sizes in  
full-color, glossy  
publication

SPECIAL PRICING &  
PROMOTIONAL RATES  
AVAILABLE FOR A LIMITED  
TIME, CONTACT US NOW!

**ADVERTISING COORDINATOR**  
advertising@spegcs.org



ARE YOU AN ADVERTISING SALES  
PROFESSIONAL LOOKING FOR  
YOU NEXT MOVE? BECOME A PART OF A  
TEAM THAT INCLUDES PROFESSIONALS  
FROM THE TOP PETROLEUM INDUSTRIES  
IN THE GULF COAST REGION.

Society of Petroleum  
Engineers is currently hiring  
for an ADVERTISING SALES  
COORDINATOR to join the  
Connect newsletter team.  
This is a great opportunity  
to build relationships while  
earning a generous  
commission based income.

Primary focus will be to  
prospect and secure ad  
sales for the SPE-GCS  
Connect monthly newsletter.

### FOR MORE INFO CONTACT

Communications Chair  
Bryan Marlborough  
bryan.marlborough@gmail.com

**DO YOU WANT TO GET YOUR BUSINESS IN FRONT OF 16,000 OF THE MOST INFLUENTIAL PETROLEUM ENGINEERS AND OIL AND GAS PROFESSIONALS EVERY MONTH, 12 TIMES A YEAR?**

Advertise in the SPE-GCS Connect Newsletter and enjoy competitive rates while placing your services at the fore front of your targeted audience.

Our colorful, glossy, high-quality publication is envied by SPE sections around the world! Our flexible options allow you to choose from ad sizes based on your needs and budget.



**ADVERTISING COORDINATOR**  
advertising@spegcs.org



NON-PROFIT ORGANIZATION  
U.S. POSTAGE PAID  
PERMIT NO. 6476  
HOUSTON, TX

**SOCIETY OF PETROLEUM ENGINEERS  
GULF COAST SECTION**

10777 Westheimer Road  
Suite 1075  
Houston, TX 77042

# February 2017 CALENDAR

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				Research & Development	<b>SPE-GCS Office Closed</b> Members in Transition (MIT)	
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
			Drilling	General Meeting Westside Entrepreneurship Cell	Auxiliary	
<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
Young Professionals		Northside Reservoir		<b>Board of Directors</b> Young Professionals	<b>SPE-GCS Office Closed</b> Cont. Ed/Career Mgmt	
<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>
		Permian Basin	Business Development			
<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>	<b>25</b>
<b>26</b>	<b>27</b>	<b>28</b>				