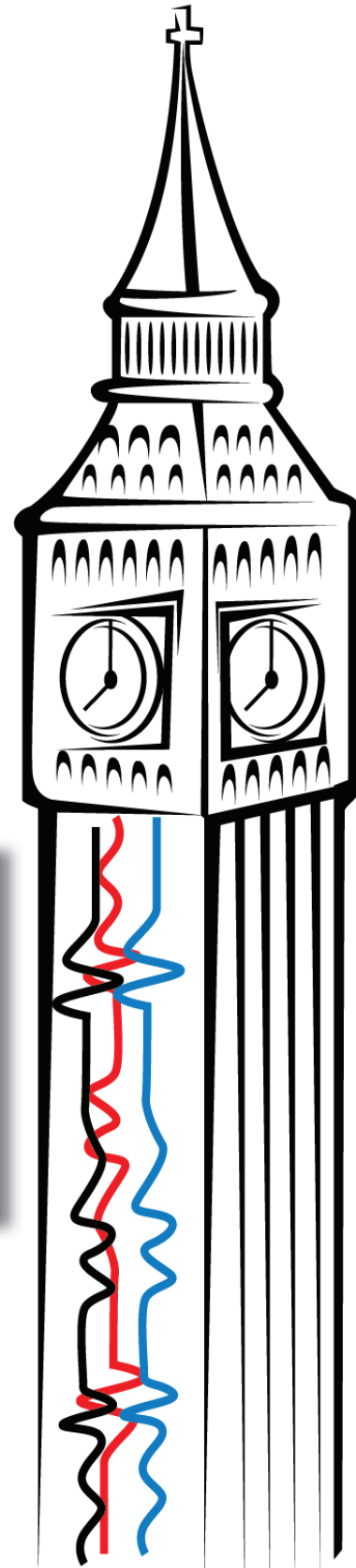


# THE SPWLA TODAY

## NEWSLETTER

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**CALENDAR OF EVENTS**

**July 30–31, 2018**

**The Role of Well Logs in Geomechanics**  
**Course Instructor: Amy Fox (Enlighten Geoscience)**  
**SPWLA Frank S. Millard Training Center**  
**Houston, Texas**  
**www.spwla.org**

**August 6–10, 2018**

**Basic Well Log Analysis**  
**Course Instructors:**  
**Dr. George Asquith (Texas Tech University)**  
**Dr. Dan Krygowski (The Discovery Group)**  
**Dr. Rick Lewis (Schlumberger)**  
**SPWLA Frank S. Millard Training Center**  
**Houston, Texas**  
**www.spwla.org**

**November 7–8, 2018**

**SPWLA Asia Pacific Technical Symposium 2018**  
**Bogor, West Java**  
**Indonesia**  
**www.spwla-indonesia.org**

# College of Arts and Sciences

## Department of Physics and Geosciences



## Master of Science (M.S.) in Petrophysics

### Program Description

The program addresses properties of subsurface rock formations and the fluids within those strata with particular application to the petroleum exploration and production industry. The coursework including graduate research project is a multidisciplinary program with Geology, Physics, and Natural Gas Engineering courses.

### Our program

#### Core Courses:

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PHYS 5385	Seismology
PHYS 5388	Borehole Geophysics
GEOL 5305	Graduate Research Project
GEOL 5310	Topic: Petroleum Geology
GEOL 5311	Geochemistry
GEOL 5319	Geology of Groundwater
NGEN 5303	Special Topic: Advanced Petrophysics
NGEN 5310	Petroleum Property Evaluation
NGEN 5312	Pressure Transient Analysis
NGEN 5363	Advanced Reservoir Engineering
NGEN 5387	Quantitative Well Logging Analysis

### Admission requirements

-Bachelor's degree in any area of science (Geoscience, Mathematics, Physics or Chemistry) is required for admission in to the program. Students not having enough background may need to take additional undergraduate courses.

-Please consult the TAMUK Graduate Catalog on-line at: <http://www.tamuk.edu/grad/>

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-Complete 36 graduate credit hours which includes up to three hours of research culminating in a graduate research project.

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Graduate Program Coordinator:

**Dr. Subbarao Yelisetti**  
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Kingsville, TX 78363 USA  
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## From the President



Zhipeng "Z" Liu  
2018-19 SPWLA President  
zliu@spwla.org

I would like to thank our volunteers, presenters, sponsors and exhibitors for contributing to another successful annual symposium. The Annual Symposium is the flagship event for SPWLA that showcases our technical papers, short courses, field trips, student paper contest, and, of course, our famous social functions. SPWLA's Annual Symposium is about technical work as well as fun and fellowship. By attending the Annual Symposium, you helped SPWLA and the hosting chapter to generate funds to provide benefit to its members throughout the year. Next year, the 60<sup>th</sup> Annual Logging Symposium will be hosted by the Houston chapter ([www.spwla-houston.org](http://www.spwla-houston.org)), the largest chapter of SPWLA worldwide, to be held in The Woodlands, June 15-19, 2019. You do not want to miss this one—mark your calendar now and stay tuned for more details.



Volunteering is one of the key drivers of SPWLA success over its 60-year history. With the contribution of volunteers at all levels, from local chapter officers, to various committee members, to international board of directors, SPWLA is able to service the global petrophysicist community with a very small professional staff. Even the international board of directors, despite their fancy titles, are required to be hands-on with their programs. The volunteering not only helps SPWLA, but also help volunteers to develop leadership skills and find opportunities for their careers. With the current downturn in our industry, we understand that the support for volunteering from some of our supporting companies may not be as strong as it used to be or may not there at all. We understand this may present a hardship on our volunteers. SPWLA will keep up with changes in the industry and do what we can to help our volunteers. On behalf of the SPWLA Board of Directors, I sincerely thank our

Dear SPWLA members and friends,

Greetings. I hope you had a chance to attend the the SPWLA Annual symposium recently held in London. We had more than 600 delegates and exhibitors attend the symposium, along with a few dozen who attended half of the technical sessions via webinar.



volunteers at all levels.



Last but not the least, I would like to update you on the financial health of SPWLA. From the latest audited financial report, for the May 2017 to April 2018 financial year, SPWLA is very close to break even, with a small operational loss. The cost control implemented last year by the board was able to keep our expenses in line. A modest profit from the 2017 Oklahoma City Annual Symposium helped to bring the bottom line to break even. On the balance sheet, SPWLA has \$2.1 million in assets (mostly liquid), and \$0.5 million in liabilities. Even though we are not completely out of the woods, with a healthy balance sheet and improved operational result compared with recent years during the extended downturn, my board and I are committed to run an efficeint organization to continue serving the petrophysics community throughout this downturn and stratigically position SPWLA for future growth opportunities.



Carlos Torres-Verdín  
2018-19 VP Publications  
cverdin@mail.utexas.edu

Another exciting term as VP Publications begins today!

I want to thank our respected SPWLA members for their vote of confidence to remain their editor of both *Petrophysics* and *SPWLA Today* during 2018-2019. This is a great honor and privilege, which motivates me immensely to consolidate and improve what we began last year. There is no shortage of ideas and possibilities to improve, diversify, and expand what we already have but the clock often ticks faster than we anticipate; we have no time to waste! There are already two special *Petrophysics* issues underway for 2018-2019. Additionally, we are currently in the planning stages of three tutorial papers, and have a large pool of submitted manuscripts awaiting reviews and revisions. Having a record number of *Petrophysics* submissions is indeed a nice problem to deal with, but one that prompts effective use of existing resources and budgets. Thus, based on feedback received last year, the all-digital version of *Petrophysics* will soon become a reality with a flexible and more readable format too. Our most important immediate goal is to increase the quality and relevance of *Petrophysics* papers.

On the *SPWLA Today* front, we plan to (1) continue to expand content and variety of information, (2) attract young professionals to participate with columns and special featured articles, (3) be more inclusive of the different geographical regions and SPWLA chapters, and (4) be creative and flexible with new sources of information and new modalities of presentation that are useful, relevant, and attractive to our members. The *SPWLA Today* has no page limits and no inflexible formats; it has been designed to accommodate a boundless variety of topics of interest. Please don't be shy to contribute with columns, articles, anecdotes, and discussions. Other than respect for all, there are no censorship rules and no ivory-tower representations!

As I did last year, I would like to take this opportunity to thank the *Petrophysics* Managing Editor, Stephen Prensky, the Associate Editors, and the many technical reviewers for their excellent work and relentless commitment of time and energy to transform submitted manuscripts into good-quality papers. It is because of their efforts that the SPWLA has an excellent and diverse technical journal that robustly conveys the technical objectives of our society; their voluntary work behind the scenes should not be taken for granted.

Additionally, I would like to thank the members of SPWLA's 2018-2019 Publications Committee:  
Zoya Heidari, UT Austin,  
David Kennedy, Texas A&M,  
Oliver Mullins, Schlumberger, and  
Katerina Yared, Independent Consultant.

Their experience, opinion, advice, and work will be the put to good use to improve our publications and methods to convey information to SPWLA members. I thank them in advance for their volunteering work.

Please, do not hesitate to e-mail me comments and suggestions to improve and adjust *Petrophysics* or the *SPWLA Today*. The success of the SPWLA depends on all of us; everybody has voice and every voice is important! Thanks for your support and I look forward to serving you during another wonderful year!

Sincerely,  
Carlos Torres-Verdín

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## Up Next



Jesús M. Salazar,  
2018-19 SPWLA President-Elect

As it is customary in most organizations, the SPWLA also tends to have an organic growth of its leadership. I recently was elected as President-Elect (PE) after serving last year as Vice President (VP) of Technology. This column gives me the opportunity to thank all those members who participated casting their vote, whether they did it for me or for Tegwyn Perkins. I truly appreciate your participation and

hope that this engagement in society affairs continues growing in the coming years.

Summer time (or winter if you're in the southern hemisphere) is a time to take a break of almost all SPWLA activities around the world and enjoy reading the latest symposium papers but it's never too early to start thinking about that abstract we want to send for next year's symposium in Houston. If you're planning to do so, make sure you get approvals way in advance of the deadline. Well, enough talking about my last SPWLA role, let's talk about the future.

As President-Elect, I have a full year to get acquainted with my main duties and start advancing my agenda for my year as President of the Society for the 2019-2020 term. And by agenda, I mean the good things I want to propose for the benefit of the membership. As President, I will not be able to vote on motions, as stated by the By-Laws, so I need to take advantage of this year to start projects that may require a vote. Besides the usual functions of the PE, such as SIGs' liaison or serving as parliamentarian, I want to offer new avenues for membership participation and volunteer opportunities. One of the things I want to do is to appoint a social-media czar with a more visible role within the Society, stay tuned. I'll continue working closely with VPs of Publications and IT to streamline the access to *Petrophysics* and the SPWLA Today Newsletter and supporting young professionals (YP) using The Bridge section of new *SPWLA Today* newsletter. If necessary, I'll drag the board to the happy hours organized by the YPs to have that close connection with the membership, and, in particular, students in the greater Houston area universities and other chapters, whenever possible.

I want to close this note by presenting a few pictures from my participation in the 59<sup>th</sup> SPWLA Annual Logging Symposium in London, UK, which was a great success on the organizing, technical, and social fronts.



VP Technology opening the technical sessions



VP Technology enjoying one of the evening socials after a long day of work managing the technical sessions.

# Learning Opportunities



Katerina Yared  
2018–20 Vice President  
Education

Dear SPWLA members,

I would like to express my heartfelt thanks to the voters for their confidence in electing me as VP of Education. This role has always been close to my heart, as I believe societies like ours need to be leading the way in educating our members and the public in our area of expertise.

I would like to thank my predecessor, Zoya Hedari, for a job well done over the past two years and which gives me a hard act to follow. Also, I would like to thank Weijun Guo for being an enthusiastic and talented opponent.

Education is what drives our industry’s technology and innovations and it is up to us to spread the knowledge worldwide. Hence, I recently sent out a call to nominate Distinguished Speakers to all chapter presidents and regional directors, as I believe some of the best presenters are not only at our annual symposium but also live in every region of our membership and beyond that, too. I ask for your help again through this column for everyone to take on the responsibility to spread the knowledge in their own region, nominate your favorite local presenter today.

Often, when we send out a call for nominations, members are not very responsive and that is to their own and our members’ disadvantage. I know every local chapter has a speaker they always like to invite to share their latest findings or even to reflect on old techniques. So take matters in your own hands and email me. With that in mind, I plan to increase the use of web-hosted services to expand the reach of knowledge to all our members.

Lastly, I would like to invite everyone to send me ideas and any feedback they might have on how we can make our society a much more useful platform for people craving petrophysics knowledge and to further foster petrophysical advancements. I am all ears!

Thank you all kindly!

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## Regional Understandings – North America 1



Adam Haecker  
2018–20 North America 1  
Regional Director

Dear SPWLA Colleagues,

The following is my first column as the new North American Director. I was able to attend the London symposium and met with many of the usual suspects as well as several new faces. It seemed like the conference was well attended and one of the highlights of the trip for me was going to have a beer with new acquaintances at the “Walkie-Talkie” building (20 Fenchurch St.).



We were escorted out of the Tower of London around 10:30 p.m., thanks to Schlumberger by the way, and most of the pubs in the financial district were closing up shop. I guess no one wants to drink late where they work. The few of us that were still game for some socializing quickly realized there was only one place that stayed open till very late. So we headed off towards this place following the arrow on google maps. When we got there we realized it was the “Walkie-Talkie” building that famously melts cars on the street below. It was a much longer walk than it looks like in the picture and I thought our female acquaintance in high heels was going to not make it. After going through security and making it up to the top a good time was had till they tossed us out of this bar at around 1 a.m. the next morning. All-in-all a triumphant evening for the second to last day of the conference. Usually no one wants to do anything by the third day.

Now down to business. I would like to call on all North American chapter officers to make sure their contact information is up to date with the office in Houston. I want to make sure I can communicate with you all via email if possible. Further if you have concerns I want you to be able to

get in touch with me. It seems as though the following things are on the agenda for this year for the Board.

1. Push to increase membership. If you have ideas please contact me or one of the board
2. Reform *Petrophysics* journal. There is a lot of discussion going on about increasing the number of articles but also increasing the cost. Additionally there are talks to change the format in other ways. If you have an opinion about *Petrophysics* let your voice be heard.
3. Cost saving. Last year we cut out quite a lot but are still just barely below cash flow positive.

Finally, as I write this I am booking my travel for the JFES symposium in Chiba, Japan, later this year in October. I am excited to give the keynote speech there and participate in paper judging. Thanks to the officers of the JFES for graciously inviting me to attend. I hope I will see many of our Asia Pacific colleagues there. 私はとても興奮しています。このシンポジウムは楽しいものになるでしょう

Respectively,  
Adam Haecker



## Regional Understandings – Latin America



Nadege Bize Forest  
2018–20 Latin America  
Regional Director

Dear SPWLA Members,

First, thank you for placing your trust and confidence in my abilities to assume the office of Regional Director of Latin America. It is my honor and privilege to serve this position.

The SPWLA Latin American chapters already play a fundamental role in petrophysical education by providing resources needed by young and more senior geoscientists from oil and gas companies, service companies, and universities. I consider that our chapters are uniquely able to disseminate advances in formation evaluation that are crucial to the understanding of increasingly complex reservoirs in our continent.

From the Andes Mountains to the Atlantic deep presalt deposits, Latin America has a rich geological and petrophysical history. I truly believe that sharing our technical knowledge inside and between the different SPWLA chapters should help the technical community to meet the challenges they face in both exploration and production and will reinforce our networking in the oilfield community during these up and down industry cycles.

I am prepared to contribute along with our local boards of ABC (Argentina, Brazil, and Columbia) to:

- Reinforce the technical links between the different SPWLA communities in Latin America, specifically organizing regional conferences or webcasting our monthly technical meetings.
- Cross-communicate the expectations and needs between our Latin America chapters and the parent SPWLA organization.
- Add and affiliate new local chapters to the SPWLA organization.
- Spread the SPWLA spirit in our universities with the creation of new student chapters in Latin America.

I am also open to any comments or ideas that can promote and protect the SPWLA interests in our Latin America community... so, please don't hesitate to contact me!

Yours sincerely,  
Nadege Bize Forest



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## Regional Understandings – Europe



Mike Webster  
2017–19 Europe  
Regional Director

It's always good to attend the Annual Symposium and London 2018 certainly lived up to expectations. Despite the difficulties in the oil and gas industry over the last few years there was an air of optimism during the event. Yes, attendance numbers could have been higher, and attendees struggled to get travel approval but there are signs that a more stable \$70/bbl oil price is filtering through.

While the main purpose of the symposium is a technical focus, it was noticeable that we had greater emphasis on machine learning and automation in some of the papers and posters. I'd like to think that these changes would help take some of the mundane out of petrophysics allowing petrophysicists the time to move further up the intellectual chain and give them the ability to think about how to advance to the next level in analysis.

While keeping up with advances in technology was a focus of the symposium, it's the social interaction that adds enormously to the quality of the event. It allowed me to have face-to-face meetings with many of the local European Chapter Presidents for the first time. Email and phone conversations can only go so far, but you can't beat face-to-face interaction. A common thread was the need to connect more with their membership. Regular chapter meetings are often attended by only a subset of the chapter membership simple due to geographic dispersion. In Norway, many members in Bergen can't always make the Stavanger meeting or in France, the Paris meetings may be difficult for participants based in Pau. The success of the SPWLA global webinars has opened up the potential of using this capability in hosting local chapter events. Speaking with the European chapter presidents they do intend to use this capability to allow greater connectivity within their local chapters allowing members in other sites in their region to participate in the local talks via the SPWLA webinar.

Once this has been established at a local level, the next step should be to open local chapter talks to other chapters in the European region. If we consider we have Aberdeen, London, France, Holland and Norway all hosting technical talks, a European region webinar allows the opportunity to much greater access to technical content and interaction between chapters. Petrophysics is a broad discipline and not all the technical sessions hosted by a local chapter will appeal to all its members. But opening the talks to other chapters in the region would greatly increase the opportunity to listen and learn

from talks directly relevant to an individual's interests. It's also a terrific demonstration of the value that can be gained from SPWLA membership. The ability to archive and store talks for future reference would quickly build up a library of topics that again would benefit our membership. During 2018–2019 we'll try to get this local webinar functionality established and then look to open this up to a more regional audience. But why stop there? If other regional chapters followed the same path we could have a huge learning and knowledge transfer resource at our disposal.

As we look forward to the SPWLA 60<sup>th</sup> Annual Logging Symposium in the Woodlands in 2019, I'd like to think we will have demonstrated how we leveraged web-based functionality to help make learning and knowledge transfer easier and more efficient for our membership. This should be a normal part of business for our Society.

## Regional Understandings – Middle East, Africa, India



Shouxaing "Mark" Ma  
2018–20 MEAI  
Regional Director

Dear Colleagues,

Thank you for your trust to allow me to serve the SPWLA Middle East, Africa, and India (MEAI) region, as the new regional director (RD) for the next two years starting June 2018. On behalf of the region, I first of all would like to thank my predecessor, David Spain (BP Oman petrophysicist), for his dedicated volunteer services for the last two years, and personally during last month's transition. Thank you David and your remarkable services will be remembered and missed by SPWLA in the region.

After taking over the RD position, I have received many encouraging and kind greetings and thank yous for your continuous support. I especially appreciate those who have provided constructive suggestions trying to make our society a better community in that its members exchange knowledge and grow together. SPWLA is pretty much a volunteer organization and your active participation is critical for its success.

Considering the ongoing "big crew change" and digital transformation in the industry, globally, particularly in the MEAI region, my first intent is to establish a digital mentoring platform to help the talented and motivated young professionals (YP) to accelerate their professional development.

Programs like this should attract more YPs to the subject of petrophysics. Those YPs are the future of our industry and SPWLA. To succeed, your active participation and petrophysics profession, please join with me to help make a difference for the future of the Petrophysicists Community! Stay tuned!

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# SPWLA Election Results

## SPWLA INTERNATIONAL BOARD OF DIRECTORS 2018–2019/20

The Board of Directors this year elected to publish the percentages of the elections in an effort to be more transparent to the membership. The numbers are displayed next to each candidate's name in the list below. The election closed May 9th with a historical tie. The winner of the position was determined via Article VI of the Amended Articles of Incorporation of the Society.

### PRESIDENT-ELECT

<b>Jesus Salazar – ConocoPhillips, Houston, Texas</b>	47.30%
Tegwyn J. Perkins – Lloyds Register, Houston, Texas	47.30%
Abstain	5.41%

### VICE PRESIDENT – TECHNOLOGY

<b>James “Jim” Hemingway – Independent, Manitou Springs, Colorado</b>	52.09%
Mayank Malik – Chevron, Houston, Texas	42.61%
Abstain	5.30%

### VICE PRESIDENT – EDUCATION

(2-year term 2018–2020)

<b>Katerina Yared – QEP Resources, Highlands Ranch, Colorado</b>	64.42%
Weijun Guo – Halliburton, Houston, Texas	29.82%
Abstain	5.77%

### VICE PRESIDENT - FINANCE, SECRETARY AND ADMINISTRATION

(2-year term 2017–2019)

Jennifer Market – Lloyd's Register, Houston, Texas

### VICE PRESIDENT – PUBLICATIONS

<b>Carlos Torres-Verdin – University of Texas, Austin, Austin, Texas</b>	70.65%
Ali Mahmoud Najem, Sr. – Schlumberger, Ahmadi, Kuwait	25.15%
Abstain	4.19%

### VICE PRESIDENT – INFORMATION TECHNOLOGY

(2-year term 2017–2019)

Mehrnoosh Saneifar – BHP Billiton, Houston, Texas

### REGIONAL DIRECTORS

#### North America, Position 1

(2-year term 2018–2020)

<b>Adam Haecker – Continental Resources, Oklahoma City, Oklahoma</b>	44.73%
Freddy Mendez – Baker Hughes, a GE Company, Houston, Texas	31.23%
Michael Wilson – TGT Oilfield Services Ltd., Aberdeen, Scotland, UK	13.88%
Abstain	10.16%

#### North America, Position 2

(2-year term 2017–2019)

Doug Patterson – Baker Hughes, a GE company, Houston, Texas

## SPWLA Election Results (continued)

### Latin America (2-year term 2018–2020)

Nadege S. Bize Forest – Schlumberger, Rio de Janeiro, Brazil	48.56%
Mateus Barosso Fouraux – Halliburton, Rio de Janeiro, Brazil	31.96%
Abstain	19.48%

### Europe (2-year term 2017–2019)

Mike Webster – Production Petrophysics Ltd., Aberdeen, Scotland, UK

### Middle East/ Africa/ India (2-year term 2018–2020)

Shouxaing “Mark” Ma – Saudi Aramco, Dhahran, Saudi Arabia	42.12%
Nelson Suarez – Dubai Petroleum Co., Dubai, UAE	40.73%
Abstain	17.15%

### Asia and Australia (2-year term 2017–2019)

Rick Aldred – Independent, Queensland, Australia

# SCA ANNUAL SYMPOSIUM

August 26th - 31st 2018

The Radisson Blu, Royal Garden Hotel

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SOCIETY OF  
CORE ANALYSTS  
2018

TRONDHEIM NORWAY



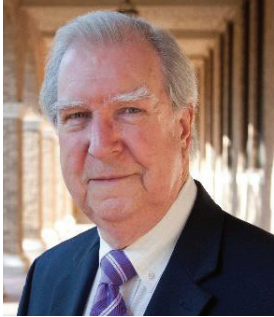
SOCIETY OF  
CORE ANALYSTS

## The 32<sup>nd</sup> International Symposium of the Society of Core Analysts

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# Great Moments in Formation Evaluation, Part 1: A Testing Time or Hydrocarbons on the Rocks



Richard Bateman

Many years ago, when I was a card-carrying log analyst attached to the production department of a go-go international E&P company, my advice was sought by an exploration geologist who had planned (and caused to be drilled) a well in the Gulf of Suez. I carefully reviewed all the log data and pronounced it a dry hole. The geologist was heartbroken. He laid out the logs on my desk and pointed to a thick, clean, high porosity sandstone.

“What about this?” I was asked.

“It’s wet,” I replied.

“Are you sure?”

“Yes, I am certain. In fact, I will drink all the oil that you can extract from this formation.”

The geologist chose to ignore my technical advice and managed to persuade his boss in the exploration department to order a wireline formation test in the subject sand. Two days later the geologist came triumphantly into my office waving a telex, just in from the Gulf of Suez. The formation-tester tool had recovered oil! Bateman was going to have to drink oil! Only geologists can experience such glee at the expense of someone from the production department.

However geological joy was short-lived. On closer analysis it was found that, due to an O-ring failure, the hydraulic fluid, used by the formation-tester tool to open and close its appendages, had leaked into the sample chamber.

I think that that was the last time my advice was sought by that particular geologist. However, there is a moral to this story. If you are the log analyst your best bet is to say that it’s wet. If they believe you, they will plug and abandon and will never know if, in fact, some oil was left behind. On the other hand, if they do not believe you and test and find oil they will be so happy they will forget that you said it was wet!



## Petrophysics Training: Science or Software?



Dan Krygowski  
Senior Petrophysical Advisor  
The Discovery Group,  
Denver, Colorado, USA

I've been learning and practicing petrophysics since I determined in graduate school that petrophysics was a lot more interesting than exploration seismology, at least for me. That interest was piqued by my instructor, George R. (Dick) Pickett, who became my advisor and mentor. In recent years, the growth of social media, especially with sites like LinkedIn, has expanded my social and technical horizons in allowing me to communicate with a much broader

group of people, both in the geographic spread of locations in which they live, and in their technical backgrounds. That communication continues to surprise me, especially in the online groups of which I am a member, usually because of the questions that are posed to members of those groups. Often the questions that are asked are about things that I learned in my first petrophysical course, however, they are being asked by those whose titles are "Senior Petrophysicist" or the like, that imply an understanding of petrophysical technology beyond just the entry level.

This raises the question in my own mind, "Do these 'petrophysicists' know the science (and art, perhaps) of petrophysics, or do they know only the software that takes them (often in black-box fashion) from the raw data to the interpreted information?" And that question, asked in the context of the broader industry conditions, sparks a range of other questions, including those inquiring about the content of petrophysical training.

While there are programs at a few universities, which may have one course, or rarely, several courses in petrophysical technology, I know of none that have a Department of Petrophysics or that offer degrees in Petrophysics. In fact, most of the geoscientists and engineers whom I have encountered throughout my career have had no formal university petrophysical training as part of their degree programs, either graduate or undergraduate. Petrophysical training continues to be a mostly random effort, with the technology learned in bits and pieces, through informal learnings from colleagues, occasional and short-duration courses, and from information supplied by providers of the data, biased in what they have to offer. Occasionally, university courses in petrophysics are focused on the software available at that university rather than the underlying science, apparently because of the view that listing a specific petrophysical software in a person's resume is more important than that person having a working knowledge of the science.

The current state of the industry includes old guys (yes,

like me...) leaving the oil patch ("the Great Crew Change"), uncertainty in oil prices, people being "downsized" or changing companies on their own, and especially the uncertainties in the interpretation of unconventional resources of various kinds. Given that state, petrophysical training seems to have changed little from 30 or more years ago, except for the addition of training in using workflows in different software packages, but with little exposure to the underlying petrophysical science.

Training in the science of petrophysics can be spotty, ranging from the instructor's personal experience (or inexperience, with the "new guy" in the department being assigned to teach petrophysics whether she knows it or not), and with the instructor's biases of old techniques and tools, technical interests, funding opportunities, and the like.

Training in the software of petrophysics can be as spotty and disjointed, especially if the instructor doesn't understand that each software package is really an attempt to put someone's petrophysical brain inside the software: Mickey Head in PowerLog (originally Petcom), Michael Holmes in LESA, Jack Bowler in JLog, Frank Whitehead in Interactive Petrophysics (IP); the list goes on. This is not a bad thing, but the user must remember that differences in software operation and workflows reflect an individual's style. In addition, the user must spend time with the software and be aware of the quirks therein, sometimes due to the designer's preferences, and sometimes to the coder's efforts. In my experience, I've found software that determines total porosity calculated from an effective porosity, software that calculates a sonic porosity from an unpublished equation (but listed with a reference), and often, software with equations or methods that are not shown to the user, and with no cited references.

By now, you may be asking; "So Dan, where exactly are you going with this rambling rant?" And I'm not sure what my answer is to that question.

I guess that I wonder about the effectiveness of petrophysical training. I've wondered about that effectiveness since before the SPWLA Spring Topical Conference in 2014 on "Educating the Petrophysicist." While we covered a lot of ground in those few days, I'm not sure we've made any significant process as an industry in improving what we do and how we do it, as far as educating the petrophysicist. What has also complicated our training efforts has been the introduction of new, and more highly processed measurements, more geologically complex targets (with more complicated interpretations), and the necessity to know more and more about less and less, which itself seems to be leading to specialties within petrophysics: NMR petrophysicist, image petrophysicist, mechanical properties petrophysicist, and so on.

Should some kind of generic, general, inexpensive, and generally available petrophysical training resource be an initiative on the part of SPWLA? Not as a competitor to company and commercial programs, but to provide a resource

of information and references that could serve as a foundation and supplement to other existing programs; company, commercial, and especially university, and which could grow with demand from those other programs.

Only time, and perhaps demand, will tell. Any thoughts from those who have read this far?

If you are interested in the topic of petrophysical training, the paper by Bob Cluff and Dan, from the SPWLA 2014 Spring Topical Conference, "Teaching to Workflows Instead of to History," is available on The Discovery Group website at ([http://www.discovery-group.com/resources\\_recent.htm](http://www.discovery-group.com/resources_recent.htm)).



# QOTW #193: Qall for Qonfessions of Qapital Sins against Depth: Stretching And Squeezing Solid Pieces of Core to Match LWD/WLL Log Depths



Ton Loermans  
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## What is the QOTW?

The very first Quiz of the Week (QOTW) was conducted in 1986 in Aberdeen, with the issue being whether or not a series of perforations in an offshore well had actually been put in the right places. Since then, the main characteristics of the QOTW have been maintained, including, but not limited to: (1) must be on a clearly petrophysics-related topic, (2) must be based

on a real-life case, preferably an actual near-miss (or worse), with at most some tiny little adjustments made for the Q to e.g. maintain confidentiality and increase Q-ability, (3) with a potential economic consequence for the parties involved of at least one million dollars, and (4) where there is a problem to be solved, such must be possible for any 'Real Petrophysicist' (while lesser mortals might struggle).

Through the years, and in several places around the world, while sticking to the main requirements mentioned above, many different topics were addressed, not just in Quizzes, but also through some fifty other types of Q's, such as Questions, Qontests, Qongratulations, Quests, Qomparions, QED's, Qeese Qakes, Qries, Qamma Rays, Qlaims, etc. Where prizes for the winner of the Q were appropriate, those were of course awarded, with the most popular ones being a bottle of peanuts, or some other, preferably locally produced, substance.

One of the most popular QOTW's, meeting all Q requirements mentioned above, is an exercise in project ranking and economics, and subsequent Best-project Selection, and, for its popularity and obvious relevance for our activities and lives, has been repeated many times since, with suitable local adjustments. That Quiz, like many others, has thus also been used many times in various training courses.

This current, latest, QOTW # 193 is the seventh on a mainly depth-related issue.

## Background for This QOTW

This QOTW has to do with the accuracy, i.e., some combination of trueness and precision, of layer thickness, as derived from petrophysical data/logs, information, and (maybe) some knowledge. The thickness of reservoir layers is obviously of vital importance for any volumetric estimate. In a paper still to be published (but some results having already been presented in one of the nine depth-related presentations at the SPWLA booth at the 2018 London symposium exhibition hall) (Loermans et al., in preparation), the actual thickness of almost 30,000 reservoir sands, as established from cased-hole logs run in a manner explicitly meant to do so, were compared with the thickness of the same layers as established by the openhole WLL and LWD logs, also run as per normal

procedures. In Fig. 1 the envelope of all these data points is given.

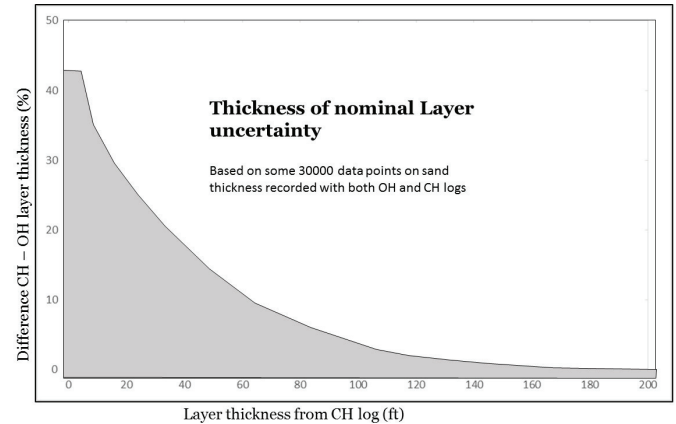


Fig. 1.

From this graph, the uncertainty of the Thickness of a Nominal Layer of x ft can be readily established. That is, without any extra knowledge, whenever there is any possible doubt on the actual thickness of some layer of let's say 20 ft, it may be unwise to assume that the uncertainty in that would be smaller than 25%.

As it turns out, many other published and publishable cases, hitherto considered by some as extraordinary bad cases, actually plot well within this envelope. We would like to further complement this graph with other specific examples and so hereby issue a Qall for that.

## The Qapital Sin in Depth Matching: Stretch and Squeeze Solid Pieces of Rock

The main tasks of a petrophysicist may be summarized as follows: (1) Shift the logs up and down as required, (2) shift the logs left or right as needed, and (3) do some calculations as desired. The first task is called depth matching, the second log quality control and calibration, and may be done on a field level. Each of the three tasks of course should only be done after due consideration and be based on sound professional judgement.

Task 1, depth matching, becomes particularly interesting when, next to some WLL, LWD or even advanced mud logs (AML) there is also core. Common practice is to take one of the first openhole logs, deem that the master reference, and shift all other logs and the core to that one master reference. For the core, that leads to core plugs which originally were assigned some core-based depth, not only being block-shifted, but with varying amounts of shifts, up or down as needed, to line up whatever properties of those core plugs with the corresponding features on that master log. That creates some serious problems when the core recovery has been good.

Because any shift more complex than a single block shift per complete, solid piece of core, effectively means that the best ground-truth, and most reliable measure of thickness of some layers, i.e., that solid piece of core/rock, is falsified and corrupted just in order to line the depths up to vastly inferior datapoints. With those inferior datapoints, i.e., logging depths, not even being based on measurements (Loermans, 2018.) This is what may be called a Qapital Sin in depth matching: stretching and squeezing solid pieces of rocks.

### **The Qall for Qapital Sins**

It is generally known that at least quite a few Qapital Sins as defined above have been committed. Even in the best organizations and companies. Worse than that, it is not just rumors that have it that such Qapital Sins are still common practice in too many places today.

In order to mend our ways in this, it would be good to actually illustrate, in the format of the graph presented above, the impact of such practices. Hence we hereby qall on any and every body to help us to get some data points in this. The objective is of course NOT a blaming or shaming, but just a matter of better illustrating what the actual consequences of such practices are, and thus help to improve matters. All possible examples will be treated in confidence and we can help in actually transferring whatever format you may have available for the shifts, stretching and squeezing cores, to actual data points in the graph.

Looking forward to any contributions and further comments and suggestions you may have on “Depth Matters,” whether on these Qapital Sins or any other issue.

### **References**

- Loermans, T., Davidson, J., and Kimminau, S., Thickness of Nominal Layer Uncertainty, informal PowerPoint presentation at the SPWLA 2018 Annual Logging Symposium (available upon request).
- Loermans, T., 2018, A Brief History of Depth, *SPWLA Today* Newsletter, 1(2), 16–17.

## Recent Accolades



**Chicheng Xu** is the 2018 recipient of the SPE Regional Formation Evaluation Award – Gulf Coast North America. Chicheng Xu is currently working as a research petrophysicist and project leader in the Aramco Houston Research Center,

Houston, Texas. His research focus is on petrophysical reservoir characterization using advanced computational techniques and data analytics for interpretation, classification, and modeling based on multiscale subsurface data integration. From 2013 to 2017, he worked as a petrophysicist/rock physicist for BP America and BHP Billiton to support US asset operations and reservoir characterization in deepwater turbidite fields as well as onshore unconventional fields. He obtained his bachelor's degree in Physics from the University of Science and Technology of China in 2002, and master's degree in Physics from the Chinese University of Hong Kong in 2004. After working for more than four years for the Schlumberger Beijing Geoscience Center as a geoscience software engineer, he continued his PhD education with the Formation Evaluation consortium at the Petroleum Engineering Department of UT Austin in 2009. He developed a series of novel petrophysical rock-typing methods and workflows with multiscale subsurface data and published 20 technical papers during his PhD work. Dr. Xu is currently serving as the member of SPE Reservoir Description and Dynamics committee and the associate editor of *Interpretation Journal* (copublished by SEG and AAPG). He is the chair of the SPWLA Petrophysics Data-Driven Analytics SIG.

# 59th SPWLA Annual Logging Symposium

## Old Billingsgate, London, England, June 2–6, 2018



The London Petrophysical Society served as the host chapter and organizing body for the SPWLA 59<sup>th</sup> Annual Symposium. The event was held in the City of London at the Old Billingsgate Market, June 2 to 6, 2018. The event was a resounding success

based on feedback from delegates, sponsors and exhibitors. The total number of attendees this year was 598.

### THE VENUE

The conference was hosted at the Old Billingsgate Market in Central London. This striking historic building is now part of London's heritage. This Victorian Grade II listed building has been transformed from a world famous fish market into London's premier event space. Overall, the ambience of the building is utterly unique and provides a setting unmatched anywhere in the world. Old Billingsgate hosts some of London's most prestigious events, from sparkling film premieres and awards dinners to large scale conferences and exhibitions. The venue was ideally located close to many attractions, which were used for the three social events.

The audio and video systems were excellent and free Wi-Fi was provided to delegates.



Auditorium at the Old Billingsgate.

### FIELD TRIPS

There were two field trips for this year's symposium. One was a two-day trip by bus to the Jurassic Coast. This provided an unparalleled exposure of reservoirs that are direct analogues to a major producing oilfield in the Wessex Basin. Good access and local facilities combine to make this a popular field trip destination for UK universities, schools, and oil-industry professionals. The outstanding geology, combined with stunning scenery and excellent local food provided the ingredients for an informative and enjoyable field trip. Everyone who attended the field trip thoroughly enjoyed it.



Jurassic Coast-Dorset.

A second field trip, led by Robert Leppard, a local sedimentologist, took place on Monday afternoon. This two-hour walking tour began outside the Geological Society in Piccadilly. Participants became familiar with a variety of building stones and learned many interesting facts about the history of the area and individual buildings.



Stone tour field trip.

# 59th SPWLA Annual Logging Symposium

## WORKSHOPS

Seven full-day workshops were delivered on Saturday and Sunday:

“Petrophysics Meets Geophysics: Data-Driven Modeling of Rock Properties for Seismic-Based Reservoir Characterization,” presented by Mark Kittridge (MUREX Petrophysics & Rock Physics, LLC).

“Advances in Resistivity and Dielectric Logging,” presented by Hanming Wang (Chevron), Hezhu Yin, (ExxonMobil Upstream Research Company), John Rasmus (Schlumberger), Teruhiko Hagiwara, (Aramco Services), and Nikita Seleznev (Schlumberger).

“An Introduction to Fiber Optics for Reservoir and Well Surveillance,” presented by Michael Webster (Production Petrophysics Limited).

“What Should We Worry About When Using Borehole Measurements? A Review of Quality Control During the Planning, Acquisition and Use of Openhole Logs,” presented by Mike Millar (Consultant).

“Workflows for NMR Log and Core Programs,” presented by James Howard (Consultant), Ben Lowden (RPS Energy), and Paul Basan (Consultant)

“Numerical Modeling and Inversion of Resistivity and Nuclear Logs for Improved Petrophysical Interpretation and Well Geosteering,” Carlos Torres-Verdín (University of Texas at Austin) and Michael Rabinovich (BP Americas).

“From Workflow to Flow to SHM: Not all  $P_c$  Curves are Equal,” presented by Adam Moss (AKM Geoconsulting), Jules Reed (Lloyd’s Register), and Craig Lindsay (Core Specialist Services Limited).



Workshop “From Workflow to Flow to SHM: Not all  $P_c$  Curves are Equal.”

## STUDENT PAPER COMPETITION

The student paper competition was held on Sunday, June 3. There was a full program of activity with 20 students from all over the world, competing for awards in four categories:

- Best Undergraduate Oral Presentation.
- Best Masters Student Oral Presentation
- Best PhD Student Oral Presentation
- Best Poster Presentation

The competition was judged by: Geoff Page, Jesus M. Salazar, Guo Weijun, Mark Kittridge, Nikita Seleznev, Michael O’Keefe, Mike Lovell, Stefano Motta, and Grant Goodyear.

Their help, insightful comments, questions and decisions were invaluable. The quality of the oral and poster presentations were all excellent, and all students are to be congratulated on their work. Students were also able to present remotely using GoToMeeting. As a result, the work of the judges was not at all easy, but in the end the judges agreed on the following awards:

### **Best Undergraduate Student Oral Presentation:**

- 1<sup>st</sup> place – Michael Wang (University of Texas, Austin)
- 2<sup>nd</sup> place – Desma Putra (Indonesian Association of Geologists; STT MIGAS Balikpapan Student Chapter (Indonesia)

### **Best Masters Student Oral Presentation:**

- 1<sup>st</sup> place – Belmiro Narciso (Waseda University, Japan)
- 2<sup>nd</sup> place – Rafael Becerra (University of Alberta, Canada)

### **Best PhD Student Oral Presentation:**

- 1<sup>st</sup> place – Runqi Han (University of Texas, Austin)
- 2<sup>nd</sup> place – Mohab Dessouki (University of Houston)

### **Best Poster Presentation:**

- 1<sup>st</sup> place – Fafu Niu (Simon Fraser University, Canada)
- 2<sup>nd</sup> place – Tayyaba Knurram (University of Leicester, UK)

At the conclusion of the event, prizes of \$500 US for 1<sup>st</sup> place and \$200 US for 2<sup>nd</sup> place, were awarded by Zoya Heidari and Tim Pritchard, Chair of the Student Paper Competition.

# 59th SPWLA Annual Logging Symposium



Student paper competition hosted on Sunday, June 3.

## OPENING REMARKS AND GUEST PANEL

Clive Sirju, Chairman of the Symposium, called the meeting to order and made opening remarks about the journey to SPWLA London 2018. He outlined his measure of success of this symposium as delegates having a great time with lots of fond memories of London. Clive also introduced his committee and outlined some of the outstanding achievements of the London Petrophysical Society.



Symposium Chairman Clive Sirju opens the proceedings and introduces the guest panel.

This year the committee adopted the concept of a panel discussion that was used at the 2017 Oklahoma City Symposium. The panel consisted of two former petrophysicists, Paul Freeman (VP Global New Ventures Nexen CNOOC), and Dr. Robert Trice (CEO and founder of Hurricane Energy). The panel discussion was moderated by Margaret-Anne Lee, the communications director at Nexen CNOOC. There were many of interesting and thought provoking questions from delegates.

## TECHNICAL PROGRAM

Following the keynote panel and introductions, Jesús M. Salazar (then, VP Technology, and currently, President-Elect), opened the Technical program. The full program lasted three days and included poster sessions during all the breaks. There were a total of 51 presentations and 54 posters. The session topics included:

- Complex Reservoirs and New Play Types
- Formation Evaluation of Conventional Reservoirs
- Formation Evaluation of Unconventional Reservoirs
- High-Angle and Horizontal Wells
- New Borehole Logging Technology
- Nuclear Magnetic Resonance
- Oil and Gas Data Science and Analytics
- Reservoir and Production Surveillance
- Reservoir Characterization Case Studies



Jesús Salazar, VP Technology, presents an overview of the technical sessions.

## SOCIETY FUNCTIONS AND SOCIAL EVENTS

The Icebreaker Reception took place on Sunday night, June 3, and was generously hosted by Halliburton. Guests boarded the historic HMS Belfast, which is the most significant surviving World War II Royal Navy warship. It was a great evening of conversations, laughter, and great food between old and new colleagues. Close to 400 attendees took part in this event.



# 59th SPWLA Annual Logging Symposium



HMS Belfast- Icebreaker reception.

The Annual Business Meeting and Luncheon was held on Monday of the conference in the Second Floor Gallery. Tickets were sold to this lunch meeting and were available to all delegate attendees. During this meeting, the gavel was handed from the outgoing society president Brett Wendt, to incoming president, Zhipeng “Z” Liu. The President and Board Members gave brief reports and the new 2018–2019 SPWLA Board of Directors was introduced and welcomed. This meeting had an attendance of 76 registrants.



Passing the gavel between outgoing president Brett Wendt (left) to incoming president Zhipeng Liu.

Baker Hughes, a GE Company, sponsored the Monday Evening Social event. It was a “Beatles Themed” night onboard the 19<sup>th</sup> Century replica paddle steamer, Dixie Queen. Almost 400 guests attended this event, enjoying the beautiful background of London as the Dixie Queen made its way down the River Thames. Guests were impressed as the Tower Bridge was raised to allow the Dixie Queen to pass, momentarily bringing London’s busy traffic to a halt. Beatles-themed food was served to along with the music, making it a fun evening for all.



Monday evening social event aboard the Dixie Queen.



Tower Bridge opening to allow the Dixie Queen to pass through.

The SPWLA Annual Awards Presentation and Luncheon took place on Tuesday, June 5. This event was open to all delegates, spouses, and guests. More than 80 people attended this event. During this time, the Society recognized multiple awardees for their significant contributions to SPWLA.



Award plaques awaiting formal presentation.

Tuesday night provided another fun social event for Symposium attendees. Schlumberger graciously hosted and sponsored this event at the Tower of London. Around 300 guests were able to take a stroll over the drawbridge into this historical fortress, palace, and infamous prison. The wonderful food, cocktails, and service provided an amazing evening for all who attended.

# 59th SPWLA Annual Logging Symposium



Tower of London, site of the Tuesday night social event.

Following a night in the Tower, the SPWLA Leadership Luncheon took place on Wednesday in the Second Floor Gallery. Chapter Presidents, Past SPWLA Board of Directors, Past Presidents, and SIG Coordinators were invited to this complimentary lunch, which was attended by 50 leaders. This meeting provided an excellent opportunity to exchange ideas, discuss chapter projects and better understand chapter relationships within the international SPWLA.



Incoming president Zhipeng "Z" Liu opens the leadership luncheon.

## SPOUSE/GUEST ACTIVITIES

Three very successful spouse/guest tours were held this year:

- On the Monday morning tour, guests took a boat ride down the River Thames, toured the Houses of Parliament, visited Westminster Abbey, and explored the Tower of London.
- On Tuesday, guests took a tour of the Queen's home, Windsor Castle, and travelled to the prehistoric monument Stonehenge, one of the most famous landmarks in the UK.
- On the final tour, held Wednesday morning, attendees started the day at the most famous bridge in the world, Tower Bridge, explored St. Paul's Cathedral, which is 1,400 years old and stands as the highest point in the city, visited the British Museum, and the day ended at the London Eye, a giant Ferris wheel on the South Bank of the River Thames.

All the tours were filled with fun, history, and scenic views and a good time was had by all participants.

## SPWLA AWARDS

### Medal of Honor for Career Service



**Hani Elshahawi** is currently Deepwater Digitalization Lead at Shell and also the company's lead technical expert on formation testing and sampling. Previously, he was GameChanger and Technology Advisor-Deepwater, and led FEAST, Shell's Fluid Evaluation and Sampling Technologies team. Prior to joining Shell in 2002, Hani spent

15 years at Schlumberger in various positions within operations, consulting, management, marketing, technology and product development.

Hani's technical areas of expertise span petrophysics, cement and corrosion evaluation, production logging, and reservoir saturation monitoring, well testing, pressure transient analysis, production enhancement, formation damage remediation, nodal analysis, and artificial lift. He is passionate about innovation and an expert in idea generation, concept selection, and system integration of technologies and experienced in the full cycle of innovation from concept to full commercialization.

Hani has served the SPWLA for over 20 years. He is past SPWLA President, SPWLA foundation president, Distinguished Speaker for SPE and SPWLA in 2010-2011 and SPWLA Distinguished Sectorer in 2013-2014. He has served as Associate Editor for *Petrophysics* and an advisory board member for Shell's prestigious TechXplorer publications and formerly for Schlumberger's Oilfield Review. He holds several patents and has authored over 150 technical papers. He is a member of SPE, SPWLA, IEEE, and AAPG and chairs the OTC IEEE Program Committee and is a founding member of the AAPG Pitch Competition and the SPE/HTC Idea Launch Pad.

One of Hani's hallmarks is how much he enjoys helping and collaborating across business lines, organizations, and industries. He has mentored many engineers, scientists, and companies over the years. As an example of his nonenergy activities, he currently mentors startups in the I-Corp program, at the Houston Venture Mentoring Service (VMS) which links the UT-System Office of Innovation and Strategic Investment, MD Anderson, and several other world-class medical institutions in the southern United States. Two startups that he has mentored have advanced to the national level and have garnered several illustrious industry awards. He also coaches football (soccer) and middle/high school inventors.



## Distinguished Technical Achievement



**Daniel Georgi** officially retired from Aramco Services Companies last August after having worked in the oil industry for more than 36 years. Prior to working for Aramco, he worked for Baker Hughes, Western Atlas International, Esso Resources Canada and Exxon Production Research. Prior to joining Exxon, Dan studied at Columbia University and worked at Woods Hole Oceanographic Institution

where he logged ocean waters from 0 to 7000+ meters, measuring temperature, conductivity (salinity) and dissolved oxygen with sophisticated sondes on the end of single-conductor wireline. Even though he received advanced degrees in Earth Sciences from Columbia University, he learned more geology and geophysics at Exxon and Esso Resources Canada where he was involved in Formation Evaluation Research and operations support, respectively.

Dan's early technical work focused on characterization of fractured reservoirs and using time-series analysis to quantify the vertical resolution and repeatability of logging measurements. After moving from the operator domain, while working at Core Laboratories, he worked on cuttings collection and pulse decay permeability measurements. After transferring to Atlas Wireline, Dan was instrumental in applying the geometric factor theory to downhole formation testers. The pulse-decay approach provided a simple and robust means for analyzing repeat formation tester data and controlling LWD formation testers. While at Atlas Wireline, he also was instrumental in the initial deployment of the Numar wireline NMR tool and Atlas' development of the Magnetic Resonance Explorer (MREX) and the Multi-Capacitance Flow Meter (MCFM) specifically designed for flow profiling in horizontal wells.

In addition to his participation in many hardware development projects, Dan was also heavily involved in interpretation development and formation evaluation. At Esso Resources Canada, he worked on heavy-oil evaluation and field pilot evaluation, including miscibleflood monitoring at Redwater and Judy Creek. At Western Atlas and Baker Hughes, he participated in the development of interpretation technology for the Reservoir Characterization Instrument, MCFM, MREX and the 3D Induction Explorer. At Aramco Services Company, Dan led a team of researchers that provided research support for unconventional organic-rich source rock reservoirs.

## Distinguished Technical Achievement



**Chandra S. Rai** received BS and MS degrees in Applied Geophysics from the Indian School of Mines, India and a PhD in Geology and Geophysics from the University of Hawaii. Prior to joining Amoco Production Company Research Center in Tulsa in 1981, he spent time at the Carnegie Institute in Washington, D.C., and at the USGS. At Amoco he worked in various technical

and management positions until 1999. During this period he was associated with research and development in the area of seismic rock properties, petrophysics, reservoir characterization, and crosswell seismic technologies.

In 1999, he joined the University of Oklahoma where he is currently Director and Eberly Chair Professor in the Mewbourne School of Petroleum and Geological Engineering. He has continued research in the area of petrophysics with special emphasis on properties of organic-rich shales. He holds 10 US patents and has published close to 100 technical papers. His research interests include rock physical properties measurements, petrophysics, reservoir characterization, and unconventional reservoirs. He is member of AAPG, AGU, SCA, SEG, and SPE.

## Distinguished Technical Achievement



**John C. Rasmus** is an Advisor-Reservoir Characterization in the Schlumberger LWD product line based in Sugar Land, Texas. His current duties include LWD interpretation field and client support, resistivity and nuclear interpretation support and special projects. He has held various interpretation positions developing

new and innovative interpretation techniques for secondary porosity in carbonates, geosteering of horizontal wells, geopressure quantification in undercompacted shales, downhole motor optimization and HA/HZ well petrophysics. John holds a BS degree in mechanical engineering from Iowa State University in Ames, Iowa, and an MS degree in petroleum engineering from the University of Houston. John is a member of SPWLA, SPE, and AAPG, and is a registered professional petroleum engineer in Texas as well as a registered professional geoscientist.

## Distinguished Service Award



**Steve Cuddy** is a Principal Petrophysicist with Baker Hughes and an Honorary Research Fellow at Aberdeen University, where he holds a PhD in petrophysics. He also received a BSc in physics from Sussex University and a BSc in astrophysics and philosophy from the Open University. Before becoming a consultant petrophysicist he worked at the wellsite with Schlumberger

and as a petrophysicist for BP.

Steve has 44 years of industry experience in formation evaluation and reservoir description. He has authored several SPWLA and SPE papers and has carried out more than 200 reservoir studies. Steve served on Aberdeen Formation Evaluation Society (AFES) committee and was the General Chairman with overall responsibility for the successful SPWLA 49th Annual Logging Symposium held in Edinburgh, Scotland, in 2008.

His 1993 paper on the water saturation vs. height function won the Best Paper Award at the SPWLA annual symposium in Calgary. This is now known in the oil industry as the FOIL function. Working with the Universities of Aberdeen and Leeds his research has revealed that the fluid distribution in reservoir rocks is fractal in nature and therefore based on a simple repeating algorithm. This makes reservoir modelling easy, as the FOIL function initializes the model, derives net reservoir and predicts the location of the free water level.

Steve introduced the mathematics of fuzzy logic to improve petrophysical analysis. Fuzziness may sound odd, says Cuddy, but it is actually an extraordinarily powerful and (despite its appearances) a very simple tool for formation evaluation. It can be used to predict rock types and permeability in wells that have been logged but not cored and to create synthetic logs to fill gaps in well-logging suites. Their most impressive use is in the quality control and repair of electrical logs.

He has written several innovative software programs for petrophysical analysis. These have been offered at no charge to the petrophysical community and can also be found in several commercial petrophysical software packages. He is serving as a Distinguished Speaker for both the SPWLA and SPE for the current 2017–2018 season. Steve enjoys running with the Hash House Harriers.

## 2017–2018 Outstanding SPWLA Chapter

### Saudi Arabia Chapter

Prior to December 2016, the SPWLA-Saudi Arabia Chapter was formally named “Saudi Petrophysics Society SPS.” SPWLA-

Saudi Arabia is led by Saudi Aramco’s Reservoir Description Division; the organization that serves as the kingdom’s platform for all state-of-the-art petrophysical and formation evaluation analysis in Saudi Arabia. Since the official establishment of the Saudi Arabia chapter, the committee has held more than six technical luncheons with top industry speakers and two topical workshops with total attendance exceeding 300 professionals and students. The chapter also established the first student SPWLA chapter in the kingdom at King Fahad University of Petroleum and Minerals and sponsored the chapter’s first “Post-Graduate Student Research” scholarships in Formation Evaluation. As Saudi Arabia is the hub of petrophysics and formation evaluation in the Middle East and leads in the use of advanced wireline and LWD Technologies, SPWLA-Saudi Arabia Chapter also seeks to lead in all SPWLA regional activities.

## 2017–2018 Outstanding Student Chapter

### The University of Texas at Austin

The Student Chapter of SPWLA at The University of Texas at Austin strives to advance the science of petrophysics and formation evaluation among students, researchers, and faculty members at UT-Austin. The chapter is comprised of approximately 50 active members who are primarily affiliated with the Hildebrand Department of Petroleum and Geosystems Engineering and the Jackson School of Geosciences. Major chapter events include monthly technical seminars, community outreach events, and an annual student paper contest. Some of the highlights from the past year include:

- The chapter hosted eight technical events, including presentations by three current SPWLA Distinguished Speakers and the SPWLA President-Elect.
- The chapter participated in three community outreach events at The University of Texas at Austin. At these events, chapter members led approximately 1,000 hands-on demonstrations that taught elementary, middle, and high school students basic concepts related to petrophysics, petroleum engineering, and geological sciences.
- All three of the chapter’s nominees for the Student Paper Contest placed first in their respective divisions at the 2017 SPWLA Annual Symposium in Oklahoma City. Zeerak Abbas earned 1<sup>st</sup> place in the Bachelor’s division, Javid Shiriyev earned 1<sup>st</sup> place in the PhD division, and Peng Zhang earned 1<sup>st</sup> place in the E-Poster division.
- Chapter members authored or co-authored 11 out of the 104 oral and E-Poster presentations that were included in the 2017 Annual Symposium’s main technical program.
- Artur Posenato, Secretary and President-Elect of the Student Chapter of SPWLA at UT-Austin, was named a 2017–2018 SPWLA Distinguished Speaker.

# 59th SPWLA Annual Logging Symposium

## **Petrophysics Best Paper 2017**

“A Novel Determination of Total Gas-in-Place (TGIP) for Gas Shale from Magnetic Resonance Logs”

Ravinath Kausik, Robert Kleinberg, Erik Rylander, Richard Lewis, and Alan Sibbit, and Andrew Westacott

## **Symposium Best Oral Presentation 2017**

“Lesson Learned in Permian Core Analysis: Comparison between Retort, GRI and Routine Methodologies”

Aidan Blount

## **Symposium Best E-Poster Presentation 2017**

“Petrophysics and Geology Intertwined: A Case Study of an Integrated Modeling Workflow”

Abbie V. Morgan

## **Distinguished Speakers 2017–2018**

Omar Al-Farisi  
Alexander Belevich  
Aidan Blount  
Zeliang Chen  
Wei-Shan Chiang  
Steve Cuddy  
Jim Galford  
Arttur Posenato Garcia  
Jennifer Market  
Abbie Morgan  
Gordon Moake  
Ralf Polinski  
Nikita Seleznev  
Sushil Shetty  
Holger Thern  
Philip Singer  
Michael J. Sullivan  
Ali Tinni

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# 59th SPWLA Annual Logging Symposium



## SYMPOSIUM ORGANIZING COMMITTEE

General Chair – Clive Sirju (Nexen CNOOC Ltd.)  
Assistant General Chair – Benjamin Fletcher (Independent)  
Sponsorship/Social Functions – Kate Hatfield (Independent)  
Exhibits – Brian Moss (Independent)  
Finance – Colin Carter (Independent), Paul Hoddinott (Independent)  
Transportation – David Sendra (Independent)  
Fieldtrip – Ruza Cicmil (Nexen CNOOC Ltd.)  
Partner/Guest Activities – Jussell Graterol (Halliburton)  
Printing/Signs – Mike Millar (Independent)  
Publicity/IT WEB – Robert Webber (Nexen CNOOC Ltd.) and Jussell Graterol (Halliburton)  
Security – Ian Draper (Baker Hughes)  
Technical Arrangements – Michael O’Keefe (Schlumberger) and Oliver Tallon (Tullow)  
Student Poster – Tim Pritchard (University of Leicester)  
Conference Advisor – Professor Paul Worthington (Park Royd P&P (England) Limited)  
Members – David Maggs (Schlumberger), Andrew Foulds (Petrofizz), Dr. Paul Basan (Independent), Mohamed Zouelfoukar (Schlumberger), and Shyamalan Ramaswami (Royal Dutch Shell plc)  
Convention Liaison – Sharon Johnson (SPWLA) and Stephanie Turner (SPWLA)

## SPWLA TECHNOLOGY COMMITTEE 2017–2018

### Vice President of Technology

Jesús M. Salzar (ConocoPhillips, Houston, Texas, USA)

### Committee Members

Christoph Arms (The University of New South Wales)

Liz Davis (BP)

Ronald J. Deady (APS Technology, Inc.)

Pascal Debec (Total)

Mohamed Saleh Efnik (Mubadala Petroleum)

Hesham El-Sobky (ConocoPhillips)

Benjamin Fletcher (Consultant)

# 59th SPWLA Annual Logging Symposium

Giuseppe Gali (Eni S.p.A.)  
Jusmell Graterol (Halliburton)  
Weijun Guo (Halliburton)  
Iulian Hulea (Shell)  
Feyzi Inanc (Baker Hughes, GE)  
Maika K. Gambus (Universidad Industrial de Santander)  
Mark Kittridge (MUREX Petrophysics & Rock Physics,  
LLC.)  
Donald L. Clark (ExxonMobil)  
Margaret Lessenger (Rimrock Petrophysics and Analytics)  
Mayank Malik (Chevron)  
Alberto Mendoza (Imperial College London)  
Siddharth Misra (University of Oklahoma)  
Edwin Ortega (ConocoPhillips)  
Geoff Page (Baker Hughes, GE)  
Ferdinanda Pampuri (Eni S.p.A.)  
John Rasmus (Schlumberger/SPWLA Regional Director)  
Matthew Reppert (Neptune Energy)  
Jorge Sanchez-Ramirez (BHP Billiton)  
Mehrnoosh Saneifar (BHP Billiton/SPWLA VP Information  
Technology)  
Nikita Seleznev (Schlumberger)  
Phillip Singer (Rice University)  
Clive Sirju (Nexen Petroleum UK)  
Wanida Sritongthae (PTTEP)  
Joanne Tudge (Weatherford)  
Mike Webster (Production Petrophysics LTD/SPWLA  
Regional Director)  
Chris Woods (Woodside Energy)  
John Zhou (Maxwell Dynamics)

## **ACKNOWLEDGEMENTS AND CLOSING REMARKS**

A huge thank you to all who were a part in making the SPWLA 59<sup>th</sup> Annual Logging Symposium such a success. The management of Old Billingsgate, Event Operations, Hub Bub Catering, the Photo Team and all support staff who ensured everything went smoothly.

Thank you to the SPWLA Board of Directors for all of the time and effort you put in. Thank you to the London Petrophysical Society for hosting such a successful symposium. Finally, a great thanks to all participants for making the 59<sup>th</sup> Symposium a huge success. Looking forward to another great symposium next year in The Woodlands.

Clive Sirju  
General Chairman  
London SPWLA 2018

## ACOUSTICS SIG

### General News

The SPWLA Acoustics SIG Board members for 2018 are as follows:

Chairman	Rob Vines (Shell) Robert.Vines@shell.com
Vice Chairman	Doug Patterson (Baker-Hughes) Douglas.Patterson@bakerhughes.com
Secretary	Matt Blyth (Schlumberger) MBlyth@slb.com
Treasurer	Alexei Bolshakov (Chevron) Alexei.Bolshakov@chevron.com
Secretary of Publications	Philip Tracadas (Halliburton) philip.tracadas@halliburton.com

### Recent Events

The SPWLA Acoustics SIG held its second meeting of 2018 at the GE/Baker Hughes offices in London, on June 7, the day following the SPWLA Annual Symposium. The meeting was well attended, with more than 20 members attending in person and we even had some committed members joining over Webex from Houston, despite the time difference. The meeting consisted of a series of speaker presentations and group discussions on relevant acoustics topics. The first was three presentations and discussion centered around acoustic reflection imaging. The second was two presentations and discussion around anisotropy and Thomsen's parameters. After lunch, two more sessions followed. One was around the uses of Stoneley data and the second was a remotely delivered presentation on recent advances in acoustic cement evaluation. As usual, all sessions led to good and open discussions on the challenges affecting borehole acoustics measurements and how to approach them. The meeting was closed after reviewing items of outstanding SIG business. The Acoustics SIG board would like to thank GE for the use of their facilities to conduct the meeting.



Acoustic SIG June 2018 meeting, London.

## BANGKOK CHAPTER

### General News

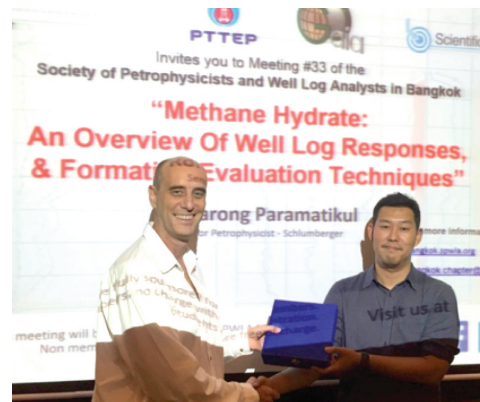
The Chapter is pleased to welcome Khun Numan Phetongkam to the steering committee. He will temporarily be helping in the role of treasurer.

### Recent Events

The Bangkok Chapter of SPWLA had meetings in and May and June, 2018. Both meetings were well attended.

30 May 2018 – Khun Ronarong Paramatikul (Senior Petrophysicist, Schlumberger) presented a talk entitled “Methane Hydrate: An Overview of Well Log Responses, and Formation Evaluation Techniques.” Interest was exceptionally high and the Q&A went well past the allotted time. Thanks very much to Khun Ronarong for taking the time to speak.

28 June 2018 – Khun Numan Phetongkam (Petrophysicist Team Lead, Weatherford Thailand) presented his paper “EOR Screening Through Assessing Impact of Geological Uncertainty on EOR Performance Using Multiple Geomodels: A Case Study from Fractured Carbonate Reservoir Model.”



Bangkok Chapter May 2018 meeting. Mr. Andrew Cox (L) presenting plaque to speaker Khun Ronarong Paramatikul (R)

### Upcoming Events

SPWLA Bangkok will be on summer break and will not hold a meeting in July.

**BOSTON CHAPTER**

**Recent Events**

3–6 June 2018 – The Boston Chapter was well represented at the recent 2018 Symposium in London, with 16 members as presenting or co-authors. The paper “A Novel Determination of Total Gas-in-Place (TGIP) for Gas Shale From Magnetic Resonance Logs” by Chapter President Ravinath Kausik was awarded *Petrophysics* Best Paper 2017. Chapter VP Outreach Sushil Shetty and Chapter member Nikita Seleznev were honored for serving as Distinguished Speakers for 2017–2018. Chapter member Nikita Seleznev served on the Technology Committee and chaired the session on New Borehole Logging Technology II.

The Chapter continues to host stimulating seminars during the summer months:

22 June 2018 – Howard Herzog (MIT Energy Initiative) presented a lecture titled “The State of CCS Technology and Policy.”

**Upcoming Events**

SPWLA general and Boston-affiliate members are invited to browse our chapter website <http://boston.spwla.org> for up-to-date information of our mission and future events.

**BRAZIL CHAPTER**

**General News**

The Chapter now has a total of 273 members. Monthly meetings are held every third Tuesday of the month, at 4 p.m. in downtown Rio de Janeiro. Anyone wishing to participate or receive information about the chapter can contact our secretary, Andre Bertolini ([abertolini@slb.com](mailto:abertolini@slb.com)). We also post chapter updates at our Facebook page ([fb.me/SPWLABrazil](https://fb.me/SPWLABrazil)) – check us out!

Our current Board of Directors consists of:

- President Lenita de Souza Fioriti (Petrobras)
- Vice-president Ana Beatriz Guedes Domingues (Shell)
- Treasurer Mateus Barroso Fouraux (Halliburton)
- Secretary André Carlos Bertolini (Schlumberger)
- Publications Giovanna da Fraga Carneiro (Schlumberger)
- Students and Young Professionals Director Fernando Jorge Pedrosa Maia Junior (Petrobras)
- Advisors Nadege Bize (Schlumberger), Jesus Salazar (Baker), Rafael Cremonini (Baker), and José Eustáquio Pampuri Barbosa (Statoil)

**Recent Events**

20 March 2018 – Sofia Alves Fornero (Petrobras), gave a presentation about facies characterization of volcanic and volcanoclastic rocks by microresistivity image and acoustic logs applied to a presalt field in the Santos Basin.



Brazil March 2018 meeting. Speaker Sofia Alves Fornero (left) with Lenita Fioriti, SPWLA Brazil President.

24 April 2018 – Paul Spooner (Interactive Petrophysics software Product Champion, Senergy/Lloyds Register) presented the talk “Some Considerations for Thin Bed Interpretations.”



Brazil Chapter April 2018 meeting. Paul Spooner (Lloyds Register) presenting.

22 May 2018 – Priscila Ribeiro and Marcelo Seixas (Shell), presented the talk “A Multidisciplinary Integrated Approach to Reevaluation Focused Reservoir Modelling: From the Graben Abyss to the Attic Oil Hunt.”



Brazil Chapter May 2018 meeting. Priscila Ribeiro and Marcelo Seixas (Shell) presenting at monthly meeting.

19–21 June – The 2<sup>nd</sup> Brazilian Petroleum Conference took place in Rio de Janeiro. The successful event was co-organized by SPWLA, SEG, SPE and AAPG Brazilian chapters.

### CHINA PETROLEUM UNIVERSITY IN BEIJING STUDENT CHAPTER

#### Recent Events

06 June 2018 – In order to provide an international exchange platform for teachers and students majoring in well logging and to stimulate their research enthusiasm, the SPWLA Student Chapter in China Petroleum University in Beijing rebroadcasted some of the presentations from the SPWLA 59th Annual Logging Symposium.

### DENVER CHAPTER (Denver Well Logging Society, DWLS)

#### General News

Join us for the monthly DWLS meetings, which are held the third Tuesday each month, beginning in September and running through May. Meetings take place in the Mercantile Room at the Wynkoop Brewing Company in downtown Denver, Colorado. The networking social begins around 11:20 a.m., lunch is served at 11:45 a.m., and the technical presentation starts at 12:00 p.m. The cost for the DWLS luncheon is \$20 and guests are welcome to attend. Visit the DWLS website at [www.dwls.spwla.org](http://www.dwls.spwla.org) to make your luncheon reservations, renew your membership, or join the society.

The DWLS is sponsoring scholarship and grant opportunities for graduate students attending a college in the United States Rocky Mountain region, which includes the states of North Dakota, South Dakota, Colorado, Wyoming,

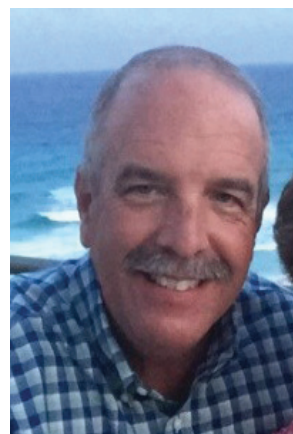
Utah, Idaho, Montana, New Mexico, Arizona, and Nevada. Graduate students who are pursuing a degree in a field related to upstream oilfield well log interpretation, specifically petrophysics, geomechanics, geophysics, petroleum, or geology, are encouraged to apply. Application materials and further details are available on the SPWLA website.

The new 2018–2019 DWLS Board of Directors members were voted in and met for a transition dinner at Rialto Café on June 7, 2018. The new Board Members are:

President	Shannon Higgins (Schlumberger)
Vice President: Technology	Patricia Rodrigues (Whiting)
Vice President: Membership	Stefani Brakenhoff (The Discovery Group)
Treasurer	Peter Kaufman (QEP)
Secretary	Rebecca Johnson (QEP)
Director: Social Events/Beverages	Jesse Havens (FractureID)
Director: Publications	Jenny LaGesse (Consultant)
Director at Large	Katerina Yared (QEP)
Editor	Dominic Holmes (Digital Formation)
Webmaster	Tony Holmes (Digital Formation)

#### Recent Events

15 May 2018 – Michael Miller (Cimarex) presented on predicting wettability trends and minimizing water cut in the unconventional reservoirs of the Delaware Basin. Reservoir wettability is a controlling influence on water cut, and early work suggests that changes observed in resistivity behavior in resistivity ratio (DEW) plots may identify water or oil wet tendencies in these reservoirs. The talk was well attended.



DWLS May 2018 meeting. Michael (Mike) Miller (Cimarex) presented.



**Upcoming Events**

02 October 2018 – DWLS will co-host the Fall Symposium with RMAG in Golden, Colorado. Respond to the Call for Papers on the symposium topic: What have we learned from unconventional reservoirs that could be applied in any petroleum system? Submit your abstract to: Sam Fluckiger, [sfluckiger@sm-energy.com](mailto:sfluckiger@sm-energy.com), or visit the DWLS website at <https://dwls.spwla.org> for more information.

DWLS monthly talks will resume in September 2018.

**FEDERAL UNIVERSITY OF RIO DE JANEIRO (UFRJ) STUDENT CHAPTER**

**General News**

We are proud to create opportunities where we can all meet new minds, exchange ideas, reconnect, and most importantly a place where we can build a network that can have a positive impact at the university now and in the future. We proudly present the new UFRJ SPWLA Student Chapter Board:

President	Fernanda Senra
Vice President	Lucas Batista
Marketing Director	Giovanni Picco
Director of Logistics and Events	Anna Peres
Treasurer	Gabriela Lopes

We also welcome our new team members for the 2018 term:

Lorena Pastana Martins  
Sofia Goldbach d’Orsi  
Leticia de Souza Cardoso

**Recent events:**

04 and 07 May 2018 – Group dynamics and interviews for the selection process.

10 May 2018 – Chapter meeting for task delegation and internal affairs.

14 May 2018 – Sofia Fornero (Petrobras) gave a presentation on “Faciological Characterization of Volcanic and Volcanoclastic Rocks Through Image Profiles: A Case Study in the Santos Basin Pre-Salt.”

17 May 2018 – Chapter meeting for internal affairs.

25 June 2018 – Aristides Orlandi Neto gave a minicourse on “Basic Profiling.”



UFRJ May 14, 2018 meeting. Chapter members with the speaker Sofia Fornero (left to right): Raissa Siqueira, Giovanni Picco, Sofia Fornero, Fernanda Senra, Anna Peres and Gabriela Lopes.

**AUSTRALIA CHAPTER  
(Formation Evaluation Society of Australia, FESAus)**

**General News**

FESAus, the Australian Chapter of SPWLA combines the formation evaluation societies from around Australia predominantly FESQ. Technical meetings are held in Perth on the second Tuesday of each month, with webcasts of the presentations available soon after for members from other states to view. Please visit [www.fesaus.org](http://www.fesaus.org) for meeting information.

**2018 Committee Members:**

President	Adrian Manescu
Vice President/Assistant Treasurer/Newsletter Coordinator	Wesley Emery
Treasurer/Company Secretary	Callum Rideout
Website Coordinator/Data Standards Focal Point	Martin Storey
Secretary/Inter-Society Liaison/Social Coordinator/Special Events and Awards	Leanne Brennan
Past President	Nariman Nouri
Sponsorship Coordinator	Andrea Paxton
Monthly Meeting Coordinator	Meretta Qleibo
Membership Coordinator	Siobhan Lemmey
New Technology Forum Coordinator	Ben Van Deijl
New Technology Forum Coordinator	AbdelRahman Elkhateeb
Education Group Leader	Matthew Josh, Paul Pillai
Audio Visual Coordinator	Nigel Deeks
Audio Visual Coordinator	Yang Xingwang
Victoria Representative	Matthew Durrant
NSW Representative	Harris Khan

### Recent Events

26 April 2018 – The monthly technical meeting was a short course conducted by Ben van Deijl (Petrophysical Advisor at Woodside) and Chris Murphy (Reservoir Engineer at Woodside) on the topic “The Psychology of Decision Making.” Ben and Chris’s talk was well received with a great deal of discussion and sharing of ideas.



FESAus April 2018 meeting. Left to right: Ben van Deijl (Petrophysical Advisor at Woodside), Wesley Emery (Vic President at FESAus) and Chris Murphy (Reservoir Engineer at Woodside).

08 May 2018 – David Bowling (Geomechanics Sales Lead, Baker Hughes, a GE company, Asia Pacific Region) gave the technical presentation on “David Bowling Frames of Reference: Why do Some Oil and Gas Drilling Projects Succeed While Others Fail?” David’s talk was well received with a great deal of discussion and sharing of ideas.



FESAus May 2018 meeting. David Bowling (Geomechanics Sales Lead, Baker Hughes) (left) receives the speaker’s gift from Adrian Manescu, FESAus President.

12 June 2018 – Martin Kennedy (consultant) gave a presentation on “Monitoring Carbon Dioxide in the Subsurface Using Pulsed Neutron and Other Logs: Theory and Practice.” The talk was in three parts: (1) an explanation of the fundamentals of geosequestration, in particular why the behavior of CO<sub>2</sub> in the subsurface is considerably more complicated than oil or gas; (2) an introduction to the Aquistore project was provided and the project was compared and contrasted with some other operating projects around the world; (3) the results of the well-based monitoring program were presented and their relevance to Australia was discussed. Martin’s talk was well received with a great deal of discussion and sharing of ideas.



FESAus June 2018 meeting. Adrian Manescu, Chapter President (left) with speaker Martin Kennedy (Independent Consultant).

### Upcoming Events

- 10 July 2018 – Tim Conroy, “Accelerating and Enhancing Petrophysical Analysis: A Case Study of an Automated System for Well Log Outlier Detection and Construction”
- 14 August 2018 – Ashish Datey, “Formation Evaluation Integrating NMR and Spectroscopy Data”
- 06 September 2018 – Max Podolyak (Corelab) visiting Perth and luncheon presentation.
- 11 September 2018 – New Technology Forum on Hardware, Woodside Auditorium
- 09 October 2018 – Matt Shaw; “Uncertainty in Petrophysical Properties for Reservoir Modelling”
- October/November 2018 – Master Class in collaboration with SPE “Brown Fields/Production.”

Please visit the Technical Meetings section of the chapter website [www.fesaus.org](http://www.fesaus.org) for details on upcoming technical talks.

## Formation Evaluation Society of Queensland (FESQ)

### General News

FESQ is an international chapter of SPWLA, representing the state of Queensland, Australia. We continue to serve the local community of professionals and researchers with interest in the science and application of petrophysics and formation evaluation. Our focus is on providing information and education that is relevant to our members, with emphasis on unconventional petroleum reservoirs and a growing interest in mining applications. We also promote innovation and advancement of new technologies and support collaboration with other societies that have common interests.

The FESQ committee is well represented by the Queensland-based petroleum and mining industries, state government, and research sectors. The committee meets on the last Wednesday of each month.

### 2018 Committee Members:

President	Justin Gorton (Department of Natural Resources, Mines and Energy)
Secretary	Marcel Croon (Weatherford)
Treasurer	Vahab Honari (University of Queensland)
Events Coordinator	Tom Neville (Asia-Pacific Formation Evaluation Services)
Comms. Coordinator	De Nicholls (BHP)
Member	Matt Pfahl (Santos)
Member	Heidi Sutton (Shell)
Member	Kevin Flynn (Flynncore)
Member	Anthony Giambalvo (Santos)
Member	Inamullah Janjua (Schlumberger)
Member	Joseph Lim (Senex Energy)
Member	Rachael Ilett (Senex Energy)
Member	Andrew McCarter (Westside Corporation)
Member	Andy Hall (Pentagram Petrophysics)
Member	Artem Sibgatullin (Arrow Energy)

A focus for the committee early this year was to ensure a full calendar of technical meetings for 2018, which has now been successfully achieved. These are typically held on the third Thursday of each month. In addition to this we have planned a training course for the middle of the year and will continue with our flagship event, the annual Technology Day, in late 2018. In conjunction with these events, we also organize social functions to provide opportunities for the membership base to network with other professionals and researchers.

### Recent Events

21 June 2018 – Jianhua He (PhD Energy Initiative, University

of Queensland) provided a talk on “Neural Networks and the Markov Chain Approach for Facies Analysis and Prediction from Well Logs in the Precipice-Evergreen Succession, Surat Basin: Implications for CO<sub>2</sub> Storage.” The subject generated a lot of interest and was one of the best attended for the year. It demonstrates the growing role that machine learning and artificial intelligence will have in the industry, going forward.

### Upcoming Events

July 2018 – SPWLA Distinguished Speaker Jennifer Market (Lloyds Register) will be visiting Brisbane to present at a talk hosted by SPE and FESQ on “Understanding Sonic Data in Unconventional Reservoirs.”

August 2018 – Dr. Walter Keilich (BHP) will be speaking on “Geomechanics, Geotechnical Engineering challenges for the Mining Industry.”

August 2018 – FESQ will be running a two-day petrophysics fundamentals course led by Tom Neville. Tom has worked in the industry for close to 30 years in various geoscience and petrophysics roles with much of his career spent with Schlumberger. He is currently Principal Consultant for Asia-Pacific Formation Evaluation Services and on the committee for FESQ.

November 2018 – FESQ and SPE will collaborate to deliver the year’s flagship event. The Technology Day provides a series of technical talks, poster sessions, along with an exhibition and technology demonstrations. This year, the theme will be broadly aimed at integration across the petroleum and mining industries to share learnings and gain further insight on how petrophysics and the technologies that support it are used across the sectors.

## HOUSTON CHAPTER

### General News

SPWLA-Houston chapter board is pleased to announce the results of 2018 election. The new board is as follows:

President	Jeffery Crawford 2018–2020
VP-Northside	Fransiska Goenawan 2018–2019
VP-Westside	Rohollah A. Pour 2018–2020
VP-Downtown	Emmanuel Oyewole 2018–2020
Editor	Christopher Jones 2018–2020
Treasurer	Tianmin Jiang 2017–2019
Secretary	Yinxi Zhang 2017–2019
Webmaster	Amir Rangwala

On behalf of the board, we would like to extend warm congratulations to the elected candidates, and sincere thanks to all the candidates who ran for office. We also appreciate the

participation from members who voted.

## KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS (KFUPM) STUDENT CHAPTER

### General News

The chapter was initially established in 2017 with 10 members. Membership has tripled and now includes undergraduate and graduate students in petroleum and geosciences.

### Recent Events

A number of students participated in the recent SPWLA chapter student contest and a range of research in well logging and petrophysics was presented. Three students were awarded and nominated for the international competition that was held at the SPWLA 59<sup>th</sup> Annual Logging Symposium in London. Mr. Amjed Hassan represented the chapter at the London Symposium presenting a paper on “Determination of Water Saturation for Complex Reservoirs.”

Dr. S. Mark Ma (Petroleum Engineering Consultant, Saudi Aramco) gave a special seminar that offered an “Overview of Petrophysical Challenges and Recent Advancements,” that was conducted at the petroleum department in KFUPM.

The EAGE and SPWLA student chapters at KFUPM jointly sponsored a presentation by Ahmed Abouzaid (Formation Evaluation Manager, Baker Hughes, a GE company) on “NMR Gamma Inversion Applications in Carbonate Reservoirs Characterization.”

## OKLAHOMA CITY CHAPTER

### General News

The OKC Chapter SPWLA Officer’s Meeting was held on May 17. Outgoing Chapter President Adam Haecker has been selected as SPWLA North American 1 Regional Director. As President of the local chapter, Adam Hacker did an excellent job, and the OKC chapter thanks him and wishes him well in his new role. Congratulations to our new and returning officers:

President	Jaci Venhaus
VP of Technology	John Roberts
VP of Membership	Nasar Khan
Treasurer	John Stachowiak
Editor	Erek Hutto

### Recent Events

08 May 2018 – Our 2017–2018 chapter meeting season ended with excellent attendance for a presentation by SPWLA Distinguished Speaker Aidan Blount (Shell) on the lessons learned in Permian Core Analysis through a

comparison of retort, GRI, and routine methods by various vendors. While the primary area of interest was the Permian in the Delaware Basin, however there are many opportunities for direct applicability in Mid-Continent plays. Their very interesting conclusions were presented in the 2017 58<sup>th</sup> Annual Logging Symposium and published in the October 2017 issue of *Petrophysics*.

### Upcoming Events

Everyone is encouraged to have a fun and safe summer and see you in the Fall!



OKC Chapter May 2018 meeting. Jaci Venhaus, Chapter President (left) presented a speaker’s award to Aidan Blount (Shell).

## SAUDI ARABIA CHAPTER

### Recent Events

20 February 2018 – The SPWLA Saudi Arabia Chapter (SAC) concluded a successful 2017 year with Chapter Recognition Ceremony, in which senior management of Saudi Aramco, KFUPM, BHGE, Halliburton, Schlumberger and Weatherford participated. The mission of providing a platform for knowledge sharing and keep its members up to date with technologies was achieved with monthly events and two very successful topical workshops in which there was active participation. The event was opened by Dr. Tareq AlGhamdi, President of SPWLA SAC, who highlighted major achievements in 2017. S. Mark Ma, SPWLA SAC VP Technical Events, delivered the 2017 Chapter Annual Report. In their keynote speeches, Khalid Zainalabedin (Manager of Reservoir Description & Simulation Department, Saudi Aramco) and Abdullatif Omair (Head of Reservoir Description Division, Saudi Aramco) emphasized the importance of SPWLA to the upstream business of Saudi Aramco and expressed

their appreciation to the Chapter Officers and volunteers. They also expressed their continuous support of the Chapter’s activities. Before closing, Tareq laid out future plans to ensure closer engagement with Chapter members, student chapters, and other local societies.



SAC February 2018 meeting. Group photo of officers and management of Saudi Aramco, KFUPM, BHGE, Halliburton, Schlumberger, and Weatherford.

14 March 2018 – Ahmed Abouzaid (Petrophysics and Formation Evaluation Manager, BHGE) gave a presentation at the luncheon technical event on “NMR Application in Carbonate Reservoir Characterization.” Prior to the presentation, the audience was challenged with questions regarding commercial and emerging NMR answer products by facilitator S. Mark Ma. During the talk, Ahmed reviewed NMR logging and additional features of advanced data processing that can assist in carbonate reservoir characterization. Following the presentation and Q&A, NMR logging commercial and emerging answer products were revisited to maximize learning. The event was well attended by 60 participants.

22 March 2018 – The SAC held a second luncheon meeting in March at which Dr. Philip Tracadas (Global Product Champion for Wireline Acoustics at Halliburton) gave a presentation on “Use of Advanced Acoustic Petrophysics in Characterizing Formation Anisotropy— Conventional and Unconventional Reservoirs.” The speaker summarized and discussed formation anisotropy and its importance in petrophysics and petroleum engineering. Applications of acoustic petrophysics in formation evaluation, such as relating acoustic anisotropy with permeability and resistivity anisotropy were hotly debated and discussed.



SAC March 14, 2018 meeting. Speaker Ahmed AbouZied (center) and Chapter officers.



SAC March 22, 2018 meeting. Philip Tracadas (third from right) and SPWLA Saudi Arabia Chapter Officers.

29 March 2018 – As part of SPWLA SAC’s efforts to support academia, Dr. S. Mark Ma, SPWLA SAC VP Technical Events, delivered a talk to King Fahd University of Petroleum and Minerals (KFUPM) that organized by the KFUPM SPWLA student chapter. The topic was on “Petrophysics Challenges and Recent Advancements,” covering laboratory physical and digital core analysis, formation evaluation, geosteering petrophysics, reservoir surveillance, integrated petrophysical modeling, and data driven petrophysics. More than 70 students, faculty, and research scientists participated in this knowledge sharing.



SAC March 29, 2018 meeting. Speaker S. Mark Ma receives a token of appreciation from KFUPM management. Left to right: Dr. Dhafer Shehri (Chairman of Petroleum Engineering Department), Dr. Mohamed Mahmoud (KFUPM SPWLA Student Chapter supporting faculty), S. Mark Ma, and Dr. Abdulaziz Kaabi (Dean of College of Petroleum Engineering and Geoscience).

22 April 2018 – The SAC, in collaboration with the SPE Saudi Arabia Section, convened a topical workshop on “Challenges and Advancements in Petrophysics” at Dhahran Kempinski Al Othman Hotel. The keynote speakers of this workshop were Mr. Khalid Zainalabedin (SPE Middle East Director) and Mr. Darcy Spady (SPE President). Both emphasized the importance of

collaboration among different professional organizations, such as SPWLA and SPE. The goal of this workshop was to provide participants an opportunity to discuss petrophysical challenges in their operations, to be updated with recent petrophysical advancements, and to explore potential collaborations to address business challenges. The workshop included five sessions with six presentations focused on key challenges and advancements in petrophysics ranging from resources exploration, formation evaluation, geosteering, reservoir monitoring and surveillance, to well abandonment. To maximize learning, the workshop was specifically designed to be interactive and ended with a quiz game summarizing what was discussed during the workshop. More than 100 attendees representing academia, operating and service companies actively participated in this event.



SAC April 2018 topical workshop. Conference keynote speakers: (Left) Khalid A. Zainalabedin (SPE Middle East Regional Director) and Darcy Spady (SPE International President).

8 May 2018 – Dr. Ping Zhang (Principal Geophysicist, Schlumberger Dhahran Carbonate Research Center) presented a great talk entitled “Electromagnetics: Technologies for Reservoir Surveillance and Monitoring.” He explained the theory and workflow of crosswell EM systems, survey design and modeling, data acquisition, processing, and interpretation. More than 50 attendees participated in this event.



SAC April 2018 topical workshop, group photo.



SAC May 2018 meeting. Speaker Ping Zhang (Schlumberger) (third from left) received a token of appreciation from the Chapter Committee.

Following the lunch presentation, SPWLA SAC committee members celebrated winning the SPWLA 2017–2018 Outstanding Chapter Award. On behalf of SPWLA SAC president Dr. Tariq AlGhamdi; we would like to thank all participants, speakers, sponsors and committee members who have made significant contributions to the chapter’s achievements and special thanks to all the generous contributions from all SPWLA SAC board bodies (Saudi Aramco, KFUPM, BHGE, Halliburton, Schlumberger, and Weatherford). We are looking forward for your continuous support in our current and future endeavors.



Outstanding Chapter Award Cake.

### TEXAS TECH UNIVERSITY (TTU) STUDENT CHAPTER

#### Recent events

13–14 April 2018 – The TTU SPWLA chapter hosted a two-day industry short course at the main campus of Texas Tech University on “Carbonate Petrophysics and Cased-Hole Log Analysis.” The instructors were Dr. George Asquith and Professor Richard Bateman. There were 21 professionals in attendance excluding a couple of students.



TTU Student Chapter April 2018 short course.

TTU SPWLA had two representatives at the just concluded 2018 SPWLA Annual Logging Symposium in London. Khalil Zaifsadr and Miles Rand were the selected students that represented Texas Tech University at the International Student Paper Contest (ISPC) on June 3, 2018. Khalil competed in the master’s oral competition while Miles competed in the master’s poster competition.



Khalil Zarifsadr (TTU SPWLA) (right) with Soraya Brombacher (Halliburton) at the SPWLA 59<sup>th</sup> Annual Logging Symposium in London.

### THE UNIVERSITY OF TEXAS AT AUSTIN STUDENT CHAPTER

#### General News

The Student Chapter of SPWLA at UT-Austin was very well represented at the 59<sup>th</sup> SPWLA Annual Logging Symposium in London. Chapter members authored or co-authored eight of the 105 oral and E-Poster presentations in the conference’s technical program. In addition, two of our chapter’s nominees

for the SPWLA International Student Paper Contest won 1<sup>st</sup> place in their respective divisions: Michael Wang received the top prize in the Bachelor's Division for his presentation entitled "Quantifying Frac Hit Trends in the Eagle Ford," and RunQi Han won 1<sup>st</sup> place in the PhD Division for his presentation entitled "A Novel 3D Cuttings Monitoring Sensor for Real-Time Downhole Condition Monitoring." Congratulations to Michael and RunQi!

Finally, the Student Chapter of SPWLA at UT-Austin received the 2017–2018 Outstanding Student Chapter Award during the SPWLA Awards Presentation on June 5. We are extremely grateful for this award and would like to acknowledge everyone that has contributed to the chapter's past and present success. Thank you!



UT-Austin Professor and Students after receiving the SPWLA International Student Paper Contest Awards. Pictured from left to right: RunQi Han, 1<sup>st</sup> place in the PhD Division, Dr. Zoya Heidari (Assistant Professor, Hildebrand Department of Petroleum and Geosystems Engineering at The University of Texas at Austin), and Michael Wang, 1<sup>st</sup> place in the Bachelor's Division.



UT-Austin Professors and Officers of the Student Chapter of SPWLA at UT-Austin after receiving the SPWLA 2017-2018 Outstanding Student Chapter Award. Pictured from left to right: Dr. Zoya Heidari (Assistant Professor, Hildebrand Department of Petroleum and Geosystems Engineering at The University of Texas at Austin), Dr. Mathilde Luycx (Chapter Secretary, 2015-2017), Matthew Ramos (Chapter Vice-President, 2017-2018), Artur Posenato Garcia (Chapter President, 2018-2019), Dr. Carlos Torres-Verdín (Professor, Hildebrand Department of Petroleum and Geosystems Engineering at The University of Texas at Austin).



## Let Us Have Some Fun and Play Petro-Sudoku!



Carlos Torres-Verdín

The next page shows a series of idealized examples of well logs. There are six cases. Density and Neutron porosity logs are expressed in limestone porosity units in all cases. No case should be chosen more than once in the answers below (solutions will be given in the next issue of *The SPWLA Today*, stay tuned!)

(a) Which case corresponds to the specific situation of a water-bearing, shaly sandstone invaded with OBM? Check only one.  
 Case 1     Case 2     Case 3     Case 4     Case 5     Case 6

(b) Which case corresponds to the specific situation of a gas-bearing limestone invaded with WBM? Check only one.  
 Case 1     Case 2     Case 3     Case 4     Case 5     Case 6

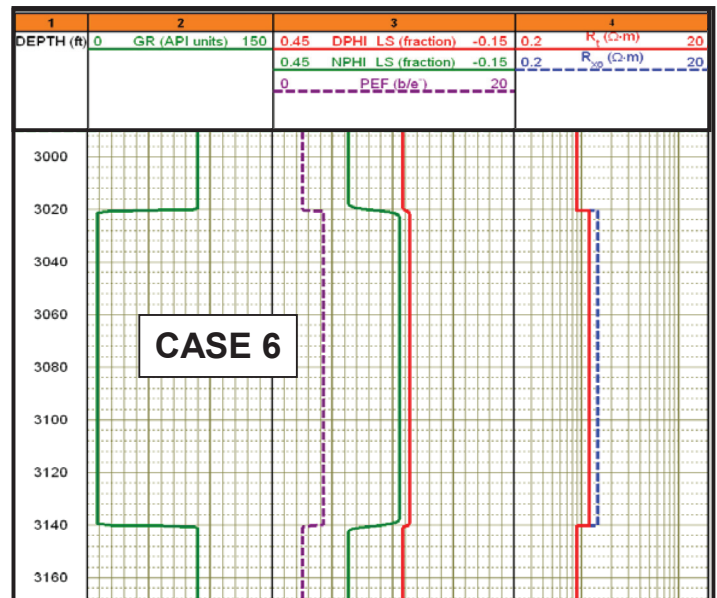
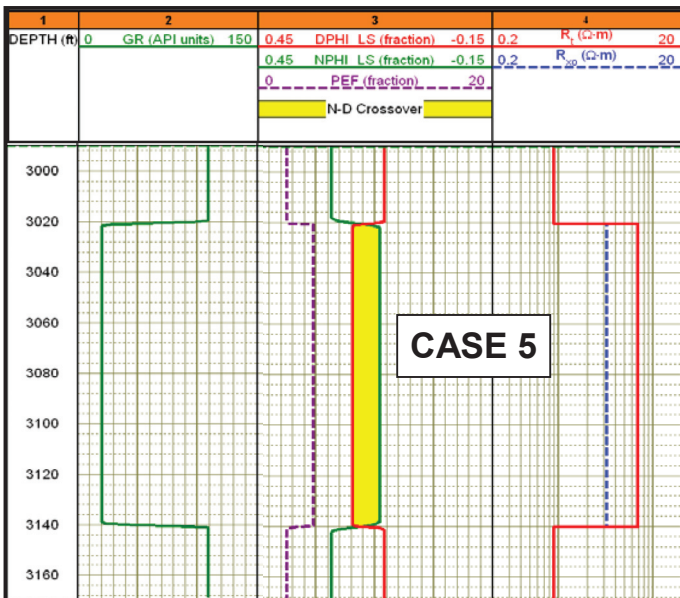
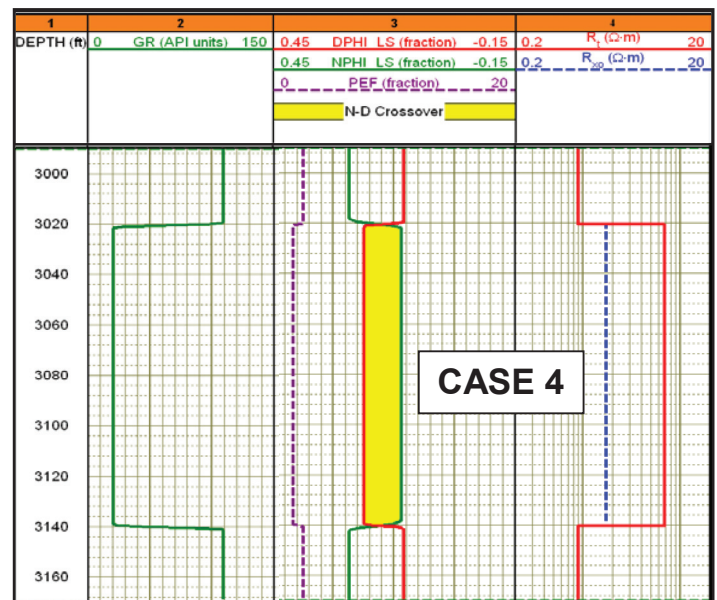
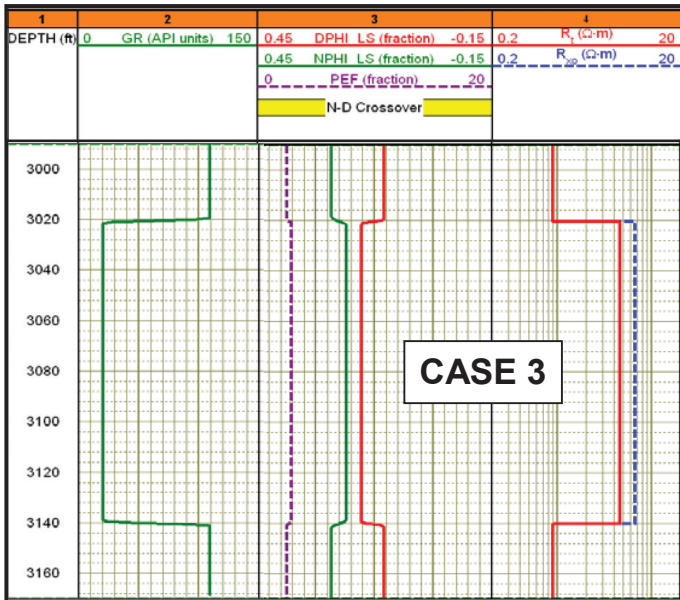
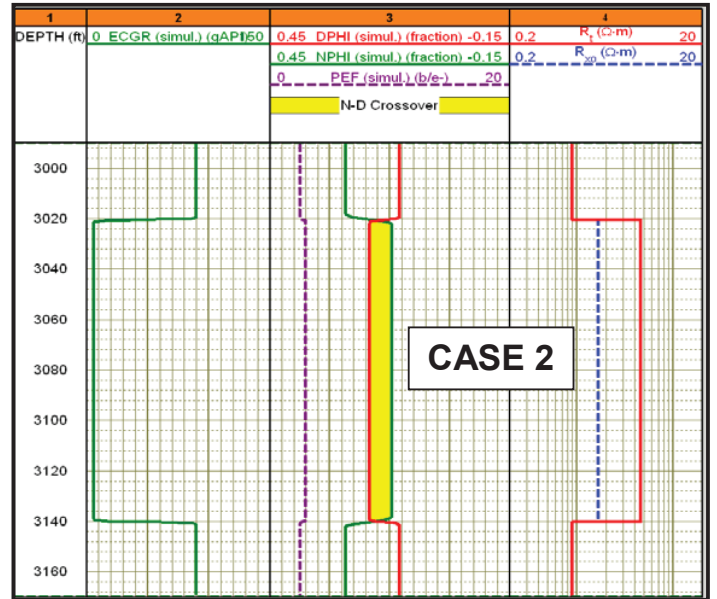
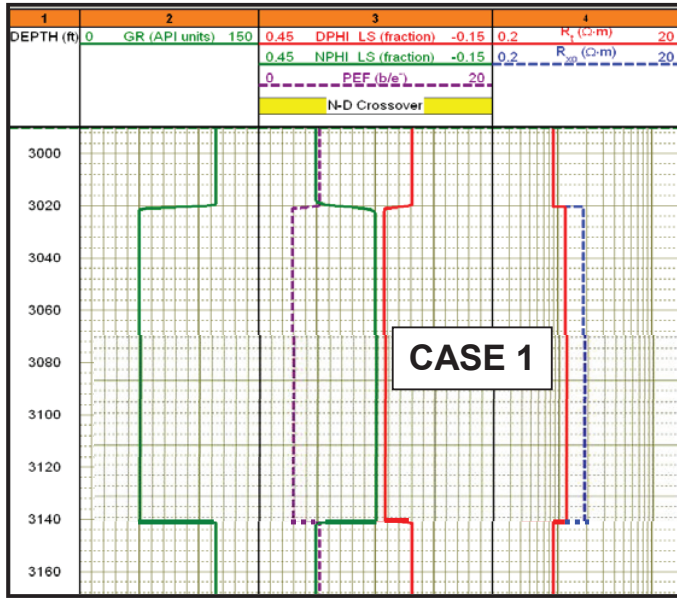
(c) Which case corresponds to the specific situation of an oil-bearing sandstone invaded with WBM? Check only one.  
 Case 1     Case 2     Case 3     Case 4     Case 5     Case 6

(d) Which case corresponds to the specific situation of an oil-bearing dolomite invaded with OBM? Check only one.  
 Case 1     Case 2     Case 3     Case 4     Case 5     Case 6

(e) Which case corresponds to the specific situation of a water-bearing dolostone (mixture of dolomite and limestone) invaded with OBM? Check only one.  
 Case 1     Case 2     Case 3     Case 4     Case 5     Case 6

(f) Which case corresponds to the specific situation of a gas-bearing dolomite invaded with WBM? Check only one.  
 Case 1     Case 2     Case 3     Case 4     Case 5     Case 6

# Let Us Have Some Fun and Play Petro-Sudoku!





July 2018

2018 Steering  
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*In this edition:*

*Never, Never, Never,  
Never Stop Learning!*

*By Gary Simpson*

*Surrounded by  
Parameters and Just Want  
to Know Y?*

*By Scott Lapierre*

*Welcome to Siddharth  
Misra and Thanks to Jesus  
Salazar*

*SPWLA Networking  
Happy Hour*

*Coffee Break*

*By Abbie Morgan*

**Never, Never, Never, Never Stop Learning!**



Gary Simpson

Science has always held my fascination. I love to know how things work or why they don't. Scientific principles can be applied to everything from the latest well-logging tool to winemaking. Science has made our lives better and allowed us to walk on the moon. For me, the best part of my job has been learning and understanding the science that impacts finding fossil fuel. From winning the Army and Navy Engineering Science awards for my science project on wind-tunnel testing of space shuttle models during high school to deciding where I would attend college, I knew science would be play a big part of my decision. And now when I look back over my almost 40 years in the oil and gas industry, I can see that science has been front and center in my career. In science, new knowledge builds on existing knowledge and that's where the value is found.

In September of 1978, I graduated from Texas A&M University, I moved out of my dorm and into an apartment to go to work for Welex in Bryan, Texas. My first job in the oil field was as a field engineer and it was the best job that I've ever had. My first day on the job was my introduction to a wireline

logging truck. On my second day I went on my first field location, which was an Austin chalk well drilled in the Kurten field, just east of Bryan and College Station. I remember vividly the wellsite and the name of the company, Amalgamated Bonanza. The job was for a Canadian company and the "Bonanza" part of the company name was associated with one of the major investors of the company, actor Lorne Green. He was the lead actor in Bonanza, the second-longest running television series ever aired. Lorne Green played the post-Civil War patriarch of a family who owned a 1,000-acre ranch in Nevada called the Ponderosa. Thus, began my oil and gas career.

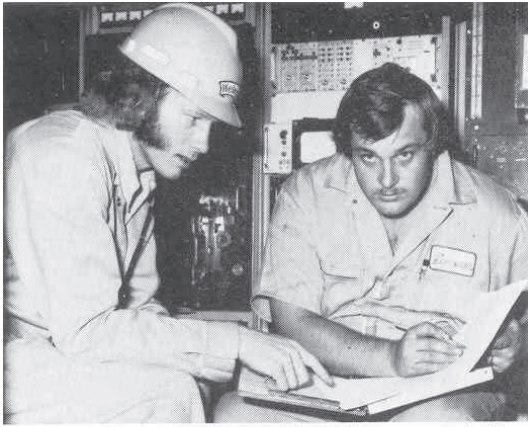
An on the job automobile accident after about three months in my new position was a pivotal event in shaping my career. Following surgery for a broken wrist, the company asked me to attend multiple training schools back-to-back. This allowed me to gain in-depth knowledge on the physics of the measurements that I would be making in the field. If I had not attended this training, I wouldn't have been exposed to this knowledge until much later in my career. These training schools exposed me to a wealth of technology in our industry. This gave me a leg up over some of the new engineers joining the company. I was committed to maximizing this opportunity to learn and I realized that technology was an essential and critical component in our industry. I always sought access to the latest logging-tool technology and newest logging systems.

Transferring from Bryan/College Station to Alice, Texas, in June 1979, provided more opportunities as the industry was transitioning from analog systems to digital. I started out working on an analog logging unit, with panels and downhole logging tools that used vacuum tubes for electronics (Google this). About a year later, I was asked if I would like to have some new equipment installed in my truck, a digital data acquisition system, DDAS. The DDAS allowed us to record log measurements digitally on to reel-to-reel tape from the analog logging system. The data recorded on these reel-to-reel tapes could be loaded into a computer and log analysis can be performed on logging data. I took an advanced log analysis course. After which I was presented with the truck that resembled a bread delivery truck. Inside this truck was a computer, keyboards, reel-to-reel tape drives and Versatec plotters. At this point I had a junior field engineer trainee who was almost ready to start running logs on his own. He would record the logs onto tape using the DDAS and I would play them back and perform log analysis for the client at the wellsite. Sounds so archaic now, but in 1980 this was breakthrough technology

**Call for anecdotes and photos:**

It's time for a change! Instead of always having a long article, we decided to shift gears and call for photos and short anecdotes. For outsiders, the oil and gas industry calls to mind images of big machines, stinky work environments and coveralls stained with grease and crude oil, but we know that is not our true face. We all have fun and exciting moments, memories that make us smile. Why not share them with colleagues?  
Send your stories and photos to [spwlapp@spwla.org](mailto:spwlapp@spwla.org).





L to R: Lem Devilbiss, *Field Engineer*, and Gary Simpson, *Engineer*, fill out service ticket on job.

Picture from the "Welexperts" in-house magazine circa 1979.

A new set of tools came with the IDLS, the first set of triple-combo tools. Up until this set of tools was developed, the induction, gamma ray and density/neutron tools could not be run in combination. I ran the first triple-combo logging suite for Welex on a 14,000-ft, 330°F well in Fayette County, which was drilled down to the Edwards formation.

A new challenge and opportunity came my way when I became a logging engineer in Villahermosa, Mexico, in 1982, where I logged my first 25,000-ft deep well. Experiences I had while working in Mexico have stayed with me my whole career. I would strongly encourage any young professional to consider an international assignment early in their career.

After a year in Mexico, I left behind my field-engineering career for opportunities in sales, technical marketing, petrophysics interpretation development, project development, and finally becoming a global product champion for Halliburton. In these positions, I had the opportunity to travel the world where I provided technical presentations and training courses. While in this position I authored and co-authored more than 25 technical papers and articles. Most of these papers focused on pulsed-neutron or gamma-ray spectroscopy interpretation methods.

In 2005, I left the ranks of service companies to take my skills and experience to operating companies. My first operating company opportunity began with a six-month contract petrophysics job for Shell Unconventional Resources or the SURE group. In this position, I was responsible for computing petrophysics on several hundred wells in the heavy-oil fields of Northern Alberta, Canada, in the Peace River area. Shell had plans to drill 36,000 horizontal wells and place downhole electrical heaters to essentially do in-situ refining. My next opportunity came as my six-month contract was ending for Shell. Burlington Resources hired me for a petrophysics and operations geology role. It had already been announced that Burlington was being purchased by ConocoPhillips. At ConocoPhillips I focused on many different projects, including tight-gas sands, offshore, inland waters, exploration and unconventional in the Haynesville and Eagle Ford Shale. I left COP after more than six years to join Forest Oil to help in their Eagle Ford and Permian basin shale projects. After one year in this role I joined the global unconventional reservoir team at Hess Corporation in the Technology and Excellence Group. In this job, I was able to be associated with cutting-edge research and technology dealing with unconventional reservoirs. Here I worked on unconventional reservoirs of the Bakken, Utica, Paris basin and China. Along the way, I suddenly became an expert in unconventional tight-oil core analysis. I would've never thought that in the later stages of my career that I would've been so energized and excited about the work that I been doing in trying to unlock the secrets that unconventional reservoirs are hiding from us. I was extremely saddened when an industry downturn caused the elimination of my position at Hess. However, when one door closes, many more open. As an independent petrophysical consultant, I am now applying my experience and expertise to several projects in several formations where I have extensive experience. Once again new knowledge is building on existing knowledge and I can leverage the benefit of experiences.

In closing, never stop learning or asking questions, be curious. Embrace new scientific technologies and determine how they can be applied to solve problems. Attend SPWLA luncheons and technical conferences, learn from others, ask questions and challenge results. I always push the edge of the envelope. I have been fortunate to work on the operating company and service side of the oil and gas industry. And, like many other professionals I've worked for several companies such as Hess, ConocoPhillips, and Halliburton. In each position, I've found new experiences and acquired expertise that prepared me for the next assignment. In this industry, I've experienced ups and downs, good times and tough times, but the one constant is I've never stopped learning and the science still fascinates me.

# Surrounded by Parameters and Just Want to Know Y?

by Scott Lapierre

As petrophysicists, we employ and develop mathematical relationships to determine things we want to know from things we think we know. For example, we may know the bulk density and electrical resistivity of a formation and we would like to know hydrocarbon content. So, we start by employing established mathematical relations, like Archie's equation, to translate the signals captured by the logging tools into a scaled inference of the desired property. Of course, as good scientists—and not just good philosophers, we have a duty to verify and validate our employed relations with physical measurements that produce repeatable outcomes. However, the more parameters we use in a mathematical relation, the more daunting—and expensive—is the task of calibration and obtaining buy-in.

Take, for example, the simplest possible form of mathematical relation: a linear relationship:  $Y = mX$ . Here we have a philosophical reason to expect that our  $X$  signal should change proportional to our  $Y$  signal. Transforming this philosophical relation into a practical tool only requires repeatable measurement the scale factor,  $m$ . So, it follows that the scale factor  $m$  would be all that's required to transform a  $Y$  signal into an  $X$  signal, or vice versa.

Often, as is the case in physical reality, we're unable to calibrate our models sufficiently to get unanimous buy-in from our colleagues. The correlations aren't strong enough and therefore aren't sufficient "proof". Leaning on the philosophical, we may conclude there is an effect of some kind that we haven't accounted for and this effect is preventing us from completing our calibration to everyone's satisfaction. While we may have repeatedly observed that, indeed, a very strong linear relationship is demonstrable between  $Y$  and  $X$ , we also find there is a marked bias in our measuring system or system of units requiring us to introduce another parameter,  $b$ . So, we modify (complicate) our simple relation to include a second parameter to account for all the effects. Now we have  $Y = mX + b$ . Everything is hunky dory. We have established a working mathematical relation to derive  $Y$  from  $X$  so long as we are able to repeatedly determine  $m$  and  $b$  with a measurement process (Fig. 1).

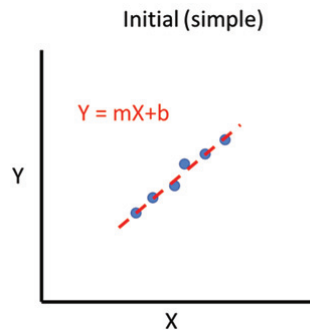


Fig. 1—Linear function.

But as we travel further down this road, collecting more experience and data with our process, we notice the road we are on appears to throw us a curve—literally. In our plot of  $Y$  vs.  $X$  (Fig. 1), we notice that the linear equation is generally good but now there is an arc starting to appear—beckoning the use of a curvilinear function instead of just a linear function (Fig. 2). That is, we notice our constant scale factor between  $Y$  and  $X$  fails to match all the observations. We determine, logically, that a variable scale factor, one governed by something else, would improve our accuracy in determining  $Y$  from  $X$ . Thus, we introduce the parameter  $n$ . So, now we have  $Y = mX^n + b$ .

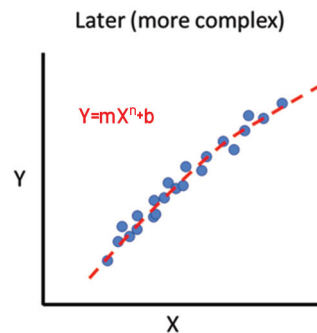


Fig. 2—Curvilinear function.

This kind of growing sophistication is an example of how philosophical constructs evolve and are translated into tools that allow us to better predict real things. However, hidden within this typical evolution of technological  $Y = mX^n + b$  advancement is a trap we can easily fall into. Have we exhaustively endeavored to constrain the existing parameters before we add the new ones? Are we truly "pinning down" all the parameters in our models or are we just avoiding the flaw and distracting our attention away from being good stewards of our science? Even worse, have we resigned in desperation to using numerical simulations as "proof" in place of empirical calibrations?

We are all free to complicate things, but that doesn't mean we should. We are free to develop and introduce additional parameters to models that aren't working as well as they work in our heads so long as ALL previous parameters have been pinned down. We must avoid the philosophical trappings of thinking that our cerebral relationships must be true and physical reality must be wrong. We mustn't add parameters to a model unless all other parameters have been calibrated with physical measurements. If a parameter can't be pinned down, then look for ways to remove it. Good science, after all, is founded in reductionism.

Go forth and calibrate. If a model contains a variable you cannot calibrate, look for ways to eliminate it.

“Everything should be made as simple as possible, but no simpler.” Albert Einstein

## SPWLA Networking Happy Hour – May 2018

A group of SPWLA members located in the Houston metro area gathered recently in a relaxed atmosphere to share drinks, food and laugh. As Fields' old quote says “Why limit happy to an hour?” And that's exactly what was done during this joyful event. Attendees had the opportunity to network, meet new colleagues, reconnect with known members and talk with the 2018–2019 SPWLA President-Elect Jesus Salazar. Even a former SPWLA distinguished speaker, Mayank Malik, attended, giving people the opportunity to talk about diverse topics related to our society and the oil industry. It was a great opportunity especially for new members to the industry and SPWLA as well as students attending.

This social event was held in a popular place in Houston, Texas. Approximately 20 professionals with diverse backgrounds and experience enjoyed a beautiful evening with drinks and food onboard. They came from operating, service, and consulting companies in addition to academia. Furthermore, new faces to this type of events attended and are motivated to continue assisting as well as regulars. Food and drinks were provided courtesy of **Shale Specialists** and Scott Lapierre, Founder. Scott was also very kind in volunteering to write an article for this SPWLA Newsletter issue.

### **Don't miss our next event!**

Join us for our next event during the summer season. Our third SPWLA Networking Happy Hour in 2018 will be held at Yard House in Citycentre on August 2, 5–8 p.m. The entire SPWLA community is invited, no need to RSVP, come at your own leisure, no payment required. Come and mingle with fellow petrophysics enthusiasts!

***Everybody is welcome!***

***When: 5–8 PM Thursday August 2, 2018***

***Where: Yard House, 800 Sorella Ct, Houston, Texas, 77024***



Some of the attendees to SPWLA's Happy Hour at Houston's Cedar Creek Café, May 2018



## Welcome to Siddharth Misra and Thanks to Jesus Salazar



We want to welcome Siddharth Misra from Mewbourne School of Petroleum and Geological Engineering of The University of Oklahoma to our team as our new Senior Editor. Siddharth Misra holds a PhD (2015) and MSE (2014) in Petroleum Engineering from the University of Texas at Austin. Dr. Misra completed his BTech degree (2007) in Electrical Engineering from the Indian Institute of Technology Bombay, India. From 2007 to 2010, he worked for Halliburton Energy Services as a Wireline Field Engineer. Currently, he is working in three research areas in petroleum engineering: predictive modeling of subsurface responses, fast marching solutions of reservoir transient problems, and inversion algorithms for improved water saturation estimation in subsurface.

We also want to thank Jesus Salazar who was our Senior Editor since we started this publication almost three years ago. As many of you already know, Jesus was elected as the 2018-2019 SPWLA President-Elect and will continue working for the SPWLA in other fronts. Thanks Jesus for your hard work and volunteering effort, we know we will always count with you!



*Haiku of the Month:*

Definitions for  
Effective porosity  
Vary among us.

**Did you attend the most recent SPWLA Annual Symposium in London?** We want to hear about your experience! Send us a picture and a short anecdote at [spwlayp@spwla.org](mailto:spwlayp@spwla.org) or through SPWLA social media, and we'll choose some responses to publish in the next issue!

**Contact us: [SPWLAYP@SPWLA.ORG](mailto:SPWLAYP@SPWLA.ORG)**

*We encourage you to contact us with any suggestions for improving our group and/or if interested in participating in our activities.*

**GO AHEAD,  
SEND US  
A MESSAGE!**



*Send us your articles, stories, fun moments, photos, etc. to be published in The Bridge.*



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# SPWLA FIRST BOARD OF DIRECTORS MEETING 2018–2019

## Old Billingsgate Market, London, England UK

### June 6, 2018

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President Zhipeng Liu called the meeting to order at 6:28 p.m. In attendance President-Elect, Dr. Jesus Salazar, VP Technology, Jim Hemingway, VP Education, Katerina Yared, VP Finance, Secretary and Administration, Jennifer Market, VP Publications, Dr. Carlos Torres-Verdin, Regional Directors, NA 1, Adam Haecker, NA 2, Doug Patterson, Latin America, Nadege Bize Forest, Europe, Mike Webster, Asia/Australia, Rick Aldred, Executive Director, Sharon Johnson. Mark Ma, Middle East/ Africa/ India, regional directional attended via remote access.

Visitor in attendance, London Symposium Chairman, Clive Sirju gave a report on the symposium with input from the committee of their experience hosting the conference. Clive shared with the board both positive and negative feedback. Highlights from his report for future hosts: If a major change to the floor plan takes place notify the exhibitors immediately, be mindful of noise between the exhibition hall and technical sessions, and lastly plan for adequate spacing of the poster stands. Also reported was the lack of advertising and exposure of the conference by the local chapter.

**A motion made** by Doug Patterson to waive the reading of the minutes from the May 9<sup>th</sup> board meeting was seconded by Rick Aldred. The motion passed unanimously.

**A motion made** by Dr. Carlos Torres-Verdin to not renew the subscription to Board Meeting Software OnBoard and replace it with Survey Monkey and Dropbox and to capture the meeting minutes by hand and distribute them to the membership in the newsletter immediately following the meeting was seconded by Jennifer Market. The motion passed on a vote of 9 for and 0 against.

**A motion made** by Jennifer Market to approve the by-laws and signed charter agreement to reinstate the HA/HZ SIG was seconded by Katerina Yared. The motion passed on a vote of 11 for and 0 against.

**A motion made** by Adam Haecker to approve Zhipeng Liu's proposed board meeting dates of the first Wednesday of every other month from 8:00 a.m. to 12:00 p.m. was seconded by Jennifer Market. The motion passed on a vote of 10 for and 0 against.

August 1, 2018, Downtown Houston

October 3, 2018, Downtown Houston

December 5, 2018 Downtown Houston

February 6, 2019 Downtown Houston

April 3, 2019 Downtown Houston

**A motion made** by Dr. Jesus Salazar to add a clause in the director's manual stating "to avoid a conflict of interest, the current VP Technology cannot be the lead author on a technical paper while serving in his/her position on the Board of Directors" was seconded by Dr. Carlos Torres-Verdin. The motion passed on a vote of 8 for and 4 against.

**Action Item:** Dr. Jesus Salazar to reach out to Zhipeng Liu for a copy of the charter agreement. Send the charter to SCA.

**Action Item:** Mehrnoosh Saneifer will add a check box and remove open access to the iMIS membership database to become GDPR compliant

**Action Item:** Sharon Johnson will send the Board of Directors the Host Symposium Document.

**Action Item:** All Board members will submit a budget for the 2018–2019 year by July 15th.

**Action Item:** Jennifer Market was assigned the task of creating a sponsorship brochure.

**A motion made** by President Zhipeng Liu to adjourn the meeting was seconded by Rick Aldred. The motion passed unanimously. Meeting adjourned 8:05 p.m.

Respectively Submitted by  
Sharon Johnson  
Executive Director

Next BOD meeting: August 1, 2018 in Houston, Texas, at the Kinder Morgan Offices in downtown Houston





## SPWLA Petrophysical Data-Driven Analytics Special Interest Group (PDDA-SIG)

Following the positive feedback of the recently conducted special interest group (SIG) survey during 2018 SPWLA Spring Topical Conference, we are pleased to announce the formation of a new SPWLA Special Interest Group dedicated to Petrophysical Data-Driven Analytics (PDDA). The vision for establishing a PDDA-SIG began at the 2018 SPWLA Spring Topic Conference in Houston, where more than 60 industry professionals (core analysts, tool physicists, petrophysicists, geologists etc.) and data scientists attended to discuss the applications of advanced data analytics techniques to challenging petrophysical interpretations and oilfield operations. Most of the conference attendees showed great interest and preregistered themselves as members of SPWLA PDDA-SIG.

The goals of the PDDA-SIG are to create a venue for exchanging and sharing knowledge and best practices of applying advanced data analytics to solve challenging big-data-related problems in oil and gas exploration and development. It aims to foster the crossdisciplinary technical collaborations between practitioners in academia and different sectors of the O&G industry, and to promote networking for industry professionals.

The PDDA-SIG will cover the following primary technical areas:

- Geological–petrophysical interpretation
- Sensor and logging technology
- Rock physics and geomechanics
- Oilfield operation improvement
- Data QC and management
- AI and machine-assisted automation

Participation in the PDDA-SIG is open to any practitioner and student interested in this subject matter. Please use following URL for PDDA-SIG registration:

[https://www.spwla.org/SPWLA/Chapters\\_SIGs/SIGs/PDDA/SPWLA/Chapters\\_SIGs/SIGs/PDDA/PDDA.aspx?hkey=51483ed7-b387-47a8-abc9-40a95c2f3ad7](https://www.spwla.org/SPWLA/Chapters_SIGs/SIGs/PDDA/SPWLA/Chapters_SIGs/SIGs/PDDA/PDDA.aspx?hkey=51483ed7-b387-47a8-abc9-40a95c2f3ad7)

It is planned that the PDDA-SIG will hold annual meeting and quarterly seminars. The first annual meeting is going to be held in the fall of 2018. Please follow the PDDA-SIG webpage or SPWLA newsletter for the latest updates of all PDDA-SIG events.

The inaugural PDDA-SIG executive committee (2018–2019) comprises:

Chairman	Chicheng Xu (Aramco Services Company), Chicheng.Xu@aramcoservices.com
Vice-Chairman	Irina Borovskaya (SPWLA Houston Chapter), i.borovskaya@gmail.com
Secretary	Lilong Li (Halliburton), Lilong.Li@halliburton.com
Treasurer	Zheng Gan (Core Laboratories), Zheng.Gan@corelab.com
Secretary of Publications	Bin Dai (Halliburton), Bin.Dai2@halliburton.com

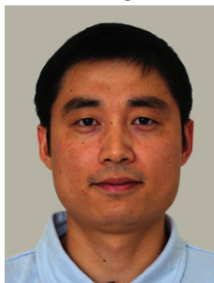
Chicheng Xu



Irina Borovskaya



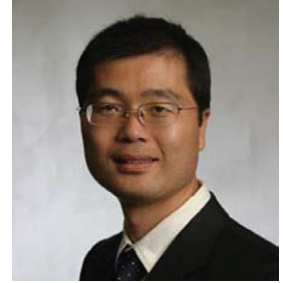
Lilong Li



Zheng Gan



Bin Dai



# **THE 10TH UPC INTERNATIONAL SYMPOSIUM ON NEW WELL LOGGING TECHNIQUES—CURRENT STATUS AND CHALLENGES IN ELECTRICAL LOGGING**

**Qindao, China, 2018  
(Second announcement)**

With the great help and support from our colleagues in well logging, the UPC International Symposium on New Well Logging Techniques has been successfully held for nine years and contributes significantly to the academic exchange and technical progress in well logging. In 2017, the East China Chapter of SPWLA (ECC-SPWLA) was established to provide a new platform for communication among petrophysicists and well log analysts. As one of the primary events of ECC-SPWLA, the UPC International Symposium on New Well Logging Techniques will continue to be held annually in September in Qindao. The symposium will focus on a particular topic each year and will be organized by China University of Petroleum (East China) and co-organized by the Petroleum Well Logging Commission and ECC-SPWLA. Colleagues in well logging from all over the world are welcome to attend.

The topic for the 2018 symposium is on the current status and challenges in electrical logging. Electrical logging has played an important role in petroleum exploration and exploitation since its invention. In recent years, with the fast developments and wide applications of new electrical logging techniques, such as multicomponent array electrical logging and electrical logging-while-drilling, electrical logging has shown its unique and irreplaceable role in complex underground environments, and as a result, has gained continuous attention from the well-log analysts and geologists.

To summarize experience, promote consensus and improve communication and collaboration, this symposium, focusing on the developments and challenges in electrical logging but also covering new techniques in other logging methods, will invite well-known experts from China and abroad to give special talks, which together with the resulting discussions, will provide an opportunity for the specialists in the related technical areas to learn about new worldwide developments, to promote communication and collaboration in the well-logging evaluation field and to improve development in well-logging techniques.

The target audience includes, but is not limited to colleagues from oil companies, well logging service companies, research institutes and universities.

## **1. Symposium Theme**

Current status and challenges in electrical logging

## **2. Symposium Content**

- Multicomponent array electrical logging technique and theory
- Electrical responses and applications in high-angle and horizontal wells
- Electrical logging while drilling technique and application

- Dielectric dispersion logging and application
- New techniques in other logging methods and application

Worldwide experts in electrical logging will be invited to give technical presentations during the symposium.

### 3. **Symposium Arrangements**

**Location:** China University of Petroleum (East China), Qingdao, China

**Date:** 26–29 September 2018

### 4. **Symposium Papers**

**Abstract Deadline:** 15 July 2018

**Full Paper Deadline:** 15 August 2018

**Paper Format:** The full papers should not have been formally published in any journals and are required to contain 300–400 word abstracts in both Chinese and English and 3–5 key words. The abstracts should also be accompanied by a brief introduction of the corresponding author with information including age, gender, education, professional title, affiliation, address, email and mobile phone number.

Excellent papers will be recommended for publication in *Well Logging Technology*.

Attendees should prepare relevant materials to communicate with the audience.

### 5. **Registration and Accommodations**

**Registration fee:** 2,900 RMB for regular registration (1,800 RMB for students)

**Conference service:** Qingdao Yonglitai Conference Service Co., Ltd.

**Accommodations:** Delegates should pay for their accommodation arranged by the organizing committee.

### 6. **Organizers and Contact Information**

**Host:** China University of Petroleum (East China) & The East China Chapter of SPWLA

**Co-Organizer:** Petroleum Well Logging Commission

**Contacts:** Prof. Yiren Fan, fanyiren@upc.edu.cn  
Dr. Xuelian Chen, chenxl@upc.edu.cn  
Dr. Hanming Wang, hanming.wang@gmail.com

**Address:** School of Geosciences, China University of Petroleum (East China), 66 Changjiang West Road, Qingdao 266580, China

**Fax:** +86-532-86981878

## Welcome New Members — February 16, 2018 – June 22, 2018

- Abbas, Nashat*, ADNOC
- Abd El-Atty, Mohammed Moustafa*, Faculty of Science Alexandria Univeristy, Alexandria, Egypt
- Abd Rahman, Siti Razna*, Downunder Geosolutions, Puchong, Malaysia
- Abdelaal, Atef, Farouk*, ADNOC,
- Abdelwahab, Salma Mohammed*, Ras Al Khaimah, United Arab Emirates
- Abdi, Riad Mohamed*
- Abdul Hamid, Nordiyana*, Beicip Franlab Asia, Kuala Lumpur, Malaysia
- Aboud, Nawal K.*
- Abumallouh, Hazim*, Houston, TX, United States
- Ahmadzada, Vafa*, Khazar University, Baku, Azerbaijan
- Ahmed, Abdulmalek*, KFUPM, Dhahran, Saudi Arabia
- Aillud, Gary Stefan*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Benali, Khaleefa Mohamed*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Beshr, Huda*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Hosani, Ameena Mohamed Yaqoub*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Hosani, Khalid*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Khlaifi, Khuloud Tareq*, ADNOC OFFSHORE, Abu Dhabi, United Arab Emirates
- Al Mansoori, Maisoon Mohamed*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Mansoori, Naema Abdulrahim*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Marzouqi, Khalid Ibrahim*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Maskari, Shaymaa Ali Mohamed*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Mazrooei, Abdul, Azziz Saeed*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Muhairi, Bashayer*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Mutwali, Omar, I.*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Nayadi, Khulood Ghareeb*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Nuaimi, Mayyada*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Nuaimi, Nawal, Rashed*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Rayssi, Aisha, Ibrahim*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Reyashi, Hayel Musaad*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Shehhi, Amna*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Shehhi, Noora, Saeed Ali*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Tamimi, Mohamed*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Teneiji, Ahmed*, ADNOC, Abu Dhabi, United Arab Emirates
- Al Yaaqoobi, Amena Ateeq*, ADNOC, Abu Dhabi, United Arab Emirates
- Al-Eissaee, Shaima Saeed*, ADNOC, Abu Dhabi, United Arab Emirates
- Alhakeem, Aamer*, Missouri University of Science and Technology, Rolla, MO, United States
- Alhammadi, Shaikhah A.*, ADNOC, Abu Dhabi, United Arab Emirates
- Alharthi, Amal Abdulla Saif Rashoud*, ADNOC, Abu Dhabi, United Arab Emirates
- Alqaydi, Nouf J.*, ADNOC, United Arab Emirates
- Alshamsi, Jawaher, A.*, ADNOC, Abu Dhabi, United Arab Emirates
- Al-Taher, Mohammed, Ali*, University of Houston, Houston, TX, United States
- Al-Tamimi, Abdul, Rahman*, ADNOC, Abu Dhabi, United Arab Emirates
- Altayeb, Mohammad*, University of Leeds, Leeds, West Yorkshire, United Kingdom
- Antoniuk, Vitalii*, Kyiv, Ukraine
- Arengas Sanguino, Carlos Lenim*, Santander, Colombia
- Azari, Mehdi*, Halliburton, Houston, TX, United States
- Aziz, Ahmed Saber Abdel*, ADNOC, Abu Dhabi, United Arab Emirates
- Babu, Sudhesh*, ONGC, India
- Bani Hammad, Mayed Ibrahim*, ADNOC, Abu Dhabi, United Arab Emirates
- Bankole, Ibukun Olatunbosun*, ADNOC, Abu Dhabi, United Arab Emirates
- Bao, Chen*, CNPC, Beijing, China
- Barajas, Christian Eduardo*, Lubbock, TX, United States
- Baral, Sameer*, University of Houston, Pearland, TX, United States
- Barbacini, Giulia*, ENI, San Donato Milanese, Italy
- Barma, Sanjay Deb*, Oil & Natural Gas Corporation Ltd., Ahmedabad, Gujarat, India
- Batubara, Ardi Hamdani*, Baker Hughes, Ahmadi, Kuwait
- Beck, Courtney*, Halliburton, Denver, CO, United States
- Bellard, Christopher John*, University of Louisiana at Lafayette, Lafayette, LA, United States
- Bello, Veronica*, Repsol, Madrid, Spain
- Benton, Jeff*, TGS, Houston, TX, United States
- Bibeisi, Jawdat*
- Blasini, Matthew*, Covington, LA, United States
- Bowyer, Matthew*, PDS Group, London, United Kingdom
- Bridges, Robert*, California Resources Corporation, Bakersfield, CA, United States
- Brindle, Frank Richard*, ADNOC, Abu Dhabi, United Arab Emirates
- Broadhead, Dan*, Task Fronterra Geosience, Aberdeen, United Kingdom
- Bubshait, Abdullah Fouzi*, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia
- Bui, Thu*, Colorado School of Mines, Lakewood, CO, United States
- Bunting, Ivana*, Chevron, Houston, TX, United States
- Burke, Michael*, Gaia Earth Ltd, Isle of Bute, Argyll, United Kingdom
- Bustillo, Luis Enrique*, Halliburton, Frisco, TX, United States
- Cardoso, Leticia De Souza*, UFRJ, Rio De Janeiro, Brazil
- Carre, Gregory*, BP, London, Feltham, United Kingdom
- Carrizales, Rodrigo*, University of Houston, Houston, TX, United States
- Carter, Colin*, C&R Formation Evaluation, Sandringham, VIC, Australia
- Casado, Nathalia Ladeira*, Universidade Federal Fluminense, Niteroi, Brazil
- Castro, Thais*, Universidade Federal Fluminense, Rio De Janeiro, Brazil
- Cecena Alvarez, Marcelo*, Schlumberger, The Hague, The Netherlands
- Celma, Rafael*, ADNOC, Abu Dhabi, United Arab Emirates
- Cheshire, David*, BHGE, Farnborough, Hampshire, United Kingdom
- Clymer, John M.*, Oklahoma State University, Oklahoma City, OK, United States
- Cocentino, Roseane Bento*, UFBA, Salvador, Bahia, Brazil
- Cooke, Robin Ian*, BP Exploration, Sunbury on Thames, Middlesex,

## NEW MEMBERS

United Kingdom

**Costello, Daniel**, Echo Energy, Oklahoma City, OK, United States  
**Craig, Alastair**, Core Laboratories, Abu Dhabi, United Arab Emirates  
**Cudjoe, Sherifa Enna**, University of Kansas, Lawrence, KS, United States  
**Cytron, Reid**, University of Tulsa, St. Louis, MO, United States  
**Dang, Thong Hong**, Baker Hughes, a GE Company, Ho Chi Minh, Vietnam  
**Dantla, Vijaya Bhaskar**, ADNOC, Abu Dhabi, United Arab Emirates  
**Datir, Harish**, Schlumberger, Sandnes, Norway  
**De Silva, Minuri**, Friendswood, TX, United States  
**Deacon, Claire Marie**, University of Oklahoma, Spring, TX, United States  
**Debnath, Bikash**, Oil India Limited, Duliajan, Dibrugarh, India  
**Demirezen, Lara**, Imperial College London, United Kingdom  
**Devegowda, Deepak**, University of Oklahoma, Norman, OK,  
**Dey, Swapan Kumar**, ADNOC, Abu Dhabi, United Arab Emirates  
**Dieseru, Dominic Ejogbamu**, Baker Hughes a GE Company, Aberdeen, Scotland, United Kingdom  
**Donzier, Eric**, Openfield, Versailles, Yvelines, France  
**Douds, Ashley**, Core2Core Geologic, Wexford, PA, United States  
**D'souza, Dunston**, Core Laboratories, Houston, TX, United States  
**Duarte, Sandra Buzini**, Petrobras, Rio De Janeiro, Brazil  
**Earl, Kris**, Gyrodata, Inc., Houston, TX, United States  
**Ebeid, Mahmoud**, ADNOC, Abu Dhabi, United Arab Emirates  
**Edmundson, Simon**, Schlumberger, Sugar Land, TX, United States  
**Ehrlich, Ralf**, University of Oslo, Kolsaas, Bærum, Norway  
**Eliwa, Hassan Asem**, The British University in Egypt, El Sharkia, Egypt  
**Elkholy, Mohamed**, Cairo University, Suez, Egypt  
**Eriavbe, Francis**, ADNOC, Abu Dhabi, United Arab Emirates  
**Fairman, Robert Phillip**, Aera Energy LLC, Bakersfield, CA, United States  
**Fan, Dian**, Texas Tech University, Lubbock, TX, United States  
**Fisher, Quentin**, University of Leeds, Leeds, West Yorkshire, United Kingdom  
**Fu, Qinwen**, Lawrence, KS, United States  
**Fuentes, Ivan**, Houston, TX, United States  
**Gapen, Herschel Scott**, University of Texas of the Permian Basin, Midland, TX, United States  
**Ghanem, Ayesha**, ADNOC, Abu Dhabi, United Arab Emirates  
**Godoy Rodriguez, Angélica María**, Universidad Industrial De Santander, Piedecuesta, Santander, Colombia  
**Gomes, Jorge Salgado**, ADNOC, Abu Dhabi, United Arab Emirates  
**Guidry, Jonathan Adam**, Jennings, LA, United States  
**Hall, Don**, Schlumberger, Tulsa, OK, United States  
**Harhash, Aya**, Faculty of Science Alexandria University, Alexandria, Egypt  
**Harris, Christopher Kelvin**, Shell Global Solutions International, Amsterdam NH, The Netherlands  
**Hashem, Khaled Bani**, ADNOC, Abu Dhabi, United Arab Emirates  
**Hassan, Imran Ibrahim**, Middle East Technical University North Cyprus, Nicosia, Turkey  
**Hebert, Vanessa**, Voxaya, Montpellier, Occitanie, France  
**Hess, Clarion**, Eclipse Resources, State College, PA, United States  
**Hu, Song**, SINOPEC, Beijing, Hai Dian, China  
**Huels, Matthew, Leslie**, Colorado School of Mines, Golden, CO,

United States

**Ilunga, Joyce**, University of Houston, Houston, TX, United States  
**Ingram, Scott**, BHGE, Bergen, Hordaland, Norway  
**Iyanga Mbula, Diosdado Fermin**, University of Houston, Houston, TX, United States  
**Jackson, Richard**, Schlumberger, Paris, France  
**Jakhete, Shantanu**, Massachusetts Institute of Technology, Boston, MA, United States  
**Jia, Bao**, Lawrence, KS, United States  
**Johnson, Braydn**, Le Norman Operating, Oklahoma City, OK, United States  
**Karmi, Saurav**, Oil India Limited, Duliajan, India  
**Keator, Allison**, Colorado School of Mines, Golden, CO, United States  
**Kennedy, Chris**, Probe Technologies, Aberdeen, Scotland, United Kingdom  
**Khadhraoui, Bassem**, Schulmberger, Montpellier, Herault, France  
**Khamidy, Nur Iman**, KFUPM, Dhahran, Sharqiyyah, Saudi Arabia  
**Khayyat, Amer**, BHGE, London, United Kingdom  
**Kim, Igor**, Shell, Den Haag, ZH, Netherlands  
**Knauthe, Ulrich**, Wien, Austria  
**Korada, Kiran Kumar**, Oil India Limited, Duliajan, Assam, India  
**Kosanke, Tobi**, ALS Oil & Gas Laboratories, Hempstead, TX, United States  
**Kotch, Dylan**, Golden, CO, United States  
**Kulkarni, Aditee**, Baker Hughes, a GE Company, Pune, Maharashtra, India  
**Kulkarni, Kanad**, University of Portsmouth, Portsmouth, United Kingdom  
**Kundu, Ashish**, ADNOC, Abu Dhabi, United Arab Emirates  
**Kutun, Kagan**, Colorado School of Mines, Golden, CO, United States  
**Lang, Camden**, Colorado School of Mines, Conifer, CO, United States  
**Lattanzi, Domingo Antonio**, University of Aberdeen, Biella, Italy  
**Li, Jun**, SINOPEC, Beijing, China  
**Lorinczi, Piroaska**, University of Leeds, Leeds, West Yorkshire, United Kingdom  
**Louis, Laurent**, New England Research, Woodstock, VT, United States  
**Løvik, Kjetil**, Halliburton, Tananger, Rogaland, Norway  
**Luangkhhot, Nirakorn**, BHP, Cleveland, TX, United States  
**MacDonald, Michael**, Geolog International, Dubai, United Arab Emirates  
**Mandal, Debnath**, Oil India Limited, Dibrugarh, ASSAM, India  
**Manyuna, Titose**, University of Houston, Houston, TX, United States  
**Martins, Lorena Pastana**, Rio De Janeiro, Brazil  
**Masoud, Rashad Mohamed**, ADNOC, Abu Dhabi, United Arab Emirates  
**Mateus Rubiano, Camilo Andrés**, Universidad Industrial De Santander, Piedecuesta, Santander, Colombia  
**Mavromatidis, Angelos**, ADNOC, Abu Dhabi, United Arab Emirates  
**McKamey, Keith E.**, Legacy Reserves, Midland, TX, United States  
**Meij, Robert**, Ex-Shell, Assen, Drenthe, Netherlands  
**Mercer, David Allen**, Consultant, Abita Springs, LA, United States  
**Metoyer, Archie Gerard**, Lafayette, LA, United States  
**Mishra, Anoop Kumar**, ADNOC, Abu Dhabi, United Arab Emirates  
**Mkinga, Oras Joseph**, Norwegian University of Science and Technology, Trondheim, Norway  
**Mlcak, Justin**, Schlumberger, Sugar Land, TX, United States  
**Mohamed, Emad**, ADNOC Offshore, Abu Dhabi, United Arab Emirates

## NEW MEMBERS

- Monroy, Selvin**, Katy, TX, United States
- Morgan, Neal**, Morgan Petrophysics Ltd, London, UK, United Kingdom
- Morrison, Alan**, Geolog International, East Fremantle, WA, Australia
- Moss, Adam**, AKM Geoconsulting Ltd, Reading, Berkshire, United Kingdom
- Mujica, Francis E.**, Memorial University of Newfoundland, St John, NL, Canada
- Myers, Michael**, University of Houston, Houston, TX, United States
- Nan, Zeyu**, SINOPEC, Beijing, China
- Narciso, Belmiro Claudio De Almieda**, Waseda University, Edogawaku, Tokyo, Japan
- Nasir, Wardah Arina Muhamad**, ADNOC, Abu Dhabi, United Arab Emirates
- Nazlan, Firdaus**, ADNOC, Abu Dhabi, United Arab Emirates
- Neeamy, Aows Khalid**, Baghdad University, Baghdad, Iraq
- Nippes, Virginia**, University of Louisiana at Lafayette, Lafayette, LA, United States
- Oikonomopoulos, Ioannis**, Hellenic Petroleum Exploration & Production of Hydrocarbons S.A., Athens, Attiki, Greece
- Olapade, Peter**, Halliburton, Houston, TX, United States
- Olivares, Augustin**, Texas A&M University, College Station, TX, United States
- Oransky, Kate**, University of Oklahoma, Plano, TX, United States
- Oste, Jéssica**, UFRJ, Rio De Janeiro, Brazil
- Oyewole, Emmanuel**, BHP, Houston, TX, United States
- Ozotta, Ogochukwu**, University of North Dakota, Grand Forks, ND, United States
- Paci, Laura**, Technical University of Denmark, Kgs. Lyngby, Denmark
- Pagoulatos, Aristotelis**, Hellenic Petroleum Exploration & Production of Hydrocarbons S.A., Athens, Attiki, Greece
- Pandey, Vikram Kumar**, ADNOC
- Pant, Rahul**, Shell, Bangalore, India
- Pegula, Laura**, JKLM Energy, Sewickley, PA, United States
- Petras, Mitchell**, Louisiana State University, Martinez, GA, United States
- Pinto Rizzo, Ciro Abraham**, ADNOC Offshore
- Podolyak, Maxim**, Heriot-Watt, Kuala Lumpur, WP, Malaysia
- Poete, Nicolas**, Paradigm, Paris, France
- Poulteney, Nadia**, Imperial College, Faversham, Kent, United Kingdom
- Pratama, Ikhsansyah Putra**, Balikpapan, East Borneo, Indonesia
- Prymak, Marta**, Imperial College London, Aberdeen, United Kingdom
- Qenawy, Ahmed, Sror**, British University in Egypt, Cairo, Egypt
- Ramiro-Ramirez, Sebastian**, UT Austin, Austin, TX, United States
- Ramos, Juan**, Geomechanics Technologies, Houston, TX, United States
- Rand, Miles**, Texas Tech University, Lubbock, TX, United States
- Ravi, Anoop Kumar**, ONGC, Vadodara, India
- Reyes, Ivan Edgar**, UNAM, Coyoacán, CDMX, Mexico
- Roa Sanchez, Dayana Gabriela**, Staatsoile, Villahermosa, Tabasco, Mexico
- Rodrigues, Amanda Goulart**, Universidade Federal Do Rio De Janeiro, Rio De Janeiro, Brazil, Brazil
- Sadiz, Muhammed**, ONGC, Lal Kuan, Delhi, India
- Saenz, Adrian**, Sheridan Production, Richmond, TX, United States
- Safieh, Ashraf Abu**, ADNOC, Abu Dhabi, United Arab Emirates
- Salem, Ahmed S.**, ADNOC, Abu Dhabi, United Arab Emirates
- Sallam, Yassin Farouk Mohamed**, ADNOC, Abu Dhabi, United Arab Emirates
- Saxena, Anurag**, ONGC, Noida, India
- Schebler, Mark**, Baton Rouge, LA, United States
- Sehrawat, Praveen**, ONGC, Agartala, India
- Serrelì, Maura**, Sinnai, Italy
- Setterfield, Barry Peter**, London Petrophysical Society, Reading, United Kingdom
- Seymour, Drew**, Diamondback Energy, Midland, TX, United States
- Shebl, Hesham**, ADNOC, Abu Dhabi, United Arab Emirates
- Simon, Matthieu**, Schlumberger, Chaville, France
- Singh Kamaljeet**, Schlumberger, Aberdeen, Scotland, United Kingdom
- Smidt, Cooper**, LSU, Baton Rouge, LA, United States
- Snaineh, Bashar Abdel Abu**, ADNOC, Abu Dhabi, United Arab Emirates
- Staviski, Nicholas, G.**, Gulf Breeze, FL, United States
- Steen, Charlotte, Lily**, Imperial College London, Bracknell, Berkshire, United Kingdom
- Storebø, Einar Madsen**, DTU, Kgs. Lyngby, Denmark
- Su, Junlei**, Sinopec, Beijing, China
- Taplin, Michael**, BP, Sunbury on Thames, Middlesex, United Kingdom
- Thabet, Sara Hussain**, ADNOC, Abu Dhabi, United Arab Emirates
- Thakur, Parmanand Dharmeshwar**, ADNOC, Abu Dhabi, United Arab Emirates
- Thissen, Kai**, Karlsruhe Institute of Technology, Schluchsee, BW, Germany
- Tsuchiya, Terumitsu**, NC Geophysical Survey, Tokyo, Japan
- Tveritnev, Alexey**, ADNOC, Abu Dhabi, United Arab Emirates
- Unverzagt, Laura**, Black Stone Minerals, Houston, TX, United States
- VanDort, Graeme**, Tullow Oil, London, United Kingdom
- Villar De Andrade E. Silva, Vitor**, Schlumberger, Sugarland, TX, United States
- Voleti, Deepak, Kumar**, ADNOC, Abu Dhabi, United Arab Emirates
- Wahbah, Salima A.**, ADNOC, Abu Dhabi, United Arab Emirates
- Walker, Tracie**, University of Phoenix, Spring, TX, United States
- Wang, Michael**, Plano, TX, United States
- Webber, Robert**, Nexen Petroleum U.K. Limited, Uxbridge, London, United Kingdom
- Wick, Wyatt**, Continental Resources, Oklahoma City, OK, United States
- Willis, Jack**, One&zero, Liverpool, Merseyside, United Kingdom
- Winkelman, Benjamin**, Talos Energy, Houston, TX, United States
- Wold, Jessica**, Blackbeard Operating, Fort Worth, TX, United States
- Wong, Maxime**, Houston, TX, United States
- Xi, Guifen**, ADNOC, Abu Dhabi, United Arab Emirates
- Xia, DongDong**, SINOPEC, Beijing, China
- Yugay, Andrey**, ADNOC, Abu Dhabi, United Arab Emirates
- Zarea, Maziar**, Houston, TX, United States
- Zhang, Franklin Zhongjun**, Nexen Energy ULC, Calgary, AB, Canada
- Zhang, Bo**, University of Alabama, Tuscaloosa, AL
- Zhih, Long**, China University of Petroleum, Beijing, China
- Zhu, Ding**, Texas A&M University, College Station, TX, United States