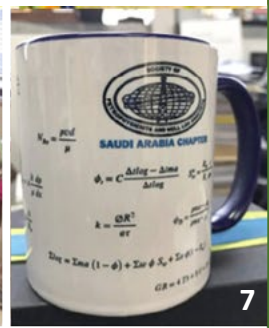


spwla today

NEWSLETTER



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INSIDE THIS EDITION

Calendar of Events.....	4
From the President.....	5
From the Editor	6
Board of Directors Reports	
Up Next.....	7
Tech Today	8
Financial Times.....	11
Learning Opportunities	14
The Feed	17
Regional Understandings.....	20
The Bridge	
Young Professionals: An Interview With Jhonny E. Casas	26
Introducing a New Member of the Bridge Editorial Committee.....	29
Haiku	30
Articles	
A Brief History of Schlumberger (Part 6 of a 6-Part Series)	31
SPWLA 63rd Annual Logging Symposium Technology Committee.....	36
SPWLA 63rd Annual Logging Symposium Technical Program Abstracts.....	41
Call for Abstracts: 27th JFES Symposium 2022.....	48
SPWLA Fall 2022 NMR SIG Conference Announcement	50
BOD Minutes.....	52
Chapter News.....	53
New Members.....	84



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CALENDAR OF EVENTS

March 1–3, 2022

Cement Evaluation From the Basics to the Advanced
Instructor: Gary Frisch
Online Webinar
www.spwla.org

March 8–10, 2022

NMR Fundamentals and Advanced Interpretations
Instructor: Brian Stambaugh
Online Webinar
www.spwla.org

March 23–24, 2022

SPWLA Spring Topical Conference
Topic – Petrophysical Machine Learning
Houston, TX 77032
www.spwla.org

March 29–30, 2022

Casedhole Formation Evaluation Workshop
Instructors: Ahmed Badruzzaman and Dale Fitz
Guest Speaker: James Hemingway
Online Webinar
www.spwla.org

April 26–27, 2022

Petrophysical Multimineral Analysis Training Series (Spanish)
Instructor – Patricia E. Rodrigues
SeisPetro Geoconsulting
Online Webinar
www.spwla.org

May 17–18, 2022

Petrophysical Multimineral Analysis Training Series (English)
Instructor – Patricia E. Rodrigues
SeisPetro Geoconsulting
Online Webinar
www.spwla.org

June 10–15, 2022

SPWLA 63rd Annual Symposium
Clarion Hotel Energy
Stavanger, Norway
www.spwla.org

About the Cover

As we move into our fifth year of publishing *SPWLA Today*, we look back on some collaboration, learning activities, community volunteering, and fun that goes along with being a member of SPWLA. (From left to right, top row to bottom row) (1) Members proudly exhibit an SPWLA banner. (2) Members participating in a Houston Food Bank food drive in 2020. (3) Enjoying a happy hour after a workshop. (4) Harvesting apples for a food bank. (5) Welcoming new students to join. (6) 2020 UT Girls Day. (7) Petrophysics is our cup of tea (or coffee, in this case!). (8) Participants working together on the AFES 2019 Annual Quiz night.

Notice: Articles published in SPWLA Today are not subject to formal peer review but are subject to editorial review and are verified for technical consistency and relevance.

From the President



Katerina Yared
2021-2022
SPWLA President

Dear Petrophysics Friends,

I hope this newsletter finds you in good spirits and health!

We have been busy behind the scenes getting our SPWLA 2022 program ready for you all. I'm very excited about the variety and amount of good content we will provide—from workshops to a field trip and even a core workshop.

We have sold out our exhibition hall and have a great technical program with the usual social events decorating our evenings. I am truly proud of the achievements of our local Norwegian Chapter committee and everyone around them, spearheaded by Mathias Horstmann. Obviously, I also recognize the mammoth work Carlos and Iulian, with the help of the technical committee, have done building the SPWLA 2022 show for us. We will get spoiled indulging in a technical five-star course meal with all the toppings we desire!

Along with the symposium comes the International Student Paper Contest (ISPC)—my favorite part of the symposium! So, students, make sure to submit your abstracts. <https://www.spwlaworld.org/international-student-paper-contest-2/>

As I have your attention, please also take advantage of our scholarships and grants! Apply for them today! The deadline is April 5, 2022. If you know of any deserving students, please share the link! https://www.spwla.org/SPWLA/Foundation/Grant_and_Scholarship_Applications/SPWLA/Foundation/Grant_and_Scholarship_Applications.aspx?hkey=8ca674ce-92bc-410a-a90f-5ea70abb00a

Our virtual classes have been populating our event calendar again. We thank you all for attending and, most importantly, our instructors for providing top-notch classes that you really can't find anywhere else. Please check out our website for more information as more classes get added to the list! I hope to have some in-person classes soon, too.

I really hope that the fresh wind our industry has gotten in our sails with oil prices higher than what we've seen since 2014 will help us meet in person in Stavanger. I have booked my hotel and flight. I haven't visited my family in Europe for more than 4 years. It is due time to go back to the Motherland, and I can't wait! I would count my SPWLA members as my family as well! Hope to see you all in Stavanger!

Ping me with feedback and any other comments. As usual, my door is open 24/7: President@spwla.org.

Yours truly,



SPWLA President 2021-2022





Songhua Chen
2021–2022
Vice President Publications

Greetings and welcome to the March 2022 issue of *SPWLA Today*. As *SPWLA Today* enters its fifth year of publication, I'd like to use this column first to thank all contributors and our managing editor, Elizabeth Naggar, and the former managing editor, Steve Prenskey, for their dedication and creative work in making this newsletter informative, educational, and fun to read. The newsletter is a strong magnet that pulls all our members together. This is extremely important for an international society with members across all time zones, and the newsletter has served and continues to serve the members of the society exceptionally well during the pandemic. I particularly like the Chapter News section because it irradiates the vitality of all fabrics of the society, even when we cannot physically participate.

The other day, I was revisiting the very first issue of *SPWLA Today* to refresh myself on the initial motive for having the newsletter publication. Here I quote from Prof. Carlos Torres-Verdin's "From the Editor" column from the March 2018 issue, where he listed examples of ideas for potential topics to be covered in the newsletter:

- What we need and what we have in formation evaluation now, where is the overlap?
- Why do we continue to express Archie's equation in so many different ways?
- Formation evaluation from the trenches of a small operating company
- Interesting adventures in the day-to-day life of a petrophysicists
- Where do I really learn petrophysics?
- Why are petrophysicists usually not consulted by reservoir engineers?

Four years later, we see that *SPWLA Today* has created many successful columns mirroring these interesting topics. For instance, "The Bridge" section frequently publishes inspiring interviews that are particularly well received by young professionals. The various tutorial articles, both for well-established technologies and emerging technology like machine learning, help many extend their knowledge base a little further. And, Petrophysics Quizzes promote a lot of fun in learning, just to name a few. Some articles have led us on a walk through the life of a successful petrophysicist, and some follow the footsteps of a great company to see how it grew to be a giant.

Going forward, these successful columns and sections will continue. On the other hand, we have not covered much on the original idea of "formation evaluation from the trenches of a small operating company." I would encourage members from small operators to share their insightful stories. It is guaranteed such stories will be read by many and inspire enthusiastic young professionals to join. We continually strive to improve, so please let us know if you have any exciting ideas and initiatives.

Spring is around the corner, and the energy industry also has bright days ahead of us. *SPWLA Today* will capture the pulse of the society and move forward with the evolution of the energy industry to serve our members even better.

Best,
Songhua Chen
Vice President Publications



Tegwyn Perkins
2021-2022 President Elect

Hello and welcome to my fifth column as President Elect for the *SPWLA Today* newsletter. Let's start with some potentially good news. It appears that Norway is opening up for both vaccinated and unvaccinated visitors from around the world. For the latest information, please visit this [site](#).

One of the roles of the President Elect is to act as the official Parliamentarian. Luckily, I like reading legal documents! I've spent time updating the Articles of Incorporation, Bylaws, and Directors Manual. I'd like to thank my fellow BOD colleagues for their assistance in revising the Directors Manual.

The newly created **Borehole Imaging SIG (BHI)** and **Alternative Subsurface/Energy Transition SIG (ASET, logo below my picture to the left)** have held their inaugural committee meetings, and both groups are now planning workshops for the upcoming symposium. The former has joined together with the High-Angle/Horizontal SIG to produce a workshop on an "Introduction to Borehole Image Analysis."

The BHI SIG has begun defining the minimum requirements for dip data delivery by identifying a common data set—MU-ESW1 from Utah Forge—from the Geothermal Data Repository and asking participating software companies to share their dip results with the group.

The **Petrophysical Data-Driven Analytics (PDDA) SIG** has been especially active. The PDDA SIG is hosting the **2022 Spring Topical Conference on Petrophysical Machine Learning**. The event will be held **March 23–24, 2022, in Houston** and will feature a virtual component for those who are unable to travel. The Call for Abstracts closed on February 11, and now the Technical Committee has begun the task of selecting the technical program.



The **2021 SPWLA PDDA Machine Learning Contest** closed on **February 1**. The goal of this contest is to develop data-driven models to estimate reservoir properties, including shale volume, porosity, and fluid saturation, based on a common set of well logs, including gamma ray, bulk density, neutron porosity, resistivity, and sonic. The competition winners will be announced on March 1, and the award ceremony will take place during the **SPWLA Spring Topical Conference**.

If you are interested in getting involved with any of the SIGs, please contact me at the email address below or contact the SIGs directly at the email addresses on the spwla.org website. Alternatively, you can log in to your spwla.org account and sign yourself up for any SIG, and soon, we will be adding a new sign-up methodology direct from spwlaworld.org.



Preparations are in full swing for the Annual Symposium. VP Technology, **Carlos Torres-Verdin**, and the Technical Program Co-Chair, **Iulian Hulea**, have devised an outstanding technical program. The Organizing Committee, led by **Mathias Horstmann**, has done an amazing job managing the logistics for the host venue. They have secured an excellent keynote speaker, and the field trip visits a weathered granite reservoir analog in the Bømlo area north of Stavanger (the bus journey along the coast is worth the fee alone!). I'm very tempted to attend the spouse events instead of the technical

program and let's not mention the social and societal events that are planned. Let's be honest... we have all missed an in-person symposium!

Please check out the symposium website (<https://www.spwlaworld.org/>) as we have recently updated the Exhibition and Sponsorship pages. We have sold out of all exhibition space at the upcoming symposium. However, sponsorship opportunities are still available.

Also, if you would like to be involved in maintaining and developing the SPWLA World website, please email me. It's all volunteer work. I'm afraid there will be no remuneration, just the heartfelt thanks of your fellow SPWLA members and an entry for your resume or CV. WordPress skills would be preferred!

Dydd Gwyl Dewi Hapus!
Happy St. David's Day!

Tegwyn JP Perkins
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President Elect 2021-2022
President-Elect@spwla.org



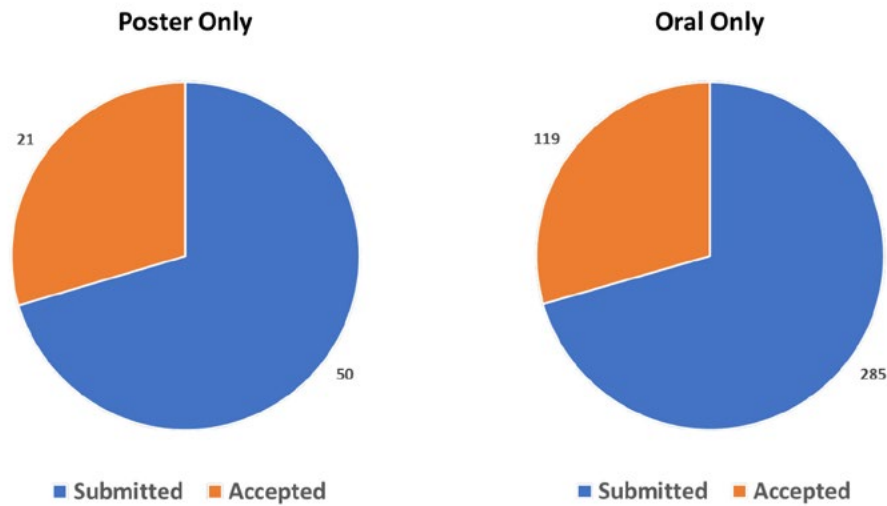
Carlos Torres-Verdín
2021-2022 Vice President
Technology

The Stavanger Annual Symposium Will Be a Smashing Success, and You Don't Want to Miss it!

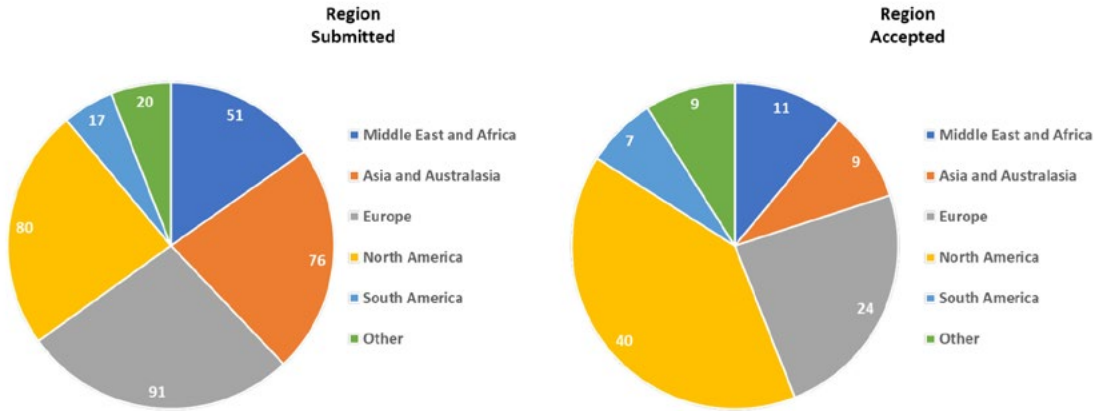
Yes, brace yourselves for an extraordinary technical program during the upcoming SPWLA Annual Meeting in Stavanger! We don't need sophisticated machine-learning methods to predict both the worth and delegate attendance for the 2022 Symposium: all the signs are there already! To begin with, we will have eight technical workshops preceding the technical program, covering a wide array of relevant contemporary formation-evaluation topics and led by well-known experts in their fields. It will be hard to choose from all of them, but you can attend at least two—one on Saturday and one on Sunday. Specific workshop details are coming your way very soon; stay tuned! Incidentally, one of the technical workshops will focus on well-log-core integration and will include a visit to a local rock core facility. A fantastic field trip is also in the offing!

Second, there will be approximately 105 oral presentations and 20 poster presentations to attend, with dual technical sessions starting on Monday afternoon and following through with the rest of the program on Tuesday and Wednesday. Several of the sessions stem from Special Organized Sessions proposed by members like you. What a technical feast! The Symposium App will be very handy to develop a critical route not to miss your top talks (and you might need a machine-learning algorithm to do just that!)

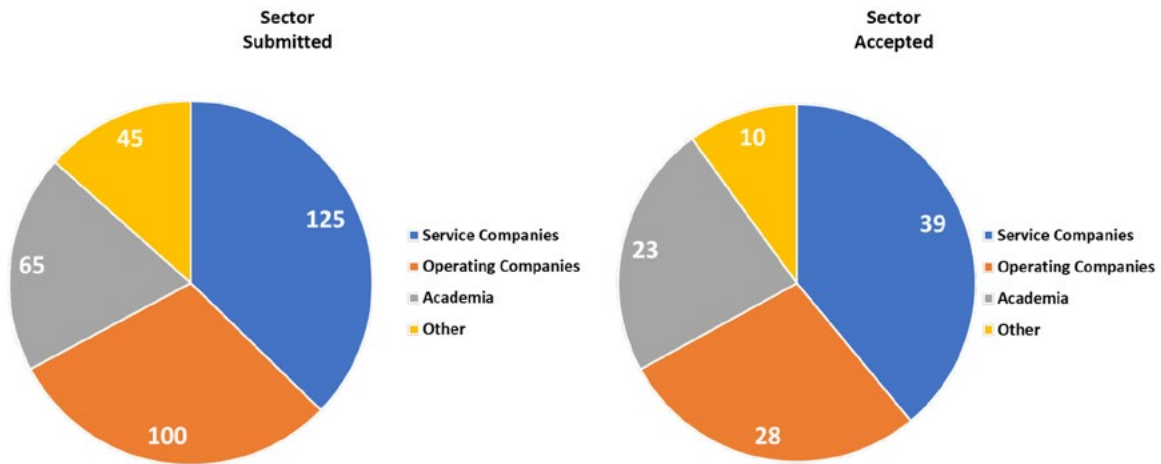
In the meantime, I would like to share with you some of the outcomes of the abstract review process conducted by my fellow colleagues and distinguished members of the 2021–2022 Technology Committee. The pie charts below compare the distribution of submitted and accepted abstracts by (a) presentation modality (oral or poster presentation), (b) geographical region, and (c) professional sector.



Comparison of the number of abstracts submitted and accepted for the 2022 SPWLA Symposium by presentation modality.



Comparison of the number of abstracts submitted and accepted for the 2022 SPWLA Symposium by geographical region (NB: “Other” comprises abstracts submitted by authors and coauthors located in multiple geographical regions or in transition).



Comparison of the number of abstracts submitted and accepted for the 2022 SPWLA Symposium by professional sector (NB: “Other” comprises abstracts submitted by independent technical consultants and mixed-sector parties).

Some interesting conclusions can be drawn from the graphical comparisons above. Obviously, the competition for Symposium spots was tough, but the Technology Committee did an excellent job parsing through submitted abstracts with a circumspect, practical, and open-minded approach. Most importantly, the technical program will be rich, diverse, and relevant, covering problems, solutions, and case histories from around the world and representing service and operating companies and academia in good proportions. We are also expecting vigorous student participation, i.e., by the future of the SPWLA!

I would also like to recognize the arduous and meticulous work performed by my distinguished colleagues and members of the 2021–2022 Technology Committee. Their names, professional affiliations, and photographs appear in the ensuing pages of this installment of *SPWLA Today*. I thank them enormously for their technical acumen, dedication, time, and great volunteer work. It is because of members like them that the SPWLA is such an energetic and thriving professional society. Kudos to them!

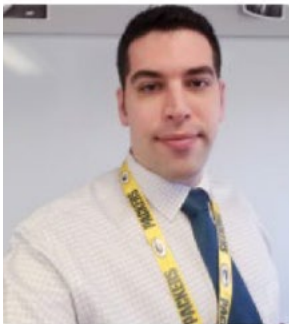


Stavanger's coast is pleasant and bucolic. Strolling its beaches in the morning will welcome you with awesome views festooned with birds and enticing colors (Photograph by the author).

As I write this note, I am encouraging my fellow Stavanger colleagues to organize the *Energy Transition 5K Run* during the Symposium. We are still looking for sponsors. Do you want to volunteer and shake those legs?

In closing, let me advise you to rush to book your hotel and flights to attend the Stavanger Symposium if you don't want to risk missing an extraordinary technical and social gathering. It will be a long-awaited celebration for our faithful members and for the unique discipline of Formation Evaluation! Stavanger or bust!

Carlos Torres-Verdín, PhD, Professor
Brian James Jennings Memorial Endowed Chair in Petroleum and Geosystems Engineering
Hildebrand Department of Petroleum and Geosystems Engineering
The University of Texas at Austin
cverdin@mail.utexas.edu



Adam Haecker
 2021-2022 VP Finance,
 Secretary, and Administration

Hello Intrepid Petrophysicists,

As I write this, the Rams have just won the Super Bowl. Congrats to all the veterans on that team who have worked so long for this. Of course, it would have been much better had the Packers been in it. Like the Rams, many of us formation evaluation experts have worked through this downturn long and hard, keeping our skills sharp while many colleagues left the industry, most not by choice. Hopefully, 2022 is our Super Bowl year. High commodity prices and bullish predictions abound right now. Here's hoping that translates to new companies sprouting up and fresh hiring. Finally, I hope it allows many of us to travel to Stavanger in June. We are expecting a large crowd of friends, old and new. Please keep an eye out for registration, and if you haven't already signed up, go do it now or at least ask your boss if you can go. Surely, you are tired of sitting in front of the computer to attend meetings by now and yearn for that fresh Norwegian air.

In terms of finances, the SPWLA is doing very well this year. We made a budget back in June, and we are sticking to it. In fact, we are mostly under budget across the board. We are 2/3 of the way through the fiscal year but have only used 41% of our budget. For example, this year, we only spent \$31.00 (this isn't missing a few zeros) on Distinguished Speaker travel. I guess everyone likes zoom meetings still by either necessity or accident. Workshop and topical conference profits are up. The society banked approximately USD 10,000 in revenue off the Fall Topical Conference. All in all, it is looking to be one of the better years in a while. I will take it as a personal failure if we do not post a profit this year, but it all comes down to how many people register for Stavanger. That is our biggest expense and biggest moneymaker.

As I am sure most of you are tired of hearing me rant about money at this point, here is some data about the health of the society. We are up to 1,200 members as of the first week of February. This is typical for this time of year. We will see a large uptick once symposium registration goes out. As I said, we have used 41% of our budget and made 30.6% of our expected revenue. Since 66% of our expected revenue comes from the symposium, we are doing very well for this point in the year.

Member Count

Member Type	Active Members
Honorary Member	30
Life Member	118
Member	808
Senior Member	86
Student	158
TOTAL	1200

	% of Budget
Distinguished Speaker Contribut	0.0%
▶ Lecture/Training Center Inhouse	168.8%
▼ Other Types of Revenue	
Advertising Sale n Publications ▶	8.0%
▶ Banking Services	-53.3%
Chapter Non-Member Reg Fees	0.0%
Foundation Contributions	0.0%
Honorariums	0.0%
▼ Miscellaneous Revenue	
Royalty Revenue - One Petro	53.9%
Miscellaneous Revenue - Other	100.0%
Total Miscellaneous Revenue	55.9%
▶ Miscellaneous Revenue Refunds	100.0%
Monthly Webinar (non-member)	100.0%
▶ Petrophysics Journal Income	83.1%
▶ Publications Sales Tech Materai	68.7%
Other Types of Revenue - Other	0.0%
Total Other Types of Revenue	44.1%
▼ Program Revenue	
Fall TopConference Registration	116.0%
Membership Dues	53.6%
▶ Spring Top Conf Registration	100.0%
Student Membership-Corp Sponsor	100.0%
▶ Symposium Revenue	14.4%
Webinar Donations	0.0%
Program Revenue - Other	0.0%
Total Program Revenue	23.9%
Revenue	0.0%
Total Income	30.6%

Expenses

▼ Expense	
Amortization	0.0%
Bad Debt	0.0%
▶ Business Expenses	100.0%
▶ Chapter Assistance	0.0%
▶ Conference Expense	0.0%
▶ Contract Services	106%
Dues Refund (Over payment)	0.0%
▶ Facilities and Equipment	66.7%
▶ Lecture/Training Center	100.0%
▶ Operations	30.3%
▶ Other Types of Expenses	66.8%
▶ Outside Marketing	0.0%
▶ Payroll Expenses	52.9%
▶ Petrophysics Expense	70.3%
▶ Program Cancellation	0.0%
▶ Programs for Student Chapters	12.4%
Reconciliation Discrepancies	0.0%
▶ SPWLA Legacy	0.0%
▶ SPWLA Today Newsletter	62.5%
▶ Symposium Expense	5.5%
▶ Travel and Meetings	0.0%
▶ Travel Programs ▶	0.1%
Total Expense	41.3%

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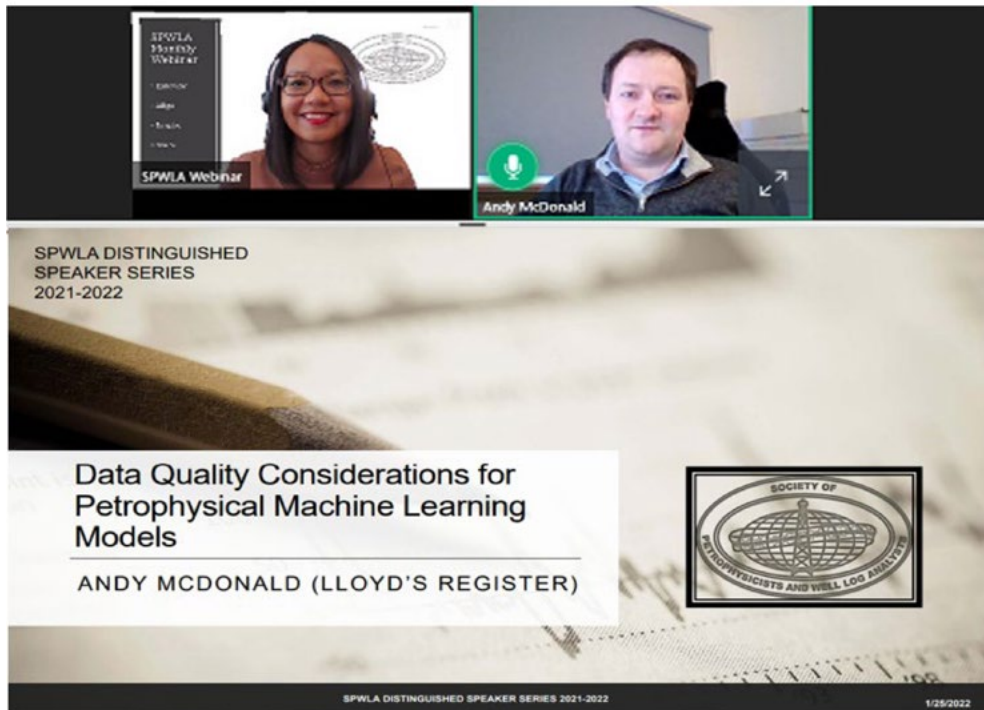
Learning Opportunities



Fransiska Goenawan
2020-2022
Vice President Education

Hello SPWLA Colleagues,

We have started SPWLA webinar activity this year with a Distinguished Speaker webinar with the title “Data Quality Considerations for Petrophysical Machine-Learning Models” by Andy McDonald (Lloyd’s Register). I want to take this opportunity to thank Andy for sharing his knowledge and expertise with the SPWLA community and to all the audience who joined us. I would also like to show my appreciation to Nicolas Carrizo (YPF S.A.), Emiliano Santiago (YPF S.A.), and Pablo Saldungaray (Schlumberger) as the February Distinguished Speakers for sharing their great work on “An Integrated Petrophysical Characterization of a Siliciclastic Tight Gas Reservoir in Neuquen Basin, Western Argentina.”



SPWLA January webinar with Andy McDonald (Lloyd’s Register).

Please keep supporting SPWLA webinar activities and sign up for the next SPWLA Distinguished Speaker series webinar:

- 1. March:** The Impact of Overbalanced Drilling from Exploration/Appraisal Wells to Field Development Plan by Matthew Guy Reppert (Neptune Energy Norway)
- 2. April:** Enhanced Assessment of Fluid Saturation in the Wolfcamp Formation of the Permian Basin by Sabyasachi Dash (The University of Texas at Austin)
- 3. May:** Nanotags for Improved Cutting Depth Correlation by Martin Poitzsch (Aramco American)

SPWLA Training Courses are lined up! We will kick off March 2022 with SPWLA Cement Evaluation From the Basics to the Advanced by Gary Frisch on March 1–3, followed by NMR Fundamentals and Advanced Interpretations by Brian Stambaugh on March 8–10. We will also launch a new training course on Casedhole Formation Evaluation led by Ahmed Badruzzaman and Dale Fitz at the end of March 2022. Petrophysical Multiminerals Analysis Training by Patricia Rodrigues is also back on April 26–27, and this time in Spanish. I hope you can join these great SPWLA training classes!

Casedhole Formation Evaluation Workshop Flyer (Special thanks to VP Social Media and team).

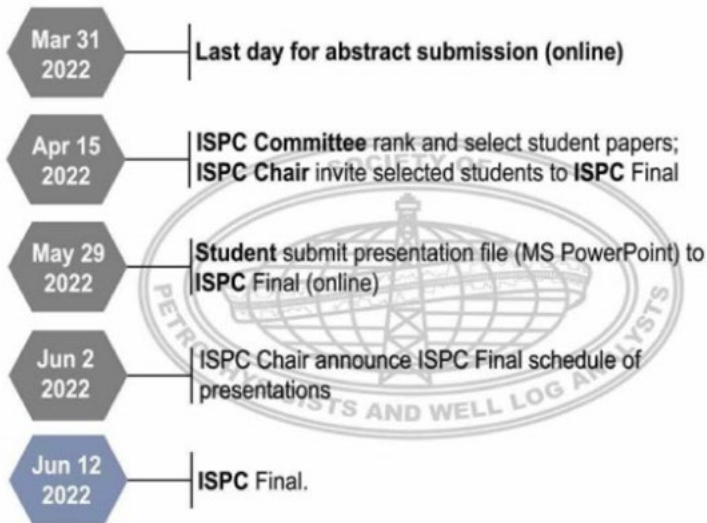
The SPWLA Spring Topical Conference with the topic, Petrophysical Machine Learning, is coming our way! The event will be held in person and virtually on March 23–24. At this moment, I would like to thank the PDDA SIG, who was kind enough to lead this conference, and a big thanks to all on the committee: Yanxiang Yu (Shell) as chairman, Andy McDonald (Lloyd’s Register), Bin Dai (Halliburton), Boqin Sun (Chevron), Chicheng Xu (Aramco Service Company), Keli Sun (Schlumberger), Lei Fu (Aramco Service Company), Siddharth Misra (Texas A&M University), Tegwyn Perkins (Lloyd’s Register), and Weijun Guo (Halliburton). We have great guest speakers lined up. We truly hope you can join this great conference to witness the SPWLA community sharing both theories and applications of emerging machine-learning methods as applicable to petrophysical research. Register @ <https://buff.ly/34IPzMy>.

2022 SPWLA Spring Topical Conference – Petrophysical Machine Learning.

Learning Opportunities

Last call for the SPWLA Student Chapter and SPWLA student members for the 2022 International Student Paper Contest! Please submit your abstract online by **Thursday, March 31, 2022**.

2022 SPWLA International Student Paper Contest



2022 SPWLA International Student Paper Contest timeline (Special thanks to VP Social Media and team).

Students selected to present at the ISPC should expect to receive notification by **mid-April 2022**. Please read all the detailed information at spwlaworld.org or email me at vp-education@spwla.org for more information.

Thank you for being a loyal member of SPWLA, and let's keep learning!

Respectfully yours,

Fransiska Goenawan
VP-Education@spwla.org



Mathilde Luyck
2021-2023 VP Social Media

We are well into the year 2022, and the SPWLA Annual symposium, which will be held on June 11–15 in Stavanger, Norway, is fast approaching! More information on the symposium will become available on our social media pages in the coming weeks, so stay tuned!

In this issue of *SPWLA Today*, we are sharing tips and tools our team uses to manage SPWLA social media pages. We believe they could help many SPWLA local chapters share their news and events!

SPWLA and Local Chapters News

Before flying out to Norway, the SPWLA will be hosting the Spring Topical Conference on Petrophysical Machine Learning on March 23–24! The event will be both online and in person in Houston. We are looking forward to our first in-person conference since 2019 and will be sharing photos of the presenters and attendees on our SPWLA social media pages!

Grants and scholarships from the SPWLA Foundation for student and professor members are available. The application process is described [here](#)!



Tips and Tools to Help Manage Social Media Pages

Andres Gonzales, who is a social media committee member, suggested that we share some of the tools our committee has introduced to more effectively manage SPWLA’s social media presence. For nonprofit organizations, these tools are free or available at a very minimal cost. Learning about them could help some SPWLA local chapters reach out to their membership more easily through their social media pages.

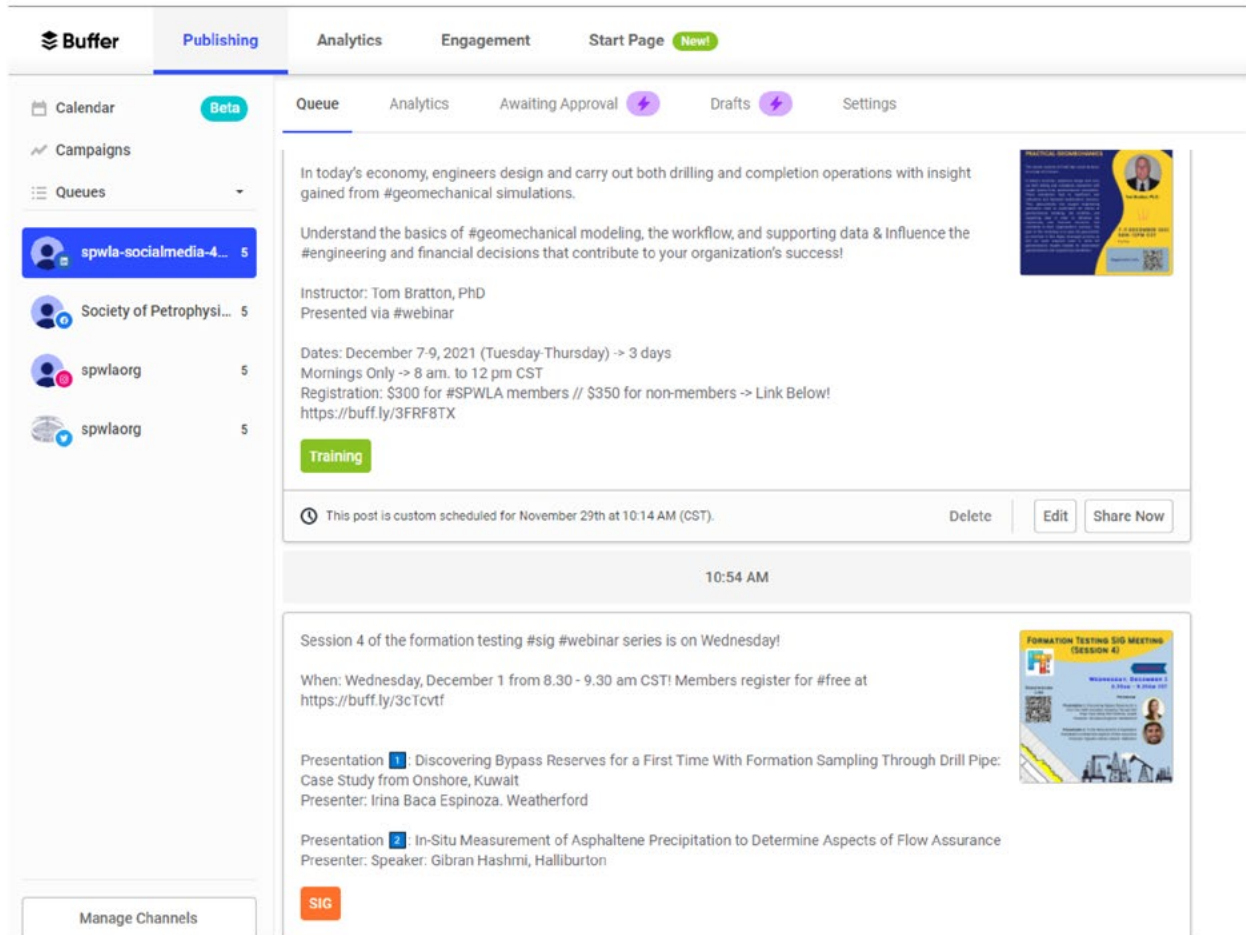
Tip Number 1: Buffer

Buffer is the first tool we introduced in June 2021. It is a social media management tool that allows us to post on all platforms (Facebook, Instagram, LinkedIn, and Twitter) at once and to schedule posts ahead of time – the posts are created automatically by Buffer at the designated time. Buffer is accessible both from a browser and via an app. This flexibility proved very useful: the SPWLA social media team uses the browser to create posts in batch and the app to post on the go.

When looking for a social media management platform for SPWLA International, we investigated many different options

THE FEED

(e.g., Hootsuite, Sendible, Sprout Social, etc.). Ultimately, we decided on Buffer because it offers the best value and capabilities at a low cost. Nowadays, Buffer is available for **free** or for \$5/month—depending on options—with an additional 50% discount for nonprofit organizations. Posting on multiple platforms at once has now become a lot easier! Below is a snapshot of the browser-based version of Buffer.



Tip Number 2: Canva


Canva was introduced to our team by another social committee team member, Dana Marcela Ramirez Nino, who was the SPWLA UIS Student Chapter president and had been using Canva to promote their chapter events. Many of the visuals, flyers, and videos recently posted on SPWLA social media pages were created using Canva.

The tool is intuitive and easy to learn because it offers many existing templates that users can modify to convey their own message. Our team has been using Canva to create standard templates for many of the SPWLA events, such as Distinguished Speaker Talks, Call for Abstracts, etc. This tool is **free** for nonprofit organizations, so we highly recommend it if you want to create nice-looking visuals and/or videos to promote your events. It offers the same flexibility as Buffer since it can be accessed from a browser (see screen capture below) or an app.


SS SPWLA Social Media Education • 8 4

All your designs


- Home
- All your designs**
- Recent designs
- Shared with you
- All your folders
- Trash
- Class
- SPWLA Social Media
- Classwork
- Tools
- Brand Kit




DS Dec2021
Instagram Post




DS_dec2021_THROUGH-TUBING C...
Instagram Post




FIT SIG Meeting - dec21
Instagram Post



GMX_tom Bratton (Instagram Post)
Trainings Instagram Post



Topical Conf Call for Abstracts
2022 ML Spring Topical Conference Anima



NMR LOGGING IN A NUTSHELL
On Demand Lectures Facebook Video

I hope this small tutorial might prove useful to local chapters and might help streamline their social media communications. If you have questions on the tutorial and/or suggestions on other tools we could use, reach out to us at VP-SocialMedia@spwla.org.

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Regional Understandings—North America 1



Robin Slocombe
2020-2022 North America 1
Regional Director

Happy New Year, everyone! The year 2022 has already provided many powerful learning experiences. As a parent, COVID has provided a new way to connect with my children and family, but Q1 2022 has been all about college acceptances. The anxiety of waiting for that crucial email can be overwhelming, and I am fortunate to be able to connect to SPWLA student chapters for a glimpse into the benefits of university education and some reassurance that it will all be alright in the end.

On that note, our student chapters are doing extremely well. The University of Texas at Austin has taken a leadership role in bringing together student and surrounding city chapters in a multidisciplinary workshop on formation evaluation and machine learning. I hope to be able to share more with you in my next column. Meanwhile, the University of Houston, the University of Louisiana at Lafayette, and Texas Tech University are all busy setting up their international student paper competitions, holding seminars, and recruiting new members. It continues to be very encouraging to see the level of activity in our North America student chapters and bodes well for the future of our industry.

Back in Houston, Javier Miranda and the Houston Chapter team are focusing on 2023 and an application to hold the next Symposium. We are very excited to see the event potentially returning to Houston, and we hope to be able to share more with you soon. On a final note, I would be interested in hearing from any Dallas area members. It appears our chapter has ceased to function, so I would love to hear from any volunteers who would like to revive it. I look forward to seeing you all in Stavanger soon!

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North America 1 Director
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Regional Understandings—North America 2



Matt Blyth
2021-2023 North America 2
Regional Director

The year 2022 has started off with in-person meetings again for the majority of NA2 chapters. The larger chapters, like Denver and Oklahoma City, have seen increasing attendance at their events, although still not back up to what things were like pre-pandemic. However, there are definite signs that people are ready to return to face-to-face meetings across the region. Our smaller chapters are still struggling, however, as the industry has scaled back considerably in places like Tulsa, Appalachia, and Bakersfield, which were previously able to support active chapters. If you are in any of these regions, then please get out and support your local chapters! We need volunteers for board positions and people to help organize events and speakers in all the smaller chapters across the US. Attendance and contribution are key to keeping the smaller groups alive!

One high point is the activity from our student chapters. OU once again is leading the way, with a calendar packed with speakers and chapter events. Our brand-new University of North Dakota Chapter has already begun organizing their first local conference and is planning to take part in the 2022 Student Chapter Paper Competition. I am sure we will hear a lot more from them going forward. As before, if you are close to any of these student chapters and would like to get involved, then please reach out and help those that will soon be the next generation of petrophysicists in our industry!

Matt Blyth
North America 2 Director
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Regional Understandings—Latin America



Bruno Menchio Faria
2020-2022 Latin America
Regional Director

Hello, Petrophysical Community,

First of all, I would like to say hello and welcome to the new professional chapter of SPWLA in Colombia. It was a long-standing wish that came true thanks to the contribution of several volunteers, but I would especially like to thank the contributions of Marta D`Angiola, (President, Argentina Professional Chapter of Argentina), Luis Alberto Chinomes Gualdrón (President, UIS Student Chapter of Colombia), and the new officers of the Professional Chapter of Colombia: Maria Florencia Segovia (President), Ulises Bustos (Vice President), Darling Criollo (Secretary), Maika Gambus (Faculty Advisor), Maria Isabel Sandoval Martinez (Treasurer), and Victoria Mousalli (Advisor).

The first Brazilian meeting on mature field petrophysics organized by the SPWLA Brazil Chapter will take place between March 22–24. The event will be entirely online and is an excellent learning opportunity on a series of technical and regulatory issues related to mature fields in Brazil. A series of lectures have already been confirmed. I would like to emphasize the importance of this event for Brazil, which is undergoing profound changes in the oil and gas market due to Petrobras' divestment of mature fields. Visit the event website for more information: <https://www.ebpcm.com.br/>.

The price of a barrel of oil has been returning to levels of USD 100. It has been a few years since we have seen this recovery in the price of a barrel. This occurrence will certainly promote a large increase in the production and exploration of hydrocarbons. This is excellent news for professionals in the oil and gas sector, especially due to the difficult years we have had recently with the decrease in activities.

Yours Sincerely,

Bruno Menchio Faria

LA Regional Director

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Director-LA@SPWLA.org

Regional Understandings–Europe



Eva Gerick
2021-2023 Europe
Regional Director

Dear SPWLA Community,

While preparations for the Symposium 2022 are going into the “detailed design” phase in Europe, our chapters have definitely kept the momentum on the Distinguished and Global Distinguished Speaker Program. The last couple of months featured talks on Dielectric Interpretation, Sonic Imaging, 3D Reservoir Mapping, and Data Input for Machine Learning. In the same spirit of innovation and pushing boundaries while making the most of the latest technology, Europe had a webinar on [New Technology](#) in late February that was accessible to everyone in the global SPWLA community.

With Brent back at USD 95 lately, one could be tempted to think we’re pretty much back to the pre-pandemic “normal.” What is echoed in the news, in company boards, and in financial articles, though, is the recent strong orientation of our industry towards ESG (Environmental, Social, and Governance). Investors ask for it, and big companies remodel their portfolios to respond to it. What this means for us is more flexibility, adaptability, and reactivity. Being able to navigate between oil and gas and alternative and transition areas like CCUS, adapting the way we work to the changing demand and technological innovation, and realizing the importance of collective knowledge will be key through this period. And this, we hope, you’ll see reflected in our upcoming Symposium 2022 in June.

Keep well and healthy!

All the best,

Eva

2021-2023 Europe Regional Director

Director-Europe@spwla.org



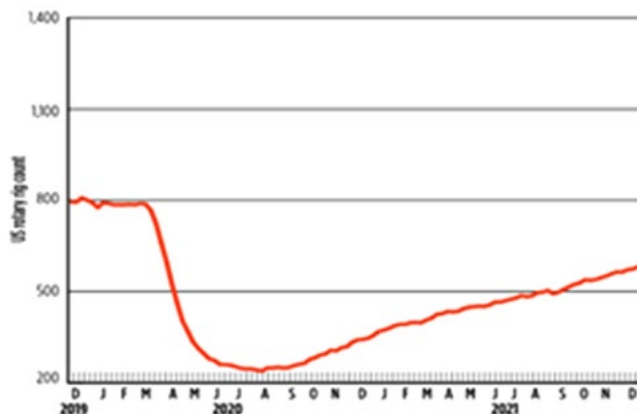
Nelson Suarez Arcano
2012–2022
Middle East/Africa
Regional Director

Dear Petrophysicists and Colleagues,

As 2022-Q1 comes to an end, while we keep moving towards another energy transition, we see that many oil and gas companies are doing what they said they would to recover in 2021 and be strong again in 2022. This has, of course, a direct relationship with the oil and natural gas price recovery. An example of this is behind BP's CEO's words, who said that "we are performing while delivering" when he referred to last year's financial results. Guess what? BP reported a net profit of USD 12.8 billion, which is the highest in 8 years for them.

At the same time, we have ExxonMobil in 2021 reducing costs but at the same time reporting USD 48 billion in cash flow from operating activities only in Q4-2021, its highest level since 2012! Meanwhile, ConocoPhillips reported 2021 earnings of USD 8.1 billion, compared with a loss of USD 2.7 billion in 2020. What about Shell? Well, they reported adjusted earnings of USD 19.29 billion for 2021 compared to USD 4.85 billion the previous year.

In summary, my message to our community is to be attentive since it is not like activity will increase. Activity is already increasing, and I am not only talking about prices and demand curve, but also about the supply, and that for us means production. Here is an example, on February 14, I read an article in *Bloomberg* that said the "Permian oil output sets record for third straight month" to an average of 5.06 MMBPD in January. Also, in February, we learned that ExxonMobil's FPSO Liza in Guyana produced its first oil. Additionally, the rig count is going up as reported by Baker Hughes in the USA market, and we can see a steady upward trend in the graph below.



MIDDLE EAST / AFRICA in 2022: How Are We Doing?

In Saudi Arabia, the Jafurah Field development will happen since Aramco has awarded USD 10 billion in contracts to develop the unconventional gas and condensate reserves.

In UAE, ADNOC is still active in increasing the production of unconventional gas and is on the lookout for alternative energies.

In Oman, Omani authorities have announced that they plan to maintain a rapid drilling pace in 2022.

In Angola, it is expected drilling will rise as there are new fields ready for development.

In Namibia, do you remember what I said about the next oil boom similar to the Permian in the USA? Well, in February, NAMCOR (National Petroleum Corporation of Namibia), Shell, and QE (QatarEnergy) announced the discovery of light oil in the Grff-1 deepwater exploration well in the Orange Basin, and this indicates that the size of the play will be assessed with further exploration wells.

Regional Understandings—Middle East/Africa

Finally, I encourage you to write me, and I will publish your thoughts in the next *SPWLA Today* newsletter. Do you know of any project updates? Write to me and update your community with your knowledge.

For the young professionals (YP) reading this, don't miss this month's edition of *The Bridge*!

Yours Sincerely,

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March 2022

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In this edition:

*Young Professionals:
An Interview With
Jhonny E. Casas*

*Introducing a New
Member of the Bridge
Editorial Committee*

Haiku

Young Professionals: An Interview With Jhonny E. Casas



Jhonny E. Casas

The oil and gas industry has suffered from an economic turmoil in 2008/2009, a downturn starting in 2014, and the effects of a pandemic beginning in the year 2020—three shocks in one decade. On top of that, we are living in a transition after the “Paris Climate Accords” adopted in 2015. Regardless of their background and geographic location, young professionals (YP) are facing a major challenge nowadays, from the moment they graduate and start their career until that day when they finally can look back and say, “I have found my place in an organization, found my dream job, or just found what I like to do.”

Moreover, the YP of today, especially geoscientists (including petrophysicists), are worried about this uncertain time as the transition to cleaner energy has begun, and companies and countries are diverting their investments to meet the Paris agreement obligations.

To analyze this reality, we had the pleasure of speaking with Jhonny E. Casas, subsurface expert integrator at Rocca Energy and education director for AAPG Latin America and the Caribbean.

Jhonny is a geological engineer from the Universidad Central de Venezuela, who received an MSc degree from McMaster University, Canada, under the guidance of Roger G. Walker. He has 35 years of experience in production geology, sequence stratigraphic/sedimentological models, geological reservoir characterization, and integrated studies for different companies in different basins in Canada, Venezuela, Bolivia, Ecuador, and Peru.

An author/coauthor for 35 different presentations/papers published in prestigious journals/bulletins, Jhonny was also a professor of geology for the Petroleum Engineering Department at the Universidad del Zulia. Years later, he held the same position at the Universidad Central de Venezuela. Currently, he is a professor for post-graduate courses, including Sequence Stratigraphy, Facies Models, and Outcrop Analogs for Reservoir Characterization at the Universidad Central de Venezuela.

Jhonny currently serves as the education director for AAPG Latin America and the Caribbean Region and the regional correspondent for the International Association of Sedimentologists.

Professor Jhonny Casas, in the energy sector, what is the meaning of being a young professional geoscientist in the world we live in today, and what do you think are the key factors a YP should consider in his/her career?

The start of the 21st century has been marked with a strong movement about the vision of our society, on the need for a change towards more sustainable and renewable sources of energy with lower pollution levels. This is the current path forward.

Geoscientists possess a wide knowledge in diverse aspects of earth science. In the last few decades, we have developed, along with the evolution of society and industries, a series of problem-solving skills, deductive thinking, 3D and 4D visualization, data integration, and risk and uncertainty analysis. We are also surfing the wave of artificial intelligence (AI). We are and will be more than capable of tackling and solving all the future energy and resource challenges.

Throughout history, the climate has been one of the determining factors for the development and evolution of human societies. According to the United Nations (UN), one of the great challenges that the planet is facing is accelerated climate change. The UN considers the actual climate change as anthropogenic, which means that it is a consequence of humankind's activities, related to the intensification of greenhouse effects, due to the industrial emissions, proceeding mostly from the burn of fossil fuels. Apparently, most of these emissions have contributed to a rapid climate variation that in a natural environment would not have been possible in such a short period of time.

Until the 18th century, greenhouse gas concentrations, and CO₂ in particular, were pretty stable, ranging from 270 to 285 ppm. Since the industrial revolution, when we started burning coal in enormous quantities, CO₂ has been increasing in concentration, reaching in 2013 400 ppm for the first time in human history. The Intergovernmental Panel on Climate Change (IPCC) has estimated that CO₂ concentrations must not surpass 450 ppm by the year 2050 in order to stop the 2°C current increment trend. NASA's projection is heartbreaking. Its estimations predict that we will reach 450 ppm by 2030. On top of that, according to the Energy Information Administration (EIA), the world population will increase from 7.6 to 9.8 billion people in 2050. Also, economic growth will likely drive global energy demand growth in the developing world by around 50% in 2050. All these issues will influence YP careers in the following decades.

We hear a lot about net-zero carbon emissions by 2050. What role do we as geoscientists have to play in net-zero carbon emissions? Does decarbonizing mean no more jobs in oil and gas for YP?

According to most scientists, if humanity cannot find a way to reduce greenhouse gas levels, the Keeling curve, which is the CO₂ historical evolution, will never again be under 400 ppm. Not in our lifetime or our kids' lifetime, not even during our grandkids' lifetime, because CO₂ can last in the atmosphere for hundreds of years. Between 65 to 75% of CO₂ released to the atmosphere dissolves into the ocean over 20 to 200 years, increasing ocean acidification. The remaining CO₂ is removed by slower processes that take up to several thousand years. IPCC's 2018 report summarizes that limiting global warming will require two steps. First, to reach net-zero emissions by 2050, we need a quick transformation of our sources of energy for industries, transport, and cities. Then, we should start removing CO₂ from the atmosphere, trying to compensate for the excess. It is important to point out that a true reforestation worldwide plan can help achieve that goal.

The oil and gas we use today are not replaceable in a short period of time, not even in the next few decades. Some analysts are predicting that if the investments in hydrocarbon exploration are suddenly ended, like the EIA has proposed, in order to reach the goal of the net-zero CO₂ by 2050, the price of combustibles might in the near future reach levels of 200 to 400 USD/bbl, which will generate unprecedented economic chaos. Nevertheless, the EIA projections tell us that by the year 2050, fossil fuels will still constitute about 50% of our energy sources. This is totally incompatible with the proposals to reduce or close the E&P activities. Hydrocarbon demand for petrochemicals to produce fertilizers, medicines, medical supplies, clothing, and many other products shows no indication of being displaced in the near future. So, many more oil and gas jobs will be needed in the following decades.

The most important question then is: how to supply the increasing demand for energy in the decades to come while reducing the rapid climate change impact? Meanwhile, some oil and gas companies are announcing extremely radical plans towards green energies; some other oil and gas companies are planning carbon footprint reductions by optimizing production operations processes, innovating, moving to wind and solar energy to generate their own electricity demands, creating or improving technologies, and, of course, planning CO₂ carbon sequestration projects for depleted reservoirs.

Geosciences knowledge is fundamental for CO₂ capture and underground storage. The techniques and workflows used for hydrocarbons search and extraction apply to subsurface studies to store CO₂. This is not new; we already have a wide understanding of the processes involved. On this point, many geoscientists will be contributing to diminishing the carbon footprint, working in projects that will surely develop in the near future as the need for CO₂ storage increases.

A few months ago, I read an interesting article explaining that economic considerations and environmental factors do not have to be incompatible. From that article, I want to highlight an example of the recent discovery of Liza in Guyana. It is designed to produce about 120,000 bopd via eight wells with a CAPEX of approximately USD 3.2 billion. Meanwhile, to produce the same volume of hydrocarbons in the Permian Basin, for example, about 1,000 wells are needed, with an estimated CAPEX close to USD 10 billion. Think about which one of these two projects will have the highest probability of a negative environmental impact.

The necessary energy transition towards alternative sources of energy will also bring more work opportunities for geoscientists, for example, in the mineral extraction process. The demand for the required minerals in renewable technologies like wind turbines, solar panels, electric vehicles, and batteries will multiply exponentially, especially in minerals like cobalt, lithium, copper, and rare earths like neodymium, lanthanum, and lutetium. Nevertheless, there are major environmental concerns regarding these mining operations at an unprecedented scale that should have been previously solved.

Geothermal energy is also a geosciences branch with enormous growth potential. It is necessary to identify areas with a high geothermal gradient that allow water injection and vapor recovery to generate electricity. These geothermal resources are practically inexhaustible at the human scale, and moreover, their environmental impact is minimal. Here also, the role of the geoscientist is very important since it requires an understanding of the subsurface and injected water behavior in permeable rock layers.

Energy transformation, carbon capture, net-zero carbon emissions... From your point of view, how will these words change the mindset of students and YP today, and how will it shape their future ahead?

Two years ago, I had the pleasure to participate in the virtual summit, The Future of Geosciences, that took place in the UK. It was worrisome to know that there is a worldwide decline in the number of students enrolled in geosciences, mostly due to intense pressure from public opinion and social media targeting traditional energies like oil, gas, and coal as the main culprits of global warming. Universities in the UK estimated that, in less than 5 years, there would be no students in some geoscience careers, especially the ones related to hydrocarbons. Some universities have thus closed courses or specializations in hydrocarbons and have wrongly required, to my belief, that their geoscience departments break apart any relationship with oil, natural gas, and carbon industries and to substitute them with courses related to “clean energies” or “green energies.”

Companies like Total have changed their name to Total Energies. BP shifted its focus by 180° towards alternative energies with an aggressive reduction plan in its E&P activities. For good or bad, the reality seems to be different. Humankind will keep depending on the use of fossil fuels for many more decades to come, and we should instead manage that reality.

Countries like the USA with the current government or the European Union are making great efforts towards lesser coal and hydrocarbon dependency. But the reality is that a significant part of the rest of the planet is not on the same path. *The Times*, the British newspaper, recently announced that countries like India, China, Australia, and Russia are making gigantic investments to expand their coal production by 30%, the most polluting of the fossil fuels. Even if we analyze short-term clean energy plans, we see many incongruencies. For instance, Biden’s administration has announced an aggressive construction plan for the next 10 years of 2,000 offshore turbines for wind energy, that when in operation in 2030, will provide only the 0.36% of the electrical needs in the USA.

To attract again our students towards geosciences, we need to make changes and evolve, providing our students with the necessary tools to face the multiple challenges to come, teaching them at the same time to preserve the fragile ecosystem in our planet for the next generations to come. We need to send a clear and strong message to our society that we, geoscientists, are a vital part of the solution to reach a proper and sustainable future for our planet.

Last question, Mr. Casas. How important is networking, and how do we do that when we are still suffering from a pandemic, working from home, etc.?

Today, YP need to understand that professional networking plays an important key role. Networking platforms like LinkedIn or technical geoscience associations like AAPG, SPE, SEG, SPWLA, SEPM, and EAGE, just to name a few, are very important for networking. Attending events—virtual and/or in person—from those technical groups is the best way to understand our world today and the emerging tendencies. By doing so, they will appreciate the benefits that geosciences offer to society and get awareness about new opportunities in the short and mid-term from either old or new sources of energy. Networking contributes to your social well-being, leads to exchanging ideas, helps you meet colleagues at all professional levels, and boosts your professional confidence. Networking is one of the best ways to find a new job or even a new role, and it could be the key to taking your career to the next level.

Introducing a New Member of the Bridge Editorial Committee



Clara Palencia

We are excited to welcome Clara Palencia to the Bridge Editorial Committee. Her bio and photo are found below. Anyone interested in joining our team or providing content for our readers should contact us at spwlayp@spwla.org.

Clara Palencia is a senior petrophysicist with 10 years of experience supporting engineering teams in both conventional and unconventional reservoirs, mainly designing and executing logging and coring programs, supervising field operations, analyzing log and core data, analyzing petrophysical uncertainty in reserve estimation studies, and performing petrophysical evaluations in exploration and development fields. She also has 5 years of experience as an unconventional reservoir researcher in shale reservoirs in the USA. Clara enjoys working with teams to achieve reservoir characterization objectives by promoting a collaborative and collective growth mindset. She has strong leadership and communication skills. Clara is passionate about teamwork with geologists, and reservoir, drilling, and completion engineers, based on continuous improvement processes. She has a petroleum engineering background, with a master's degree in geology and a PhD in petroleum engineering from the University of Houston.



Petrophysical Haiku

CARBON CAPTURE NEW?
OR SAME TECHNIQUES AS ALWAYS?
I GUESS TIME WILL TELL.

Contact us: 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.



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



By Mark Mau

ABSTRACT: Founded by the two brothers Conrad and Marcel Schlumberger in Paris in 1926, Schlumberger started its life as an electrical prospecting and well logging company. It gradually spread its activities on the oil field and today stands as the world's leading provider of upstream technology to the oil and gas industry. In 2015, it had a 12% market share among the top 400 service companies, and it is the most important developer of new technologies with no other company matching the research and development expenditures of Schlumberger.

Explaining company milestones and key periods of Schlumberger's history, this article portrays its leaders and shows their impact on the evolution of the company. It argues that the company culture embodied by the values of people, technology, and profit has been and still is crucial for the company's growth and success.

DISCLAIMER: The views expressed in this article are those of the author and do not necessarily reflect the views of Schlumberger management.

"A Brief History of Schlumberger" initially appeared in the 2016 *Oil-Industry History*, Volume 17, pages 111–140. It is reprinted with permission from the Petroleum History Institute, publisher of *Oil-Industry History*.

This is the sixth and final installment of a six-part series.

THE OILFIELD SERVICES COMPANY (cont'd)

This huge task became assigned to Andrew Gould, the head of the company's worldwide wireline business (Fig. 17). He holds a Bachelor's degree in economic history from the University of Wales at Cardiff. When Gould left university, he went to work in the city in London. His boss said he'd better go and get a professional qualification. So, Gould trained his number-crunching skills and qualified as a Chartered Accountant. "But I was a European by conviction, I wanted to go and work in Europe," Gould recalled in an interview in 2012, "so, I went to Paris and worked for Ernst & Young." In 1975, Gould joined Schlumberger in the internal auditing department in France's capital. He climbed the career ladder to the very top, and shortly after he assumed the chairman and CEO positions, he lifted some of the secret behind his success writing on the company's intranet: "I believe in hard work and setting goals that are difficult to achieve. I think I am harder on myself than I am on anybody who works for me."⁷⁵

Andrew Gould started his new job in February 2003 and during his eight years at the helm, he made a number of important changes that improved the performance of the company significantly. The first change was to focus on our core businesses in oilfield services, a restructuring much more radical than the one carried out by his predecessor in the late 1980s. "Our reasoning was simple." Gould wrote in the 2003 annual report. "World energy needs for much of the next half-century will be met mostly by carbon-based fuels produced from an aging reserves base. Substantial investment will be needed to sustain today's production as well as to meet tomorrow's demand, and technology will be the key to a cleaner, more cost-effective response to this challenge."⁷⁶

In 2003, the semiconductor-testing and electricity meters businesses were divested, and the smart-card unit was renamed Axalto in preparation for a sale or spinoff during 2004.



Fig. 17—Andrew Gould (born 1946), Schlumberger's CEO from 2003 to 2011 (courtesy of Schlumberger).

A Brief History of Schlumberger, Part 6

Most importantly, Schlumberger announced in September 2003 that it had reached an agreement to sell most of SchlumbergerSema to the French IT services corporation Atos Origin SA for US\$ 1.5 billion, a transaction that made Atos the largest IT services company in Europe. Of the retained Sema operations, all except one were slated to be separately divested; the exception, the information technology business focusing on the upstream oil and gas market, was merged into Schlumberger Information Solutions. All the sell-offs radically changed Schlumberger. Within two years, the share of non-oilfield businesses decreased from 29% to almost zero.⁷⁷

The second change was the move of the US headquarters of Schlumberger Limited from New York back to Houston in 2006. “A closer proximity of our U.S. corporate office to some of our key customers as well as several of our engineering and operational facilities in the Houston area will enhance our focus on growth in oilfield services,” said CEO Andrew Gould. “We look forward to strengthening our presence in the community that was instrumental in our early development.”⁷⁸

Thirdly, Gould adapted the research strategy to a globalized world. He placed a number of research centers much closer to academic centers of excellence, to hydrocarbon-producing regions, and to major customers, both international and national oil companies. The opening of the Schlumberger Russia Technology Hub within campus of Gubkin Russian State University of Oil and Gas in 2004 was followed two years later by the inauguration of the new Dhahran Center for Carbonate Research in Saudi Arabia. In 2007, the Schlumberger-Doll Research Center was relocated from Ridgefield, Connecticut, to Cambridge, Massachusetts (Fig. 18).⁷⁹



Fig. 18—The Schlumberger Dhahran Center for Carbonate Research in the Kingdom of Saudi Arabia, inaugurated in 2006. The choice of the location followed Schlumberger’s research strategy coined by Andrew Gould. The center is located close to an academic center of excellence, the King Fahd University for Petroleum and Minerals; it is placed in the world’s leading hydrocarbon-producing region; and it benefits from the vicinity of the national oil company Saudi Aramco, the largest oil company in the world (courtesy of Schlumberger).

Gould allowed research and engineering to have generous budgets that grew by 8% annually, following a decline from 2001 to 2003. In 2005, for example, the budget was more than half a billion US\$, and it would double over the next six years, with an R&D share of revenues of 2.8%, while Baker Hughes and Halliburton with 2.2% and 1.6%, respectively, would trail behind.⁸⁰

The result of this renewed focus on R&D could be seen in a string of innovations in all oilfield disciplines. Just a few examples from seismics, wireline and production: In 2004, WesternGeco established the oil industry’s first long-term reservoir monitoring program, together with Statoil, and it was awarded the world’s largest-ever 4D seismic project, shooting over the Marlin field offshore Brazil for Petrobras; in 2006, Schlumberger introduced the Quicksilver Probe wireline sampling technology, delivering formation fluid samples quickly with little or no contamination; and in 2010, the HiWAY Channel Fracturing service was launched, which significantly increased fracture conductivity while reducing water and proppant consumption.⁸¹

Seismic and drilling services were strengthened by two key acquisitions. In 2006, Schlumberger bought Baker Hughes’ stake in WesternGeco to take full ownership because the seismic business had become increasingly differentiated since 2000 when the joint venture WesternGeco was set up and seismics was regarded as a commodity business. The integration of different measurement technologies would not have been possible with a competitor as partner. Four years later, the acquisitions of Smith International and Geoservices, a French company specializing in mud logging, slickline, and production surveillance operations complemented Schlumberger’s offerings. The acquisitions widened Schlumberger’s lead as the world’s largest oilfield services company based on revenue and market capitalization. In 2010, its nearest rival, Halliburton, had revenues equaling only 65% of what Schlumberger made that year.⁸²

A Brief History of Schlumberger, Part 6

Under Gould, Schlumberger grew considerably in terms of revenue and market capitalization, and its menu of services for Big Oil became broader than that of peers as Halliburton or Baker Hughes. Even compared with other large companies outside the oil industry, Schlumberger made a great impact, similar to how it had fared during the early 1980s under Riboud. In 2006, for instance, Schlumberger ranked no. 5 of “Business Week 50,” the magazine’s annual ranking of the 50 S&P 500 companies with the best performance and outlook for the future.⁸³

Asked about what specific actions he takes in his leadership style to influence people in Schlumberger, Gould explained in an interview with management consultancy McKinsey in 2010: “I think successful companies have to have clear values. At Schlumberger, the first value is that the people are our guarantee of the service quality, safety, and the future of the company. The second is that technology is the basis for our competitive success. And the third is that our financial independence is as central to managing our own future.”⁸⁴

Under Andrew Gould’s leadership, the values of Schlumberger were cultivated. In 2004, Gould introduced a new “Code of Ethics” that was “designed to underpin the Schlumberger Values and to help each of us live those Values in our working lives.” In 2006, the values appeared in Schlumberger’s annual report for the first time: “Every company has a culture—and Schlumberger is no exception. Founded on corporate values of people, technology and profit, our culture is built on excellence.”⁸⁵

In August 2011, Andrew Gould retired, having reached the mandatory retirement age of 65. When Gould was asked in the interview with McKinsey whether there was anything he thought he had done particularly well, he said: “I take credit for having restructured the activities of the company. I won’t take credit for the oil price. I was just very lucky.”⁸⁶

Gould favored the Norwegian Paal Kibsgaard as his successor who had joined Schlumberger in 1997 as reservoir engineer in Saudi Arabia, coming from an engineering position at ExxonMobil, which gave him key knowledge about the needs of a major operator (Fig. 19). Since 2010, Kibsgaard had served as the company’s chief operating officer and enjoyed a close collaboration with Gould. The board, considering other candidates as well, asked all hopefuls to write essays about their approach to running the company. Kibsgaard drew on his experience transforming the engineering and manufacturing division he managed from 2007 to 2009 when he turned to the automotive and aerospace industries for lessons. “Even as the leader in our industry, we were behind on a number of things that auto and aerospace companies were doing that could help us significantly in terms of developing better products faster and at lower cost, and also how to drive innovation and the rate of innovation in technology development,” recalled Kibsgaard in an interview in 2014. One important change he implemented was bringing together all Schlumberger technology centers, which at the time were managed in separate product line “silos,” under one management structure to better leverage the company’s size and capabilities.⁸⁷



Fig. 19—Paal Kibsgaard (born 1966), Schlumberger’s CEO from 2011 to 2019 (courtesy of Schlumberger).

Kibsgaard’s essay convinced the board. As the new CEO, he swiftly turned his ideas into action. Kibsgaard realized that Schlumberger wasn’t reaching its full potential, and in 2011, a company-wide, ambitious multiyear program was launched, called “Our Transformation,” aiming at delivering a step-change in the reliability, efficiency, and integration of the company’s technologies, products, and services, making the company’s size a competitive strength.⁸⁸

A Brief History of Schlumberger, Part 6

Kibsgaard is continuing the Transformation program and has set a new, ambitious goal for Schlumberger. “I don’t think we should focus on only being the best company in our industry,” he explained in an interview with the financial investment magazine *Barron’s* in 2014. “We have the potential to be the best-run company in the world, and that’s what we are trying to do.”⁸⁹

Although Kibsgaard wields considerable influence in the oil industry and the world—in January 2013, he was chosen as one of the 500 most powerful people from politics, business, and finance by the magazine *Foreign Policy*—he doesn’t like to see himself as the guarantor of Schlumberger’s success. “The reason for that Schlumberger has had such a success over so long time,” Kibsgaard said in interview with a newspaper from Ålesund, his hometown in Western Norway in 2013, “is that it has held on some core values. The people and the human capital are the most important. We have access to talents from around the world. We recruit employees directly from the universities and train them internally. That’s how we build up both knowledge and loyalty to the company.”⁹⁰



Fig. 20—Two Multiphase Compressor units at the OneSubsea facility in Horsøy, Norway (courtesy of Schlumberger).

The knowledge of the employees and contractors who work for Schlumberger is the most valuable asset for the company. The quality of the company’s knowledge culture was acknowledged in 2015 when Schlumberger has been named for the 10th time in the 18-year history of the study “Most Admired Knowledge Enterprises” (MAKE). The MAKE panel consisting of global Fortune 500 senior executives and internationally recognized knowledge management and intellectual capital experts rated organizations in key knowledge performance criteria such as innovation, developing knowledge through senior management leadership, creating a learning organization and a collaborative knowledge-sharing environment, maximizing intellectual capital within the organization, and delivering value to customers and stakeholders.⁹¹

Schlumberger passed a milestone in company evolution in 2016 when it acquired Cameron, a leading provider of flow equipment products, systems, and services to worldwide oil and gas industries. Four years earlier, Schlumberger had already created the joint venture OneSubsea together with Cameron, to manufacture and develop products, systems, and services for the subsea oil and gas market. One joint technological development was the Multiphase Compressor that eliminates the need for upstream separation and for which OneSubsea engineers received the Underwater Technology Foundation (UTF) Subsea Award (Fig. 20).⁹²

Schlumberger and Cameron had complementary technology portfolios that created a pore-to-pipeline products and services offering to the global oil and gas industry. The combined company had 2014 revenues of US\$ 59 billion, more than Halliburton’s and Baker Hughes’ turnover taken together (US\$ 57 billion). The merger will create technology-driven growth by integrating Schlumberger reservoir and well technology with Cameron wellhead and surface equipment, flow control, and processing technology. This will result in the industry’s first complete drilling and production systems, which are enabled by Schlumberger expertise in instrumentation, data processing, control software, and system integration.⁹³

CONCLUSION

Even during the present severe downturn, Schlumberger keeps faring better than its peers. In 2015, the company ranked no. 32 in Barron's top-100 list of "The World's Most Respected Companies", the best placement of an oil industry company, with ExxonMobil coming in at no. 34, and no other oilfield services company making it into the list.⁹⁴

The Schlumberger culture with its three values—people, technology, and profit—is a suitable explanation of the continued success of the company. Those values go back to the foundations laid by Conrad and Marcel Schlumberger and their family and will be key to any success of Schlumberger in the future.

⁷⁵ www.bg-group.com/~tiles/?tiletype=news&id=309 (Q&A with Andrew Gould, Chairman, October 30, 2012); www.oilandgascouncil.com/content/andrew-gould; and Andrew Gould's career networkprofile (CNP), 2003 in Schlumberger Limited, History Project server, Leaders, Andrew Gould

⁷⁶ SCHLUMBERGER, ed., 2004, *Annual Report 2003*: New York, Schlumberger Limited; and www.bgggroup.com/~tiles/?tiletype=news&id=309 (Q&A with Andrew Gould, Chairman, October 30, 2012)

⁷⁷ MARTIN, Jonathan, and SALAMIE, David E., 2004, "Schlumberger Limited", p. 370; SCHLUMBERGER, ed., 2003, *Annual Report 2002*; SCHLUMBERGER, ed., 2004, *Annual Report 2003*: New York, Schlumberger Limited; SCHLUMBERGER, ed., 2005, *Annual Report 2004*: New York, Schlumberger Limited; and "Atos to acquire Schlumberger unit," *The Wall Street Journal*, September 23, 2003

⁷⁸ www.slb.com/news/press_releases/2006/20244.aspx; www.slb.com/about/history/2000s.aspx; and www.bgggroup.com/~tiles/?tiletype=news&id=309 (Q&A with Andrew Gould, Chairman, October 30, 2012)

⁷⁹ www.slb.com/about/history/2000s.aspx; www.slb.com/about/history/2010s.aspx; and www.bg-group.com/~tiles/?tiletype=news&id=309 (Q&A with Andrew Gould, Chairman, October 30, 2012)

⁸⁰ BAKER HUGHES, ed., 2012, *Annual Report 2011*: Houston, Baker Hughes; HALLIBURTON, ed., 2012, *Annual Report 2011*: New York, HALLIBURTON; SCHLUMBERGER, ed., 2012, *Annual Report 2011*: Houston, Schlumberger Limited; "Strategies: Schlumberger: Free-Flowing Technology," *Business Week*, April 3, 2006; and "The unsung masters of the oil industry," *The Economist*, July 21, 2012

⁸¹ www.slb.com/about/history/2000s.aspx; and www.slb.com/about/history/2010s.aspx

⁸² HALLIBURTON, ed., 2012, *Annual Report 2011*; SCHLUMBERGER, ed., 2011, *Annual Report 2010*: Houston, Schlumberger Limited; SCHLUMBERGER, ed., 2012, *Annual Report 2011*: Houston, Schlumberger Limited; www.slb.com/about/history/2000s.aspx; www.slb.com/about/history/2010s.aspx; www.bg-group.com/~tiles/?tiletype=news&id=309 (Q&A with Andrew Gould, Chairman, October 30, 2012); and www.slb.com/news/press_releases/2010/2010_0827_smith_merger_closes.aspx

⁸³ "Strategies: Schlumberger: Free-Flowing Technology," *Business Week*, April 3, 2006

⁸⁴ www.mckinsey.com/industries/oil-and-gas/our-insights/mckinsey-conversations-with-global-leaders-andrew-gould-of-schlumberger (interview of Andrew Gould by Ivo Bozon, McKinsey Amsterdam, April 2010)

⁸⁵ SCHLUMBERGER, ed., 2007, *Annual Report 2006*: Houston, Schlumberger Limited; A Code of Ethics, 2004 in Schlumberger Limited, History Project server, Archive SL Paris, SLP-60H024 InterChange 2004

⁸⁶ www.mckinsey.com/industries/oil-and-gas/our-insights/mckinsey-conversations-with-global-leaders-andrew-gould-of-schlumberger (interview of Andrew Gould by Ivo Bozon, McKinsey Amsterdam, April 2010)

⁸⁷ "Right on Target," *Barron's*, August 18, 2014; and Paal Kibsgaard presentation, 42nd Annual Howard Weil Energy Conference, New Orleans, March 24, 2014 in Schlumberger Limited, History Project server, Lectures and presentations, Paal Kibsgaard

⁸⁸ Transformation FAQs Hub Aug 2015 in Schlumberger Limited, History Project server, Best-run company in the world (incl. Transformation program); and Transformation mid-year report 2016 by Jean-François Poupeau in Schlumberger Limited, History Project server, Best-run company in the world (incl. Transformation program)

⁸⁹ "Right on Target," *Barron's*, August 18, 2014

⁹⁰ "Åpen for å satse mer i Norge: Ålesunderen Pål Kibsgaard-Petersen leder verde," *Sunnmørsposten*, June 21, 2013; "Denne mannen tjener mest av alle norske toppsjefer," *Dagens Næringsliv*, June 21, 2013; "Pål er en av verdens mektigste," *Dagbladet*, May 2, 2013; <http://foreignpolicy.com/2013/01/02/the-worlds-most-powerful-people/>; and www.slb.com/about/history/2010s.aspx

⁹¹ www.knowledgebusiness.com; and www.slb.com/news/inside_news/2015/2015_1211_enterprising_knowledge.aspx

⁹² www.slb.com/news/inside_news/2016/2016_0630_outstanding_achievement.aspx; and www.utc.no/winner-utf-subsea-award-2016/; and www.slb.com/about/history/2010s.aspx

⁹¹ www.knowledgebusiness.com; and www.slb.com/news/inside_news/2015/2015_1211_enterprising_knowledge.aspx

⁹² www.slb.com/news/inside_news/2016/2016_0630_outstanding_achievement.aspx; and www.utc.no/winner-utf-subsea-award-2016/; and www.slb.com/about/history/2010s.aspx

⁹³ BAKER HUGHES, ed., 2015, *Annual Report 2014*: Houston, Baker Hughes; HALLIBURTON, ed., 2015, *Annual Report 2014*: Houston, Halliburton; www.slb.com/news/press_releases/2015/2015_0826_slb_cameron.aspx; and www.slb.com/news/press_releases/2016/2016_0401_cameron_merger_complete.aspx

⁹⁴ "The World's Most Respected Companies," Barron's and The Wall Street Journal, 2015; and www.barrons.com/articles/appletops-barrons-list-of-respected-companies-1435372737

Technology Committee 2022

We would like to heartily thank our colleagues and distinguished members of the 2021–2022 Technology Committee. Their technical acumen, dedication, time, and motivation were fundamental to the final selection of abstracts for the 2022 Symposium. Each member of the Technology Committee reviewed approximately 90 abstracts following specific vetting criteria for relevance, impact, and descriptive content; not an easy task given the high quality of abstracts submitted for consideration. Their positive and constructive attitude is an exulting reminder of the great volunteering fabric that permeates the SPWLA at all levels. It has been a great pleasure and a superlative honor for us to work with all of them. Many members of the Technology Committee have also volunteered their time and experience to review papers and presentations, and to chair or co-chair Symposium technical sessions. Words cannot express our deepest appreciation to this excellent team of experts!

Gratias maximas et cui honorem honorem!

Carlos Torres-Verdín and Iulian Hulea



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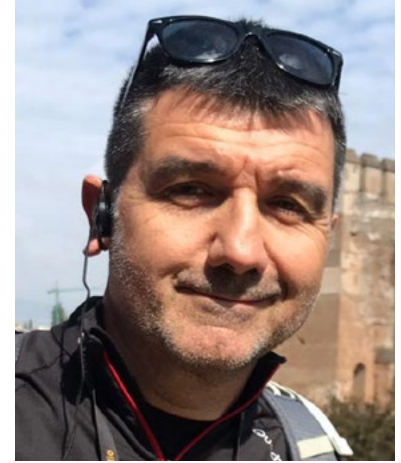
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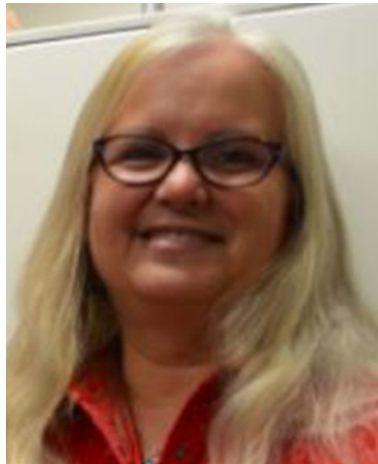
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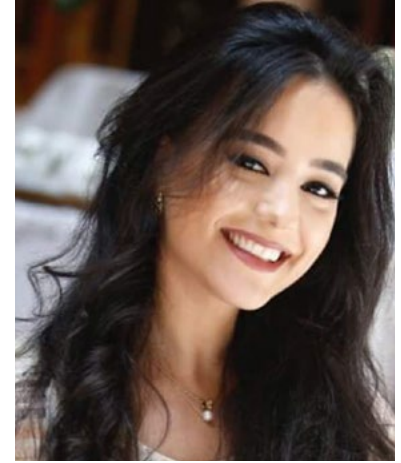
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Technical Program

NOTE: Tentative Program: Selected papers listed below may not be in the order in which they will be presented. The final technical program may differ from that shown due to paper withdrawals. All technical sessions will be held at the Clarion Hotel Energy. Photography and video/audio recording of any kind are strictly prohibited in all areas, including technical sessions, workshops, and exhibition hall.

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AUTOMATED METHODS OF FORMATION EVALUATION

A Comparative Study for Machine-Learning Methods for Log Prediction

Vanessa Simoes, Hiren Maniar, Aria Abubakar, Tao Zhao, Ridvan Akkurt, and Atul Katole, Schlumberger

A Novel Automated Machine-Learning Model for Lithofacies Recognition

Jianhua Gao and Qiong Zhang, University of Electronic Science and Technology of China

Automated Core Analysis Sample Selection Using Early-Time Non-Invasive Measurements

Ajayendra (AJ) Kumar, Thomas Pugh, Kory Holmes, and Patrick Huff, Core Laboratories; Brett Wendt, Adam Lewis, Tunde Akindipe, Gregory Wilson, and Heather Perfetta, ConocoPhillips

Automatic Badlog Detection – A Key to Successful Digitalization in Subsurface

Kjetil Westeng, Aker BP; Flávia Dias Casagrande, Inmeta; Saghar Asadi, Peder Aursand, Nils André Aarseth, Tanya Kontsedal, and Håvard Kvåle Simonsen, Aker BP

Class-Based Machine Learning for Intelligent Reservoir Characterization Over the Life Cycle of a Field in the North Sea

Subhadeep Sarkar, Vikas Jain, and Mathias Horstmann, Schlumberger; Renee Aleixo, Odd Senneseth, and Carly Marshall, Neptune Energy

Deep Learning for Multiwell Automatic Correction

Vanessa Simoes, Aria Abubakar, Hiren Maniar, and Tao Zhao, Schlumberger

Embedding Artificial Intelligence on LWD Images for Automated Drilling Optimization

Ana Escobar, Josselin Kherroubi, Daniel Quesada, Nadege Bize-Forest, Chandramani Shrivastava, Mathieu Tarrus, and Exequiel Padin, Schlumberger

Estimation of Matrix Properties From Geochemical Spectroscopy Logs Using Machine Learning

Vasileios-Marios Gkortsas, Paul Craddock, and Jeffrey Miles, Schlumberger-Doll Research; Harish Datir, Schlumberger; Lalitha Venkataramanan, Schlumberger-Doll Research

Multiscale and Multiphysics Quantitative Workflow for Integrated and Image-Assisted Rock Classification in Complex Carbonate Formations

Andres Gonzalez and Zoya Heidari, The University of Texas at Austin

Sonic Data Classification Using Supervised Machine-Learning Approach

Ting Lei, Schlumberger; Daniel Al Choboq, MINES ParisTech; Josselin Kherroubi, Lin Liang, and Romain Prioul, Schlumberger

Uncertainty in Automated Well-Log Correlation Using Stochastic Dynamic Time Warping

Mustafa A. Al Ibrahim, Saudi Aramco

CASE STUDIES

A New Approach to Model Saturation Below Free Water Level, A Case Study From a Giant Reservoir in the Middle East

Syofvas Syofyan, ADNOC Onshore; Christophe Darous, Schlumberger; Tariq Ali Al-Shabibi, Asma Hassan Ali Bal Baheeth, Fitra Adlan, Saif Ghanim Al-Shamsi, Hamad Khaled Aljanaahi, Ashraf Lotfy El Gazar, and Anurag Grover, ADNOC Onshore; Ishan Raina, Schlumberger

A Step Change in Lower Shuaiba Reservoir Facies Interpretation Triggers New Discoveries

Fathiya Battashi, Nasser Ghazali, Mazin Amri, Khalsa Shukri, and Rinat Lukmanov, Petroleum Development Oman

Defining Geologic Structure Encountered in Horizontal Well and Its Impact on Petrophysical Evaluation

Bo Su, China National Logging Corporation; Huafeng Ni and Zhongyuan Shi, CNPC Chuanqing Drilling Engineering Company Ltd.; Kecai Guo, Mingyu Lu, and Yongdi Zhang, China National Logging Corporation; John Zhou, Maxwell Dynamics, Inc.

Exploring the Downhole Waterways: Identification of the Sneaky Path of Water Through the Well Completion

Giuseppe Galli, Marco Pirrone, Nicola Pirola, and Luca Parodi, Eni SpA; Maximiliano Guiducci and Maciej Kozłowski, Halliburton

Extracting More Value From Basic Casedhole Services – Deriving Confident Formation Slowness Measurements From Simple Cement Evaluation Services

Tom Bradley, Baker Hughes, and Brice Fortier, Equinor ASA

Fluid Monitoring in a Large Field in North Oman to Maximize Ultimate Recovery

Kavita Agarwal, Kholood Nofli, Yusra Daoudi, and Timothy Duggan, PDO

Improving Reservoir Exposure in Thin Heterogeneous Carbonera Formation With the New Multilayer-Mapping-While-Drilling Technology: A Case Study

Egor Kovarskiy, Guillermo Cuadros, Zoriana Snovida, Eliana Beltran, and Ettore Mirto, Schlumberger

Naturally Fractured Carbonate Reservoir Characterization: A Case Study of a Mature High-Pour Point Oil Field in Hungary

Muhammad Nur Ali Akbar, István Nemes, Zsolt Bihari, Ágnes Bárány, László Tóth, Helga Soltész, and Szabolcs Borka, MOL Hungary

Shale Stability Modeling in Horizontal Section Using Synthetic Compressional and Shear Slowness: A Case Study From Duva, North Sea

Devendra Kumar, Schlumberger; Renee Aleixo, Rutger Van der Vliet, and Sylvain Clerc, Neptune Energy; Joao Paulo Castagnoli, Diego Munoz Sanchez, and Haitham Khalil Hassan, Schlumberger

Vendor-Independent Stochastic Inversion Models, Case Studies From the Norwegian Continental Shelf

Alexandra Zaputlyaeva, Danil Nemuschenko, and Mikhail Sviridov, ROGII

CORE AND WELL-LOG INTEGRATION

A New Method of Integrating Rockphysics and Geomechanics for Simulating Deformable and Permeable Behavior of Tight Carbonate for Optimized Reservoir Development

Umesh Prasad, Amer Hanif, and Pranjal K. Bhatt, Baker Hughes; Hayat Abdi Ibrahim Jibar, Karem Alejandra Khan, and Andi Ahmad Salahuddin, ADNOC Onshore

Core Multimineral Modeling Based on XRF, XRD, and Pyrolysis Data

Alexander Kolomytsev, Gazprom Neft, and Polina Maglevannaia, Skolkovo Institute of Science and Technology

Data-Driven Algorithms for Image-Based Rock Classification and Formation Evaluation in Formations With Rapid Spatial Variation in Rock Fabric

Andres Gonzalez and Zoya Heidari, The University of Texas at Austin; Olivier Lopez, Equinor

Improving the Calculation of Petrophysical Properties in Vugular Carbonates Using Logs and Rock Samples: A Case Study in a Brazilian Presalt Well

Lucas Abreu Blanes de Oliveira, Leonardo Gonçalves, Bernardo Coutinho Camilo dos Santos, Willian Andrighetto Trevizan, and Rodolfo Araujo Victor, Petrobras

Linking SCAL, RCAL, Digital Rock, and Petrography to Understand Sor in Presalt Carbonates

Ronaldo Herlinger Junior, Unicamp, Petrobras S.A.; Alexandre Campana Vidal, Unicamp

FORMATION EVALUATION OF CONVENTIONAL RESERVOIRS

A Generalized Geometrical Factor Model for Conductivity in Archie Rocks

W. David Kennedy, QED-Petrophysics LLC

A New Approach to Estimate Archie Parameters m and n Independently From Dielectric Measurements

Salah Al-Ofi, Baker Hughes; Shouxiang Ma, Saudi Aramco; Fei Le, Hasan Kesserwan, Guodong Jin, Amer Hanif, and Elton Frost, Baker Hughes

A Systematic Workflow of Optimum Log Data Acquisition and Integrated Formation Evaluation of Laminated Sand-Silt-Clay Deepwater Reservoir – A Case Study From Offshore Malaysia

Saikat Das, Viet H. Nguyen, Fadzilazri Shapie, and Stephen Dymmock, Baker Hughes; Amirul Afiq Yaakob, Amirah Thaqifah Mahamud, Siti Najmi Farhan Zulkipli, Dzulfadly Johare, and M. Fazli Izham Zakaria, Petronas Carigali Sdn. Bhd

Context and Distribution Matrixes – One Path to Consistent and Efficient Handling of Uncertainty in Formation Evaluation

Kjetil Westeng and Yngve Bolstad Johansen, Aker BP

Deep Salinity-Independent Water Saturation From Low-Frequency-Dielectric Rock Properties

Scott J. Jacobsen, NoHiddenPay LLC; Keith Bartenhagen, EOG Resources; Barbara I. Anderson, Frank Shray, James Hemingway, Eric Decoster, and Peter R. Swinburne, NoHiddenPay LLC

Dielectric Inversion of LWD Propagation Resistivity Tools for Formation Evaluation

Barbara I. Anderson and Frank Shray, NoHiddenPay LLC; Keith Bartenhagen, EOG Resources; James Hemingway, Eric Decoster, Peter R. Swinburne, and Scott J. Jacobsen, NoHiddenPay LLC

Downhole Detection and Geological Prediction of Halite Cement

Richard Bootle, Consultant; Adam Moss, AKM Geoconsulting Ltd; Jenny Omma, Rocktype Ltd

Enhanced Assessment of Water Saturation in Carbonate Formations Honoring Complex Pore Structure: A New Insight Into Physics-Based Calibration

Almostafa Alhadi, Zulkuf Azizoglu, and Zoya Heidari, The University of Texas at Austin

Formation Permittivity and Conductivity Simulation From Petrophysical Volumetric Analysis

Scott J. Jacobsen, Eric Decoster, James Hemingway, Frank Shray, Barbara I. Anderson, and Peter R. Swinburne, NoHiddenPay LLC

Heavy End Analysis by Ultrahigh Resolution Mass Spectrometry in Oils and Tars in Two Adjacent Reservoirs

Mareike Noah, GEOS4; Rolando di Primio, Lundin; Julia Forsythe, Sabine Mehay, Shawn Taylor, Vladislav Achourov, and Oliver C. Mullins, Schlumberger; Brian Horsfield, GEOS4

Integrated Analysis of NMR and Electrical Resistivity Measurements for Enhanced Assessment of Throat-Size Distribution, Permeability, and Capillary Pressure in Carbonate Formations: Well-Log-Based Application

Howard August, Zulkuf Azizoglu, and Zoya Heidari, The University of Texas at Austin; Leonardo Goncalves, Lucas Abreu Blanes de Oliveira, Moacyr Silva do Nasicmento Neto, and Rodolfo Araujo Victor, Petrobras

Integrating the Thomas-Stieber Analysis With a Staged Differential Effective Medium Model for Saturation Interpretation of Thin-Bedded Shaly Sands

Andres Villarroel, Michael T. Myers, and Lori A. Hathon, University of Houston

Laboratory Investigation and Numerical Simulation of Spontaneous Potential Suppression in Oil Reservoirs

Joshua Bautista-Anguiano, Independent Consultant, and Carlos Torres-Verdin, The University of Texas at Austin

Linking Acoustic, Electrical, and Hydraulic Tortuosity to Predict Permeability and Formation Factor

Vimal Saxena, RockLog Consultancy

Machine-Learning-Based Deconvolution Method Provides High-Resolution, Fast Inversion of Induction Log Data

Teruhiko Hagiwara, Aramco Americas

New Development in Pulsed-Neutron Technologies to Enhance Faster Data Recovery and Reduce Operation Logging Time for Three-Phase Saturation Analysis in Fresh Environment

Roberto Nardiello, Pius Akagbosu, Salim Ouadah, Vijay Ramaswamy, and David Chace, Baker Hughes Nigeria; Emmanuel Toumelin, Ajibola Oduwole, Matthew E. Ogofa, and Oyie Maureen Ekeng, Chevron Nigeria Limited

Permeability Predictions From Dielectric Dispersion Logs Using Supervised Machine Learning: A Johan Sverdrup Field Example

Jan Henrik Norbistrath, Equinor

Quantification of Adsorption of Water on Clay Surfaces and Electrical Double Layer Properties Using Molecular Simulations

Isa Silveira de Araujo and Zoya Heidari, The University of Texas at Austin

Quantifying the Effects of Heavy Minerals on Thermal Neutron Porosity in Permo-Carboniferous Sandstone

Olusegun Akinyose and Tariq Alshaikhmubarak, Saudi Aramco; Laurent Mosse and Marie Van Steene, Schlumberger

Simultaneous Assessment of Water Saturation and Water Salinity From the Joint Multifrequency Interpretation of Real and Imaginary Parts of Dielectric Permittivity Measurements

Zulkuf Azizoglu and Zoya Heidari, The University of Texas at Austin

Sourceless LWD Borehole Acoustics: Field Testing the Concept

Alexei Bolshakov, Kristoffer Walker, Andee Marksamer, Lorelea Samano, and Andrew Reynolds, Chevron

The Impact of Fractures on Producibility and Completions in the Wafra Maastrichtian Reservoir

Sunday Adole, Ting Li, Peter Wilkinson, Bambang Gumilar, Joshua Azobu, Andrew Ranson, Yegor Se, Jim Turner, and Karen Whittlesey, Chevron U.S.A. Inc.

Ultradeep 3D Electromagnetic Inversion for Anisotropy, a Guide to Understanding Complex Fluid Boundaries in a Turbidite Reservoir

Nigel Clegg, Supriya Sinha, and Karol Riofrio Rodriguez, Halliburton; David Marchant, Computational Geosciences Inc; Stig Stig Sviland-Østre, Theodor Lien, and Joanna Mouatt, Aker BP; Christoph Schwarzbach, Computational Geosciences

Use of High-Resolution Imaging With Pore-Scale Determination of Wettability to Validate Pore-Scale Models

Mohammad Javad Shojaei, Imperial College London; Nathan Lane, BP America Inc; Bilal Rahid, BP Exploration; Martin J. Blunt, and Branko Bijeljic, Imperial College London

FORMATION EVALUATION OF UNCONVENTIONAL RESERVOIRS

A Multidisciplinary Approach to Unconventional Petrophysical Reservoir Integrated Saturation Measurements

Omar Reffell, Z. Harry Xie, Humberto Carvajal-Ortiz, and Joe Ramoin, Core Laboratories LP

A New Uranium Imaging Technique Based on Four-Detector LWD Natural Gamma Ray Spectrometry Logging Apparatus

Zhiyuan Liu, Feng Zhang, Qixuan Liang, and Jilin Fan, China University of Petroleum – East China; Zhen Yang, SINOPEC Matrix Corporation

A Quantitatively Determining Gas Saturation Method Using Pulsed-Neutron Element Logging in Tight Gas Reservoirs

Feng Zhang, Hui Zhang, Fei Qiu, and Qian Chen, China University of Petroleum – East China

Bridging Scales of Fracture Characterization Through Conventional Log Measurement.

Yasmina Bouzida, Gulzira Z. Zhunussova, Jeremy Riou, Tim Salter, and Eduardo Caeneuve, Baker Hughes; Nadjib Cherif and Amar Benaida, Sonatrach

Comprehending Complex Conglomerates from the Norwegian Continental Shelf – A Deep Reservoir Understanding Through Integrated LWD-Based Petrophysics

Subhadeep Sarkar, Schlumberger; Sven-Erik Foyen, Lundin Energy; Vikas Jain, Mathias Horstmann, and Anup V. Thorat, Schlumberger

Effects of Near-Wellbore Supercharging and Hydro-Mechanical Coupling on Pressure Response for Formation Testing While Drilling

Nian Peng, Tianshou Ma, Ping Chen, and Yu Qiao, Southwest Petroleum University

Enhanced Assessment of Water Saturation in Organic-Rich Mudrocks Incorporating the Vertical Heterogeneity Through Resistivity Image Logs

Sabyasachi Dash and Zoya Heidari, The University of Texas at Austin

Integrated Petrophysical Evaluation of Unconventional Formations, in the Delaware Basin, With a Customized NMR Acquisition

Christopher Savage, Point Energy Partners; Stephanie Perry, GeoMark Research; Azeem Chohan, Rex Sy, and Milton Mendez, Baker Hughes

Integration Of Time-Lapse Geochemistry to Enhance Subsurface Characterization at Hydraulic Fracture Test Site II

Adam Turner, Catherine Donohue, and Alex Zumberge, GeoMark Research LTD.; Kanay Jerath, Daniel Rivas, and Ruben Lopez, Occidental Petroleum Corporation

Quantifying Interfacial Interactions Between Minerals and Reservoir/Fracturing Fluids and Their Impacts on Wettability Variation

Isa Silveira de Araujo and Zoya Heidari, The University of Texas at Austin

Quantifying the Impacts of Rock Components and Their Spatial Distribution on Estimates of Hydrocarbon Reserves in Organic-Rich Mudrocks

Sabyasachi Dash and Zoya Heidari, The University of Texas at Austin

SPECIALIZED MEASUREMENT TECHNIQUES AND INTERPRETATION METHODS

A Multiphysics While-Drilling Tool Integrates Continuous Survey, Gamma Ray Image, Caliper Image, and More

Jiaxin Wang, Bogdan Wiecek, Matthew Leung, Tim Parker, Rodney Marlow, and Paul Cooper, Halliburton

A New Pulsed-Neutron Apparatus Combined With Computed Tomography for Rapid, In-Situ Analysis of a Core Sample Inside a Core Barrel

Grant Goodyear, Derek R. Beckett, and Ajayendra (AJ) Kumar, Core Laboratories; Theodore J. Griffin Jr., EnCore Petrophysics; Kent E. Newsham and Milomir Pavlovic, Occidental Petroleum; Roland Chemali, Consultant

A Novel Gamma-Thermal Neutron Evaluating Gas Saturation Method Using Pulsed-Neutron Logging Tool With Dual-CLYC

Qixuan Liang, Feng Zhang, Junting Fan, Hui Zhang, and Weizheng Shang, China University of Petroleum – East China

A Novel Interpretation Model for Casedhole Density Measurement

Yulian Li, University of Electronic Science and Technology of China; Ya Jin, Decheng Niu, and Yuexin Meng, China Oilfield Services Limited; Feng Liu, China National Offshore Oil Corporation; Yating Hu and Qiong Zhang, University of Electronic Science and Technology of China

A Well Cementation Evaluation Method by the Azimuthal Gamma Combination With the Acoustic Logging in Horizontal Well

Jilin Fan, Feng Zhang, Haochen Song, Luyu Zhong, and Qian Chen, China University of Petroleum-East China

An Efficient and Effective Algorithm for Reservoir Boundaries Mapping

Peng Chen, Jun Wang, Jiaqi You, and Shijia Chen, China National Logging Corporation; Shanjun Li and John Zhou, Maxwell Dynamics, Inc.

An Innovative and Reliable Method of Estimating Rock Strength From Drilling Data Acquired Downhole

Umesh Prasad, William Anthony Moss, David Gavia, Hatem Oueslati, and Amer Hanif, Baker Hughes; Paul Pastusek, ExxonMobil UIS

Assessment of True Formation Resistivity and Water Saturation in Deeply Invaded Tight-Gas Sandstones Based on the Combined Numerical Simulation of Mud-Filtrate Invasion and Resistivity Logs

German Merletti, Salim Al Hajri, Michael Rabinovich, and Russell Farmer, BP; Mohamed Bennis and Carlos Torres-Verdín, The University of Texas at Austin

Casedhole Logging: The Development and Field Results of a New Drillpipe-Conveyed Casing Inspection and Cement Mapping Tool

Mike Andrew, Equinor; Andrew Hawthorn, Roger Steinsiek, and Shaela Rahman, Baker Hughes

Conceptual Through Casing Resistivity Tool and Its Prototype Results

Shanjun Li and Weishan Han, GeoPrance, LLC; Zhanshan Xiao and Haitao Hu, China Petroleum Logging Co.

Connectivity Assessment of Heavily Compartmentalized Reservoirs: A New Workflow Introducing Areal Downhole Fluid Analysis and Data Integration

Tarek Mohamed and Carlos Torres-Verdín, The University of Texas at Austin; Camilo Gelvez, BP America; Oliver C. Mullins, Schlumberger

Deep-Directional Resistivity Ranging for Near-Parallel Cased Well in Scenarios Either Vertical or Horizontal to Formation Layers

Yong-Hua Chen, Saad Omar, Lin Liang, and Diogo Salim, Schlumberger

Enabling Technologies for Dynamic Reservoir Evaluation and Extended Pressure-Transient Testing for the Low Carbon Transition

Richard Jackson, Chen Tao, Nataliya Mayzenberg, Hadrien Dumont, Francois Dubost, and Adriaan Gisolf, Schlumberger

Extended Fractional Flow Theory for Steady-State Relative Permeability Experiments With Capillary End Effects – Transient Solutions and Time Scales

Pål Østebø Andersen, University of Stavanger and The National IOR Centre of Norway

Flow-Dependent Relative Permeability Scaling for Steady-State Two-Phase Flow in Porous Media: Laboratory Validation on a Microfluidic Network

Marios Valavanides, University of West Attica; Nikolaos Karadimitriou and Holger Steeb, University of Stuttgart

Integrated Approach to Leak Detection Using High-Definition Electromagnetic Technology, Production Logging, and Ultrasonic Logs – A Case Study

Adesoji Adedamola, Diptaroop Chakraborty, and Ariel Sedlacek, Halliburton; Tshissola Tambwe, Neil Hay, Salomao Dode, Abel Cruz, Jose Rodrigues, Jose Nzau, Adriano Cunha, Olivio Mavuba, and Domingos Andrade, Sonangol

Joint Inversion and Unsupervised Learning Applied to NMR Data Processing That Eliminates the Need for Regularization

Naveen Krishnaraj, Neaqtech; Michael Myers and Lori Hathon, University of Houston; Alon Arad, Automated Analytics

New Iterative Resistivity Modeling Workflow Reduces Uncertainty in the Assessment of Water Saturation in Deeply Invaded Reservoirs

German Merletti, Michael Rabinovich, Salim Al Hajri, William Dawson, and Russell Farmer, BP; Joaquin Ambia and Carlos Torres-Verdín, The University of Texas at Austin

Petrophysical Uncertainty: Regression and Models

Russell Farmer (ADNOC, formerly BP); Anjum Sayed and Behrooz Raeesi, BP

Solving the Challenge of Acquiring Low UCS Cores for Quantitative Digital Rock Physics

Dmitry Lakshtanov, Jennie Cook, Yuliana Zapata, Robin Eve, Mark Lancaster, Nathan Lane, and Glen Gettemy, BP; Ian Draper and Tim Gill, Baker Hughes; Kevan Sincok, Independent (formerly BP); Dave Saucier, BP

Spatial Sensitivity Study Essential to Geosteering Interpretation

Jun Zhu, Yong Die, Yuanshi Tian, Yongyang Song, Shansen Yang, and Ting Yang, China National Logging Corporation; Yanjun Chen and John Zhou, Maxwell Dynamics Inc.

Successful Caprock Stress Testing With a Wireline Straddle Packer Tool Configured With an Innovative Controlled Pressure Bleedoff Design

Olav-Magnar Nes, Egil Romsas Fjeldberg, and Nils-Andre Aarseth, Aker BP; Bob Engelman, Venkat Jambunathan, Michael Evans, and Tony van Zuilekom, Halliburton

Successful Identification of Bypassed Pay Zones and Wet Sands, in a Mature Oil Field, Using Multifrequency Dielectric Logging and Advanced Radial Inversion Methods: A Case Study From Colombia.

David Alfonso Serrano, Doris Patricia Ortiz, Tito Jose Acosta, Heliodoro Canarete, and Daniel Ricardo Cifuentes, Ecopetrol; Amer Hanif, Elton Frost Jr., Fei Le, Luis Laguna, and Milton Mendez, Baker Hughes

Technological Innovations for Hydraulic Fracturing Method for Stress Measurements With Wireline Formation Testers

Pierre-Yves Corre, David Becquet, Richard Jackson, Magdy Samir, Albert Ng, Sammy Haddad, and Ashers Partouche, Schlumberger

Transient Electromagnetic Response of Electrode Excitation and Geometric Factors of Desired Signal

Xiaolin Zhu, Jiacheng Liu, and Jianguo Shen, Tianjin University; Yongjin Shen, Beijing Huahui Test Technology Co.Ltd.

Utilization of Digitalized Numerical Model Derived From Advanced Mud Gas Data for Low Cost, De-Risking Drilling and Effective Completion Plan

Philip Shane Gerard Buckle, Abdul Faiz Haji Abdullah, and Nurhafizah Zaini, Brunei Shell Petroleum; Ivan Fornasier, Aleksandar Gligorijevic, Andrea Di Daniel, Gokarna Khanal, and Sridhar Vignaraja, Schlumberger

A DECADE WITH UDAR TECHNOLOGY: STATUS OF LOOK-AROUND AND LOOK-AHEAD APPLICATIONS AND FUTURE POTENTIAL

A New Generation of LWD Geosteering Electromagnetic Resistivity Tool Providing Multilayered Bed-Boundary Detection, Anisotropy Determination, and Azimuthal Resistivity Measurements for Accurate Well Placement and Formation Evaluation

Hsu-Hsiang (Mark) Wu, Alan Cull, Li Pan, Clint Lozinsky, Matthew Griffing, Yijing Fan, Alban Duriez, and Michael Bittar, Halliburton

An Advanced Ultrahigh-Definition Directional Electromagnetic Propagation Logging Tool for Mapping While Drilling and Multilayered Formation Evaluation

Hui Xie, Keli Sun, Ettore Mirto, Joe Gremillion, Sarwa Tan, Kent Harms, Jianguo Liu, and Yao Feng, Schlumberger

Focusing UDAR Inversion for Navigation in Quasi-Layered Formations

Arvi Cheryauka and Danil Safin, Baker Hughes

Mapping Injection Water Slumping and Reservoir Boundaries Using Real-Time ANN 2D Inversion of Extra-Deep Azimuthal LWD Resistivity Measurements

Firdaus Bin Mohamed Noordin, Ibrahim Abdelgaffar Seddik, Maniesh Singh, Ayesha S. Al Meamari, Sami Abdalla AlSaadi, Saif Al Arfi, and Mariam N. M. Al Baloushi, ADNOC Onshore; Douglas Boyd and Nader Gerges, ADNOC Upstream; Dmitry Kushnir, Gleb Dyatlov, Yuriy Antonov, Asim Mumtaz, and Sanathoi Potshangbam, Baker Hughes

Past, Present, and Future Applications of Ultradeep Directional Resistivity Measurements: A Case History From the Norwegian Continental Shelf

Supriya Sinha, Arthur Walmsley, Nigel Clegg, and Brigido Vicuna, Halliburton; Andrew McGill, Téo Paiva dos Reis, Marianne Therese Nygård, Gunn Åshild Ulfnes, Monica Vik Constable, Frank Antonsen, and Berit Ensted Danielsen, Equinor

Precise Localization of Offset Wells Crossed With Deep Directional Resistivity Measurements

Michael Thiel, Haifeng Wang, Yong-Hua Chen, Mikhail Zaslavsky, Lin Liang, and Jean-Michel Denichou, Schlumberger; Henning Hoeyland, Brian Gallagher, and Nguyen Xuan Phong, Jadestone Energy; Frank Antonsen, Equinor

Real-Time 3D Anisotropy Analysis Enables Lithology Identification at Distance

Ayman Elkhamry, Saudi Aramco; Ahmed Taher, Eduard Bikchandaev, and Mohamed Fouda, Halliburton

The Impact of Ultradeep Azimuthal Resistivity Technology on ENI Geosteering Workflow Evolution

Maurizio Mele, Filippo Chinellato, Andrea Leone, and Massimiliano Borghi, ENI S.p.A; Gianbattista Tosi and Jorn A.Tveit, Vår Energi AS

The Journey of Reservoir Mapping While Drilling – What We Learned and What We Need for the Future

Nasser Faisal Al-Khalifa, Deepak Joshi, Mohammed Farouk Hassan, and Asheswar Tiwary, Kuwait Oil Company; Ihsan T. Pasaribu, Mahmoud Siam, Salih Noreldin Osman, Chandan J. Keot, and Shady Moustafa Abdelbaset, Schlumberger

UDAR: Past, Present, and Future. An Operator's Experience and Perspective on the Challenges and Opportunities in Applications With Ultradeep Resistivity Tools

John Bergeron, Michael Rabinovich, Murad Murtuzaliyev, Elnur Binyatov, and Andy Ronald, BP

Ultradeep Azimuthal Resistivity Tools Application and Benefits in Brazilian on Shore Scenarios

Paulo Roberto Alves Netto, Antonio Mainieri Vieira da Cunha, Ana Augusta Gonçalves Meira, Marcio Ivan Carvalho Moreira, Gustavo Henrique Schmitt, and Apoena Rossi Barreira, Petrobras S.A.

What Next After a Decade With Significant Advances in the Application of Deep Directional Measurements?

Frank Antonsen, Berit Ensted Danielsen, Kåre Røsvik Jensen, Monica Vik Constable, Maria Emilia Teixeira De Oliveira, Steen Agerlin Petersen, Marta Prymak-Moyle, and Jon Kåre Lotsberg, Equinor ASA

ADVANCES IN THE INTEGRATION OF WELL LOGS AND SURFACE ELECTROMAGNETIC MEASUREMENTS FOR RESERVOIR MONITORING

Subsurface Electromagnetic Frac and Flowback Response to Natural and Induced Fracture Networks

Amanda C. Reynolds, Nabil Eldam, Chris Galle, and Brad Bacon, Encino Energy; Trevor Pugh, Jeffrey Chen, and Suresh Dande, ESG Solutions

AUTOMATION IN BOREHOLE GEOLOGY

Unsupervised Facies Pattern Recognition on Borehole Images of Brazilian Presalt Carbonates Borehole Images

Laura Lima, Nadege Bize-Forest, Giovanna Carneiro, Adna Paz de Vasconcelos, and Patrick Pereira Machado, Schlumberger

DEEP LEARNING WITH HIGH-DIMENSIONAL PETROPHYSICAL DATA**Automatic Fracture Segmentation and Detection From Image Logging Using Mask R-CNN**

Yubo Liu, China University of Petroleum, Beijing and CNPC; Guangzhi Liao and LiZhi Xiao, China University of Petroleum, Beijing, Harvard SEAS-CUPB Joint Laboratory on Petroleum Science and CNPC; Jun Zhou and Guojun Li, CNPC and PetroChina Logging Co.; Zhen Liang, Jiawei Zhang, Xinyu Zhang, and Zhe Zhang, China University of Petroleum, Beijing

Machine-Learning Assisted Prediction of Permeability of Tight Sandstones From Mercury Injection Capillary Pressure Tests

Jassem Abbasi, University of Stavanger; Jiuyu Zhao, China University of Petroleum; Sameer Ahmed, University of Stavanger; Jianchao Cai, China University of Petroleum; Pål Østebø Andersen, University of Stavanger

Machine Learning for Determining Remaining Oil Saturation Based On C/O Spectral Logging in Multilayer String Cased Well

Fei Qiu, Feng Zhang, Zhiyuan Liu, Guiping Xiao, and Qunwei Fang, China University Of Petroleum – East China

Multiscale Reservoir Classification Based on Machine Learning

Gang Luo, LiZhi Xiao, GuangZhi Liao, SiHui Luo, and RongBo Shao, China University of Petroleum, Beijing; Jun Zhou and GuoJun Li, PetroChina Logging Co., Ltd.; ShengLuan Hou and JieWen Wu, Huawei Cloud Computing Technologies Co. Ltd

Sequential Multirealization Probabilistic Interpretation of Well Logs and Geological Prediction by a Deep-Learning Method

Sergey Alyaev, Adrian Ambrus, and Nazanin Jahani, NORCE Norwegian Research Centre; Ahmed H. Elsheikh, Heriot-Watt University

Use of Symbolic Regression for Developing Petrophysical Interpretation Models

Songhua Chen, Wei Shao, and Huiwen Sheng, Halliburton; Hyung Kwak, Saudi Aramco

DIGITALIZATION IN PETROPHYSICS: A REVOLUTION IN FORMATION EVALUATION?**Impact of Missing Data on Petrophysical Regression-Based Machine-Learning Model Performance**

Andrew McDonald, Lloyd's Register

Norwegian Released Wells Project: Study Design, Material Preparation, Measurements, and Data Analysis

Odd Kolbjørnsen and Erik Hammer, Lundin Energy; Malgorzata Kusak, Norwegian Oil & Gas – NOROG; Peter Wellsbury, Rockwash Geodata; Stefano Pruno, Stratum Reservoir

Permeability Prediction With Integration of Log and Core Data of a South Tanzania Gas Field Using Artificial Intelligence Techniques

Patrick Kabwe, Tanzania Petroleum Development Corporation

Using Digital Rock Physics to Evaluate Novel Percussion Core Quality

Dmitry Lakshantov, Jennie Cook, Yuliana Zapata, Robin Eve, Mark Lancaster, Nathan Lane, Glen Gettemy, and Dave Saucier, BP; Ian Draper and Tim Gill, Baker Hughes; Kevan Sincock, Independent (formerly BP)

DISTRIBUTED FIBER OPTICS FOR FORMATION EVALUATION**Comparison of Raman, Brillouin, and Rayleigh Distributed Temperature Measurements for High-Rate Wells**

Brian C. Seabrook, ExxonMobil; Andreas Ellmauthaler, Michel LeBlanc, Mikko Jaaskelainen, John L. Maida, and Glenn A. Wilson, Halliburton

Development of Comprehensive and Efficient DTS Interpretation Method for Fracture Diagnosis

Dan Hill, Shohei Sakaida, and Ding Zhu, Texas A&M University

Full-Waveform Inversion of Fiber-Optic VSP Data From Deviated Wells

Olga Podgornova, Pierre Bettinelli, Lin Liang, Scott Leaney, and Joel Le Calvez, Schlumberger; Marco Perez, Velvet; Ahmed Soliman, ENI

Joint Well Integrity Survey via a Hybrid Fiber-Optic DAS and DTS Sensing Cable, Multi-Arm Finger Calliper, and Magnetic Thickness Tools

Odam Ebokpo, Silixa Ltd

Locating Microseismic Events and Determining Spatial Uncertainty Using 1C (DAS) Fiber-Optic Strain Measurements or a Combination of 1C (DAS) and 3C (Geophones)

Joel Le Calvez, Takashi Mizuno, Pierre Bettinelli, and Colin Wilson, Schlumberger

Multiphase Flow Rate Profiling With Uncertainty Through Distributed Temperature Sensing and Pulsed-Neutron Oxygen Activation Modeling in Complex Wells

Marco Pirrone, Giuseppe Galli, and Roberta Marino, Eni S.p.A.

Signal Processing and Machine Learning for Effective Integration of Distributed Fiber-Optic Sensing Data in Production Petrophysics

Alberto Mendoza, Çağrı Cerrahoğlu, Alessandro Delfino, and Martin Sundin, LYTT Limited

NUCLEAR MAGNETIC RESONANCE OF CUTTINGS: MEASUREMENTS AND INTERPRETATION**An Optimized NMR-Based Workflow for Accurate Porosity and Density Measurement of Drill Cuttings**

Jinhong Chen, Stacey M. Althaus, and J. David Broyles, Aramco Americas; Mohammed Boudjatit, Saudi Aramco

Corrections and Extensions to the Gri Technique: Dual Imbibition, NMR, and SEM Image Analysis

Clara Palencia, University of Houston

Evaluation of Effectiveness of Core Cleaning Methods

Gabriela Singer, Halliburton; Shouxiang Mark Ma, Saudi Aramco RDD; Wei Shao and Songhua Chen, Halliburton; Harry Xie and Phil Hawley, Core Laboratories

Unconventional Drill Cuttings Analysis Using 23-MHZ 2D NMR

Z. Harry Xie and Omar Reffell, Core Laboratories LP

Validation of Porosity of NMR of Cuttings

Michael Dick, Dragan Veselinovic, Taylor Kenney, and Derrick Green, Green Imaging Technologies

RECENT ADVANCES IN BOREHOLE IMAGE TECHNOLOGY AND INTERPRETATION

Automated Corrosion Analysis With Prior Domain Knowledge-Informed Neural Networks

Salma Benslimane, Josselin Kherroubi, Kamaljeet Singh, Jean-Luc Le Calvez, Thomas Berard, and Mikhail Lemarenko, Schlumberger

Best Image: Deep Learning for Saliency Estimation Using Expert Rankings

Pontus Loviken, Nadege Bize-Forest, and Josselin Kherroubi, Schlumberger

BHI Logs and ML Automated Presalt Carbonate: Texture Recognition and Petrophysical Properties Propagation Using Image Log, Core Images, and Porosity-Permeability From Plugs

Barbara Quediman, Enrique Estrada, Radompon Sungkorn and Jonas Toelke, Halliburton

Bridging the Gap Between Geologists and Drillers: LWD Ultrasonic Imaging Goes That Extra Mile

Nadege Bize-Forest, Arnaud Jarrot, Emmanuel Legendre, Daniel Quesada, Isabelle Le Nir, Chandramani Shrivastava, and Thilo Brill, Schlumberger

Comprehend Complex Clastics: Consistent Real-Time Geological Interpretation With Borehole Imaging Independent of Drilling Fluid and Telemetry Limitations

Mathias Horstmann, Chandramani Shrivastava, and Adrian A., Schlumberger; Beate Aas Bakke, Odd Aasheim, Terje Kollien, and Øyvind Stirø, Lundin Energy

Defining Formation Complexity and Anisotropy With Logging-While-Drilling Dual Ultrasonic Images

Naoki Sakiyama, Matthew Blyth, Hiroaki Yamamoto, Mizuki Sagara, Sarwa Tan, Chandramani Shrivastava, Evgeniya Deger, and Hiroshi Nakajima, Schlumberger; Adam Haecker, Continental Resources; Mark G. Kittridge, Occidental

Fracture Characterization Combining Borehole Acoustic Reflection Imaging and Geomechanical Analyses

Xiao-Ming Tang, China University of Petroleum (East); Pei-Chun Wang, CNOOC; Sheng-Qing Li, China University of Petroleum (East); Lei Xiong, CNOOC; Han-Lin Zhang, China University of Petroleum (East)

Use of Impedivity- and Permittivity-Dominated Images to Identify and Characterize Fractures in Altered Basement Rocks – A Case Study From the Norwegian North Sea

Sayyid Ahmad, Halliburton; Ádám Spitzmüller, Jon Haugestaul, István Nagy-Korodi, and Botond Kemény, MOL Norge AS; Eric Van Beest, Peter Barrett, Venkat Jambunathan, Ahmed Fouda, and Baris Guner, Halliburton

SURFACE LOGGING TECHNOLOGY IN THE ERA OF DIGITALIZATION AND NEW ENERGIES

Decoding Nonproductive and Asphaltene Rich Intervals in Conventional Clastic Reservoirs While Drilling

Maneesh Pisharat, Schlumberger; Rolando di Primio and Øyvind Stirø, Lundin Energy; Yon Blanco, Julian J. Pop, Shah Nawaz Molla, Karim Bondabou, Reda Karoum, and Soraya Betancourt, Schlumberger

Key Role of Regearing Mud Gas Logging for Natural Hydrogen Exploration

Dariusz Strapoc and Ivan Fornasier, Schlumberger

Mud-Gas-Data-Based Qualitative to Semi-Quantitative Near-Real-Time Petrophysical Analysis Contributes Crucial Information for Critical Decisions in Real-Time Reservoir Navigation

Nicklas Ritzmann, Svenja Erdmann, Donata Scanavino, and Erik Lehne, Baker Hughes

Real-Time Fluid Identification From Integrating Advanced Mud Gas and Petrophysical Logs

Margarete Kopal, Gulnar Yerkinzy, Marianne Therese Nygård, Alexandra Cely, Frode Ungar, Sandrine Donnadiou, and Tao Yang, Equinor ASA

The Case for Advanced Mud Gas Logging Becoming More Routine in Development Drilling; Examples From the Recent Shell HPHT Infill Campaign in the Central North Sea

Sadat Kolonic, Reema Mohanty, Matt Hale, Mensur Hodzic, Liam Hare, David Jones, Claudius Buerger, and Olaf Podlaha, Shell E&P; Maneesh Pisharat, Schlumberger

Unlocking Large Potentials of Standard Mud Gas for Real-Time Fluid Typing

Tao Yang, Knut Uleberg, Alexandra Cely, and Gulnar Yerkinzy, Equinor

THE ROLE OF LONG-TERM PETROPHYSICS IN CARBON CAPTURE, UTILIZATION, AND STORAGE

A Monitoring CO₂ Method by the Dual Cross-Section Pulsed-Neutron Logging Technology in Heavy Oil Reservoirs

Jilin Fan, China Feng Zhang, Lili Tian, Guiping Xiao, Hui Zhang, and Qunwei Fang, China University of Petroleum-East China

CCUS in Mature Fields: How Core-to-Log Data-Driven Analytics Enhances Mechanistic Models for the Purpose of Reservoir and Caprock Mineralogical Characterization

Marco Pirrone, Federica Di Maggio, Dario Reolon, Massimiliano Borghi, and Maurizio Mele, Eni S.p.A.

Characterization of Pulsed-Neutron Responses to Monitor CCUS Projects

Luis Quintero, Weijun Guo, and Robert Gales, Halliburton



The 27th Formation Evaluation Symposium of Japan, 2022

Hybrid Meeting

13th – 16th September 2022

(TBD) 9:00-17:00 Japan Standard Time (GMT+9:00) Each Day

NOTE to those who consider participation in JFES symposium;

Due to the current COVID-19 pandemic, JFES committees have officially decided that the 27th JFES Symposium will be held as a hybrid of online and onsite event. The online symposium will be designed soon.

CALL FOR ABSTRACTS

Sponsor: SPWLA Japan Chapter (Japan Formation Evaluation Society: JFES)
Cosponsor: Japan Oil, Gas and Metals National Corporation (JOGMEC)

The 27th Formation Evaluation Symposium of Japan will be held as a “hybrid” event over four (4) days from 13th to 16th September. The onsite venue will be in Japan Oil, Gas and Metals National Corporation - Technology & Research Center (JOGMEC-TRC), Chiba. The symposium will be 9:00-17:00 Japan Standard Time (GMT+09:00) each day. All persons involved in oil, gas, new energy, geo-engineering industry, and scientific drillings are invited to showcase your case studies, new technologies and innovations.

The symposium committees are soliciting papers in the following General Themes:

- ◆ Reservoir Characterization of Conventional Reservoirs
- ◆ Reservoir Characterization of Unconventional Reservoirs
- ◆ Automated Methods of Formation Evaluation
- ◆ Specialized Measurement Techniques and Interpretation Methods
- ◆ Core and Well-Log Integration
- ◆ Case Studies

In the special session, “**Geothermal**”, JFES will provide petrophysicists, geologists, geophysicists and engineers with an opportunity to share their expertise and case studies for geothermal energy development. We are soliciting papers in the following Special Themes:

- ◆ Formation Evaluation of Conventional Geothermal Reservoirs
- ◆ Formation Evaluation of Supercritical Geothermal Reservoirs
- ◆ Specialized Borehole Measurement and Well Testing in Geothermal Wells
- ◆ Geophysical Exploration in Geothermal Field
- ◆ Geological Modeling and Dynamic Simulation for Geothermal Reservoirs
- ◆ Formation Evaluation for Direct Utilization of Geothermal Energy

SPWLA Japan Board of Directors encourage students to participate and present. **Best Student Awards** will be presented to the outstanding presentation. The student awarded would be nominated for SPWLA student paper contest in the international SPWLA 2023 symposium.

There will be no poster session, so abstract submission is for consideration an oral presentation only. Each presentation would be total of 25 minutes (TBD), including 15 minutes oral presentation, 10 minutes live Q&A.

ABSTRACT SUBMISSION GUIDELINES

- Abstract must be submitted online using the following Microsoft Forms:

<https://forms.office.com/r/yci8CXgZy4>

- The official language of JFES is English. All submitted abstracts will be archived by JFES, therefore authors are required to thoroughly review the grammar and spelling before submission.

The 27th Formation Evaluation Symposium of Japan



- **Abstract shall contain 200-400 words.**
- Abstract must NOT contain figures, diagrams or tables.
- **The online submitting form will be automatically closed at 11:59 pm Japan Standard Time (GMT+09:00) 20th March 2022** and will not accept submission anymore.
- We are open to accept revision only before the submission deadline. If revision is required, visit abstract submission form again and select “Revision” in the questionnaire. Specify the version to avoid confusion and submit the full text.
- It is essential that the written email address is correct, valid and accepting email message from JFES; acceptance/rejection notice and other correspondence will be made via email. **Your abstract is not successfully submitted until you receive a confirmation email after clicking the final submit button.** If you do not receive a confirmation e-mail, please contact us.

ABSTRACT SUBMITTERS’ DECLARATION

- Once paper is accepted, the abstract will be published in “Petrophysics” journal and JFES homepage for the announcement of the symposium.
- US Copyright law requires a copyright transfer be obtained from authors of papers published in SPWLA publications. Copyright form is signed and returned by the author at the time of submission of Extended Abstract, which subsequently takes a part of the symposium proceeding and is published on One Petro.

NOTE TO AUTHORS

- The JFES technical committee will carefully review all abstracts. Consequently, a notification of acceptance/rejection of the abstract will be sent to you via email no later than **22nd Apr 2022**.
- The authors of accepted papers can submit an Extended Abstract (EA) by **15th July 2022**. EA submission is not mandatory to make presentation in JFES symposium. The authors are requested to revise and resubmit it according to the reviews by the JFES Technical Committee. The EA will be published by OnePetro only after passing the committee review.
- The authors are also required to prepare a pre-recorded video of their paper presentation by **2nd September 2022**. Recording narration over the slides is available with Microsoft PowerPoint. You can also use online conferencing systems to make the video (e.g. WebEx, Skype, Zoom, Google Meet, Microsoft Teams).
- A name of the presenting author needs to be informed to the committee at the time of extended abstract submission. Any co-author of the paper can replace the presenting author as long as the corresponding author inform the Vice President of Technology in a timely manner.
- Further detailed information and guideline about Extended Abstract and pre-recorded presentation submission will be announced when a notification of acceptance is made.
- The technical committee may upload the pre-recorded presentation online system and keep publishing to the symposium participants for a few weeks after the symposium.
- If a presenting author fails to submit the pre-recorded presentation without any previous notice, the author will be subject to a two-year ban at the annual symposium and for publication in Petrophysics.

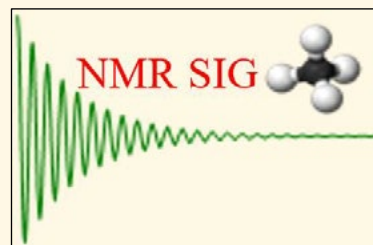
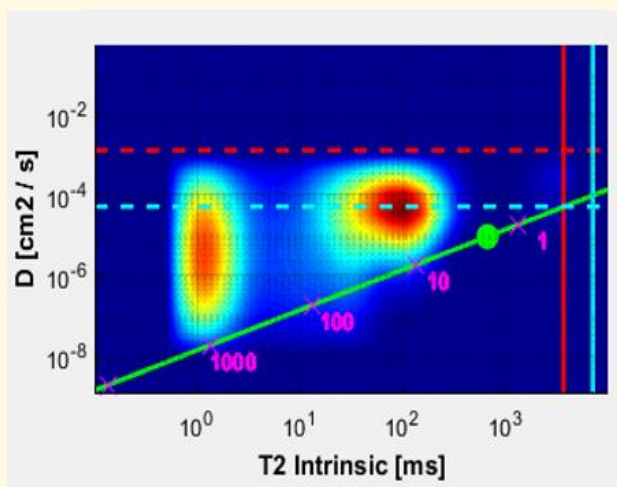
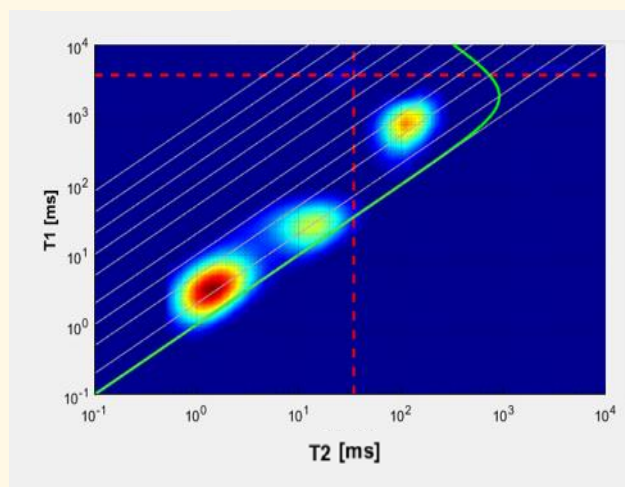
Any change to this policy is at the discretion of the Vice President of Technology and will be studied on a case-by-case basis for exceptional cases.

For any inquiries, please visit the link below and send us a message.
symposium@spwla-jfes.org

The 27th Formation Evaluation Symposium of Japan

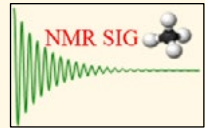
SPINNING UP AN NMR CONFERENCE FOR 2022 AFTER “RELAXATION TIME” TIME TO REFOCUS!

SPWLA FALL 2022 NMR SIG CONFERENCE



Fall 2022

Houston, Texas, U.S.A



GENERAL ANNOUNCEMENT FOR A FORTHCOMING NMR SIG CONFERENCE

The SPWLA NMR SIG board has the pleasure once again of announcing the NMR SIG Conference in the Fall of 2022 in Houston, Texas, U.S.A

The Fall 2022 NMR SIG Conference will happen “rain or shine” and is being planned as an “in-person conference”.

However, if necessary, the SIG will still take place as a virtual event, in the Fall of 2022.

The SIG will be a 1½ day conference featuring NMR related formation evaluation concepts and applications, advances in multi-discipline collaboration, as well as an outstanding opportunity to reconnect with NMR SIG members.

An Announcement - Flyer will be published and circulated later this Spring 2022 with details for actual dates, venue location and the Call for Abstracts.

Authors who have submitted abstracts for the 2021 SIG will have the option to retain their abstract for the 2022 SIG; or to modify and re-submit; or to withdraw their abstracts.

A preliminary and general list of possible NMR topics is below:

- Reservoir Characterization in Unconventionals**
- Reservoir Characterization in Conventionals**
- NMR on Core & Fluid – Integration with well logs**
- NMR and Machine Learning**
- Academia and NMR – Beyond Education**

SPWLA FORTH BOARD OF DIRECTORS MEETING

REMOTE

JANUARY 19, 2022

President Katerina Yared called the meeting to order at 8:03 am. In attendance, President-Elect, Tegwyn Perkins, Vice President Technology, Carlos Torres-Verdin, Vice President Education, Fransiska Goenawan, Vice President Finance, Secretary and Admin, Adam Haecker, Vice President Publications, Songhua Chen, Vice President Information Technology, Harry Xie, Vice President, Mathilde Luycx, Regional Director N. America 1, Robin Slocombe, Regional Director Middle East/Africa, Nelson Suarez, Regional Director Asia Pacific/Australia, Ryan Lafferty, Director Latin America, Bruno Menchio Faria, and Executive Director, Sharon Johnson. Absent: Regional Director N. America 2, Matthew Blyth, and Regional Director Europe, Eva Gerrick.

A motion was made by Vice President Finance, Secretary, and Admin, Adam Haecker to make changes in part to the Annual Symposium Workshop Instructor Reimbursement Policy starting with 2022.

- Limit 3 Instructors per Workshop
- Reimbursement per Instructor \$1,500
- A minimum attendance required for a Workshop shall be 10 professional student registrations (not to include students enrolled in University) was seconded by Vice President Technology, Carlos Torres-Verdin, passed by majority vote.

Requirements remain:

1. Instructors are waived the workshop registration fee only for the workshop they are teaching.
2. The workshop reimbursement policy of the SPWLA establishes that the Board will set a reimbursement amount intended to offset the travel expenses of instructors. This amount is capped at the amount set by the Board and available to any instructor who requests reimbursement. Reimbursement will be made only to those instructors who make a request formally in writing.

A motion made by Regional Director LA, Bruno Menchio, to accept the **Colombia Professional Chapter of SPWLA** was seconded by Vice President Social Media, Mathilde Luycx, passed by majority vote.

ACTION ITEM: Regional Director LA, Bruno Menchio, to notify the **Colombia Professional Chapter of SPWLA** of the Board's decision.

This concludes the January board meeting. Thank you for your participation!

Meeting adjourned 11:11 am

Respectively Submitted by
Sharon Johnson
Executive Director

BOD meeting schedule:

Wednesdays at 8 am CST – 11:00 am CST
March 9, 2022
May 11, 2022

Meetings will be held in person at the SPWLA Business Office Houston or Remote via GoToMeeting.

Chapter News

ABU DHABI CHAPTER

General News

The Chapter encourages the geoscience community interested in joining our chapter to become an active member. Get in touch if you want to be added to our email list or if you want to present during our monthly technical events at abudhabi@spwla.org. Follow us on LinkedIn – SPWLA Abu Dhabi Local Chapter. We would love to hear from you!!

Recent Events

13–14 December 2021—As eager as the chapter was to get back to in-person events, the board decided to host a virtual topical conference via Microsoft Teams titled “Reservoir Fluid Surveillance, Today and Beyond.” The conference had an amazing lineup for Day 1 and Day 2 with presentations about wellbore flow profiling, near-wellbore saturation and fluid movement, far-field saturation, and fluid movement, how to achieve fluid conformance, and explanations on why fluids move the way they do. The conference reached a wide audience from the Middle East, USA, and Europe. Special thanks to all the incredible speakers and their coauthors, moderators, and attendees.



SPWLA 2021 Abu Dhabi Virtual Topical Conference.

25 January 2022—The chapter resumed their monthly technical events with a technical presentation titled “A Petrophysical Journey in the Carbon Capture Sequestering (CCS) World: The Quest Story” by Irma Eggenkamp (Shell).



Picture of Irma Eggenkamp.

ALTERNATIVE SUBSURFACE/ENERGY TRANSITION SIG (ASET SIG)

The purpose of this SIG is the advancement of the science of petrophysics and formation evaluation in nontraditional and new environments, in particular, low-carbon industries such as geothermal energy; carbon capture, utilization, and storage; nuclear waste storage, and non-hydrocarbon extractive industries.

The SIG will also provide a forum to conduct technical discussions concerning data acquisition, applications, interpretation, create awareness of petrophysics and formation evaluation within these industries, and to develop/promote industry standards.

This group also needs to promote ourselves within the non-oil and gas world to show there is a need for petrophysics in this endeavor towards a net-zero world. If you are exploring and drilling wells to record the subsurface with remote sensed equipment, better to have a petrophysicist to interpret this information. We are the experts!

It is open to all current members of the SPWLA who are directly involved or have an interest in learning or adding to the discussion around these different types of subsurface explorations.

To contact the board listed below, email us at aset_sig@spwla.org.



SIG Board:

- Kelly Skuce (Chair)
- Tom Bradley (Vice Chair)
- Katy Larson (Secretary)
- Barry Zhang (Treasurer)

The first board meeting occurred virtually on January 31, 2022.

Attendees: Board members: Kelly Skuce (Chair), Tom Bradley (Vice Chair), Katy Larson (Secretary), Barry Zhang (Treasurer), Katerina Yared (SPWLA President)
Guests: Rodney Garrard (NAGRA), Joachim Strobel (BGE) – Nuclear Storage SMEs

Minutes:

SIG Publicity and Membership:

- Discussion on a plan to publicize SIG and increase membership. The initial approach through LinkedIn posts and SIG updates in the *SPWLA Today* newsletter. Kelly to action.
- Agreed that SIG membership will be at no cost for the time being.

SIG Workshop at Annual Symposium:

- Initially, a two-paragraph proposal/statement is needed for SPWLA. Can be relatively wide-ranging, with the final program to be decided later.
- SPWLA needs to have the proposal before February 10, but ideally before February 7.
 - o Group to circulate ideas by email with an initial proposal ready for review on Friday, February 4
 - o Group to reconvene through Teams on Monday, February 7, to determine final proposal for SPWLA. Tom to send the invite.
- Discussions amongst the group as to what we could do, with many useful ideas from Rodney and Joachim on Nuclear Storage
- Agreed that we will plan for a one-day workshop with a half-day on nuclear storage and a half-day on CCUS.
- Rodney will circulate his work from NAGRA (Swiss radioactive waste disposal company) for ideas.
- Joachim, Rodney to find potential presenters in their network for the Nuclear portion.

ARGENTINE CHAPTER

General News

This committee has been meeting bimonthly during 2021. We plan to continue with these meetings during 2022, where ideas arise to be developed in the chapter.

Due to the global pandemic, we are designing different formats of activities. We must be creative and take this situation as a great opportunity for professional and personal growth. To learn more about us:

<https://www.linkedin.com/in/spwla-capitulo-argentina/>
 email: spwlacapituloargentina@gmail.com
 IG: [spwla_arg](#)

For 2023, we plan to return to the format of “Formation Evaluation Workshops,” as we were doing before the pandemic. The idea is to develop it into a hybrid format. In this case, we will need the support of companies that have the technical capacity to carry out the activity. We will propose different themes and invite and motivate all the training evaluators to send their summaries and present their work that is being carried out, without the need for them to be finished products.

We will continue to support the student chapter in different manners. First, we are planning to perform a survey to better understand the interests/needs of young professionals and advanced students. With the survey results, we can offer activities in an efficient way.

Event videos are available @ our YouTube channel

- Analysis of Petrophysical Properties in Organic Mudstones Applying Digital Rock Physics: A Case in the Middle Magdalena Valley, Colombia. (María Florencia Segovia (Ecopetrol) from December 3, 2021) (<https://youtu.be/HG8YIGHA50g>)
- Challenges and Strategies in the Geosteering of Unconventional Reservoirs (Gustavo Magenta/José Viramonte and Matías Cánova (YPF, S.A.) from October 13, 2021) (<https://youtu.be/IFpVr7C0wWY>)
- The Benefits and Dangers of Using Artificial Intelligence in Petrophysics (Steve Cuddy (Petro-Innovations, UK) from July 5, 2021) (<https://youtu.be/1FqkDoeCbJU>)
- A Postgraduate Training Experience Abroad. Sedimentology and Geochemistry of a Tropical Beach of the Ordovician of New York. (Josefina Vizcaino from August 4, 2021) (<https://youtu.be/NxYilW10xQw> and https://youtu.be/C_h4V26E9h4)

Recent Events

The last meeting of 2021 was held last December. In it, the results of the year’s activity were evaluated, and new challenges were raised for 2022.



Summary 2021 Chapter professional lectures.

Professional talks/virtual lectures were organized, practically one per month, with national, international, and Distinguished Speakers.



2021 summary of chapter activities.

To normalize Argentine Chapter memberships, we strongly encouraged professionals who were interested in our activities to enroll in one of the membership categories SPWLA offers. The results were amazing, and today we have almost 200 members in Argentine Chapter Affiliates YTD.

23 February 2022—Open Talks Cycle: “Impact of Glauconite on Quality as a Reservoir Rock.”



Flyer from the recent talk.

Summary: The occurrence of the mineral glauconite in certain conventional reservoirs has implications for its condition as a reservoir rock, mainly affecting porosity and permeability and the reading of some well profiles (density, neutron porosity, and gamma rays). This talk presents an analysis of this mineral from the lithofacies, mineralogical, petrographic, and electron microscopy points of view associated with basic petrophysics to establish rock quality groups. For this purpose, Cretaceous age reservoirs from South American basins were taken as examples. **Aimé Valdez**, geologist (Grupo LCV), graduated in geology from UNLP and is a specialist in oil and gas production from ITBA, with experience in

the analysis of crown cores and cuttings of conventional and unconventional reservoirs in Argentina, Ecuador, Peru, and Chile, focusing on paleoenvironmental analysis, petrography, diagenesis, and petrophysical quality of the reservoir.

ARGENTINE STUDENT CHAPTER

General News

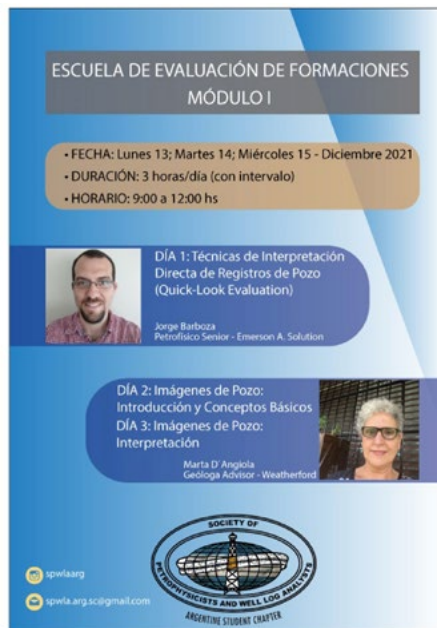
We finished the year 2021, achieving our aim to be the first student chapter in Argentina, beating the record of membership (more than 50 student members joined in just 3 months). We are very proud of ourselves. Additionally, we implemented a subcommittee (set by active student members from the Argentine Student Chapter), which works with the Board of Directors to train future members who will take part in the next board. Moreover, we think this is useful for other members to be familiar with what it takes to be part of SPWLA.

Recent Events

We implemented our first **Geological Formation Evaluation School**. We also developed the school’s first unit titled “Introduction to Formation Evaluation: Well Logging and Petrophysical Parameters,” which consists of 9 weekly hours (three consecutive days, 3 hours per day).

Here is the timetable developed for Unit 1:

- DAY 1: Direct Well Log Interpretation Techniques (Quick-Look Evaluation)
- DAY 2: The Well Log as a Fundamental Tool for the Subsurface Geologist – Introduction and Basic Concepts
- DAY 3: The Well Log as a Fundamental Tool for the Subsurface Geologist – Interpretation of Well Logging



Event flyer.



Event certificate.

Upcoming Events

March 2022—Unit 2, titled “Geology – Drilling: Logging While Drilling (LWD) and Geosteering,” will take place in March. It will consist of a four-day session of 3 hours per day. Dates and timetables are yet to be confirmed, but we already have two highly qualified professionals who will provide us with their knowledge and experiences. Also, we have an innovative proposal for newly received young professionals, which will be the presentation of graduate theses for both bachelor’s and engineering degrees. Therefore, we have a lot of work ahead that we are convinced will be successful.

	<i>To learn more about us,</i>
	Mail: spwla.arg.sc@gmail.com
	LinkedIn: www.linkedin.com/in/spwla-argentine-student-chapter
	Instagram: https://www.instagram.com/spwlaarg/

BANGKOK CHAPTER

General News

SPWLA Thailand Chapter remains active through webinars. While local travel restrictions remain firmly in place, the local chapter is working behind the scenes to bring interesting presentations to our members.

2021 Chapter Committee Members:

- | | |
|-----------------|-------------------|
| President | Andrew Cox |
| Technical Coord | Numan Phettongkam |
| Treasurer | Sirinya Maykho |
| Web Coordinator | Alexander Beviss |
| Secretary | Ronald Ford |

- Sponsorship
- Student Liaison
- Member at Large

- Open Post
- Kruawun Jankaew
- Greg Heath

For local chapter news and information on upcoming meetings, please visit https://www.spwla.org/SPWLA/Chapters_SIGs/Chapters/Asia/Bangkok/Bangkok.aspx.

Email: bangkok.chapter@spwla.org

Recent Events

December 2021—No meeting held due to the holidays.

January 2022—Webinar: Ronald Ford (Gaia Earth Group) presented his recent SPE paper entitled “A Drilling Engineer’s Guide to Optimizing Well Design for Wireline Operations (SPE-207644-MS).” This paper was originally presented at ADIPEC 2021 and reviews the critical factors of well design that can influence wireline cable sticking and provides a process to optimize the design and improve the likelihood of a successful logging operation. The process includes a new formula allowing drilling engineers to calculate the Approximate Keyseating Risk (AKR). It is hoped that, by understanding the risks to logging, drilling engineers can better achieve the data objectives for wells.

February 2022—Webinar: Ana-Maria Elena Andronache, senior petrophysicist (Weatherford), presented her paper “Saturation and Sigma Measurements in Carbonate Formations With Multiple Pulsed-Neutron Technologies: Case Study From Southeast Turkey (SPE-207277-MS).” This case study (originally presented at ADIPEC-2021) demonstrated the consistent and complementary results of logging a well with different pulsed-neutron tools resulting in enhanced petrophysical interpretation.



Ronald Ford (Gaia Earth Group).



Ana-Maria Andronache, senior petrophysicist (Weatherford).

Please check the local website for information on local events and activities for the Bangkok Chapter: https://www.spwla.org/SPWLA/Chapters_SIGs/Chapters/Asia/Bangkok/Bangkok.aspx

BATANGAS STATE UNIVERSITY STUDENT CHAPTER

General News

“Success doesn’t come to you; you go to it” -Marva Collins

The SPWLA Batangas State University has started to prepare for their upcoming events: inauguration, job opportunity webinar, election, and mentorship program. The first meeting was held on January 14, 2022, wherein a discussion for future activities was made, and needed materials for the events were consulted. On January 15 and January 25, 2022, the second and third meetings tackled the organization’s necessary steps for membership registration, election, and inauguration. On January 29, another meeting was arranged to prepare for the upcoming inauguration and mentorship.

On February 24, the event entitled “SPWLA Batangas State University Student Chapter Inauguration” was organized. It was attended by the Vice President of Education at SPWLA International, Ms. Fransiska Goenawan, Regional Director of SPWLA Asia Pacific, Mr. Ryan Lafferty, and Ms. Katerina Yared, President of SPWLA International. The preparation for the mentorship program is still underway, and more SPWLA BatStateU SC members are expected to participate.

Recent Events

24 February 2022—Inauguration: The SPWLA Batangas State University Student Chapter organized an event entitled “Society of Petrophysicists and Well Log Analysts –

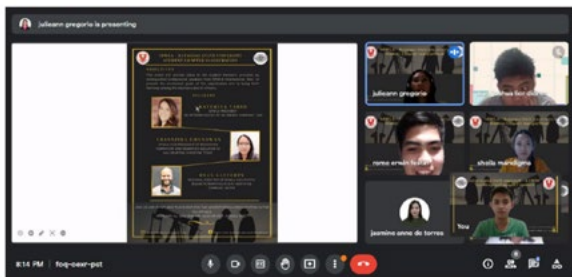
Batangas State University Student Chapter Inauguration.” The event’s main purpose was to present the envisioned goals of the organization and bring forth harmony among the members and its officers. The event was from 8:00 to 10:30 am (Philippine Standard Time) that accommodated all its organizational members and was attended by the Vice President of Education at SPWLA International, Ms. Fransiska Goenawan, the Regional Director of SPWLA Asia Pacific, Mr. Ryan Lafferty, and Ms. Katerina Yared, the President of SPWLA International. The topics presented were “SPWLA Today,” “Future of Student Members in the Oil and Gas Industry,” and the event’s theme “SPWLA SC: Gear UP. Strengthening the Organization.”

Upcoming Events

March, April, May 2022—Mentorship Program: SPWLA BatStateU SC aims to conduct an activity focusing on student members’ technical development and communication skills with an event named “SPWLA BatStateU SC: Knowledge Kickoff Beyond Horizon.” The organization wants to become instrumental in helping students grow, be aware, decide, and plan what the future might be outside the university horizon. Mentorship will be about being, working, and living as a petrophysicist, geoscientist, and reservoir engineer. The target month for this event is March, April, and May, having three (3) sessions of 45 minutes each via Google Meet; the expected time would be 8:00 to 8:45 pm (Philippine Standard Time).

May 2022—Job Opportunity Webinar: The student organization aims to conduct a webinar entitled “Career Readiness.” The target date for the event will be in May from 1:00 to 4:00 pm (Philippine Standard Time) via Google Meet. It is to demonstrate, sharpen and develop skills, knowledge, behavior, and boost ideas in pursuing preferred professions, which will prepare the students who will have their internships and those who are graduating for a successful transition into their life beyond the Batangas State University.

2022—Election of Officers: The SPWLA BatStateU SC aims to organize an event that will allow students to step forward and take the initiative to lead their fellow students. The event would take place in the last week of the academic year. New officers are expected to emerge. A short program will be conducted in recognition of the efforts and achievements of the students and the preceding officers.



The event organizers were prepared for the inauguration on February 24, 2022. A poster was created showing the invited speakers for the upcoming event. The special guest speakers were Katerina Yared, Fransiska Goenawan, and Ryan Lafferty.

BOSTON CHAPTER

Recent Events

8 December 2021—The Boston Chapter hosted Laurent Mossé (Schlumberger) in the auditorium of Schlumberger-Doll Research in Cambridge, MA for an in-person presentation of his Distinguished Speaker lecture, “Identification of Breakout Behind Casing: Methodology to Obtain Openhole-Equivalent Caliper Measurements Through

Slotted Liner Using the Density Tool.” The presentation was also broadcast virtually via MS Teams. The talk was well attended from the combined audience, and it was engaging and provoked many questions.



Laurent Mossé (Schlumberger, center holding plaque) with officers and some members of the Boston Chapter after Laurent's hybrid presentation on December 8, 2021.



Visiting presenter Laurent Mossé (Schlumberger, left) and Boston Chapter secretary Jeffrey Miles take the occasion of Laurent's in-person visit to appreciate a shared SPWLA award for a 2020 Outstanding Petrophysics Paper.

Upcoming Events

18 March 2022—The Boston Chapter will host Sabyasachi Dash (The University of Texas at Austin) at Schlumberger-Doll Research in Cambridge, MA, for a presentation of his Distinguished Speaker lecture, “Enhanced Assessment of Fluid Saturation in the Wolfcamp Formation of the Permian Basin.” The in-person presentation will also be available to SPWLA Boston members via MS Teams.

General News

SPWLA general members and Boston-affiliate members are invited to browse our chapter website <http://boston.spwla.org> for up-to-date information on our mission and events, including event details and registration. Follow us on LinkedIn at <https://www.linkedin.com/in/spwla-boston/>.

BRAZIL CHAPTER

Change in the SPWLA Brazil Chapter Board

With the end of the 2020–2021 cycle, the SPWLA Brazil Chapter announces the change of the board for the 2022–2023 biennium.

President	Lucas Oliveira (Petrobras)
Vice-president	Jânio Cornelio (Schlumberger)
Financial director	Jesus Salazar (Baker Hughes)
Secretary	Leonardo Gonçalves (Petrobras)
Publications	Adna Vasconcelos (Schlumberger)
Students and Young Professionals Director	Maira das Costa Santo (Federal University of Rio de Janeiro - UFRJ)
Advisor	Gabriel do Nascimento Freitas (Petrobras), Giovanna da Fraga Carneiro (Schlumberger), André Carlos Bertolini (Schlumberger), David Xavier (Halliburton)

We would like to thank the previous board and congratulate them for their excellent work! At the same time, we wish the new board success in its mission of disseminating and encouraging knowledge and research in petrophysics and formation evaluation within the Brazilian community.

General News

Our monthly meetings are held online every third Tuesday of the month, at 4 pm (Brasilia Time). Anyone wishing to participate is welcomed. We also post chapter updates and meeting links at our LinkedIn page (SPWLA Brazil Chapter) – check us out. For further information about the chapter, please contact our secretary, Leonardo Gonçalves (leonardo.g@petrobras.com.br). Membership to our chapter is free and can be claimed by filling out the form available at <https://lnkd.in/g4KQjYf>. Meetings are held in Portuguese or English, depending on the speaker's preference. Even if it is held in Portuguese, questions in English are also welcomed!

Recent Events

15 February 2022—We had André Luís Fernandes da Silva de Souza, geologist and petrophysicist (Petrobras), present a talk entitled “MICP-Based Petrophysical Classification of Complex Carbonate Reservoir Rocks,” which discussed how the mercury injection capillary pressure (MICP) technique allowed the extraction of attributes from porous geometries of complex carbonate rocks matrix, which are directly related to hydraulic permeability, functioning as the basis for geological interpretation and correlation, quantification of petrophysical properties, and petrofacies classification.




192ª Reunião Mensal

Terça-feira, 15 de fevereiro, 16h - Teams meeting

MICP-based Petrophysical Classification of Complex Carbonate Reservoir Rocks

M.Sc. André Luís Fernandes S. de Souza

Geólogo de exploração / Reservatórios
PETROBRAS


Invitation to February monthly meeting of SPWLA Brazil Chapter.

Upcoming Events

- 15 March 2022**—We expect to host Felipe Eler presenting “Relative Permeability: Experimental Determination and Its Applications.” Felipe Eler is a reservoir engineer (Advanced Oil Recovery Laboratory of Universidade Federal do Rio de Janeiro (UFRJ)), studying WAG injection in Brazilian presalt reservoirs with emphasis on 3-phase relative permeability, capillary pressure, and hysteresis. Also supporting R&D activities related to relative permeability determination in representative conditions of presalt carbonates. The meeting will happen at 4 pm (GMT-3) and can be accessed by a link released on our LinkedIn page.
- 22–24 March 2022**—The Brazil Chapter is also organizing the first Encontro Brasileiro de Petrofísica de Campos Maduros (Brazilian Meeting of Mature Field Petrophysics – EBPCM) to be held online. Over the 3 days of the event, 30-minute talks are organized into seven technical sessions. One 90-minute roundtable with panelists and moderators is also planned at the end of the last day, in addition to a 4-hour mini-courses on the last day. It will cover technical, regulatory, and commercial aspects of the industry, relating to the following topics:

Chapter News

- Formation assessment techniques (open and cased logs, sample characterization)
- Characterization and modeling for enhanced recovery
- Analysis of petrophysical uncertainties
- Digital rock methods and applications
- Carbon capture and storage



Organização 

More information can be found at the website www.ebpcm.com.br and LinkedIn page www.linkedin.com/showcase/ebpcm. Sponsorships and other types of collaboration are still open, so interested companies can contact us at gabrielnf@petrobras.com.br or gcarneiro2@slb.com

DUBAI CHAPTER

General News

The Dubai Chapter continues with online meetings, which will continue to be held every two months in 2022. Anyone interested is welcome to visit our profile on LinkedIn SPWLA Dubai Chapter or email us at dubai@spwla.org to join our virtual events. We welcome you to ask any questions regarding our chapter.

Recent Events

8 December 2021—Dr. Nigel Clegg presented his paper “Electromagnetic LWD Technologies, Improved Geosteering and Increased Reservoir Understanding,” a very interesting work that was well-explained with good attendance.



SPWLA Dubai Chapter - Virtual Event
Technical Presentation (via Webinar)

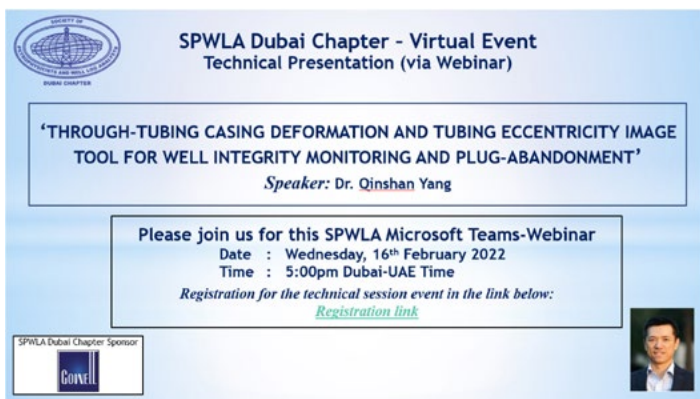
‘Electromagnetic LWD Technologies, Improved Geosteering and Increased Reservoir Understanding’
Speaker: Dr. Nigel Clegg

Please join us for this SPWLA Microsoft Teams-Webinar
Date : Wednesday, 8th December 2021
Time : 5:00pm Dubai-UAE Time
Registration for the technical session event in the link below:
[Register here](#)

SPWLA Dubai Chapter Sponsor 




16 February 2022—The first presentation of 2022 was held on February 16. Dr. Qinshan Yang presented “Through-Tubing Casing Deformation and Tubing Eccentricity Image Tool for Well Integrity Monitoring and Plug Abandonment.”




SPWLA Dubai Chapter - Virtual Event
Technical Presentation (via Webinar)

‘THROUGH-TUBING CASING DEFORMATION AND TUBING ECCENTRICITY IMAGE TOOL FOR WELL INTEGRITY MONITORING AND PLUG-ABANDONMENT’
Speaker: Dr. Qinshan Yang

Please join us for this SPWLA Microsoft Teams-Webinar
Date : Wednesday, 16th February 2022
Time : 5:00pm Dubai-UAE Time
Registration for the technical session event in the link below:
[Registration link](#)

SPWLA Dubai Chapter Sponsor 



Dubai SPWLA chapter would like to thank GOWELL for the generous sponsorship.



DUTCH PETROPHYSICAL SOCIETY

Recent Events

2 December 2021—The Dutch Petrophysical Society held our pre-Christmas meeting. Unfortunately, the tightening of Dutch COVID-19 restrictions shortly before the meeting meant the planned in-person meeting had to be postponed, resulting in a last-minute change to an online meeting and bringing forward our planned topic for March 2022, “Nuclear Waste Storage Petrophysics.” We’re very grateful to Rodney Garrard (NAGRA) and Emilie Peyret (Schlumberger) for volunteering at short notice to jointly present “Wireline Logging and Microhydraulic Fracturing at NAGRA,” discussing the application of wireline logging, petrophysics, and geomechanics to the exploration for and planning of nuclear waste storage sites in Switzerland. As a somewhat different application of petrophysics, the presentation stimulated a very lively online discussion.

Upcoming Events

10 March 2022—Now that COVID-19 restrictions in the Netherlands are being relaxed, we look forward to holding our first in-person event in over two years. We’ll be doing something special. We will be holding a panel discussion on “The Future of Petrophysics” with representatives from industry, government, and academia. After the meeting, we’ll be holding our traditional social event, and we’re hoping that everyone will be looking to get back together and catch up after two years apart. We’re holding this at our usual venue KIVI in Den Haag, with doors opening at 15:30 and the discussion starting at 16:00. Check the DPS website at www.dps-nl.org, the DPS LinkedIn page, and watch for emails from the DPS mailing list for more information, including details of the panelists and how to submit questions and discussion points in advance of the meeting. If you’re interested in sitting on the panel, let us know, too. As always, thanks to the generosity of our sponsors, attendance for DPS members is free of charge.

UFRJ SPWLA STUDENT CHAPTER

General News

Our chapter maintains normal activities with 12 active members organized below:

Board Members

President

Sarah Aleixo
(sarahaleixo@gmail.com)

Vice President

Iago da Costa
(iago.cjaques@gmail.com)Treasurer
SecretarySofia D’Orsi (sgdorsi@gmail.com)
Diana Tabach
(dianatabach21@gmail.com)

Executive Members

Bruno Valle (bruno@geologia.ufrj.br)
Teresa Mourão (teresamourao@gmail.com)
Rodrigo Azambuja (rodrigo.gentil.azambuja@gmail.com)
Amanda Mendes (mendesamanda@ufrj.br)

Marketing Members

Alexandre Nobre (alexandrenobrealeal@gmail.com)
Shirlene Barros (shirlenebarros1@hotmail.com)

Logistic Members

Gabriel Ferraz (gabrielFerraz036@gmail.com)
Beatriz Maluf (be.haas@yahoo.com.br)

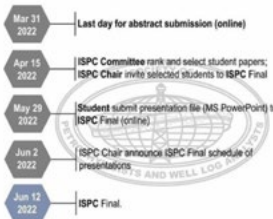
Recent News

Our members still get together at least once per month to discuss our marketing strategy and organize future events. As some members had finished their activities in the chapter, we opened a recruiting period from November 16–28, 2021. This year, three new members joined the team: Alexandre Nobre, Beatriz Maluf, and Diana Tabach.

During the last two months, we have posted informative content on our social media. Each chapter member was responsible for selecting one content related to petrophysics or well logging.

Our chapter will also conduct the Internal Student Paper Contest, so we have announced the Symposium on our social media. We are going to invite the judges as soon as possible. Once this step is done, we’ll decide on a date to hold the internal competition.

2022 SPWLA International Student Paper Contest



Post created to promote the internal competition for ISPC and posted on Instagram (language: Portuguese).



Upcoming Events

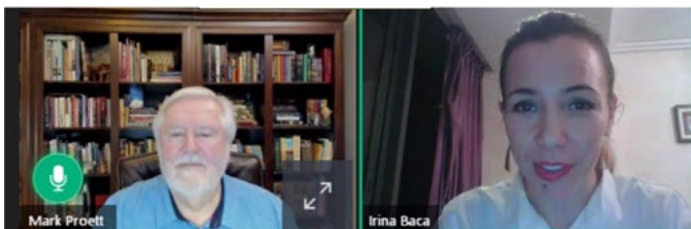
Our team intends to keep organizing some courses with great specialists to teach basic but essential concepts in petrophysics and well logging so that both old and new members stay updated on these topics. As the pandemic has reduced risks, we plan to start new in-person activities like visiting some oil and gas companies this year. Besides that, our chapter and SPWLA UIS Student Chapter are working together to develop a Latin America connection by planning some meetings in Portuguese and Spanish.

Finally, we will continue sharing some trivia and concepts about well logging and petrophysics through our social media posts. To reach a wider audience, we intend to explore new ways to share our content, such as videos, Stories, Reels, and IGTVs. We recognize the current importance of being active on social media.

FORMATION TESTING SIG

Recent Events

We hosted several webinars during 4Q2021 and 1Q2022. In the future, we hope to continue using the webinar platform to reach a worldwide audience and also to bring back the Houston one-day event to keep face-to-face interaction and networking.



Steve Smith (Baker Hughes) and Mark Proett (MPC) presenting during one of the Formation Testing SIG webinars hosted by Irina Baca (Weatherford).

Upcoming Events

16 March 2022—08:30 am USA CST is the last 2021–2022 webinar series event. Adriaan Gisolf (Schlumberger) and Tarek Mohamed (The University of Texas) will be presenting.

April 2022—We are going to have **Formation Testing SIG leadership elections**. Chair, Vice Chair, Secretary, and Treasurer positions are open for elections for a two-year term. Please check the FT SIG page for details.

HOUSTON CHAPTER

General News

As we continued our in-person events, we hosted a lunch seminar with **Isaac Easow** (Geolog Americas Inc.) on December 8. Isaac gave a talk titled “Advanced Surface Logging Techniques Provide Cost-Optimized Solutions for Reservoir Characterization.” This was a free seminar (i.e., sponsored by Geolog) where boxed lunches were provided, and there was also a tour at Geolog facilities, training rooms, and inside the units.

The SPWLA Houston Chapter hosted our biggest in-person event of the year: the **Software Showcase**, on December 10. This has been traditionally a popular event among SPWLA members in Houston, and now it was finally back after three years. We hosted the software show at a magnificent location, the Hyatt Regency Houston West. This showcase was a one-day event with five great talks distributed during the day with plenty of opportunities for networking and seeing the latest advances in software development and applications to formation evaluation. For more details on past and upcoming events, please check our chapter website: <https://spwla-houston.org/> or the Houston Chapter of SPWLA LinkedIn profile: <https://www.linkedin.com/company/houston-chapter-of-spwla/>. Several companies supported the event, including **Schlumberger, GeoSoftware, Emerson, ROGII, Eriksfiord, KAPPA Engineering, K Business Solutions Inc, GOWell, and ISP**.

Spring season is around the corner, and that means we are about to be in full gear with our in-person events and other activities, including seminars that will also be offered online in some cases. **We encourage you to attend our happy hour on March 10 and the technical seminar on April 13.** We are also preparing a **golf event in May**. Please contact us directly if this is something that interests you. Two companies are already registered and have started this conversation, so do not miss your spot! Other events will be announced soon!

If you would like to receive notifications of upcoming events and chapter news, please, go ahead and register on the new SPWLA Houston Chapter website. Additionally, there are multiple interesting sponsorship opportunities and job postings announced there. Please reach out to us if you are interested or would like to receive additional information. As always, we are open to new speakers in our seminars, and

we are looking forward to bringing other guests in addition to our SPWLA DS if the topic is of interest to the petrophysics audience. Contact any board members if you have a presentation you would like to share.

Please stay tuned and check it out for upcoming news! As always, feel free to contact any of the board members if you have any questions or comments using our contacts included below.

Recent Events

December 2021—SPWLA Houston Chapter December Seminar: The SPWLA Houston Chapter would like to express its gratitude to **Isaac Easow** for giving a talk titled “Advanced Surface Logging Techniques Provide Cost-Optimized Solutions for Reservoir Characterization.” We would also like to thank **Neal Cameron** for his help in making this event a success. Furthermore, we would like to thank **GEOLOG International** for sponsoring and supporting this event and providing a great venue to host it. Not only was the event successful, but there has also been a lot of interest in this talk from professionals residing in Houston, from other locations in the US, and from overseas.

10 December 2021—SPWLA Software Showcase: The Houston Chapter of SPWLA hosted our Software Showcase. It was an excellent opportunity for learning and networking in a fantastic location (Hyatt Regency Westside – Energy Corridor). **We would like to thank all the companies that supported the event, including Schlumberger, GeoSoftware, Emerson, ROGII, Eriksfiord, KAPPA Engineering, K Business Solutions Inc, GOWell, and ISP.**



Aside from a full day of talks, the registration also covered exhibition access, networking, a full Texas-style breakfast, lunch, and coffee breaks! There were also giveaway prizes! In addition to the lunch talk given by an SPWLA Distinguished Speaker **Sabyasachi Dash** titled “Enhanced Assessment of Fluid Saturation in the Wolfcamp Formation of the Permian Basin,” four (4) talks were given throughout the day:

- “Evolving Geomechanics With JewelSuite in the Cloud” by **Elijah Odusina** (Baker Hughes)
- “Geolog 21: Reduced Time to Results and Expanded Capabilities for Energy Transition Applications” by **Leomar López Moreno** (Emerson Automation Solutions)
- “Applications of Well Similarity Analysis With Unsupervised Machine Learning” by **Fred Jenson** and **Chiranjith Ranganathan** (GeoSoftware)
- Automatic Interpretation and Pressure Transient Analysis of Formation Test Data Using Azurite” by **Juan Carlos Nunez** (KAPPA Engineering)

Agenda:

- 7:15** Exhibitors’ entry to setup
- 7:45** Breakfast: Full Executive Continental Buffet
- 8:15** Introduction
- 8:30** “Applications of Well Similarity Analysis with Unsupervised Machine Learning” by Fred Jenson (GeoSoftware)
- 9:00** Exhibition, Networking
- 10:00** “Geolog 21: Reduced Time to Results and Expanded Capabilities for Energy Transition Applications” by Leomar Lopez Moreno (Emerson)
- 10:30** “Automatic Interpretation and Pressure Transient Analysis of Formation Test Data Using Azurite” by Juan Carlos Nunez (Kappa)
- 11:00** Exhibition, Networking
- 12:00** Texas 1836 lunch buffet with SPWLA 2021 Distinguished Speaker guest speaker lunch talk: “Enhanced Assessment of Fluid Saturation in the Wolfcamp Formation of the Permian Basin” by Sabyasachi Dash (The University of Texas at Austin)
- 13:30** “Evolving Geomechanics With JewelSuite in the Cloud” by Elijah Odusina (Baker Hughes)
- 14:30** Afternoon break: Clean Energy juices and fruits
- 14:50** Closing remarks and possible door prizes
- 15:00** Closing

Upcoming Events

10 March 2022—Social Networking Event, 5–8 pm

Location:

*Cedar Creek Bar & Grill
1034 W 20th St, Houston, TX 77008*

The entire SPWLA community is invited—no need to RSVP.

Come at your leisure. No payment is required. Come and mingle with fellow petrophysics enthusiasts. Our social events are well attended by petrophysicists, geologists, geophysicists, engineers, and managers. We expect to also have current and past SPWLA International board members as well as recognized names in our industry! We encourage you to follow CDC rules and self-check before attending. This will be an outdoor event so dress appropriately for Houston’s early March weather!

Sponsorship opportunities available

If you or your company are interested in partial funding, you are more than welcome. If you can help to find more funding, that would also be welcome:

- Silver Sponsorship: \$300
- Gold Sponsorship: \$500
- Platinum Sponsorship: \$750
- Other amounts are welcome, even if lower or intermediate. All sponsors’ logos and an acknowledgment will be included in the Chapter News, website, and newsletter and mentioned during the event.

13 April 2022—Lunch Seminar, 11:30 am–1:00 pm: “Pore Pressure Principles and Practical Applications” by Scott Cintula (Quad Operations Inc.).

Location:

Geolog Americas 10402 Valley Forge Dr., Houston, TX 77042
This activity will include a boxed lunch with the talk and a tour of the Geolog laboratory after the presentation. **The seminar is sponsored by GEOLOG, so there is no charge for registration. However, attendees need to register because limited space is available.**

Details will be shared with registered members via email and on our website.

A golf event is also coming soon. Please contact us directly if this interests you!

More details are available on the Houston Chapter’s website: <https://www.spwla-houston.org/> and the Houston Chapter LinkedIn profile: <https://www.linkedin.com/company/houston-chapter-of-spwla/>

Stay always tuned!



Geolog International North America Sales Manager Neal Cameron welcomes the attendees to the technical talk by Isaac Easow.



SPWLA Houston Chapter President Javier Miranda introduces the speaker, Isaac Easow, while attendees enjoy a free lunch sponsored by **Geolog International**.



The speaker Isaac Easow explains how advanced surface-logging techniques provide cost-optimized solutions for reservoir characterization.



Isaac Easow gave a very informative talk titled "Advanced Surface Logging Techniques Provide Cost-Optimized Solutions for Reservoir Characterization."



SPWLA Houston Chapter President Javier Miranda (left) acknowledges speaker Isaac Easow (right) for his very instructive technical seminar.



Geolog Americas offered a great location to host technical seminars and provided participants with notebooks, pens, and technical journals.



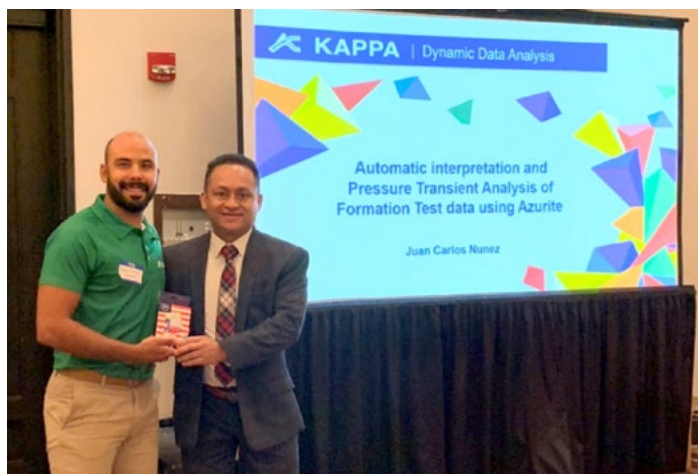
Participants enjoyed a full Texas-style breakfast, lunch, and coffee breaks.



SPWLA Houston Chapter President Javier Miranda (right) delivers an appreciation gift to Fred Jenson (GeoSoftware) (left).



SPWLA Houston Chapter President Javier Miranda introduces the presentation titled “Geolog 21: Reduced Time to Results and Expanded Capabilities for Energy Transition Applications” by Leomar Lopez Moreno (**Emerson**).



SPWLA Houston Chapter President Javier Miranda (right) delivers an appreciation gift to Juan Carlos Nunez (**Kappa**) (left).



SPWLA Houston Chapter President Javier Miranda (right) delivers an appreciation gift to Leomar Lopez Moreno (**Emerson**) (left).



The Houston Chapter of SPWLA would like to thank **GeoSoftware** for sponsoring and supporting the event. Its presence was greatly appreciated by the petrophysics community.



SPWLA Houston Chapter President Javier Miranda (left) introduces the presentation titled “Automatic Interpretation and Pressure Transient Analysis of Formation Test Data Using Azurite,” by Juan Carlos Nunez (**Kappa**) (right).



The Houston Chapter of SPWLA would like to thank **ISP – Interpretive Software Products** for sponsoring and supporting the event. Its presence was greatly appreciated by the petrophysics community.



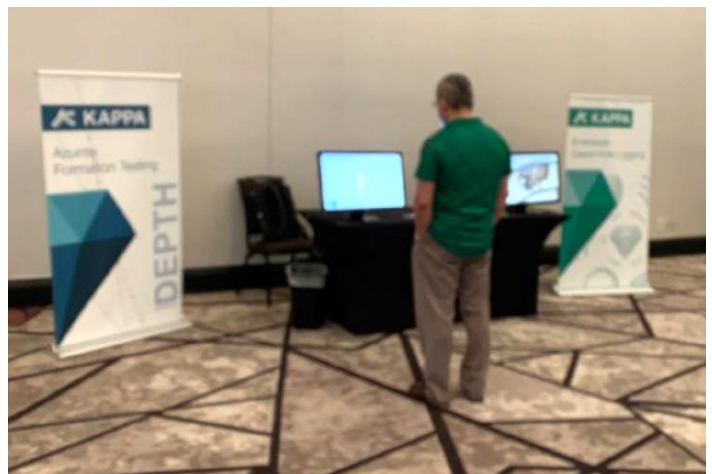
The Houston Chapter of SPWLA would like to thank **GOWell** for sponsoring and supporting the event. Its presence was greatly appreciated by the petrophysics community.



The Houston Chapter of SPWLA would like to thank **ROGII** for sponsoring and supporting the event. Its presence was greatly appreciated by the petrophysics community.



The Houston Chapter of SPWLA would like to thank **Emerson** for sponsoring and supporting the event. Its presence was greatly appreciated by the petrophysics community.



The Houston Chapter of SPWLA would like to thank **KAPPA** for sponsoring and supporting the event. Its presence was greatly appreciated by the petrophysics community.



The Houston Chapter of SPWLA would like to thank **Schlumberger** for sponsoring and supporting the event. Its presence was greatly appreciated by the petrophysics community.



The Houston Chapter of SPWLA would like to thank **Eriksfiord** for sponsoring and supporting the event. Its presence was greatly appreciated by the petrophysics community.



The Houston Chapter of SPWLA would like to thank **K Business Solutions Inc** for sponsoring and supporting the event. Its presence was greatly appreciated by the petrophysics community.



SPWLA Houston Chapter VP North Side Jeff Crawford (right) delivers an appreciation gift to Elijah Odusina (**Baker Hughes**) (left) for his talk titled "Evolving Geomechanics With JewelSuite in the Cloud."











Attendees enjoyed a Texas 1836 lunch buffet before the SPWLA 2021 Distinguished Speaker Guest Speaker lunch talk.



SPWLA Houston Chapter VP North Side Jeff Crawford (right) delivers an appreciation gift to SPWLA Distinguished Speaker Sabyasachi Dash (left) for his talk titled "Enhanced Assessment of Fluid Saturation in the Wolfcamp Formation of the Permian Basin."

SPWLA Houston Chapter Board for 2020–2022

 Javier Miranda PRESIDENT president@spwla-houston.org	 Jeff Crawford VICE-PRESIDENT NORTH SIDE vpnorthside@spwla-houston.org
 Hyungjoo Lee VICE-PRESIDENT DOWNTOWN vpdowntown@spwla-houston.org	 Bernd Ruehlicke VICE-PRESIDENT WESTSIDE vpwestside@spwla-houston.org
 Ronke Olutola TREASURER treasurer@spwla-houston.org	 Hans Wong SECRETARY secretary@spwla-houston.org
 Artur Posenato Garcia EDITOR editor@spwla-houston.org	 Tianmin Jiang WEBMASTER webmaster@spwla-houston.org

HYDROCARBON RESERVES SIG

The SPWLA Hydrocarbon Reserves Special Interest Group (SIG) board of directors recently gathered to organize upcoming activities, review our plans for 2022, including a seminar for SPWLA members, and follow up with pending actions for our contributions to the Oil and Gas Reserves Committee (OGRC) ongoing document on reserves.

We are also preparing a formal introduction to the group during the International Symposium in June. We hope other hydrocarbon reserves enthusiasts will eventually join us, especially after the annual meeting in Stavanger.

This group is one of the most recently created in our society. Although the initiative was started after the Annual Symposium in The Woodlands back in 2019, it was officially approved by the international board of directors in early 2020 after a formal petition was introduced in December 2019.

Resources and reserves estimation is an essential task in the hydrocarbon industry where we play a key role. Results are used for internal resources accounting, financial transactions, and regulatory reporting at least. To ensure consistency, transparency, and reliability, several entities, including professional societies, regulators, public, private, and reserves consulting companies, have developed guidelines. While the Petroleum Resources Management System (PRMS) by SPE, AAPG, WPC, SPEE, SEG, EAGE, and SPWLA is becoming an industry-wide standard, different guidelines tied to different countries and stock exchanges exist. In some cases, it is required to apply PRMS guidelines in parallel with local regulating agencies' standards.

Based on this background, what is the role of petrophysics in resources and reserves assessment? Also, what are fit-for-purpose guidelines (emphasis on guidelines, not rules) that are reasonable and necessary?

This group has been actively working to address all these items during in-person and virtual work sessions. Several email communications were also part of our work during the pandemic in the last two years.

We initially focused on net pay; this topic was picked primarily as the start of our special interest group and part of our initial work with PRMS and OGRC. However, other intertwined topics related to it have also been partially covered in parallel. The impact of porosity and water saturation on reserves estimation will be discussed in more detail and expanded as required. We need to keep in mind each one of them can be the subject of extensive discussions and documents by itself.

Our chapter board is conformed for individuals involved in reserves evaluations representing the most recognized companies on this subject as follows:

President	Luis Quintero (Halliburton)
Vice President	Javier Miranda (DeGolyer and MacNaughton)
Secretary	Cecilia Flores (Ryder Scott)
Treasurer	Joshua Oletu (Gaffney, Cline & Associates)

SPWLA reserves SIG also would like to take a moment to thank our outgoing board member. You made a difference through your dedication and continued support of our SIG during the initial activities to create it:

Secretary	George Dames (Ryder Scott)
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We have been working for our members on several fronts, especially with OGRC, thanks to a very dynamic team, which is poised to do our best to bring valuable contributions to our society. We encourage those interested in this important topic to participate in our upcoming workshop in Stavanger, Norway, and become part of our SIG by being involved in other activities.

COVID-19 has challenged our industry in many ways, but at the same time, it has triggered several opportunities and new forms to interact and reach out to you as a society. One example is now we can reach more members with our SIG and local chapters and offer abundant learning opportunities as a professional society via virtual seminars. However, we also remained committed to restarting our in-person events, including seminars and our first workshop.

Finally, we want to announce that more details about our SIG will be posted on the SPWLA.org website very soon. We hope you like the changes and new details and contact information included that will make it easier and quicker to interact with our members. Please stay tuned and check it out!



SPWLA Hydrocarbon Reserves SIG board of directors meeting in Houston, Texas. (From left to right) Joshua Oletu, Javier Miranda, Cecilia Flores, and Luis Quintero.



(From left to right) Javier Miranda and Luis Quintero, Vice President and President of the SPWLA Reserves SIG, participate in NAPE networking activities in Houston, Texas.

IGUP STUDENT CHAPTER-PAKISTAN

Boards of Directors (2021–22)

The names of the board of directors with their designation and contact details are as follows:

Dr. Muhammad Armaghan Faisal Miraj
Faculty Advisor (armghan.geo@pu.edu.pk)

Mr. Muhammad Bilal Malik
President (bilalmalik00791@gmail.com)

Miss Pal Washa Shahzad Rathore
Vice President (palwashashahzad97@gmail.com)

Mr. Rana Faizan Saleem
Secretary (ranafaizan7737@gmail.com)

Mr. Sher Afgan
Treasurer (sherafgan1994@gmail.com)

Miss Maha Ali Haider
International Relations Chairperson
(mahaalihaider26@gmail.com)

Miss Irza Akhtar
Membership Chairperson (irzaakhtar1999@gmail.com)

Mr. Shan Shahzad
Event Manager (shan.mphil.geo@pu.edu.pk)



SPWLA IGUP STUDENT CHAPTER-PAKISTAN

TEAM MEMBERS



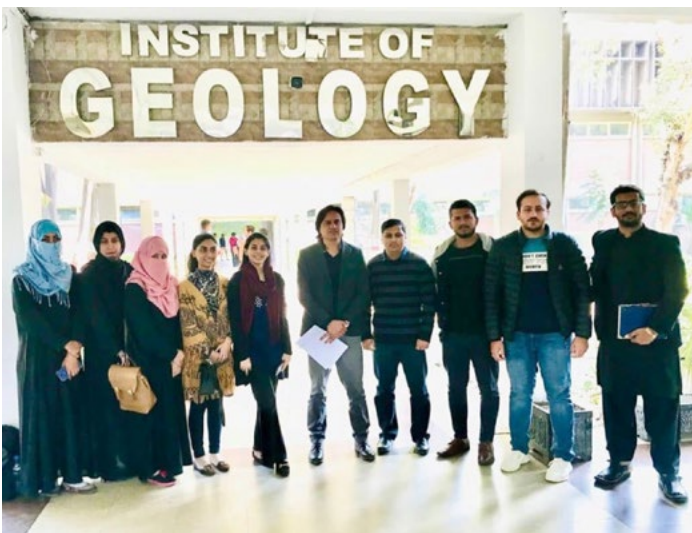
General News

SPWLA IGUP Student Chapter-Pakistan plans to resume in-person meetings or a hybrid of in-person meetings for upcoming events. Moreover, SPWLA IGUP Student Chapter-Pakistan is currently focusing on promoting the motto and benefits of the chapter. For this purpose, the board of directors is visiting the different universities in Pakistan.

Recent Events

7 February 2022—Recently, team members of the SPWLA IGUP Student Chapter-Pakistan visited one of the largest universities of Pakistan, i.e., the University of the Punjab, Lahore. The main theme of the visit was to provide awareness regarding the objectives and benefits that the students will get from membership in the SPWLA IGUP Student Chapter-Pakistan.





26 February 2022—SPWLA IGUP Student Chapter-Pakistan organized a one-day field excursion of the Eastern and the Central Salt Range (a geological field museum), Pakistan, to understand the tectono-stratigraphic framework of both the parts of Salt Range. This was a great opportunity to learn the geodynamics of the Salt Range.

More details about the upcoming events and updates can be seen on our social pages as:

LinkedIn: <https://www.linkedin.com/in/spwla-igup-student-chapter-pakistan-57b116219/>

Facebook: <https://www.facebook.com/SPWLA-IGUP-Pakistan-107338908181070>

Contact Details: spwla.igup.pak@gmail.com

IGUP
UNIVERSITY OF THE PUNJAB

STRATIGRAPHIC AND STRUCTURAL TRAVERSE TO EASTERN AND CENTRAL SALT RANGE

Organized by SPWLA IGUP STUDENT CHAPTER PAKISTAN

February 26th 2022

Purpose of Field

- Identify rock types and interpret their mode of formation
- Use observations to make interpretations about the geologic history of the area
- Describe the dynamics of regional geologic processes
- Explain the interaction of bedrock and surface processes in the formation of the regional geology

Benefits

- Understanding of tectono-stratigraphic study of Salt Range
- Prize distribution for field quiz
- Traveling
- Hiking

25 Free Sponsorship for Toppers from Different Universities

Resource Persons

- Professor Dr. Naveed Ahsan
- Dr. Matloob Hussain
- Dr. Saif-Ur-Rehman
- Dr. Muhammad Armaghani Faisal
- Mr. Abdul Hannan

Registration Fee

For SPWLA Members (Rs. 2,000/-)
For Non-members (Rs. 2,500/-)

Pay via Jazz Cash (03007125570)
Easypaisa (03117404009)
Send screenshot after payment

Contact for SPWLA Membership

+92 311 7023490
Register Here
<https://bit.ly/3evQ8kk>

Contact

Website: www.facebook.com/spwla.igup.pak
email: spwla.igup.pak@gmail.com
Ph: 0333-4242056, 0333-5954449

Departure

Institute of Geology, University of the Punjab Quaid-e-Azam Campus, Lahore 54590, Pakistan.

INDIA CHAPTER

The Triaxial Journey at ONGC: Unraveling Uncertainties Step by Step

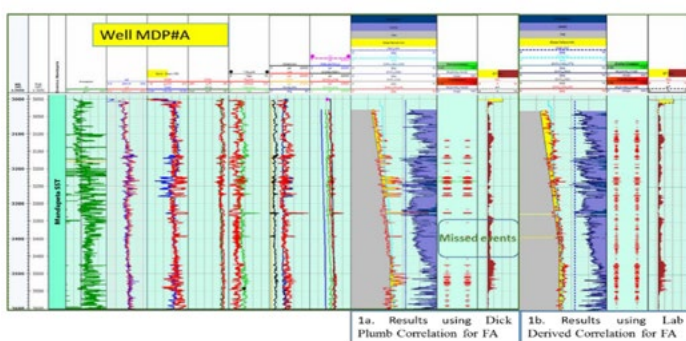
Authors: Alok Gupta, Sanjeev Lakhera, Vinod Kumar, VLN Avadhani – CEWELL, ONGC Vadodara

The domain of geomechanics took a giant leap in the E&P Industry during the last two decades. Starting with a focus on addressing borehole stability issues, it has graduated into the domain of reservoir geomechanics and touches every stage of E&P workflow. For tight and unconventional reservoirs, geomechanics is integral to the reservoir characterization workflow and in deciding exploration and exploitation strategies. ONGC is closely following these developments and evolving its workflows accordingly. As the scope of work for geomechanical workflows expanded, so did the need to address various uncertainties. To address some of these uncertainties, a triaxial rock testing facility was established

at CEWELL, Vadodara, in 2019. Concerted efforts were made to take conventional cores in key wells in tight reservoirs in Western Region (Nawagam, Gamij, Ahmedabad Fields) and Southern Region (Mandapeta and Malleswaram Field).

As a first step, localized dynamic vs. static correlations were generated for mechanical properties (UCS, Young's modulus, and Poisson's ratio), which helped to finetune the 1D MEMs. However, the real value comes from the statistical analysis of the database generated over the two years. A small but relevant case is presented to highlight this. Generally, the borehole is relatively more rugose against shales compared to sands. However, in Mandapeta Field, KG Basin, an opposite trend is seen against the Mandapeta Formation. Shales are seen to be more stable than sands. The borehole failure trends also could not be modeled perfectly, even while using triaxial lab-derived correlations for UCS, Young's modulus and Poisson's ratio, and Dick Plumb correlation (DPC) for friction angle, FA (Well MDP#A, Fig. 1a).

The triaxial data generated across four wells in the area were therefore analyzed for observing trends in all geomechanical parameters, including Friction Angle (FA). The data revealed trends just opposite of Dick Plumb correlation. The FA vs (1-PHIT) trend seems to provide a better correlation for friction angle. The 1D MEM with this core-based correlation (Fig. 1b) was able to model all the borehole failures in a much better way in the present well and the other four wells in the area. As more and more triaxial experiment data are being added to the database, the possibilities to understand field-specific and generalized sensitivity in different Indian basins are being explored. These reports are being percolated down as standard parameters to be used in different study areas.



Petrophysical Uncertainty Analysis in Deterministic Method – Discussion on Various Workflows and Approaches

Authors: Anish Krishnapillai (Emerson Exploration and Production Software)

Introduction

In any petrophysical interpretation, there is always uncertainty on the results due to the parameters used in the equations or even the equation itself. It is often the case where the parameters or the equations used by the interpreter are, based on his experience and knowledge of the reservoir available during the interpretation. This will finally lead to an interpretation with a single value for hydrocarbon in place. However, during the project economic viability study, we need to consider the possible upside and downside of the interpretation. To do this, the Monte Carlo technique is used to quantify the uncertainties and their impact on the result.

Principally, the uncertainty in petrophysical interpretation is due to the following factors such as random uncertainty (measurement noise and formation heterogeneity), systematic uncertainty (log calibration errors), and model-based uncertainty (different interpretation models). Therefore, it is important to quantify the uncertainty and to know the best workflow/approaches pursued while analyzing the uncertainty. A discussion and benefits about the different workflow/approaches of uncertainty analysis for deterministic petrophysical evaluation are given below.

Discussion about Deterministic Uncertainty – Workflow/ Approaches

Monte Carlo processing involves running a calculation, or a series of calculations, many times, while randomly varying each measurement and parameter within a given statistical distribution to reflect the analyst's uncertainty in those variables. From this process, many results are obtained, showing the range and distribution of possible answers given the uncertainty described.

First, we will discuss the different Monte Carlo workflows generally used in deterministic uncertainty analysis. In a deterministic method, a petrophysicist calculates the formation properties like shale volume, porosity, and saturation in a series of steps. It is possible to run each step in the process many times using different parameters. The output from each step will be either a mathematical distribution which closely matches the results or a set of three curves showing most likely, high, and low values for each result. These outputs are then used as an input for subsequent steps in the process. For example, Vsh could be run through a Monte Carlo process, then three versions of the Vsh curve could be used as input for the porosity calculations. This kind of Monte Carlo analysis step is known as “modular workflow.”

Apart from modular workflow, it is also possible to run complete deterministic analysis in one step, starting from shale volume to saturation in a single step. This step can be repeated with varying parameters in the defined range and generate a distribution of output curves. This workflow is known as “single workflow.”

Modular workflow analysis can increase the uncertainty when results from different modules, which are dependent on each other, are used in subsequent modules. For example, if porosity and saturation are both calculated with possible error bars, then the porosity uncertainty would be present in both the porosity and saturation error distributions. And these are used further to determine the bulk volume of hydrocarbons in place. This leads to a situation where a combination of porosity and saturation uncertainty will be a part of the Monte Carlo results but which cannot co-exist.

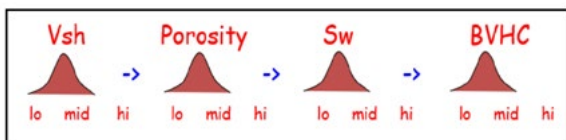


Fig. 1—Image showing “Modular” Monte Carlo workflow.

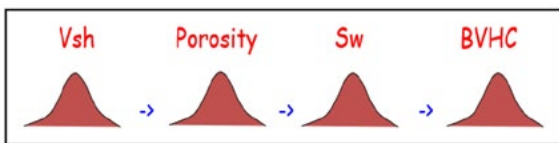


Fig. 2—Image showing “Single” Monte Carlo workflow.

In a single workflow, each individual iteration gives a set of results that represent a valid interpretation. These results can be sorted based on the final computation; usually, oil in place and actual P90, P50, and P10 results are produced. Another benefit of a single workflow technique is that a sensitivity analysis can be run, which gives the relative contribution of each log and parameter to the overall uncertainty, based on how much each one influences the results.

The second important aspect is the different methods to run the Monte Carlo processing in deterministic analysis, which is named “horizontal” and “vertical” processing. In horizontal processing, the parameter and log value offsets are randomly defined, and the full set of calculations is performed for a single depth increment. This process runs multiple times, with all the results are stored, before moving on to the next sample depth. Then, for the next sample depth, a new set of parameters and log offsets are randomly defined. This will be continued for analyzing the complete reservoir interval.

Depth	Iteration 1	Iteration 2	Iteration 3	Iteration 4	Iteration 5
5000	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile
5000.5	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile
5001	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile

Fig. 3—Horizontal Processing Method.

In vertical processing, the parameters and log value offsets are randomly defined and then used for the entire processing interval. Once the calculations are run for the entire interval, results are stored. Then, the parameter and log value offsets are redefined before running the subsequent iteration for the entire interval.

Depth	Iteration 1	Iteration 2	Iteration 3	Iteration 4	Iteration 5
5000	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile		
5000.5	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile		
5001	Vsh @ Sw Infile	Vsh @ Sw Infile	Vsh @ Sw Infile		

Fig. 4—Vertical Processing Method.

Horizontal processing allows effective modeling of random uncertainty, but it does not incorporate the systematic uncertainties and is unable to generate percentile-based results such as P90, P50, and P10. On the other hand, vertical processing allows effective modeling of both systematic and random uncertainty.

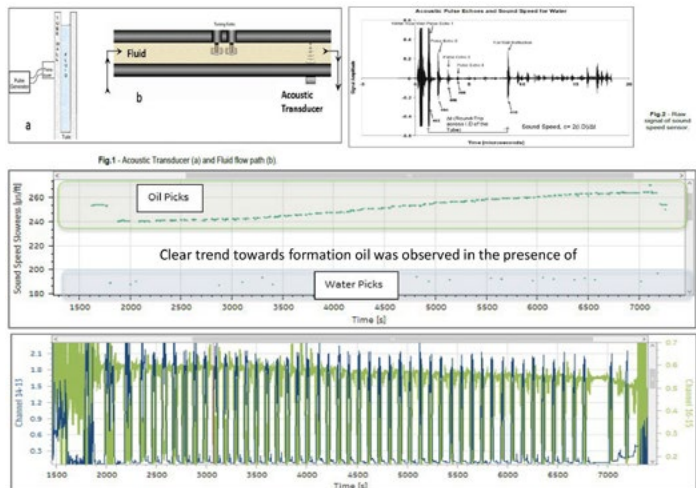
Conclusion

Uncertainty analysis plays a crucial role in reserve estimation for visualizing the project economic scenarios. Therefore, it is important to understand the uncertainty associated with petrophysical interpretation, which forms the basis for reserve estimation. Based on the above-discussed workflow/approaches for understanding and addressing the uncertainties, a single workflow with vertically processing in Monte Carlo is found to be better, as it provides a better estimation of uncertainty on petrophysical results while using the deterministic method.

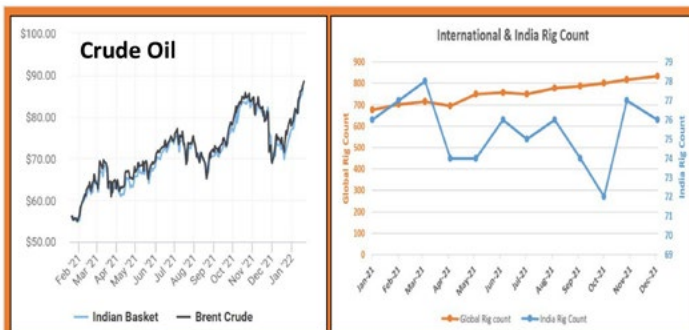
Deployment of Advanced Ultrasonic Sound Speed Sensor for Accurate and Faster Real-Time Downhole Fluid Identification in Complex Multiphase Flow

Authors: Varghese Christeen, Dash Nihar, Saurabh Kumar – Baker Hughes India

In a recently drilled crucial exploratory well in Mumbai offshore, a fluid analyzer containing an ultrasonic sound speed sensor was deployed for formation testing and sampling in an SOBM environment. The sensor measures the speed of the sound through the fluid utilizing a piezoelectric transducer mounted on the outer wall of the flowline. The sound signal travels through the fluid flowing in the flowline and travels back to the receiver. The fluid’s sound speed is calculated based on the roundtrip distance and traveltime. Changes in sound speed (or slowness) with time during pumpout can be used to identify the fluids and to monitor the cleanup process.



Disclaimer: The material and opinions expressed by this chapter reflect what is believed to be an informed opinion. They are not represented as being the opinions of any regulatory body. Readers are urged to obtain independent advice on any matter or subject.



The well-presented various challenges include high overbalance (~3,100 psi), low mobility, and multiphase flow conditions. In addition to that, the stationary time needed to be minimized due to wireline deployment under high overbalance to manage the risk of differential sticking, while sufficient pumpout volume is needed for accurate fluid identification and acquisition of clean samples. To address these challenges, RCX-S-eXcel with a large area packer (33 in.²) along with absorbance spectroscopy and ultrasonic sound speed sensor was deployed in this well.

The varying property of sound slowness in SOBM, formation oil, and water allowed us to observe their cleanup trend simultaneously, thus helping in quick fluid identification (average pumpout time being 90 minutes). Pumpout was carried out at seven depths (FID), and five samples were collected, out of which two were under multiphase flow conditions (formation oil + formation water + SOBM). All desired objectives of the operation were successfully met while avoiding stuck tool scenarios.

LONDON PETROPHYSICAL SOCIETY (LPS)

General News

With the reduction in COVID restrictions, the London Petrophysical Society has plans to host a mix of in-person and online events during 2022. The current list of events is listed on our website.

Recent Events

- December 2021**—The LPS returned to hosting in-person seminars at the Geological Society in London. The subject of this seminar was “Petrophysics for Geomodeling.” This event was well attended, demonstrating that there is still a good level of interest from members in physical events. This was followed by the President’s Evening. Many thanks to everyone who attended and to both our regular sponsors and particularly those companies who directly contributed to the President’s Evening – ERCE, Baker Hughes, and Schlumberger.
- 15 February 2022**—The LPS hosted an evening talk on “Real-Time 3D Imaging of Complex Turbiditic Reservoir Architecture.” This talk was part of the 2022 Distinguished Speaker Series and was given by Supriya Sinha (Halliburton).
- 24 February 2022**—The LPS held an online “New Technology Day.” This was an occasion for service companies to introduce new services or case studies to the LPS membership.

Upcoming Events

16 March 2022—The London Petrophysical Society will be holding an in-person, one-day seminar on “Petrophysics in Well Planning and Execution.” It will consist of a series of presentations showcasing case studies, best practices, and novel approaches in petrophysical data acquisition planning and logging operations.

NUCLEAR SIG

The Nuclear Logging SIG resumed its technical meeting postponed due to COVID-19. The Biennial in-person meeting was replaced by a two-part online meeting to reach SIG members spread across multiple geographical regions and time zones. Part I, geared towards members in the Western Hemisphere, was held on November 10, 2021. The four technical talks were followed by a session on SIG activities and plans. The Minutes of the meeting can be found on the Nuclear SIG page on the SPWLA Website https://www.spwla.org/SPWLA/Chapters_SIGs/SIGs/Nuclear_/Nuclear.aspx

Part II of the meeting, geared towards SIG members in the Eastern Hemisphere, is planned for Spring 2022. SIG VP of Technology R.J. Radtke is the organizer of the SIG’s technical meetings.

National Academy of Sciences Report

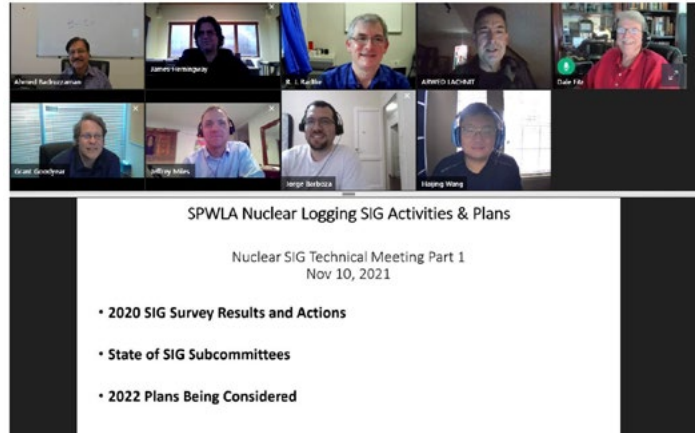
Following up on its 2008 report to US Congress on radioactive sources and alternatives, the US National Academies had a special Committee prepare a new report during 2020–2021. It was released in August 2021. A free PDF version of the report can be downloaded from <https://www.nap.edu/catalog/26121/radioactive-sources-applications-and-alternative-technologies>

The report covers major industrial applications of radioactive sources, including well logging. Alternatives are being sought to reduce safety and security risks posed by industrial use of radioactive sources. Several industry players were invited to speak to the NAS Committee that prepared the report. The Nuclear SIG Chair, Ahmed Badruzzaman, an SME consultant to the US Department of Energy, was an official reviewer of the report.

Upcoming Events

29–30 March 2022—**SPWLA Casedhole Formation Evaluation Workshop:** A short workshop on casedhole FE will be held online over two half-days. It has been arranged by the SPWLA VP of Education and organized by Nuclear SIG members Ahmed Badruzzaman and Dale Fitz, who will lead the discussion. Other speakers will be Jim Hemingway, David Rose, Weijun Guo, Feyzi Inanc, and

Gregory Schmidt, all Nuclear SIG members. Please register if you have not, at the following site https://www.spwla.org/SPWLA/Meetings_Resources/Event_Display.aspx?EventKey=TSCHF0322&WebsiteKey=2bd2b1b6-589e-401d-a9bb-9af59ad1b656



A snapshot of the Nuclear SIG Technical Meeting held on November 10, 2021. (Courtesy of Fransiska Goenawan, SPWLA VP of Education)

OKLAHOMA CITY CHAPTER

Recent Events

11 January 2022—Andrew Barry (Continental Resources) presented “How the Resistivity Discrepancies Between Laterolog and Induction Response in an Electrically Anisotropic Rock Can Greatly Affect Calculated Water Saturations (S_w), and Ultimately Oil in Place.”

8 February 2022—Isaac Easow (Geolog) presented “Advanced Surface Logging Techniques Provide Cost-Optimized Solutions for Reservoir Characterization.”

Upcoming Events

8 March 2022—Joe Comisky (Devon Energy) will present “Practical Aspects of Core/Log Integration in Organic Mudstones” – Vast – from 11:30 am to 1 pm.

12 April 2022—Giovanni Zaroni (POFG) will present “Clay Mineral Diagenesis in Cretaceous Dentale and Gamba Clastic Reservoirs From the South Gabon Basin (West African Passive Margin) New Insights on the Regional Geology and Basin Evolution History” – Vast – from 11:30 am – 1 pm.

PDDA SIG

Recent News

The PDDA-SIG is concluding the 2021 Machine-Learning Contest. The contest aims to develop data-driven models to estimate reservoir properties, including shale volume, porosity, and fluid saturation based on a common set of well logs, including gamma ray, bulk density, neutron porosity, resistivity, and sonic. Eight wells for training and five wells for testing from the Volve data set were selected for the contest.

The competition period started on November 1, 2021 and ended on February 1, 2022. There are a total of 106 teams and 259 people registered for the competition. Participants are from oil/gas companies and universities all over the world. By February 1, we received submissions from 47 teams. The competition committee is currently collecting the solutions and reports. After reviewing the solutions, we will announce the top five teams on March 1. The winning team will be invited to an award ceremony and presentation in the special session of the SPWLA Spring Topical Conference – Petrophysical Machine Learning on March 24, 2022, in Houston, Texas (in-person or virtual). The competition committee will also invite the winning teams to publish a summary journal paper.

Please check the website <https://github.com/pddasig/Machine-Learning-Competition-2021> for competition details and winning solutions.

PERMIAN BASIN CHAPTER

General News

We are happy to announce that, beginning with our February 22 meeting, we will be in person at Midland College, Carrasco Room. A virtual option will continue to be offered for those who live outside of the Midland area. To participate in the virtual option, you will need to register to receive the GoToMeeting information.

We are currently soliciting participants to fill open board positions. If you would like to serve, email us at permianbasin@spwla.org for more information.

Recent Events

Past Monthly Topics:

Date	Speaker	Title
January 25, 2022	Alan Kornacki	Determining Water-Filled Porosity of Tight Oil Reservoirs With a New Interpretation Method for Dielectric Dispersion Measurements
February 22, 2022	Chris Smith	Identifying Pay Zones and Understanding Petroleum Systems in Petrophysically Difficult to Interpret Plays by Analyzing Volatiles from Cuttings and Core With Rock Volatiles Stratigraphy (RVS)

Upcoming Events

Monthly Meetings

Date	Speaker	Title
March 22, 2022	Isaac Easow	Petrophysical and Geochemical Evaluation for Predicting Production Potential in Unconventional Reservoirs by Integrating Multiple Cost-Effective and Non-Intrusive Techniques
April 26, 2022	Yogashri Pradhan	Drawdown Management Strategies — Midland Basin Case Studies
May 24, 2022	Stephanie Perry	Integrated Petrophysical Evaluation of Unconventional Formations, in the Delaware Basin, With a Customized NMR Acquisition

SOUTHWEST CHINA CHAPTER

General News

The 2021 Annual meeting was held in Chengdu, and more than 120 attendees joined the meeting through either an online conference system or an onsite meeting. The chapter committee board welcomed two new members: Dr. Xin Nie from Yangtze University and Dr. Bing Wang from China University of Petroleum (Beijing). The chapter's influence extends from the Southwest China Region to the Beijing and Middle China Region.

Recent Events

18 January 2022—(Chengdu) 2021 Annual Academic Meeting of SPWLA Southwest Chapter: The 2021 Annual Meeting of the SPWLA Southwest Chapter was held in Qingshuihe campus of the University of Electronic Science and Technology (UESTC). The meeting was hosted by SPWLA SW China Chapter and organized by the School of Resources and Environment of UESTC. The meeting was co-organized by the member units, including the Southwest Petroleum University, Chengdu University of Technology, Chongqing University of Science and Technology, and Yangtze University. Sixteen invited talks from home and abroad were presented either online or onsite. The meeting attracted more than 120 participants.

The meeting started at 9 am in conference room D518 at the Innovation Center of UESTC. Professor Hua Wang, President of the Southwest China Chapter, made an opening speech on the chapter's work in 2021. In the past year, despite the influence of the pandemic, the Southwest Chapter and its member units actively organized and participated in several academic exchanges and interactions in China. The Southwest Chapter constantly devoted itself to publicizing the brand of SPWLA. With the efforts of the chapter and its members, the number of SPWLA members in China has increased from merely 20 to more than 120. Professor Wang Hua also talked about the plan of the chapter in the next year, which includes the establishment of the first student chapter in China.

The technical sessions began with talks given by senior researchers from Shell Houston R & D Center, GOWell International (Houston R & D Center), Chevron, Sinopec Engineering Institute, CGG, and other companies, as well as professors and experts from the University of Electronic Science and Technology, Southwest Petroleum University, Chengdu University of Technology, and Chongqing University of Science and Technology. The presenters shared the cutting-edge technologies and fruitful results in their respective fields. Besides the technical presentations, two meeting sponsors, including

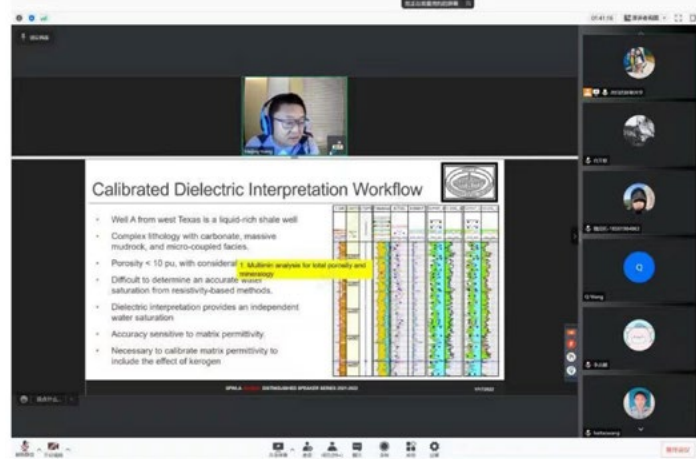
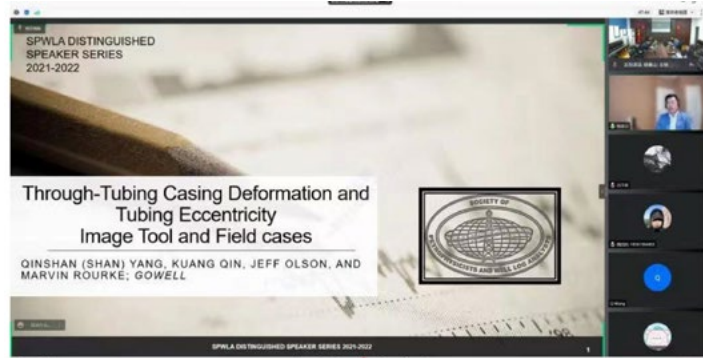
Beijing Limecho Technology Co Ltd and Suzhou Niumag Co Ltd, gave introductions to the progress of core analysis with nuclear magnetic resonance instruments.

During the meeting, the presenters and audiences constantly interacted with each other and had lively discussions. At the end of the meeting, the experts from the China University of Petroleum and the China University of Geosciences provided valuable comments and suggestions. They endorsed the format of the meeting, which brought new knowledge and was of high quality. They considered the meeting a great benefit to the researchers of relevant fields and wish the chapter could host more such activities in the future. This annual meeting has built a platform for international exchange between domestic and overseas researchers and students. It also provided a new way for the construction of relevant disciplines in domestic universities.

The agenda of the annual meeting is given in the following table.

 2021 Annual Meeting of Southwest China Chapter of SPWLA Time: 9:00-18:00, 18th January 2022, Beijing Time Zone Location: Qingshuihe Campus, University of Electronic Science and Technology of China Online conference: WeMeet number 479991812, Password: 123456 WeMeet Link : https://meeting.tencent.com/j/5lkKet5QS7oK			
Time	Title	Speaker	Moderator
9:00-9:10	Opening remark and working report of SPWLA Southwest Chapter	Professor Hua Wang, UESTC, President of Southwest Chapter	Hua Wang
9:10-9:40	Information of the SPWLA PDDA organization and the machine learning competition	Mr. Yanxiang Yu, Shell International Houston	
9:40-10:10	THROUGH-TUBING CASING DEFORMATION AND TUBING ECCENTRICITY IMAGE TOOL FOR WELL INTEGRITY MONITORING AND PLUG-ABANDONMENT	Dr. Qinshan Yang, GOWell Huston research center	
10:10-10:40	IMPROVING DIELECTRIC INTERPRETATION BY CALIBRATING MATRIX PERMITTIVITY AND SOLVING DIELECTRIC MIXING LAWS WITH A NEW GRAPHICAL METHOD	Dr. Haijing Wang, Chevron	
10:40-10:45	Tea Break		
10:45-11:05	Application of surface log in unconventional oil and gas exploration	Mr. Guoxue Wang, CGG	Wenlian Xiao
11:05-11:25	Analysis of the interaction between electromagnetic field and fluid molecules in micro-nanopore structure	Prof. Hongqi Liu, Southwest Petroleum University	
11:25-11:45	Emerging compact MR technology and its industrial application	Dr. Huabing Liu, Beijing Limecho Technology Co., Ltd	

11:45-12:05	Application of Acoustic Attenuation in Unconventional Reservoir Gas Saturation Estimation	Dr. Qiaomu Qi, Chengdu University of Technology	
12:05-14:00	Lunch Break		
14:00-14:20	Pore-throat heterogeneity and its influence on gas-water flow in tight sandstones	Prof. Wenlian Xiao, Southwest Petroleum University	Huabing Liu
14:20-14:40	Intelligent identification of tight sandstone gas and water layers based on integrated model	Prof. Fuqiang Lai, Chongqing University of Science and Technology	
14:40-15:00	Research on efficient codec method for pressure wave communication of infinite stage casing sliding sleeve	Dr. Xingming Wang, Chengdu University of Technology	
15:00-15:05	Tea Break		
15:05-15:25	The reservoir lithofacies recognition method based on Active Learning	Dr. Yaojun Wang, UESTC	Qiaomu Qi
15:25-15:45	The Electric Response Law of Sandstone Reservoir Influenced by Wettability	Dr. Yujiao Han, Sinopec Research Institute of Petroleum Engineering	
15:45-16:05	A downhole crack recognition method based on the combination of adversarial learning and attention mechanism	Dr. Wei Zhang, UESTC	
16:05-16:10	Tea Break		
16:10-16:30	Recognition method and application of microfacies of glutenite body based on FMI image deep learning	Prof. Jianping Yan, SWPU	Yaojun Wang
16:30-16:50	Research status of cement bond evaluation using ultrasonic waves	Prof. Hua Wang, UESTC	
16:50-17:30	Free Discussion	Invited	Hongqi Liu



Invited talks.

Upcoming Events

March 2022—The chapter will co-organize a workshop with the China National Logging Company on the development and application of digital rocks.

TULSA CHAPTER

General News

Tulsa Chapter has resumed monthly in-person meetings.

Recent Events

17 February 2022—The Tulsa Chapter held its first in-person event in two years. Pat Ryan led a tour of the Oklahoma Well Log Library in downtown Tulsa. The OWLL is a nonprofit organization that is the repository of all wireline logs and other geological data for Oklahoma and surrounding states. The tour was followed with a presentation based on several case studies where paper log data was digitized and then merged with rock, test, and production data to produce some impressive petrophysical and geological insights into several local plays.



Opening speech by Professor Hua Wang, President of the chapter.

Upcoming Events

March 2022—James Howard will speak on “The Use of Artificial Intelligence Methods Used to Enhance Fracture Resolution in Borehole Image Logs.” This work illustrates various techniques used for super-resolution studies in computer vision, with an emphasis on the application of supervised machine learning.

UH STUDENT CHAPTER

2021–2022 SPWLA GLOBAL DISTINGUISHED SPEAKER SERIES

11 February 2022—SPWLA UH hosted Haijing Wang, a senior petrophysicist and subsurface IP contact (Chevron Technical Center), at the UH Petroleum Engineering Graduate Seminar Series Program. He delivered a lecture by calibrating matrix permittivity and solving dielectric mixing laws with a new graphical method. The Graduate Seminar is a weekly event designed as an important part of our academic programs. It provides an opportunity for students to learn about current research in the petroleum industry and its applications. The lecture was a hybrid with over 40 students/professors in attendance.



Haijing Wang (sixth from the left) at the UH Petroleum Engineering auditorium.

PETRO-ORGANIZATIONS CAREER FAIR

10 February 2022—SPWLA UH, in collaboration with other Petro-Organizations (AADE, Pi Epsilon Tau, and SPE), organized and held a career fair for all students who are interested in working in the oil and gas sector.

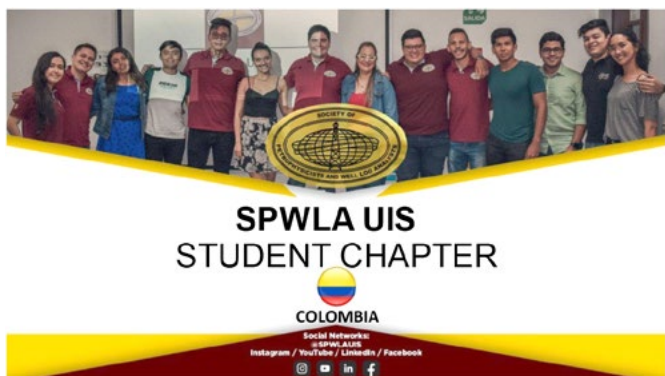


SPWLA President and Vice President (middle) at the career fair.

Upcoming Events

1. General meetings – Online and in-person. We are working to bring an HR person from one or two global oil and gas companies to advise students about packaging themselves to take advantage of boasting in hiring among oil and gas companies
2. Certification – PhDWin planned for April 1–2. Internal Techlog training being organized.
3. Guest speaker—2021–2022 SPWLA Global Distinguished Speaker Series – Speaker 2 – “Enhanced Assessment of Fluid Saturation in the Wolfcamp Formation of the Permian Basin” by Sabyasachi Dash (UT Austin) 04/08/2022
4. Rig visit – Nabors Industries is interested in giving SPWLA a rig walk-through tour in Houston. We are waiting for them to provide us with the date.
5. Student Paper Contest – Planned for March 26. Abstract submission deadline is March 5.
6. Food Bank/Volunteering Advertisement – Volunteering at the food bank tentatively planned for April 2. Fadel to bring the extra food bank boxes with him. Plan to get one box over to the Earth Science Department.

SPWLA UIS Student Chapter (Colombia)



Board of Directors

- President** Luis Alberto Chinomes G. (presidencia.spwlaui@gmail.com)
- Vice President** Carlos José Medina L. (vicepresidencia.spwlaui@gmail.com)
- Fiscal** Karen Ivonne Triana P. (fiscal.spwlaui@gmail.com)
- Secretary** Maria Andrea Herrera P. (secretaria.spwlaui@gmail.com)
- Treasurer** Tanya Mercedes Garavito L. (contador.spwlaui@gmail.com)

Recent Events

PORTUÑOL: The Colombian Student Chapter SPWLA UIS and the Brazilian Student Chapter SWPLA UFRJ held an integration meeting and are developing new projects together.



NEW PROFESSIONAL CHAPTER SPWLA COLOMBIA: We have a new professional chapter in our country Colombia, with people passionate about petrophysics and formation evaluation.



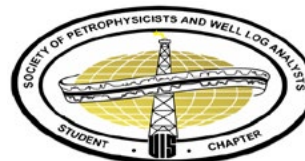
SPWLA TALKS: The Colombian Student Chapter SPWLA UIS and the Professional Chapter SPWLA COLOMBIA will organize a virtual event through the Zoom platform, entitled “Migration to Casedhole Petrophysics: Are We Ready?” by Ulises Bustos, wireline petrophysicist, domain champion, formation evaluation advisor (Schlumberger).



Upcoming Events

The team will develop the country-level Student Paper Contest, which will have a new category for postgraduate students this year.

The team plans to carry out a research hotbed with different lines of research with the help of the GRM, GIT, GMPH, and GALILEO research groups.



SPWLA UIS/Social Networks

- LinkedIn:** <https://www.linkedin.com/company/spwla-uis-student-chapter/>
- Instagram:** <https://www.instagram.com/spwlaui/?hl=es-la>
- YouTube:** <https://www.youtube.com/c/SPWLAUIS>
- Facebook:** <https://es-la.facebook.com/SPWLAUIS/>

UNIVERSITAS PERTAMINA STUDENT CHAPTER

General News

SPWLA Universitas Pertamina Student Chapter was founded in 2019. This is our third cabinet in SPWLA UP SC, namely the Enhancement Cabinet. We just renewed our cabinet a few months ago. Our chapter is the most active amongst SPWLA Student Chapters in Indonesia. We have 40 officers with a total of eight departments and four divisions included. Our officers are mostly majoring in petroleum, geology, and geophysics engineering. Our student chapter is assisted by the Petroleum Engineering Students Association.

Our cabinet has many work programs for internal and external organizations to develop the officers and Universitas Pertamina's students, especially the Faculty of Exploration and Production Technology's students, such as hard and soft skills to prepare them for work and career life. We have monthly meetings every last week at the end of the month to evaluate officers' performances and work programs. In December, we held the monthly meeting on December 22, 2021. So far from December, we have held a few events that were open to the public, such as IPW, IPW Annual Forum, and Joint Proceeding, and a few events held just for internal officers of the SPWLA Universitas Pertamina Student Chapter. Also, other upcoming events will be held for the public that everyone can participate in, such as Lifting and ICE/PSC and the President Election.



Monthly Meeting on December 22, 2021.

Recent Events

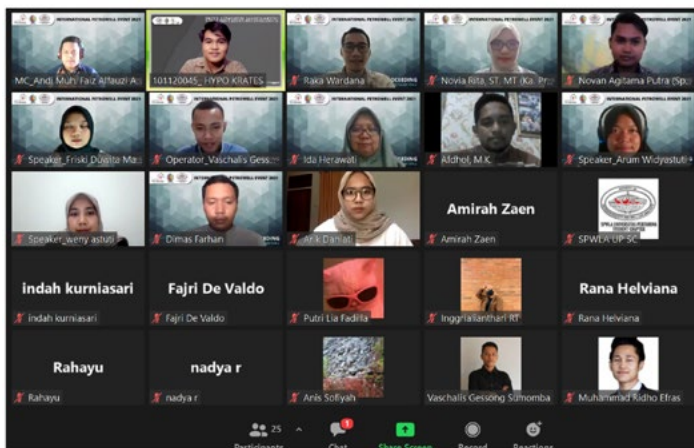
The International Petrowell Event is an annual event, which was held last year with the theme "Future Challenges for Petrophysics in Energy Industry." There are two sections: the Petrowell Study Case Competition (PSCC) and Annual Forum. This competition is an international-level competition for university students. Participants will test their understanding of geophysics, geology, and petroleum in this event.



The SPWLA Annual Forum was the main event of the International Petrowell Event 2021, organized by the SPWLA Pertamina University Student Chapter. In this event, there were two sessions regarding the Annual Forum. The first session discussed "Core-Log Integration: A Hybrid Intelligent Data-Driven Solution to Improve Elastic Parameter Prediction" and was delivered by Mr. Zeeshan Thariq, as a postdoctoral research fellow (KFUPM Saudia Arabia), and the moderator of the first session was Mr. Muhammad Abdullah Syaefuddin, a former President of SPWLA Pertamina University Student Chapter. The second session discussed the "Petrophysicist and Challenges in the Future" and was delivered by Mrs. May Sari Hendrawati, senior petrophysicist (Petronas Malaysia). The moderator for this session was Mr. Teddy Ivan Sudjana, former President of SPWLA Pertamina University 2020/2021.



The Joint Proceeding: This event was held on December 18, 2021, in collaboration with Universitas Islam Riau presenting a few papers that have been published/written by Universitas Pertamina and Universitas Islam Riau students. Each university presented three papers. This event includes both students and lecturers from each university. Besides presenting their own papers, a few lectures were given at this event, such as well logging.



December 2021–February 2022—PSC is the selection paper event that will be submitted for the biggest event held by SPWLA WORLD. This selection event is held for free and only for the Faculty of Exploration and Production Technology at Universitas Pertamina. Besides the selection, SPWLA UP SC provides intensive coaching for the top three teams until the competition day.

Upcoming Events

April 2022—Upgrade your skill was a webinar event from the HRD department. This third volume will be carrying the theme “Optimizing Your Personal Branding.” This event is open to the public. Location: SPWLA UP SC Zoom Meeting Room.

May 2022—Lifting is a webinar about technical matters during the exploration and exploitation of oil and gas. We will invite the experts as our speakers. The participants could get any new insights, sharing the experiences and knowledge. Location: SPWLA UP SC Zoom Meeting Room.

UNIVERSITY OF OKLAHOMA STUDENT CHAPTER

General News – Tech Talk



Tech Talk
Topic: The Digital Rock Bridge to the Reservoir



10 February 2022—Speaker: Abraham Grader presents “The Digital Rock Bridge to the Reservoir.” Dr. Grader, an expert in petrophysics from Halliburton, discussed rock typing and reservoir characterization using imaging techniques on small pieces of rock. The event was well attended.

Upcoming Events

We are working on other activities throughout the semester. We will hold two workshops (Feb 17 and March 31), another Tech Talk on April 7, and we are trying to organize a lab tour and a field tour.

THE UNIVERSITY OF TEXAS AT AUSTIN STUDENT CHAPTER

General News

A few weeks into the spring 2022 semester at UT Austin, the Student Chapter of SPWLA at UT Austin is already in action. We aim to continue promoting petrophysics and formation evaluation disciplines among undergraduate and graduate students through technical events. On February 10, 2022, we organized a technical seminar by Sabyasachi Dash entitled “Enhanced Assessment of Fluid Saturation in the Wolfcamp Formation of the Permian Basin.” Sabyasachi Dash is part of the 2021–2022 SPWLA Distinguished Speaker Series. He is a graduate research assistant at Hilderbrand Petroleum and

Geosystems Engineering Department at UT Austin. He is also the Social Media Manager of the Student Chapter of SPWLA at UT Austin. We look forward to a successful semester ahead with multiple planned enriching technical events.

Recent Events

10 February 2022—Sabyasachi Dash (Graduate Research Assistant at UT Austin) presented “Enhanced Assessment of Fluid Saturation in the Wolfcamp Formation of the Permian Basin.”



Upcoming Events

4 March 2022—**Technical Seminar:** Ibrahim Milad (BP) – “Machine Learning to Predict Large Pores and Permeability in Carbonate Reservoir Using Standard Logs.”

Week of 21 or 28 March 2022—**Student Paper Contest:** The final event date will be selected based on the availability of our judges. Up to three nominations per degree level will be sent to the SPWLA Student Paper Contest Committee by March 31, 2022.

Welcome New Members: December 1, 2021 – February 16, 2022

- Abes, Abdelmalek**, University of North Dakota, Grand Forks, ND, United States
- Allam, Lotfi**, University of North Dakota, Grand Forks, ND, United States
- Al-Ofi, Salah**, Baker Hughes, Khobar, Assharqiyah, Saudi Arabia
- Andrews, Albert**, Schlumberger, Cambridge, MA, United States
- Angel, Franklyn**, Ecopetrol, Bogota, Colombia
- Babin, Christopher**, Schlumberger Technology Corporation, Houston, TX, United States
- Bednarski, Leszek**, Bednarski Geoscience, Warsaw, Mazowieckie, Poland
- Benomar, Ines**, University of North Dakota, Grand Forks, ND, United States
- Bhattacharya, Shuvajit**, UT Austin, Austin, TX, United States
- Biolato, Gastón**, Universidad Nacional De Córdoba, Páscuas, Córdoba, Argentina
- Bodan, Fabiola**, Compañía General De Combustibles S.A, Buenos Aires, Argentina
- Bode-Omoleye, Ibukun**, Kansas Geological Survey, Lawrence, KS, United States
- Cecconi, Bianca**, Geolog Technologies, San Giuliano Milanese, Milan, Italy
- Chavez, Dianis**, UIS- Universidad Industrial De Santander, Bucaramanga, Santander, Colombia
- Córdoba, Marisel**, U.N. Salta, Salta, Argentina
- Criollo, Darling**, Halliburton, Bogota, Cundinamarca, Colombia
- Di Lorenzo, Mercedes**, U.N. Comahue, Neuquén, Argentina
- Ellsworth, Guilford**, DGI Geoscience, Denver, CO, United States
- Figuroa Cuellar, Mario**, U.N. Salta, Tartagal, Salta, Argentina
- Gregg, Antonio**, Huffman, TX, United States
- Hargrove, Brendan**, Oasis Petroleum, Houston, TX, United States
- Herrera, Maria**, UIS-Universidad Industrial De Santander, Bucaramanga, Santander, Colombia
- Hyson, Lee**, Gaia Earth Technologies Ltd, Park City, UT, United States
- IFRENE, Ghoulem Ellah Haithe**, University of North Dakota, Grand Forks, ND, United States
- Iyowu, Olakunle**, Shell Nigeria, Port Harcourt, Nigeria
- Juan Suriano, Camila**, CGC, Buenos Aires, Argentina
- Li, BingKe**, Yangtze University, Wuhan, Hubei, China
- Li, Zhipeng**, University of Electronic Science and Technology of China, Chengdu, Sichuan, China
- Li, Qiwei**, Oliden Technology, LLC, Stafford, TX, United States
- Liao, HaiBo**, Southwest Petroleum University, Chengdu, Sichuan, China
- Liu, Yuejiao**, Chongqing University of Science and Technology, Chongqing, China
- Loseke, Travis**, Black Stone Minerals, Austin, TX, United States
- Luffi, Yennie**, U.N. Comahue, Neuquén, Argentina
- Luo, Jingchao**, Southwest Petroleum University, Chengdu, Sichuan, China
- Manzoor, Adil**, Chevron, Spring, TX, United States
- Mellal, Ilyas**, University of North Dakota, Grand Forks, ND, United States
- Melli, Agostina**, Estudiante Geología. UNLP, La Plata, Buenos Aires, Argentina
- Merzoug, Ahmed**, University of North Dakota, Grand Forks, ND, United States
- Mijland, Aima**, Staatsoile Company Suriname, Paramaribo, Suriname
- Miranda Dominguez, Omar**, Instituto Politécnico Nacional, Paraiso, Tabasco, Mexico
- Mukherjee, Indrajit**, Halliburton, Jamshedpur, India
- Munroe, Mary**, Woodside Energy, Perth, Western Australia
- Nugmanov, Ilmir**, Innopolis University, Innopolis, Tatarstan, Russia
- Offei, Gideon**, Texas Tech University, Lubbock, TX, United States
- Ogofa, Matthew**, Chevron Nigeria Limited, Lagos, Nigeria
- Oliveira, Tiago**, Shell, Rio De Janeiro, Brazil
- Ouadi, Habib**, University of North Dakota, Grand Forks, ND, United States
- Parashar, Daksh**, Rig Tech, Kenwick, WA, Australia
- Parra, Mauro**, E.N. Comahue, Neuquén, Argentina
- Piskun, Daria**, CGG, Moscow, Russia
- Quesada, Erick**, UIS-Universidad Industrial De Santander, Bucaramanga, Santander, Colombia
- Ramirez, Sebastian**, U.N. Comahue, Neuquén, Argentina
- Roman Ortega, Anngy**, UIS-Universidad Industrial De Santander, Bucaramanga, Santander, Colombia
- Ruiz, Natalia**, Halliburton, Bogota, Colombia, Colombia
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- Shi, Shaopeng**, UESTC, Chengdu, Sichuan, China
- Shultz, Michael**, Quantum Energy Partners, Spring, TX, United States
- Solovyov, Yuri**, Orica, Wantirna, VIC, Australia
- Su, Shute**, Chengdu University of Technology, Chengdu, Sichuan, China
- Tang, Xinyu**, Cheng Du University of Technology, Chengdu, Sichuan, China

Welcome New Members: December 1, 2021 – February 16, 2022

Taylor, Brian, Chevron, Bakersfield, CA, United States

Triana, Karen, UIS-Universidad Industrial De Santander, Bucaramanga, Santander, Colombia

Unsua, Facundo Sebastian, UTN – Mendoza, Mendoza, Mendoza, Argentina

Vasquez, Jose, Exen Technology, Lima, Lima, Peru

Vera-Arroyo, Alexandro, The University of Oklahoma, Norman, OK, United States

Vicente, Alvaro, UTN - Buenos Aires, CABA, Buenos Aires, Argentina

Vick, Travis, Colorado School of Mines, Tomball, TX, United States

Vicuña Espinoza, Brigido, Halliburton, Stavanger, Norway

Wang, Qiang, University of Electronic Science and Technology of China, Chengdu, Sichuan, China

Winkelhake, Jeffrey, EOG Resources, Inc, Parker, CO, United States

Witt, Darby, Cordax Evaluation Technologies, Inc., Stafford, TX, United States

Worthy, Essau, Trailhead Exploration, Fort Worth, TX, United States

Wróblewska, Sara, University of Warsaw, Warsaw, Poland, Poland

Yao, Xian, Texas Tech University, Midland, TX, United States

Zeinali, Hannah, Chevron, Houston, TX, United States

Zhao, Hanbin, Southwest Petroleum University, Chengdu, Sichuan, China

