



spwla today



NEWSLETTER

From cold to code, AI leads the way!

Petrophysics Journal

PAPERS

- PAPERS ACCEPTED FOR REVIEW THROUGHOUT THE YEAR
- SPWLA CONFERENCE PROCEEDINGS ARE ELIGIBLE FOR SUBMISSION
- PUBLISHED PAPERS AVAILABLE ON SPWLA AND ONEPETRO DIGITAL LIBRARIES



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Shell Global Solutions
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Halliburton
Houston, TX USA
President-Elect@spwla.org



VP Technology
Harry Xie
CoreLab
Houston, TX USA
VP-Technology@spwla.org



**VP Finance, Secretary,
and Administration**
Jing Li
Oxy
Houston, TX USA
VP-Finance@spwla.org



VP Publications
S. Mark Ma
Saudi Aramco
Dhahran, Saudi Arabia
VP-Publications@spwla.org



VP Information Technology
Tegwyn Perkins
Geoactive Limited
Tomball, TX USA
VP-InfoTech@spwla.org



VP Technology-Elect
Robin Slocombe
SLB
Doha, Qatar
VP-Technology-Elect@spwla.org



VP Education
Matt Blyth
SLB
Houston, TX USA
VP-Education@spwla.org



VP Communications
Chelsea Newgord
ExxonMobil
Houston, TX USA
vp-communications@spwla.org

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N. America 1
Amer Hanif
Baker Hughes
Houston, TX, USA
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N. America 2
Clara Palencia
ConocoPhillips
Houston, TX USA
Director-NA2@spwla.org



Latin America
Marta Inés D'Angiola
Weatherford
Buenos Aires, Argentina
Director-LA@spwla.org



Asia Pacific
Yuki Maehara
SLB
Tokyo, Japan
Director-Asiapacific@spwla.org



Europe
Mathias Horstmann
SLB
Stavanger, Norway
Director-Europe@spwla.org



Middle East/Africa
Elsa Maalouf
American University of Beirut
Beirut, Lebanon
Director-ME@spwla.org



Executive Director
Sharon Johnson
SPWLA
Houston, TX 77017
(+1) 713-947-8727
sharon@spwla.org



Managing Editor
Elizabeth Naggar
(+1) 713-444-3495
editor@spwla.org



Publication Manager
Anna Tarlton
InkSpot Printing
(+1) 713-472-1100
orders@inkspotprinting.com

CALENDAR OF EVENTS

March 4, 2025

Highlights From Rio Webinar Series
Title: "Physics-Based Probabilistic Permeability Prediction in Thin-Layered Reservoirs: Transport Theory, Dielectric Dispersion Logging and Core-To-Log Bayesian Statistics"
Speaker: Marco Pirrone, ENI
www.spwla.org

March 18, 2025

Global Distinguished Speaker Webinar
Title: "Best Practices for Porosity Estimation in Karstified Presalt Carbonate Reservoirs"
Speaker: Candida Menezes de Jesus, Petrobras
www.spwla.org

April 2, 2025

Special Edition Series
Theme "Exploring the Surface of Mars With Active Neutron Measurements on the Mars Science Laboratory Curiosity Rover"
Speaker: Dr. Craig Hardgrove, ASU
www.spwla.org

April 3–4, 2025

Student Mini Symposium
Hosted by Students from Argentina, Brazil, Colombia, and USA
Online Webinar
www.spwla.org

April 8–10, 2025

An Introduction to NMR
Instructor: Brian Stambaugh
www.spwla.org

April 22–24, 2025

Intermediate – Advanced Applied NMR
Instructor: Brian Stambaugh
www.spwla.org

May 6–9, 2025

Practical Geomechanics Training Class
Instructor: Tom Bratton, PhD
Online Training Webinar
www.spwla.org

May 17–21, 2025

SPWLA 66th Annual Logging Symposium
Hilton Habtoor City
Dubai, UAE
www.spwla.org

About the Cover

With the AI winter behind us, AI spring is emerging, bringing advancements from research and development into real-world deployment and applications. How will the petrophysics community respond? Chief Editor S. Mark Mark explores this question in his March column.

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.



S. Mark Ma
2024–2026
Vice President Publications

Dear SPWLA community,

With the recent introduction of DeepSeek, the AI market is becoming much more competitive today than just a month ago, resulting in a 22% stock price drop for the high-end chip maker NVIDIA in the first month of 2025. It has been said that competition is good for technology advancement, and it seems that AI is finding its way from research and development into deployment and applications.

How would this affect what we do petrophysically, for example, in the next decades? Many operations, such as drilling, geosteering, and petrophysical interpretations, may be automated, as exemplified by papers to be presented at the upcoming SPWLA 66th Annual Symposium. Automation is great for operation efficiency, results consistency, and cost reduction, but it may also produce erroneous results if proper quality control and assurance are not put in place, which is obviously dangerous. Consequently, proper first-principle professional training will be critical, especially for those young professionals.

Like it or not, the train of AI technologies has started, and many of us will be 'forced' to live with it, so we may as well get familiar with and master them. Please refer to the remarks below for more reading.

Remarks on Automation:

[Technology Focus: Formation Evaluation \(August 2016\) | Journal of Petroleum Technology | OnePetro](#)

Remarks on AI

[Technology Focus: Formation Evaluation \(August 2018\) | Journal of Petroleum Technology | OnePetro](#)



Happy Learning!

Best wishes,
S. Mark Ma
VP Publications



Julian N. Hulea
2024–2025 President

Dear colleagues,

Welcome to the March newsletter! I hope 2025 is proving already to be successful and that you enjoy it in good health!

One of the first things I would like to highlight is the conclusion of the joint SPWLA/SEG symposium we organized between October 6–8, 2024 in Al Khobar, Saudi Arabia. I am happy to conclude that it has been a success also from a financial point of view. We are looking forward to expanding our collaboration with SEG. Among other options, we are looking at is even a repeat of a comparable event. Should you have ideas/views on potential SEG collaborations, please get in touch with us. A short write-up around the event done with our colleague Muhammad Ashfaq (Aramco/SEG) can be found at the end of my column.

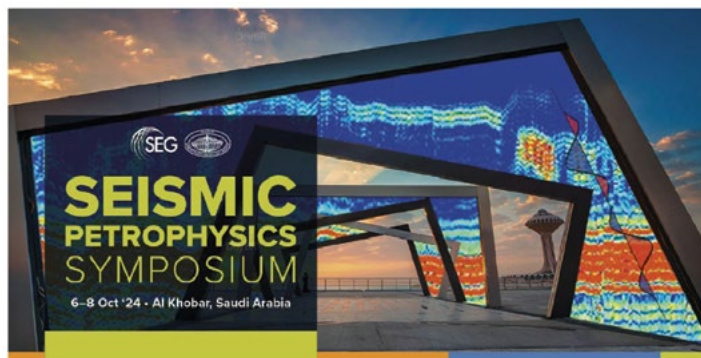
The BOD 2024–2025 has been working on our tasks and targets, where the 2025 symposium has a central role. I'm happy to confirm we are on track; the VP Technology and VP Technology-Elect have been working hard to complete the abstract review process and are now moving into the next stage. Thank you again, Harry, Robin, and the Technical Committee, for completing this critical task in a timely and transparent manner! The conference workshops to be offered have been finalized. By the time you read this, you will have a chance to register for some of them!

In parallel, this is a good moment to let you know we are looking for a location for our 2027 symposium. Just as a reminder, in 2026, SPWLA is going back to the US! If you would be interested in your local chapter hosting the yearly symposium, now is the right time to let me or President-Elect Bob Gales know.

If you have ideas for improvements or need some clarity on BOD matters, please do not hesitate to let us know! Please don't forget the best way to change something in our organization is through volunteering!

The last thing I would like to remind you is to please renew your membership and vote in the elections. Make your voice heard! Thank you again, and I look forward to meeting again in Dubai and enjoying another successful symposium!

~Julian



Seismic Petrophysics Symposium **Kempinski Hotel, Al Khobar, Saudi Arabia, October 6–8, 2024**

The “Seismic Petrophysics” symposium held on October 6–8, 2024, in Al Khobar, Saudi Arabia, was the first symposium on this topic jointly organized by the Society of Exploration Geophysicists (SEG) and the Society of Petrophysicists and Well Log Analysts (SPWLA).

The objective of this symposium was to promote the importance of seismic petrophysics and the value of integration. Over the course of 3 days, 29 technical talks were presented, including six keynote speakers representing 14 organizations from nine countries. The event was well attended by a large group of professionals (almost 80) from major operators and service companies, software companies, and academia.

From the President

Key Learnings

The symposium covered a wide variety of technical topics, representing major operators and leading service companies, software companies, and academia. Studies showcasing various integration topics were presented, attempting to demonstrate how to bridge the frequency and the resolution gap between seismic and log data using seismic petrophysics.

- The importance of full-waveform sonic data and the advanced sonic solutions impacting the AVA inversion and anisotropic velocity model.
- Artificial intelligence/machine-learning (AI/ML)-based full-wave sonic data processing automation – a new workflow can save 50 to 60% time per well.
- Integration of acoustic well logging and surface seismic – examples of interactions between petrophysics and seismic reservoir characterization, how to go from 1D to 3D.
- Pore system characterization through integration of NMR and acoustics data.
- How ML/AI-based algorithms can automate and expedite the log prediction/log conditioning workflow. Predicting rock and fluid properties from well and seismic data.
- Rock physics and quantitative analysis – how rock physics modeling can help in understanding complex minerals, porosity, and heterogeneity in conventional and unconventional reservoirs, CO₂ monitoring.
- Application of seismic petrophysics for CO₂ storage site evaluation and DAS application for CCS ventures.
- The power of integration – integrating data of different scales and domains for reservoir characterization. Different case studies signify the importance of integration in seismic-based reservoir characterization.

New Technologies Presented

- Deep shear wave imaging for enhanced reservoir characterization – A key advancement in this domain is acoustic deep shear wave imaging, a processing technique designed to map features surrounding the wellbore up to 100 ft in a 360° radius. By integrating acoustic well-logging data with surface seismic data, we can achieve a more detailed and accurate reservoir characterization.
- New developments in ultradeep resistivity technology – The ultradeep resistivity allows advanced structural and petrophysical interpretations on a reservoir scale. The 3D resistivity inversion yielded positive outcomes for reservoir prediction and improvement.
- A new LWD tool that has a significant impact on well placement during drilling and geosteering purposes.
- Integrated ML-based workflow for prediction of rock and fluid properties from well and seismic data. ML approaches, particularly deep learning, enhance predictions by integrating well and seismic data. This integrated ML approach overcomes resolution limitations, providing reliable, comprehensive databases and measures of uncertainty.
- The role of ML in acoustic data processing for consistency (digital acoustics). A new workflow highlights the potential for automating basic sonic data processing and extending it to 2D anisotropy and showcases how high-power performance computers (HPC) can enhance these processes, improving efficiency and accuracy. The new workflow can save up to 50 to 60% processing time per well.

Significant focus was received on the power of AI/ML-based automation. Implementation of ML algorithms, especially deep learning. This can enhance the prediction and accuracy in integrated workflows. The ML-based acoustic processing automation presented was quite impressive, saving processing time up to 50 to 60% per well. Deep shear imaging by integrating acoustic well-logging data with surface seismic data was another interesting contribution.

There was a clear trend and focus on digital transformation and automating daily routine tasks by deploying AI/ML-based approaches to increase efficiency, consistency, and accuracy. With the high-power performance computers (HPC) available now, it is possible to save 50 to 60% processing time, whether it is related to seismic and acoustic data processing or log data conditioning and prediction. Integration is the key. To break the barriers among the G&G disciplines, geoscientists must come up with more innovative workflows for data integration.

Key Takeaway

To maximize the value of the acquired seismic data, all the experts—petrophysicists, rock physicists, sedimentologists, processors, and inversion specialists—must work closely with each other, integrating their work in the final product. The key is to understand the end objective. Why are we doing this? How can your product help the interpreter derisk a prospect or build the next-generation 3D reservoir model? By aligning deliverables with the end objective, more innovative solutions to specific reservoir challenges can be achieved through collaboration.



Robert H (Bob) Gales
2024–2025
President-Elect

We have barely 3 months until the Annual Symposium in Dubai. The real work now lies with VP Technology Harry Xie, VP Technology-Elect Robin Slocombe, and the Technical Committee in reviewing papers and presentations. The Dubai Symposium Committee is focused on finalizing local arrangements, while our SPWLA staff, Sharon and Stephanie, keep us on track for another successful symposium.

Thanks to Matt Blyth, VP Education, for coordinating the International Student Paper Competition. I look forward to reviewing the 36 abstracts submitted this year.

As President-Elect, I have continued to engage with our Special Interest Groups. We had Q1 meetings to network between the boards on how we can leverage the good work done by each SIG by sharing ideas from something as simple as social media exposure to something as complex as updating bylaws for hosting elections and providing continuity for the SIGs.

I look forward to staying engaged with the SIGs and chapters. Please feel free to reach out anytime and share any suggestions on how we can add value to our SIGs and better support our local and student chapters.

We encourage all SIGs and both local and student chapters to update events (monthly meetings and special events) on the SPWLA website. (Sharon and Stephanie can walk you through this.) It not only gives ideas to other chapters, but, when hybrid, allows global geoscientists to join. We can support getting the word out on social media. Here are a couple of recent or upcoming seminars that highlight the range of knowledge sharing within SPWLA and serve as great resources for inspiration and ideas.

- SPWLA 5th Borehole Image SIG Workshop – February 27, online, **“Geomechanical Applications Utilizing Borehole Images.”** This was set at 9 am CET to support our Europe and Middle East members.
- London Petrophysical Society – March 6, **“Petrophysics for Abandonment”**
- Saudi Arabia Chapter – SPWLA May 7–8, **“16th Workshop – Shaping Sustainability: Exploring and Producing Transition Minerals”**
- SPWLA Formation Testing SIG’s ongoing monthly webinar series is great, and they will be hosting a SIG workshop on May 22 after the SPWLA 66th Annual Symposium in Dubai.

I have had little feedback regarding the corporate SPWLA membership mentioned in the last letter. I welcome your thoughts on whether we should continue to look at this option. Our goal is to make it easy for all geoscientists at a company to benefit from SPWLA membership with a single fee per year.

Please forward other ideas to improve your society.

Regards,

Robert H (Bob) Gales

SPWLA President-Elect 2024–2025

President-Elect@spwla.org



Harry Xie
2024–2025 Vice President
Technology

Dear colleagues,

The exciting moment, the annual symposium, is coming in two short months. We cannot wait to meet you in Dubai, a vibrant and warm city with its futuristic skyline and cultural diversity. More excitingly, we will have a technical program at the symposium full of new discoveries, new ideas, and new solutions to the challenging problems in our industry. We are anticipating in-depth technical discussions at all sessions, meeting with old and new friends amongst our colleagues from all over the world, as well as enjoying exotic social programs. It will undoubtedly be a memorable symposium for many of us.

It is well known that a successful technical program at the symposium relies on many volunteers working behind the scenes, from reviewing the abstracts and manuscripts to chairing sessions at the symposium. We want to take this opportunity to express our gratitude to the members of the Technology Committee 2024–2025.



Robin Slocombe
2024–2025 VP
Technology-Elect

SPWLA TECHNOLOGY COMMITTEE, 2024–2025		
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Bo Liu Northeast Petroleum University	Lu Yin CNOOC	Sean Dolan Shell
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Holger Thern Baker Hughes	Nazanin Jahani NORCE Research	Zoya Heidari The University of Texas at Austin

In addition to the technical program, we will have extensive workshops with a wide range of topics to select. We invite you to attend the well-organized technical workshops prepared by the SPWLA SIGs or experts in the field.

1. Fundamentals of Formation Testing – Acquisition, Data, and Analysis
2. Introduction to Borehole Image Log Data Analysis
3. New Advances in NMR Techniques and Applications
4. Uncertainty and Petrophysics
5. Petrophysics in the Energy Transition
6. Advanced Core and Cuttings Digitalization Applied to Reservoir Characterization
7. Casedhole Nuclear Logging – Basics, Advances, and Novel Applications
8. Demystifying Formation Damage
9. Petrophysics Intelligence and Automation With Python, Machine Learning, and Gen AI
10. The Importance of Petrophysics in Resources, Reserves, and Storage Estimation and Overview of PRMS and SRMS

We look forward to seeing you in Dubai!

Yours sincerely,

Harry Xie
SPWLA VP Technology 2024–2025
VP-Technology@spwla.org

Robin Slocombe
SPWLA VP Technology-Elect 2024–2025
VP-Technology-Elect@spwla.org



Jing Li
2023–2025 VP Finance,
Secretary, and
Administration

Dear SPWLA colleagues,

First, please renew your membership fee if you have not already done so. SPWLA membership offers a variety of membership benefits, including:

- Discounts on meetings, conferences, training, and the Annual Symposium.
- Free access to SPWLA resources, including:
 - Monthly webinars and recorded webinar videos
 - Mnemonics DB
 - Monthly chapter meetings in your region or at other SPWLA chapters and SIGs
- Digital subscriptions to the *Petrophysics* journal and the *SPWLA Today* newsletter
- Discounted access to published papers and journals
- Access to our member network
- Serve and vote in chapter and international organizations
- Support the promotion of petrophysics

Membership is a crucial income source for our organization. A larger membership base directly leads to more available resources, increased opportunities for collaboration among members, and a higher likelihood of overall success for the organization. With more members, we benefit from greater financial contributions and the diverse time, skills, and knowledge that individuals bring to our collective efforts.

The financial status of the SPWLA demonstrates consistent and strong growth. As of February 2025, total assets have increased by 1.35% compared to February 2024. Below, pie charts illustrate the percentages of revenue and expenses from May 2024 to February 2025, compared to the same period from May 2023 to February 2024. These charts exclude the deferred income from the symposium, which is typically adjusted every April. They provide a detailed breakdown of fund distribution and offer insights into spending on various programs, such as the *Petrophysics* journal, publication sales, travel expenses for Distinguished Speakers, and support for student chapters.

The Finance Committee discussed and finalized the 2025 staff bonus award. The bonus calculations were set using the 2024 bonus formula, and the significant work on implementing the new membership system was recognized. The bonus formula was updated by adjusting the goals to ensure they aligned more effectively with the organization's objectives.

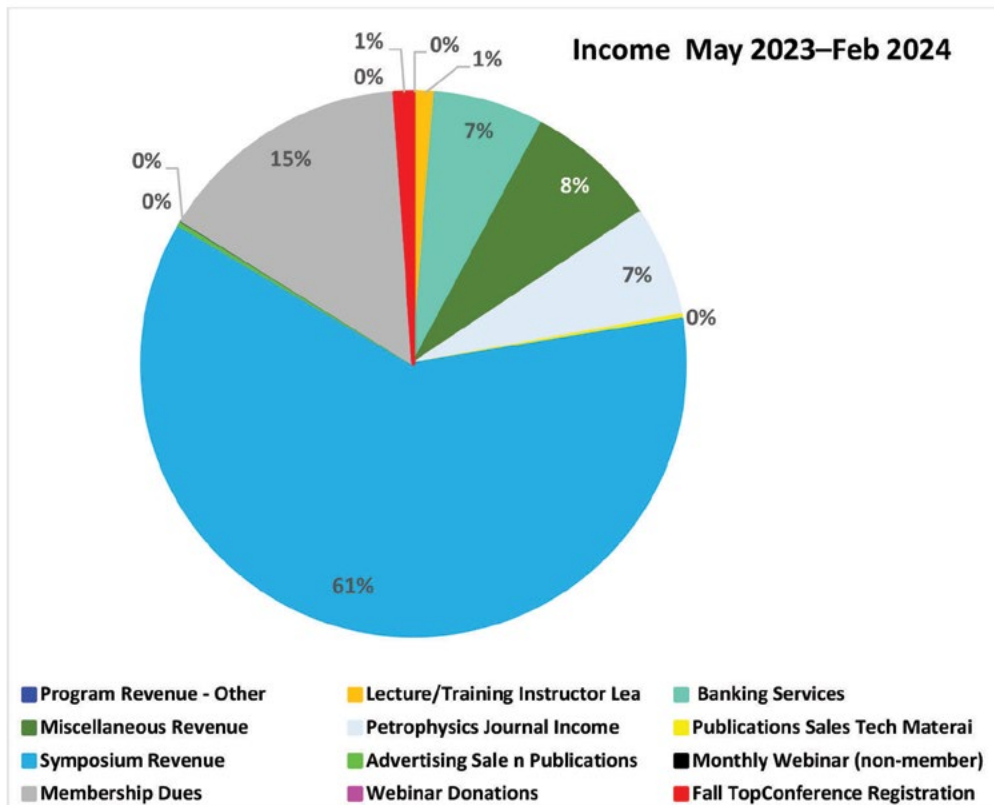
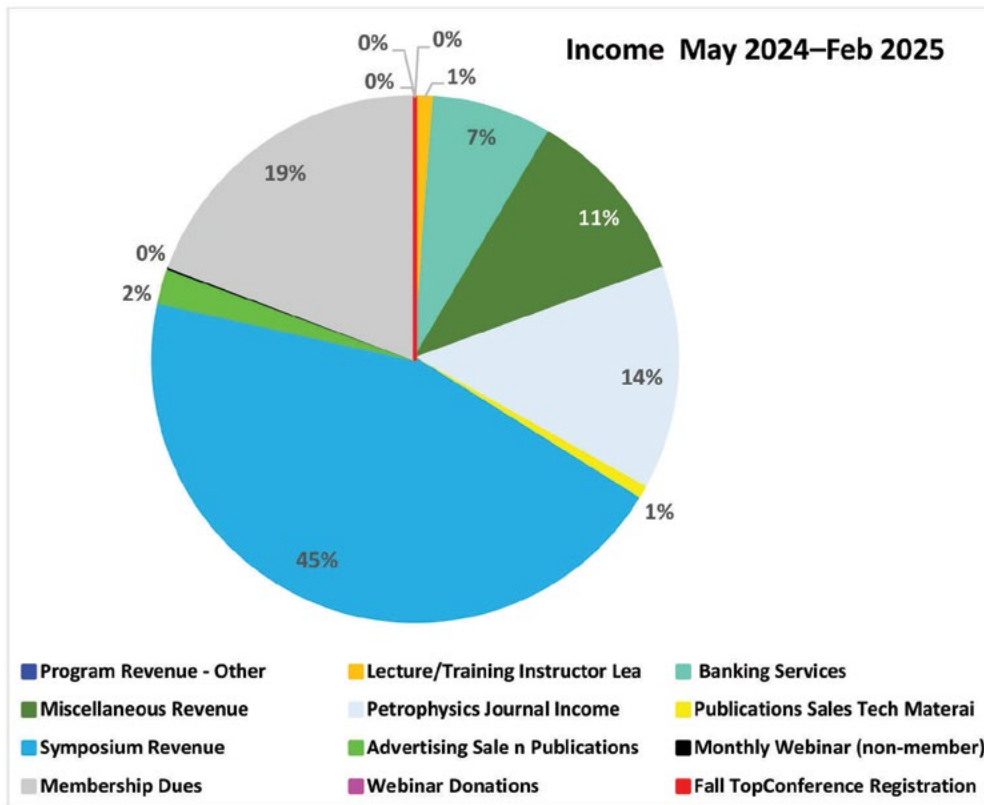
We appreciate your feedback and encourage everyone to support our workshops, topical conferences, annual symposiums, and other SPWLA initiatives. We highly value your suggestions for new revenue sources for the organization and welcome any ideas you may have. Our goal is to collaborate towards a brighter future for all involved.

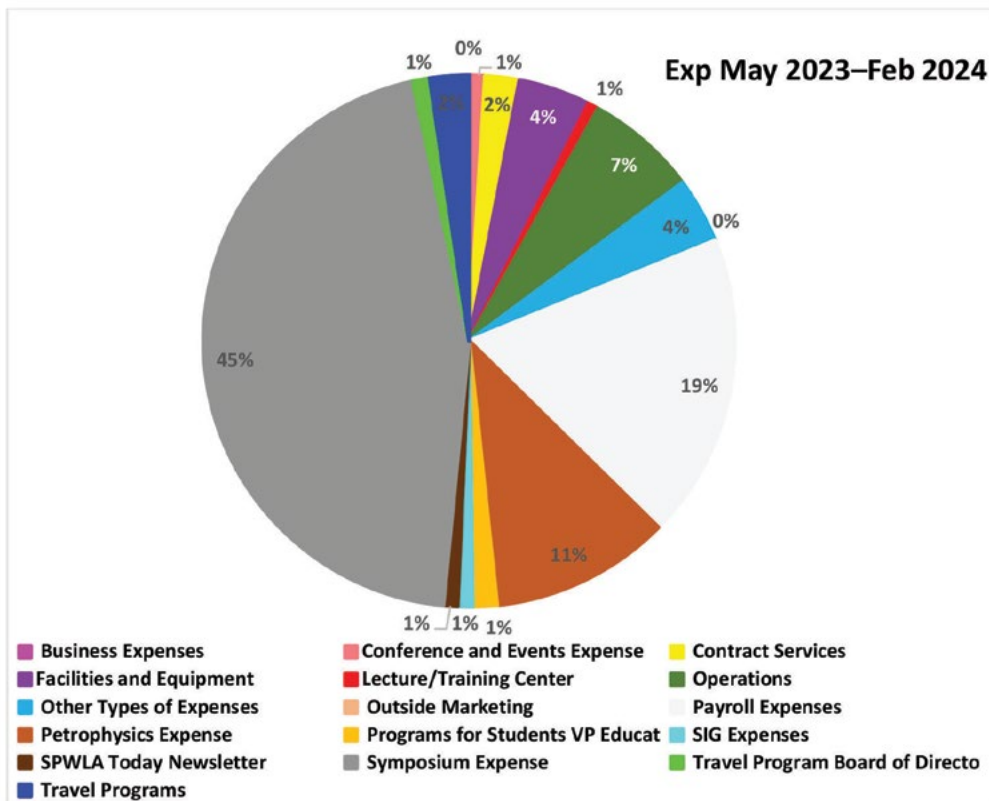
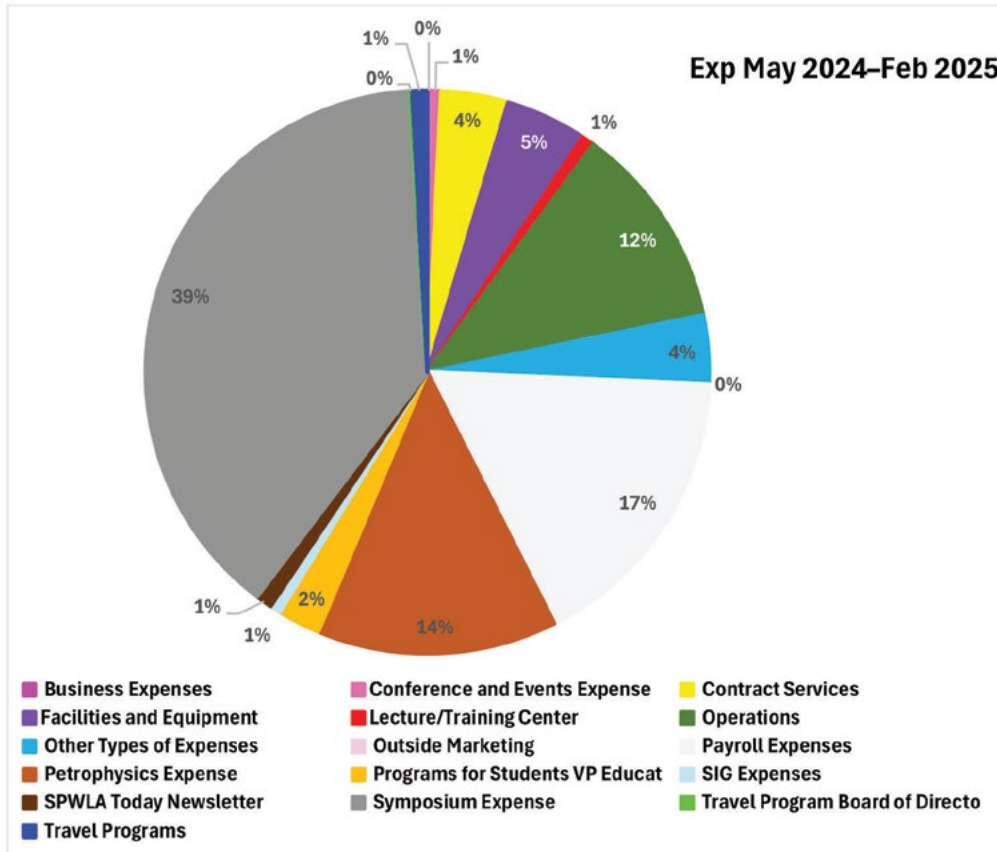
Thank you for your continued support.

Sincerely,

Jing Li

VP Finance, Secretary, and Administration







Matt Blyth
2024–2026
VP Education

Dear SPWLA community,

Hello again! In my last column, I discussed the launch of the International Student Paper Competition (ISPC). At the time of writing this column, the student chapters have finished their local competition rounds, and all the submissions are in for the ISPC final in Dubai. Judging is starting this week, and by the time this column is published, we will have announced the papers that have made it to the finals at the annual symposium in May. There have been over 30 submissions across all three categories – undergraduate, master’s, and doctorate! Once again, I would like to extend a big thank you to Tegwyn, our VP IT, for all his help in getting the ISPC abstract submission and grading system online and for all his assistance with setting up the ISPC

As far as other SPWLA activities that fall under the VP Education banner, we are obviously continuing with our monthly Global Distinguished Speaker webinars, along with additional webinars in the “Highlights from Rio” series, and we have started our new “SPWLA Special Edition” webinar series. Our first speaker in this series was Dr. Bruce Balcom, with the University of New Brunswick, who presented a talk in January on magnetic resonance imaging in cores. Our second webinar in this series will be in April, and the speaker will be Dr. Craig Hardgrove from ASU, who will be talking

about the pulsed-neutron measurements made by the Curiosity rover on Mars! I am hoping to make these webinars on topics outside of the traditional O&G fields a regular occurrence. Additionally, we have two NMR short courses happening in April. Brian Stambaugh has very kindly agreed to give a three-day introductory NMR course and a three-day intermediate/advanced level course. Registration for both events is open through the SPWLA website.

And lastly, I will finish with my usual call for volunteers!

- **Short Courses:** We are in need of people willing to teach short courses on any relevant topics. These courses can be as long or as short as needed and are usually taught online, with half days each day, to allow attendees to balance work and training.
- **On-Demand Training Classes:** These courses are available over an extended period, with attendees being able to access prerecorded training modules online and then attend scheduled Q&A sessions with the course instructor. This is a great opportunity to deliver a training course that is perhaps too long to do in a single week.
- **Nuggets of Wisdom:** This is a series of online talks by industry experts on particular topics that interest them most.

So, if you have a passion for a particular subject and would like to teach a course or class or just record your thoughts as an online information archive, then please contact me at VP-Education@spwla.org!

Take care!
Matt Blyth
VP Education



Chelsea Newgord
2023–2025
VP Communications

Hello SPWLA colleagues,

This quarter is looking busy for the VP Communications role as we promote the SPWLA 66th Annual Symposium, in addition to monthly Global Distinguished Speaker webinars, short courses, SIG events, and the *SPWLA Today* and *Petrophysics* publications.

There are posts scheduled for the annual symposium on Tuesdays for the next couple of months, and you can follow those website links to learn more and plan for the event. Here are a few of the symposium posts:

Registration is Open!

SPWLA
DUBAI 2025
66th Annual Symposium
May 17-21, 2025
Hilton Al Habtoor City

"Technology, Integration and Innovation for Future Energy Era"
Register by April 1, 2025 for discounted price
www.spwla.org

Workshops and Field Trip

Saturday, May 17

- Field Trip: Jebel Hafiz Mountain
- Workshop 1: Fundamentals of Formation Testing – Acquisition, Data and Analysis
- Workshop 2: Introduction to Borehole Image Log Data Analysis
- Workshop 3: New Advances in NMR Techniques and Applications
- Workshop 4: Petrophysics in the Energy Transition

Sunday, May 18

- Workshop 5: Uncertainty and Petrophysics
- Workshop 6: Advanced Core & Cuttings Digitalization applied to reservoir characterization
- Workshop 7: Case-hole Nuclear Logging-Basics, Advances, and Novel Applications
- Workshop 8: Demystifying Formation Damage
- Workshop 9: Petrophysics Intelligence and Automation with Python, Machine Learning, and Gen AI
- Workshop 10: The Importance of Petrophysics in Resources, Reserves and Storage Estimation and Overview of PRMS and SRMS

SPWLA
DUBAI 2025
66th Annual Symposium
May 17-21, 2025
Hilton Al Habtoor City

"Technology, Integration and Innovation for Future Energy Era"
www.spwla.org

Spouse/Partner Program

Monday, May 19: Dubai Tour
Gold & Spice Souq - Abra Crossing - Visit Dubai Mall - Burj Khalifa - Museum of the Future

Tuesday, May 20: Abu Dhabi Tour
Grand Mosque - Heritage Village - Corsica drive through Louvre Museum - Emirates Palace

Wednesday, May 21: Sharjah Tour
Blue Souq - Mosque (photo stop) - Marmar Waterfront - Sharjah Islamic Museum

SPWLA
DUBAI 2025

"Technology, Integration and Innovation for Future Energy Era"
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Thanks to the Technology Committee!

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Vice-President Technology Elect-Co-Chairman: Robin Slocombe, SLB

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Julian Hamed Al Mahrooqi, Ory
Christopher Arns, University of New South Wales
Mark Baccarini, Westarford
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Jafar Farid Ahmed Bakhit, ADNOC
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"Technology, Integration and Innovation for Future Energy Era"
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There are also great candidates to be the VP Communications 2025–2027. I encourage you to vote and thank them for offering to volunteer for this role!

As always, reach out if you have content to share through the SPWLA channels.

~ Chelsea Newgord
2023–2025 VP Communications
VP-Communications@spwla.org



Regional Understandings–North America 1

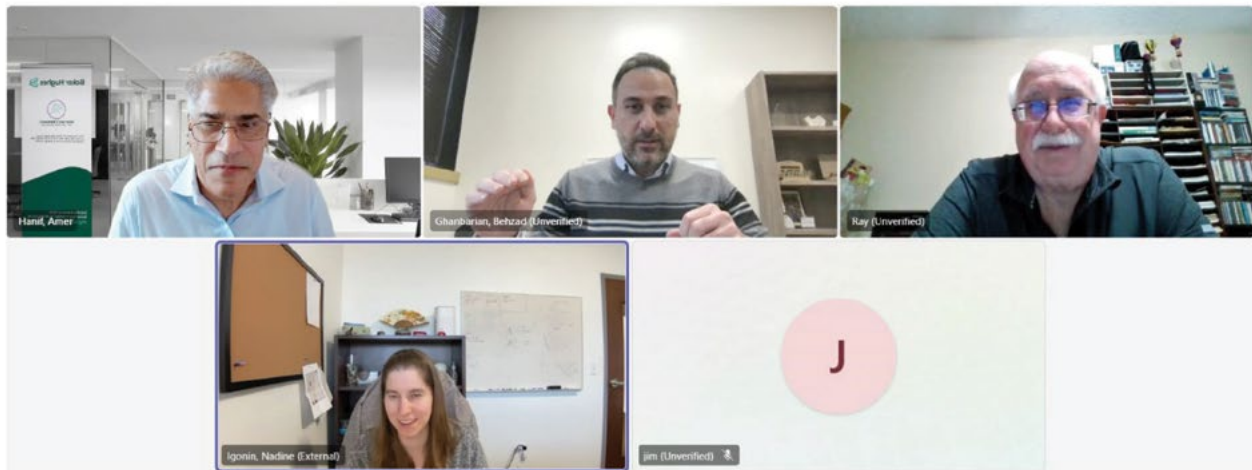


Amer Hanif
2024–2026 NA1 Regional
Director

Dear SPWLA members,

A very warm welcome to all of you into the new year. It is a busy time for everybody, with lots of planning and annual goal-setting activities. In our region, we have started the year with the added excitement of a new government laying out an energy policy with a promise to maximize US oil and natural gas production.

Our **Houston Chapter** maintains its momentum with a flurry of technical talks on a wide range of topics hosted by Westside (Jan. 16, Feb. 13), Downtown (Jan. 29, Feb. 6), and Northside (Feb. 27). Find their chapter news, in this newsletter, for details on these talks, or visit the Lunch Seminars/ Archive section on their webpage (<https://www.spwla-houston.org/>). We always encourage SPWLA members residing in Houston to register for the Houston Chapter as well to get timely notifications about upcoming local events (registration is free; simply apply with your name and email address).



The President of the Dallas Chapter called the inaugural meeting of the new board. Multiple topics were on the agenda, including organization of technical events in the Dallas area. (Clockwise from bottom left) Nadine Igonin, Amer Hanif, Behzad Ghanbarian (President), Ray Wydrinski, and Jim Lewis (having some connectivity challenges with the camera).

The new board of the **Dallas Chapter** got going with a kick-off meeting called by the President. The board faces the specific challenge of reconnecting local members after a long hiatus during the COVID and post-COVID years. The plan is to begin with discipline-relevant technical talks, inviting speakers from the 2024–2025 Regional and International Distinguished Speaker Series. Initial events are to be solely with in-person attendance, and the team looks forward to strong encouragement and participation from our DFW members (visit their LinkedIn page for updates (<https://www.linkedin.com/company/spwla-dallas-chapter/about/>)).

Advance Noise Logging (ANL) Principles

The Advanced Noise Logging data acquired mainly by stations are characterized in term of **noise volume** (in dB) and **frequency** (in kHz):

The **noise volume** is **proportional** to the **fluid flow rate**

Characteristic **frequency of the noise** mainly depends on the **scale of the medium** through which the fluid flows

A dedicated analysis of the noise frequency pattern allows to discriminate the different downhole noise sources

11 SPWLA-2024-0106 2024-25 SPWLA Distinguished Speaker Series

Houston Downtown VP Artur P. Garcia (right) hosts a virtual talk from Guiseppe Galli (center) on advanced noise log applications. Artur was joined by Ali Eghbali (left), VP North, as co-host and moderator.



Houston Westside talks, organized expertly by VP QinShan Yang, continue to see solid attendance. At the January event, presenter Yuan Cong touched on the importance of basic log data quality control, quick-look analysis, and swift onsite decision making.

Regional Understandings–North America 1



The Houston Chapter, never hesitant to have a good time with fellow petrophysics and well-logging enthusiasts, posing for the camera during the January Social.

Both the **University of Texas at Austin** and the **University of Houston** held their respective Student Paper Contests on January 24 and February 1. The Houston event, in particular, had strong attendance from Houston-based SPWLA leaders and mentors, forming the judges panel. Both events showcased the breadth of research and collaboration taking place in these prestigious institutions. We congratulate the winners and wish them luck in competing in the international contest at the Annual Symposium.



Muhammad Khan, Houston Chapter Editor and also a U of H student, receiving his award for securing third place in the Student Paper Competition. (From left to right) Chapter President Musa Ahmed and the panel of judges, including Adam Haecker, Marta Anson, Clara Palencia, Ali Eghbali, Lei Wu, and Ning Hao (missing in picture Chicheng Xu).



Student Paper Contest at UT Austin. Professors Carlos Torres-Verdin, Zoya Heidari, and Larry King form the esteemed panel of judges.

Amer Hanif
2024–2026 NA1 Regional Director

Regional Understandings—North America 2



Clara Palencia
2023–2025 North America 2
Regional Director

It is great to have the opportunity to talk to the community once more and share with you the work that we have been doing since the last column. These past months have been focused on the organization of the 2nd Student Chapter Mini-Symposium, an initiative that started 3 years ago, and today is the second time we have been able to do it together. The global energy landscape is transitioning to sustainable and renewable sources, making academic-industry collaboration crucial. That is why, this time, the topic is about the role of petrophysics in the new energy era. We are excited about the diverse participation and the different topics we were able to gather for our program, and I am thankful to all the contributors, especially the regional directors (NA1 and Latin America) and the professional chapter presidents from Houston, Denver, Oklahoma, Bakersfield, Tulsa, Midland, Argentina, Colombia, and Brazil. The Student Mini-Symposium will be held on April 3–4, 2025, and it exemplifies this synergy and highlights the importance of such partnerships in shaping the future of energy.

The event aims to foster interactions between students and industry professionals. Student chapters from several universities, including the University of Houston, University of Tulsa, UT-Austin, Colorado School of Mines, and University of Oklahoma, will engage with experts, gain practical knowledge, and build beneficial networks. I am very happy to see all the contributions from Latin American universities, with talks from Colombia, Argentina, and Brazil. They will enrich the event with diverse perspectives.

The mini-symposium will feature 2 days, two keynote speakers, and 18 technical presentations, covering a range of topics. Industry support has secured keynote speakers from the USA and Colombia, providing insights into trends like carbon storage, geothermal energy, lithium extraction, underground injection, and petrophysics in lava flow from Brazil.

This symposium is not just an event; it is a celebration of innovation, learning, and the potential for groundbreaking discoveries. We are excited to engage in meaningful discussions, share knowledge, and forge connections that will shape the future of the energy sector.

It is truly inspiring to witness the collective efforts and unwavering dedication of our team from both the USA and Latin America. Their passion and hard work have been the driving force behind making this dream a reality. The preparation for the 2nd Student Chapter Mini-Symposium has been a labor of love, filled with hours of planning and collaboration. We are immensely grateful for the support and enthusiasm shown by everyone involved.

Our dream is that this second virtual mini-symposium sets the stage for an in-person SPWLA Student Symposium in the future, driven by the enthusiasm and dedication of students and industry professionals. We look forward to an inspiring event that will set new standards for collaboration.

All the best,
Clara Palencia
NA2 Regional Director



Marta Inés D'Angiola
2024–2026 Latin America
Regional Director

Dear colleagues and friends,

Summer holidays in Latin America offer a perfect blend of relaxation and reflection. For many students across Latin America involved with SPWLA chapters, this period is also about refining research projects or preparing submissions for upcoming contests. The passion displayed by these young scholars is truly inspiring as they work hard towards making significant contributions to petrophysics.

The SPWLA Argentine Student Chapter recently concluded its first step for the International Student Chapter Paper Contest (ISCPC) 2025 with great success. This event showcased the academic prowess of Argentine students who are working diligently to contribute to petrophysics. Their dedication is truly commendable as they strive to make meaningful impacts through their research.

In Colombia, students have also been actively engaging with SPWLA through competitions, such as the ones where winners are celebrated for their outstanding work. The enthusiasm among Colombian scholars is palpable as they aim to excel on the international stage.

Meanwhile, Patricia Rodrigues has been instrumental in launching the first activities of the SPWLA Suriname Chapter. She spoke about “Natural Fractures Characterizations Using Openhole Logs,” which marks an exciting new chapter for petrophysics enthusiasts in Suriname. As this chapter grows, it will undoubtedly provide opportunities for networking and knowledge sharing among local students. This is their YouTube channel: https://lnkd.in/ey_WnSYh.

In conclusion, while enjoying our well-deserved breaks during the summer holidays, let us appreciate the relentless efforts put forth by these talented individuals who are shaping tomorrow’s petrophysical landscape today!

Let us remember the power of three simple yet magical words that I will share in my own language: ***Por favor, perdón, y gracias!***

Warm regards!

Marta Inés D'Angiola
2024–2026 Latin America
Regional Director



SPWLA Papers of the Quarter Series

The SPWLA Papers of the Quarter Series highlights relevant and impactful papers published by the SPWLA. We encourage readers to nominate any papers they have enjoyed and would like to see summarized in the next issue. Nominations should be sent to SPWLAYP@spwla.org.

Title: Importance of Well Integrity Measurements Throughout the CCS Project Life Cycle

Authors: Dirk Valstar, Alec Nettleton, Erik Borchardt, Hugo Costeno, Geoffrey Landry, and Robert Laronga

Summary: This paper discusses the risks associated with well integrity in CCS projects and provides a comprehensive review of technologies for risk assessment and monitoring. It highlights the differences in technology response between traditional oil and gas applications and CO₂ sequestration throughout the CCS project life cycle.

Key Points:

1. CCS Project Review:

Carbon capture and sequestration (CCS) is critical for reducing CO₂ emissions in line with global climate goals. Ensuring well integrity in CCS projects is paramount, as CO₂ storage must remain secure over long durations (100+ years). This paper reviews well integrity measurements and monitoring strategies, emphasizing proactive and continuous assessment throughout a project's life cycle.

2. Well Integrity in CCS Projects

Unlike traditional oil and gas operations, CCS wells face unique challenges due to CO₂'s corrosive, buoyant, and highly mobile nature. Government regulations enforce stringent monitoring to mitigate risks associated with CO₂ leakage, which could lead to environmental hazards, financial losses, and regulatory penalties.

3. Key Phases of Well Integrity Monitoring

• Assessing Legacy Wells:

- CCS projects require thorough evaluations of existing wells within the Area of Review (AoR) to identify potential leakage pathways.
- Legacy wells must be assessed for casing integrity and cement condition using acoustic, ultrasonic, and electromagnetic logs.

• Verification and Validation of Well Construction:

- CCS wells require specialized materials, such as corrosion-resistant alloys (CRA) for casing and CO₂-resistant cement, to withstand long-term exposure
- Cement bond logs (CBL) and ultrasonic logs ensure adequate zonal isolation.

• Continuous and Periodic Monitoring:

- Various logging techniques help identify well degradation over time:
 - Electromagnetic (EM) logs assess casing thickness changes.
 - Pulsed-neutron logs detect CO₂ movement within the formation and annulus.
 - Fiber-optic distributed temperature sensing (DTS) and distributed acoustic sensing (DAS) monitor for leaks.
- Temperature and noise logs help detect fluid movement and potential breaches.

March 2025

2025 Steering
Committee

Editors

Ishank Gupta

Issa Haddad

Javier Miranda

Clara Palencia

Senior Editor

Nelson Suarez Arcano

SPWLAYP@SPWLA.ORG

In this edition:

*SPWLA Papers of the
Quarter Series
By Issa Haddad*

*Carbon Capture Storage
(CCS) Workshop in
Houston
By Javier Miranda*

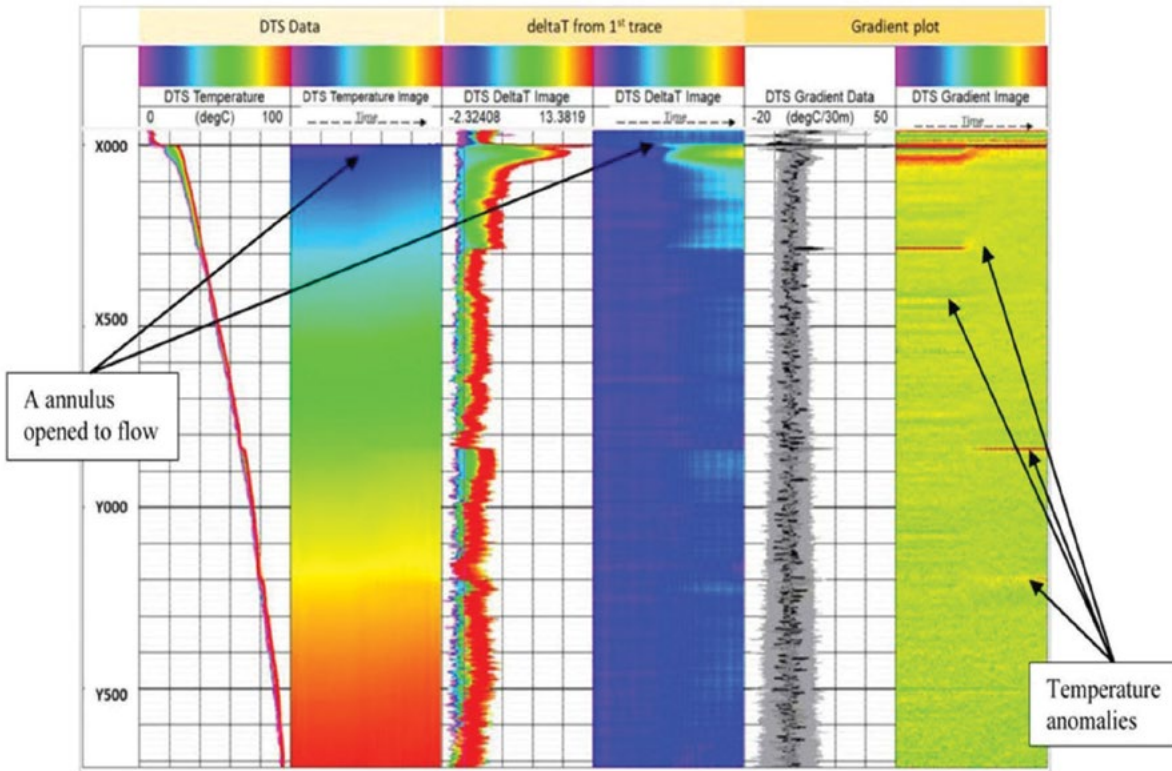


Fig. 1—Distributed temperature data presented as time-depth matrices, include absolute temperature, temperature difference, and a gradient view to highlight temperature anomalies and potentially associate with a leak.

- **Diagnostic and Remediation Strategies:**

- If anomalies suggest loss of integrity, further analysis using dynamic and static measurements is required.
- Remediation techniques include casing patches, cement squeezes, or casing expansion tools to restore zonal isolation and prevent CO₂ migration.

4. Importance of a Robust Monitoring Strategy

- Operators must implement comprehensive monitoring plans that include baseline logging, routine inspections, and contingency plans for potential leaks.
- Time-lapse monitoring provides early detection of well integrity issues, enabling proactive intervention before containment loss occurs.
- Fiber-optic technology enhances real-time monitoring and provides valuable insights into well performance and integrity.

Conclusion

Ensuring well integrity is vital for the success of CCS projects. Proper assessment of legacy wells, robust construction practices, and continuous monitoring help mitigate risks associated with CO₂ storage. By leveraging advanced well integrity technologies and proactive monitoring strategies, CCS projects can operate safely and effectively, maintaining long-term containment and environmental compliance.

Reference

Valstar, D., Nettleton, A., Borchardt, E., Costeno, H., Landry, G., and Laronga, R., 2024, Importance of Well Integrity Measurements Throughout the CCS Project Life Cycle, 2024, *Petrophysics*, 65(6), 896–912. DOI: 10.30632/PJV65N6-2024a4.



Javier Miranda

As Clara Palencia, one of our Bridge team members, recently pointed out in her published article, there are plenty of opportunities in the oil and gas industry—not just for petrophysicists, geoscientists, and petroleum engineers in exploration and production, but also across both conventional and unconventional reservoirs in onshore and offshore settings. Nowadays, even more opportunities have come into our industry as we move towards a more sustainable energy future.

Geoscientists and petrophysicists, in particular, will continue to play an important role in the development and implementation of renewable energy technologies, helping to offset the impact of our operations via carbon capture storage projects and other initiatives and exciting opportunities. Although new knowledge and technologies will be required, we have not started from scratch but rather utilized the strong platform built by decades of subsurface experience in the oil and gas industry. Such technologies and workflows can be directly applicable in storage formation characterization, caprocks, reservoir model development, injection and plum monitoring, regulatory compliance through proper CO₂ sequestration drilling and site operations, well design, and ensuring the safe construction of injection sites. The vast number of skills cumulated by energy professionals over more than a century are uniquely suited to evaluating candidate storage formations and enhanced oil recovery (EOR) fields for carbon capture, utilization, and storage (CCUS) programs. These skills will definitely play a key role in advancing all these developments faster and more efficiently.

Traditional oil and gas operating and service companies are very important players in advancing all the technologies previously mentioned; SLB is one of them. They invited a group of petrophysicists, reservoir engineers, geologists, completions engineers, and well integrity engineers from different operating and consulting companies based in Houston to their North Beltway Laboratory for a CCS workshop where attendees were treated to an excellent CCS overview including all the stages covered in a project, field cases, technical discussions with the experts from the company who oversee these technologies, data acquisition, and applications. More than 50 colleagues attended.

We gained valuable learnings, were exposed to practical tools and field and lab studies, and were provided guidance by the SLB team of experts to maximize the benefits of the solutions presented during this one-day workshop. The CCS Workshop organized by the SLB team exceeded my expectations and provided me with a great opportunity to learn more about this important topic, interact with all their team members, visit the laboratories, and know more about their capabilities and what can be achieved. It was a very complete workshop with an excellent CCS overview, and all the content was so interesting that it kept us engaged throughout the day.

In addition, attendees were able to visit the rock and fluid labs and interact with lab experts as well as subject-matter experts on each of the topics outlined above. The diagram in Fig. 1 shows a summary of the workshop, while Fig. 2 displays the lineup of presenters.

The topics covered by all subject matter experts or domain champions were as follows:

- CCS Overview and Framework
- CCS Petrophysics
- Lab Analysis (Rocks and Fluids)
- Digital Rock Physics
- Borehole Imaging and Subsurface Geology
- Geomechanics
- Stress Testing and Subsurface Sampling
- Engineered Well Testing for CO₂
- Well Integrity in the CCS Life Cycle
- Introduction to Wellbore MMV
- Data Integration and Interpretation
- Q&A with SLB Domains
- Rocks and Fluids Lab Visit with Core Displays and Special Equipment

Solution-Based CCS Workshop 2025

Join us to explore cutting-edge strategies

- CCS Overview & Framework
- Petrophysics
- Lab Analysis (Rock & Fluids)
- Digital Rock Physics
- Borehole Imaging & Subsurface Geology
- Geomechanics
- Stress Testing & Subsurface Sampling
- Engineered Well Testing for CO₂
- Well Integrity in the CCS Lifecycle
- Introduction to Wellbore MMV
- Data Integration and Interpretation
- Q&A with SLB Domains

Thursday February 6th, 2025
9:00 am – 5:00 pm

SLB Reservoir Lab
6350 West Sam Houston Pkwy North,
Houston

Fig. 1—Summary of topics covered during the one-day CCS workshop

<p>Robert Laronga Petrophysics Domain Champion</p>	<p>Dirk Valstar Well Integrity Domain Champion</p>	<p>Casey Chadwick Production Logging Domain Champion</p>
<p>Barbara Hill Rock Lab Domain Champion</p>	<p>Denis Klemin Digital SCAL Domain Champion</p>	<p>Ozgur Karacali Reservoir Domain Champion</p>
<p>Edgar Velez Geomechanics & Acoustics Domain Champion</p>	<p>Elham Mahmoodaghdam Fluid Lab Domain Champion</p>	
<p>Elia Haddad Geology Domain Champion</p>	<p>Sammy Haddad Reservoir Domain Champion</p>	

Fig. 2—Workshop presenters for each topic.

Carbon Capture Storage (CCS) Workshop in Houston



Workshop introduction by Aaron Boogaerts (sales and commercial manager for US and Canada Land)



Rob Laronga (Petrophysics domain champion and principal geologist, CCS, Energy Transition, and Unconventionals) explaining to the audience of participants with different backgrounds the principles of CCS petrophysics.



Barbara Hill (Rock domain champion, Western Hemisphere) graciously hosted us during the day, which included a post-workshop visit to the lab and facilities tour.



Elham Mahmoodaghdam (Fluid Lab domain champion).



Denis Klemin (Digital Rocks domain champion).



Elia Hadad (Geology domain champion).

Carbon Capture Storage (CCS) Workshop in Houston



Edgar Velez (Geomechanics and Acoustics domain champion).



Ozgur Karacali (Reservoir domain champion).



Dirk Valstar (Well Integrity domain champion).



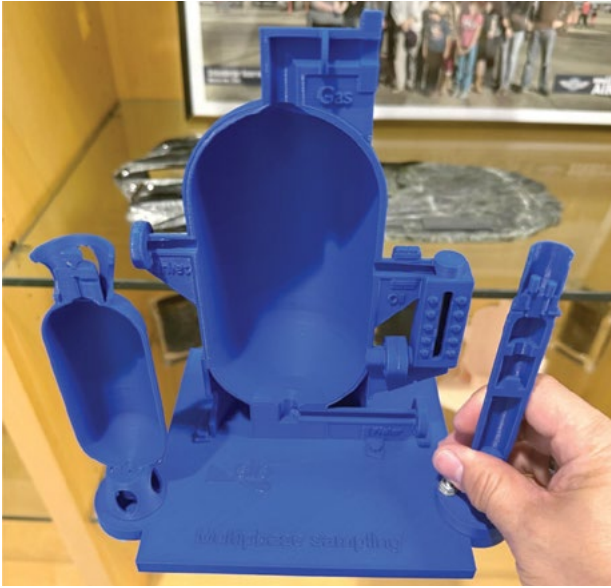
Tina Wang and Javier Miranda shared a great learning experience and ready to visit the lab (no pictures of the lab were taken for obvious reasons).



A display case with several industry awards and recognition to SLB for different formation evaluation contributions.



SPWLA recognitions for an outstanding *Petrophysics* journal paper in 2024 and extra-large rotary sidewall core samples.



A 3D sample of a multiphase sampling on display.



The laboratory entrance has a nice outcrop display on top.

We really appreciate SLB and the particular group of experts organizing and leading this workshop in February. Thanks to their entire team of domain champions, experts, and lab personnel for taking the time to prepare for our visit and hosting us so graciously and for all the support and knowledge shared with us during the day.

As petrophysicists, we appreciate the time, effort, and planning their team put into this. We want to especially thank Barbara Hill (Rock domain, Western Hemisphere), Robert Laronga (Petrophysics domain and principal geologist, CCS, Energy Transition, and Unconventionals), Aaron Boogaerts (sales and commercial manager for US and Canada Land), Vitaly Afanasiev (Western Hemisphere laboratory manager for Reservoir Performance and Evaluation), Azeez (Simon) Alrifaie (Reservoir Performance Evaluation – sales engineer) for this invitation.

SPWLA 66th Annual Logging Symposium

Dubai, UAE, May 17–21, 2025

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 **Hilton Hotel and Conference Center, Dubai Al Habtoor City**. Photography and video/audio recording of any kind are strictly prohibited in all areas, including technical sessions, workshops, and exhibition hall.*

[To read the abstracts in full, please click here:](#)

ACOUSTICS TECHNOLOGY AND APPLICATIONS

An Automatic Method to Extract Slowness in Acoustic Logging and Its Applications

Siyi Li, Wenhui Chen, Xuekai Sun, Liming Jiang, Hao Sun, and Xianping Liu, China National Logging Corporation

Behind Casing Fluid Typing Using Ultrasonic Logs for Plug and Abandonment Application

Alhadi Zahmuwl, SLB; Robert Webber and Charles Desmazures, CNOOC; Rober Loov, SLB

Direct Inversion of Wellbore Acoustic Waveforms Using Convolutional Neural Networks

Elsa Maalouf and Sam Hamamji, American University of Beirut

Guided Wave Propagation in a Double-Pipe System: Theory and Method

Ruijia Wang, Yao Ge, Frederico Heloui de Araujo, and Brenno Cabella, Halliburton

Inversion of Ultrasonic Logging Tool Trajectory, Casing Geometry, and Mud Velocity in Cased Hole

Shaopeng Shi, Hua Wang, Shengya Li, Qiang Wang, and Wenhe Wu, University of Electronic Science and Technology of China

Logging While Drilling Versus Wireline Sonic Data: An E&P Operator's Perspective

Frederic Robail, Priveen Raj Santha Moorthy, Aidil Aznan Azwan A Azid, Hendrik Rohler, Nurul Athirah Wahid Ali, and Arthur Goh Jin Wang, Petronas Carigali Sdn Bhd

Microannulus Identification and Quantitative Evaluation in Cased Wells

Xuelian Chen and Jinlin Pan, China University of Petroleum (East China); Lei Zhu, Tarim Oilfield Company, CNPC; Feng Cheng and Xiaoming Tang, China University of Petroleum (East China)

Pushing the Limits of Ultrasonic Cement Evaluation in Very Large and Heavy-Wall-Thickness Casings

Alhadi Zahmuwl, SLB; Michael Taplin, Ola Balbaa, and Abe Vereide, BP; Robert Loov, SLB; Mohamed Helmi and Luca Pavesi, BP

AUTOMATED METHODS OF FORMATION EVALUATION

A Monitoring and Analysis Platform for Real-Time and Autonomous Formation Evaluation and Machine-Learning Deployment of Multiple Concurrent Assets

Lautaro Rayo, Laila Alshammasi, Yacine Meridji, and Majed Kanfar, Saudi Aramco

Automated T_1T_2 NMR Log Interpretation: From a Single Well to Standardized Multiwell Analysis

Yevgeny Karpekin, George Bordakov, and Laurent Mosse, SLB

Automatic Source Rock Evaluation From Well Logs for Play Analysis

Kjetil Westeng, Neal Morgan, Yann Vann Crombrugge, and Micheal Lawson, Aker BP ASA; Christian Lehre, Sopra Steria; Christophe Kierdorf, Aker BP ASA; Erik Mårten Blixt, GeoMind

Machine-Learning-Driven Permeability Prediction and Improved Reservoir Characterization in Heterogeneous Sandstone Formation of KG Basin

Mohammad Anees, Amit Kumar, and B. Amitha, ONGC

BURIED HILL RESERVOIR DESCRIPTION AND FLUID MONITORING METHOD

Assessment of Cement Density via Through-Casing X-Ray Logging Technique

Jilin Fan, China National Logging Corporation; Qiong Zhang, University of Electronic Science and Technology of China; Ya Jin, China Oilfield Services Limited, Wenhui Chen and Aizhong Yue, China National Logging Corporation; Quanwen Zhang, Min Li, and Wenbo Qu, China Oilfield Services Limited

Understanding the Heterogeneous Fractured Carbonate Reservoir by the Integration of Advanced Logging Techniques and Core Measurements: A Case Study From Beibuwan Basin, China

Chen Ming, China University of Petroleum East China and CNOOC Ltd., Zhanjiang; Gao Yong De, CNOOC Ltd., Zhanjiang; Qu Chang Wei, SLB; Yang Fu Lin, Sun Dian Qiang, and Wu Jin Bo, CNOOC Ltd., Zhanjiang; Su Yuan Da, China University of Petroleum East China

CARBONATES EVALUATION AND SPECIAL APPLIED TECHNOLOGIES

Detection and Assessment of Lithium Concentration in the Smackover Formation Using Triple-Combo Well Logs

Julio C. Villarroel Salvatierra, Carlos Torres-Verdín, Jessica Schellenberger, and Larry W. Lake, The University of Texas at Austin

Geostopping at the Top of Carbonate by Reducing the Depth Uncertainty Using Seismic While Drilling, Near-Bit GR, and Resistivity Real-Time Data, A Novel Carbonate Reservoir Entry Strategy in Deepwater Malaysia

Saikat Das, Martin Cox, Patricia Nancy Tynan, and Helen Saaler, Baker Hughes; Raja Ridhuan B. Khalid, Petronas Carigali Sdn Bhd

High-Resolution Petrophysics Through the Integration of NMR Logs and Acoustic Image Logs

Lucas Abreu Blanes de Oliveira, Gabriel do Nascimento Freitas, and Leonardo Goncalves, Petrobras

Integrated Approach With Maximum Usage of Surface Logging, XRD/XRF, Coriolis, Advanced Gas, and Cavings Check Data in Conjunction With Detailed Geological Analysis to Optimize Wells Drilling in Challenging Middle Marrat and Najmah Reservoirs of North Kuwait

Saad Al Ajmi, Kuwait Oil Company; Oswaldo Klinger, GEOLOG International B.V.; Andrey Gryaznov, Baker Hughes; Chinmaya Pattnaik, Kuwait Oil Company; Ahmad Shoeibi and Majid Moazami, GEOLOG International B.V.; Tuhin Podder and Souvik Sen, Baker Hughes; Manooch Salehabadi, Shell

New Approach to Connect the Sedimentary and Diagenetic Features of Complex Carbonate Reservoir for Better Rock Grouping and Permeability Prediction Through Pore Geometry Structure Rock Typing: A Case Study From Offshore UAE

Didit Putra Kusuma, Umer Farooq, Hiroki Montani, Jawaher Alsabeai, Suad Alshamsi, Latifa Alshamsi, and Lu Lu, ADNOC Offshore; Muhammad Nur Ali Akbar, Prores AS

Novel Three-Dimensional Integrated Approach for Distal and Near-Wellbore Reservoir Characterization

Omar A. Almulhim, Alawi A. Tarouti, Olusegun M. Akinyose, and Sharif M. Shalaby, Saudi Aramco; Amro Abdel-Halim, Sherif Ghadiry, and Mustafa Al Mubarak, SLB

Resistivity Variations in Burrowed Carbonates: Example From the Jurassic Hanifa Formation, Saudi Arabia

Ahmed Nagy, Hassan Eltom, and Ammar El-Husseiny, King Fahd University of Petroleum and Minerals; Mohammed Al Hamad, Schlumberger Dhahran Carbonate Research Center; John D. Humphrey, King Fahd University of Petroleum and Minerals

Saturation Height Models on Brazilian Presalt Complex Carbonate Reservoir Rocks, From Pore to Field-Scale Calculations

André Luís Fernandes, Petrobras

CASE STUDIES

Asphaltene Clustering in Black Oil Column in Gulf of Mexico Driven by Biogenic Gas Addition, Explained via History Matching of Reservoir Charge

Tarek S. Mohamed and Morten Kristensen, SLB; I. Yucl Akkutlu, Texas A&M University; Carlos Torres-Verdín, The University of Texas at Austin; Oliver C. Mullins, SLB

Case Study of Active Resistivity Ranging With Ultradeep Azimuthal Resistivity Measurements While Drilling

Diogo Salim, Yong-Hua Chen, Lin Liang, Martine Wenang, Motaz Zeidan, and Jean-Michel Denichou, SLB

Implementation of High-Definition Reservoir Mapping While Drilling to Enhance Horizontal Well Placement and Reservoir Characterization in Low-Resistivity, Heterogeneous Reservoir: A Case Study From Peru

Federico Seminario, Jose Zegarra, Jorge Sarmiento, Edwar Bustamante, Tito Orrego, and Edson Castillo, Petrolal; Egor Kovarskiy, Igor Hernandez, and Guillermo Cuadros, SLB

Optimizing Wellbore Placement With Near-Bit Ultradeep Azimuthal Resistivity

Alessandra Silva, Halliburton; Ville August Aarseth, Ole Martin Teien, Gustav Kvaal Legouy, and Amitabha Chatterjee, Aker BP; Carlos Andres Sarquez, Nigel Clegg, and Karol Riofrio, Halliburton

Real-Time Mud Gas Analysis: Optimizing Well Completion, Fluid Composition Predictions, and Comparison With Data in Tight Carbonate Reservoir – West Kuwait

Ahmad Shoeibi, GEOLOG International B.V.; Meshael A. A. Jumah, Nami M. Al-Mutairi, and Meshal Abdul Hameed Al-Wadi, Kuwait Oil Company; Oswaldo Klinger and Majid Moazami, GEOLOG International B.V.; Mohammad Abdullah, Feroz Khan, and Ahmed Sabri Khalaf, Kuwait Oil Company

CASEHOLE FORMATION EVALUATION

Data Processing Method of DAS Logging

Rui Deng and Lixiong Gan, China National Logging Corporation and Key Laboratory of Oil and Gas Resources and Exploration Technology of Ministry of Education, Yangtze University; Yujiang Shi, Haining Zhang, Songtao Bai, Chaowei Duan, Hanbin Zhu, Guoli Li, Wenqiang Liu, Dong Li, and Bobo Li, China National Logging Corporation

Evaluating Cement Bond Quality and Casing Integrity in Well P&A Operations: A Case Study From a Depleted Oil Field, Germany

Ajoy Krishna Bora and Sascha Alles, ExxonMobil

Formation Waves Decoupling Network: Enhancing Cementing Quality Evaluation in Fast Formations

Menglu Kang, Lizhi Xiao, Jun Zhou, and Juan Zhang, China University of Petroleum, Beijing

Holistic Integration of Multiple Casedhole Acquisition Techniques for Comprehensive Assessment of Low-Salinity EOR Pilot Project in a Middle East Carbonate Reservoir

Alexey Tveritnev, Mohamed Ibrahim Al Hammadi, and Naema Abdulrahim Abdulla J. Almansoori, ADNOC; David Chace, Vijay Ramaswamy, and Nilisip Akang, Baker Hughes; Alfir Yakupov and Rafael Akhmetianov, GOWell International LLC

CASEHOLE SURVEILLANCE

A Novel Method for Evaluating Cement Bonding Through Tubings in Cased Wellbores Using Monopole Acoustic Measurements

Yunjia Ji, Hua Wang, Shaopeng Shi, Wenhe Wu, and Qizhi Bi, University of Electronic Science and Technology of China

Automated Anomaly Detection of Multi-Metallic Tubulars in Well Integrity Logs Using Signal Mode Decomposition and Physical-Informed Decision Making

Ze Wang, Lijian Jiang, Moustafa Ismail, and Karim Khalil, GOWell

Enhanced Integrated Cement Bond Analysis Through the Use of Flexural and Shear Attenuation Measurements

Rehan Hanif, Deepak Voleti, and Maniesh Singh, ADNOC Onshore; Mostafa Ismail, Ian Leslie, Pawel Matuszyk, Joseph Olaiya, and Doug Patterson, Baker Hughes

Implementation of Waterflood in a Mature Oil Field – How Surveillance Supports Success

Evert-Jan Borkent, Marwa Mufarji, Isehaq Al Busaidi, Ahmed Al Ajmi, Ibrahim Al Kaabi, and Mahmood Al Harthi, Petroleum Development Oman

CORE AND WELL-LOG INTEGRATION

A Missing Well-Logs Generation Method Based on Generative Adversarial Networks Models

Junxia Shi and Guangzhi Liao, State Key Laboratory of Petroleum Resources and Engineering, China University of Petroleum (Beijing); Jun Zhou, China National Logging Corporation; Haishan Liu, China Oilfield Services Limited; Juan Zhang and Yubo Liu, China

Advanced Logging Techniques for Characterizing a Complex Turbidite Reservoir in the Norwegian Sea

Wesam Ben Mansour, Harbour Energy; Harish Datir, SLB

Hydrocarbon Saturation Evaluation of Volcanic Reservoirs Using MICP Experiments, Petroleum Migration and Accumulation Dynamics, and NMR Logging

Xinlei Shi, CNOOC

Integration of Digital Rocks, MICP, Petrography, and Petrophysical Logs to Understand the Rationale Behind a Productive Low-Resistivity-Pay Carbonate Reservoir

Arfan Ali, Mohamed Abdou, Ammar Balillah, and Deema Beesh, Saudi Aramco

Multimineral Modeling Based on XRF, XRD, and Pyrolysis Data

Alexander Kolomytsev, Naftna industrija Srbije

Water Saturation Conundrum: Getting It Right Through the Recommended Best Practices in Dean-Stark Analysis

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Water Saturation Prediction in 3D Models: Paradigm Change From Free-Water Levels to Interfacial Normalized Free-Water Levels

Iulian Hulea, Shell

DIGITAL ROCK PHYSICS FOR FORMATION EVALUATION AND CORE

Conditional Diffusion Models With Integrated Porosity Fusion for 3D Digital Rock Reconstruction

Hao Lu and Guangzhi Liao, China University of Petroleum (Beijing); Jun Zhou, Juan Zhang, Xiugang Ma, and Lugiao Ni, China National Logging Corporation (CNLC)

Digital Special Core Analysis in Tight Reservoir

Al Ghalia Al Salmani, OXY

Evaluation of Resistivity and Saturation of Bitumen-Bearing Fracture-Caved Carbonate Reservoir Based on Digital Core Technology

Zongpeng Lin, Jun Zhao, and Zhenguan Wu, Southwest Petroleum University; Qiang Lai, PetroChina Southwest Oil & Gasfield Company; Shixiang Jiao and Xuan He, Southwest Petroleum University

Investigating the Impact of Cyclical Hydrogen Injection and Extraction on Subsurface Reservoir Formation Rocks for Underground Hydrogen Storage

Shruti Joshi, Baker Hughes; Krishna Raghav Chaturvedi, Rajiv Gandhi Institute of Petroleum Technology

Multiscale and Multicomponent Integration Modeling of Digital Rock Based on Deep Learning

Wang Yuetian and Qin Ruibao, CNOOC Research Institute Ltd

Pore-Scale Modeling as an Alternative to Petrophysical Lacking Data: An Example of the Brazilian Presalt

Ronaldo Herlinger, Jr., Petrobras S.A.

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Comparative Study of Oilfield Chemicals, Polymers, and Nanoparticles for Hydrogen Gas Foam Formation in Subsurface Storage Applications

Shruti Joshi, Baker Hughes; Krishna Raghav Chaturvedi and Tushar Sharma, Rajiv Gandhi Institute Of Petroleum Technology

Distinguishing CO₂ and Hydrocarbon Gas Using Pulsed-Neutron Logs for CO₂ Storage Projects in Depleted Gas Reservoirs

Yonghwee Kim, Eng Chuan Lim, and David Chace, Baker Hughes

Impact of Formation Thermophysical Properties on Geothermal Energy Potential Assessment

Guodong Jin, Hyung Kwak, Hussam H. Banaja, and Walid K. Hussein, Saudi Aramco

Measuring Ultrasonic Velocities and Attenuation of H₂ and CO₂-Saturated Sands for Deep Saline Reservoirs

Gabriel Unomah, Mohammed Sarhan, Michael T. Myers, and Lori Hathon, University of Houston; David M. Myers, Metarock Laboratories

Real-Time Monitoring of Carbon Dioxide Injection Through Fiber Optics: Physics-Based Modeling of Distributed Temperature Sensing Data for Time-Lapse Fluid Typing, Pressure Inference, and Phase Transition Assessment

Marco Pirrone, Eni S.p.A.; Tommaso Mantegazza, EniProgetti S.p.A.

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Impact of CO₂ Storage Time on the Physicochemical and Mechanical Properties of Sandstone Formations: Insights for Long-Term CCS Applications

Musa Ahmed, Deniz Paker, and Birol Dindoruk, University of Houston

Impact of Gas Cooling on Fluid Mobility in Shale: A T₂ Tomography Study

Xu Dong, State Key Laboratory of Shale Oil and Gas Enrichment Mechanisms and Effective Development; Jiahui Zhang and Bo Liu, Northeast Petroleum University; Junlei Su, Jing Lu, and Kun Liu, State Key Laboratory of Shale Oil and Gas Enrichment Mechanisms and Effective Development; Junchen Wu and Xueying Shi, Northeast Petroleum University

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An Integrated Core Reservoir Characterization and PVT for Hybrid Enhanced Oil Recovery in Mature Sandstone Reservoir

Muhammad A. Gibrata, Dragon Oil

FORMATION EVALUATION OF CONVENTIONAL AND UNCONVENTIONAL RESERVOIRS

20 Years of Formation Pressure While Drilling (FPWD) – What Have We Discovered?

Scott Paul, Alex Dykes, Marcus Turner, Yon Blanco Echeverria, Aydar Galiev, Lei Zhang, Aldrick Garcia-Mayans, Laura Jimenez Cabas, and Shahid Haq, SLB

A Method for Gas Reservoir Identification of Buried Hills in the Bohai Sea

Zhenyang Li and Qiong Zhang, University of Electronic Science and Technology of China; Jiling Li, Zhenyong Hou, and Zhang Zhang, China Oilfield Services Limited; Quanying Zhang and Guangjun Xing, Yangtze University

A Novel Hierarchical Correction of Array Induction Logging Data for Horizontal Wells in Tight Sandstone Reservoirs

Ping Qiao and Lei Wang, China University of Petroleum (East China); Yingming Liu, PetroChina; Xiaokai Xu, Sinopec Matrix Corporation; Shaogui Deng, Fuhua Cao, and Kailin Yang, China University of Petroleum (East China)

A Novel Type Curve for Sandstone Rock Typing Using a Pore-Geometry-Structure Approach

Junita Trivianty Musu, LEMIGAS; Muhammad Nur Ali Akbar, Prores AS; Pudji Permadi, Bandung Institute of Technology

Addressing Logging Speed Influence on LWD NMR Response: Advanced Correction Methods for Precise Porosity Evaluation

Valerio Dutra and Marcio Roque, Petrobras; Zeyad Ramadan, Egor Kovarskiy, Shin Utsuzawa, Shashikant Srivastava, Navneet Latawa, and Zoryana Snovida, SLB

Authentic Approaches to Petrophysical Rock Type Determination of Heterogeneous Globigerina Limestone in Northeast Java Basin

Erick Prim Putra and Rafi Fakhri, Husky-CNOOC Madura Limited

Complex Permittivity of Shale and Brine: Core Analysis Results and Interpretation

Sean Dolan, Nishank Saxena, and Ronny Hofmann, Shell; Matthew Josh, CSIRO

Estimation of In-Situ Mineral and Fluid Composition of Rocks From the Joint Inversion of Triple-Combo Well Logs in the Presence of Invasion

Joaquin Ambia and Carlos Torres-Verdín, The University of Texas at Austin

Fractional Flow Modeling and Monitoring for the Assessment of Commingled Fluid Production Across Thinly Laminated Formations

Daria Olszowska and Carlos Torres-Verdín, The University of Texas at Austin

Identifying the Presence of Water Finger and Assessing Influence of WBM Filtrate Invasion in a Fractured Zone of Brazilian Presalt Carbonates

Filipe Ramos de Albuquerque, Eduardo Barreto Oliveira, Thiago Moura da Silva Rosado, Jorge Freitas Maciel Garcia de Carvalho, Pamella Paiva Fernandes, João Paulo Teixeira da Fonseca, Gabriel Luiz Pérez Vieira, and Rodrigo Skinner, Petrobras

Impact of CO₂ Adsorption on Elastic Properties of Kerogen in Organic-Rich Mudrocks

Jamil El-Masry and Ibrahim Gomaa, The University of Texas at Austin; Elsa Maalouf, American University of Beirut; Zoya Heidari, The University of Texas at Austin

Investigation of Wettability of Organic-Rich Mudrocks via Fourier-Transform Infrared Spectroscopy

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

Quantification of Mechanical Integrity of Clay Minerals in Clay-Rich Rocks Under CO₂ Geological Storage

Jamil El-Masry and Ibrahim Gomaa, The University of Texas at Austin; Elsa Maalouf, American University of Beirut; Zoya Heidari, The University of Texas at Austin

Quantifying the Impacts of Spatial Distribution and Petrophysical Properties of Shale Laminations on the Multifrequency Complex Dielectric Permittivity of Shaly Sandstones

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

Temperature Influence on NMR Relaxation Characteristics of Organic and Inorganic Pores in Shale

Ruiqi Fan, Guangzhi Liao, Lizhi Xiao, and Sihui Luo, China University of Petroleum, Beijing

Time to Revisit Deep Dielectric Measurements? – Interesting Insights From Middle East Carbonate Reservoirs

Raghu Ramamoorthy, Barbara I. Anderson, Martin G. Lüling, and James Hemingway, NoHiddenPay LLC; Amr Serry, ADNOC Offshore

Triple-Porosity Medium Saturation Model Based on Effective Dielectric Theory

Jie Tian and Liang Wang, Chengdu University of Technology; Haibo Liao, China Petroleum Logging Co. Ltd.; Yizhuo Ai, Chengdu University of Technology

Using LWD Ultrasonic Images for Heterogenous Carbonate Reservoir Evaluation in Buzios Field, Presalt of the Santos Basin, Brazil

Willy Bohn, Petrobras

IMAGING TECHNOLOGY, INTERPRETATION, AND NEW APPLICATIONS

A New Approach Integrating Geomechanical Analysis and Numerical Simulation to Conduct Fracture Characterization and Prediction in the Buried Hills of the Eastern South China Sea

Lu Yin, China University of Petroleum (East China)

Advanced Segmentation and Geometric Analysis of Geological Samples

Raounek Zeghdoud, Excellence Logging France, École des Mines de Paris; Bruno Figliuzzi, Centre de Morphologie Mathématique Mines Paris; Aymeric-Pierre Peyret, Excellence Logging France SAS

Automated Integration of Gamma Ray Measurements and Azimuthal Gamma Ray Images for Consistent and Optimized Geosteering and Improved Drilling Economics

Cheolkyun Jeong, Ambroise Reynier, Sheng-Hau Lin, Joe Gremillion, Vipin Sharma, and Firas Alshaikh, SLB

Borehole Image Compression and Enhancement for Real-Time Logging While Drilling

Suraj Kiran Raman, Chandramani Shrivastava, Andriy Gelman, Nadege Bize-Forest, Ulysse Legendre, and Muhannad Abuhaikal, SLB

Characterizing the Response of a New LWD Micro-Electrical Imager for Oil-Based Mud and Large Boreholes in Terms of Formation Wave Impedance and Mud Properties

Roland Chemali, Lars Øy, Jennifer Market, Magne Lauritzen, and Inge Bye, WellID; Ian Walker and Thomas Mikuz, OMV

Experimental Measurement and Logging Calculation Method of Fracture Width Based on a Large-Scale Granite Physical Model

Xiongyan Li, Ruibao Qin, Yuetian Wang, Jingji Cao, Peng Wang, Zhongxu Yin, and Xinyu Ye, CNOOC Research Institute Ltd. and National Engineering Research Center of Offshore Oil and Gas Exploration

Fracture Detection and Segmentation From Electrical Image Logs Using YOLOv7-U-Net

Jianing Li, Lizhi Xiao, Guangzhi Liao, Jiaxiu Liu, and Xiaoyu Wang, China University of Petroleum, Beijing

High-Resolution Geosteering Interpretation of LWD Azimuthal Electromagnetic Data

Xizhou Yue, Guoyu Li, and Mingxue Ma, COSL; Shanjun Li and John Zhou, Maxwell Dynamics

High-Resolution LWD Oil-Based-Mud Imaging via Impulse Radar – Hydrocarbon Case Studies

Jennifer Market, Lar Øy, Inge Bye, Roland Chemali, and Magne Lauritzen, WellID; Heidi Rydningen, Ian Walker, Thomas Mikuz, Carina Høie Østebø, Maria Indriaty Susanto, and Kjell Harald Dalehaug, OMV

Horizontal Well Array Induction Logging Data Processing and Interpretation Based on Parameterized Modeling and Inversion

Jun Zhou, Meixiang Gao, Yan Bai, Zhu Ding, Peisheng Wang, Zonghui Gao, Xiaolei Chen, Dou Tian, and Jiaqi Xiao, China National Logging Corporation

Multiscale Evaluation of Hydraulic Fracturing Effects via Borehole Acoustics

Yujiang Shi, Chunhao Yu, Xuekai Sun, Jingqi Lin, Siyi Li, Hao Sun, and Li Zhang, China National Logging Corporation

New Insights Into the Understanding of Sand Injectite Complexes Using Advanced Log Data, Ultradeep Resistivity Inversions, and Outcrop Field Observations

Sayyid S. Ahmad, Halliburton; Joanna Mouatt, Fanny Marcy, and Gianbattista Tosi, Aker BP; Karol Riofrio Rodriguez, Halliburton; Per Henrik Fjeld, Aker BP

Semi-Analytical Forward Modeling of Ultrasonic Wave Propagation in a Multilayer Borehole System for Interpreting Ultrasonic LWD Data

Zeqing Sun and Ruijia Wang, Halliburton

INTEGRATED CCS PROJECTS IN CARBONATES – CHALLENGES AND SOLUTIONS

A Study on the Coupled Numerical Simulation of the Electric Field and Fluid Field During Supercritical CO₂ Oil Displacement Based on Digital Rocks

Hainig Zhang, Zhanshan Xiao, Jianbin Zhao, Shitao Cui, Chenjun Zhang, Bo Wei, and Huiying Li, China National Logging Corporation; Chenxin Guo, China University of Mining and Technology-Beijing

Effect of CO₂ Sequestration on Carbonate Formation Integrity

Mohammed Al-Hamad and Olivier Sindt, SLB; Shouxiang Mark Ma, Saudi Aramco; Wael Abdallah, SLB

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Petrophysically Consistent Log Analysis of a Deepwater Anisotropic Turbidite Formation Using NMR and Tensor-Induction Measurements

Ali Eghbali, Amer Hanif, and Alisa Kukharchuk, Baker Hughes

Synergy of Intelligent Wireline Formation Testing Platform Together With Drillstem Testing to Unlock Hydrocarbon Potential in Asia Greenfield

Santa Kumar and Siti Najmi Farhan Bt Zulkipli, Petronas Carigali Sdn. Bhd.; Dennis Ling, Saifon Daungkaew, Chiara Cavalleri, Yakov Shumakov, Adriaan Gisolf, Francois-Xavier Dubost, Noor Rohaelliza Hademi, and Pramod Kumar, SLB

Tortuosity Assessment for Reliable Permeability Quantification Using Integration of Hydraulic and Electric Current Flow in Complex Carbonates

Dalma Cerro Arrieta and Zoya Heidari, The University of Texas at Austin

MULTIPHYSICS/MULTIDISCIPLINARY CORE TO RESERVOIR MODELS

Enhancing Carbonate Pore-Size Distribution Characterization From NMR T2 by Integrating Aspect Ratio and Sonic Measurements

Juntao Ma, Lin Liang, Mohammed Fadhel Al-Hamad, Marie Van Steene, and Olivier Sindt, SLB; Shouxiang Mark Ma, Saudi Aramco; Jing Luo and Yingfei Hu, SLB

NEW AND TRADITIONAL GEOPHYSICAL TECHNIQUES APPLIED FOR BETTER ACTIVITY IMPACTS ASSESSMENT FROM THE SURFACE AND SUBSURFACE: UPSCALING THE ROLE OF PETROPHYSICISTS

Optimized Dynamic Depth Alignment Between Well Logs for Enhanced Petrophysical and Rock Physics Interpretation

Kjetil Westeng, Peder Aursand, Yann Van Crombrugge, and Frida Viset, Aker BP ASA

NEW DEVELOPMENT IN NMR INTERPRETATION: APPLICATION OF LABORATORY MEASUREMENTS TO LOGGING DATA

Oil-Water Detection and Simulation Using Ultralow-Field Nuclear Magnetic Resonance Based on Atomic Magnetometer

Zhena Qiao, Lizhia Xiao, and Guangzhia Liao, China University of Petroleum (Beijing); Sihui Luo, National Key Laboratory of Oil and Gas Resources and Engineering, China University of Petroleum (Beijing)

Petrophysical Characterization of Secondary Organic Matter and Hydrocarbons in the Early Jurassic Marrat Formation Using Laboratory NMR Techniques

Sean Dolan, Shell; Abdul Mohsen al Mershed, Asmaa Al Hammadi, Hawraa Baqer, and Mihira Narayan Acharya, KOC; Harry Xie, Phil Hawley, and Christie Woodroof, CoreLab; Matthias Appel, Shell

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3D Petrophysics: Applying Calibrated Anisotropic Rock Physics Model to the Acoustic Impedance and V_p/V_s Ratio From Seismic Inversion to Estimate Porosity and Permeability

Sergey Vorobiev, THREE60 Energy Asia; Mehdi Ghanezabadi and Abdul Rahim Roslinawati, RocOil; Shukri B. Ismail and Nur Atiqah Bt Hassan, Petronas

A Novel Approach for Determination of Formation Water Salinity Using Time-Resolved Chlorine From Pulsed-Neutron Technology

Natasa Mekic, Weatherford International

An Underground Reservoir Resistivity Monitoring System for CO₂ Reservoir Characterization

Shanjun Li and Weishan Han, Geoprance

Application of Machine Learning in Validating Diagenetically Complex Permeability Models in Tight Sandstone Reservoir

Salim Al Hajri, German Merletti, and Khalil Al Rashdi, BP

Breakthrough in Real-Time True Formation Resistivity Computation in High-Angle and Horizontal Wells Using a Novel Methodology Implementing LWD Azimuthal Resistivity Components

Mustafa Abdulmohsin and Ayman Elkhamry, Saudi Aramco; Ahmed Taher, Gasser Hassan, and Mohamed Fouda, Halliburton

Enhancing Electrofacies Prediction With Fuzzy Logic: A Pathway to Improved Subsurface Characterization

Luis Miguel Rojas Gamez, Manuella Yebra, Frederico S. De Miranda, Jose Corriša, and Vinicius Oliveira, Eneva S.A.

Enhancing Mud Pulse Telemetry Performance in Deep Drilling Using Advanced Signal Processing and Deep-Learning Techniques

Songwei Zhang and Jie Shang, China Oilfield Services Limited; Wei Chen, University of Electronic Science and Technology of China; Zhiming Wang, China Oilfield Services Limited

Geosteering Based on Formation Dielectric Properties Derived From LWD Measurements

Jun Zhang, Baker Hughes; Shouxiang Mark Ma, Saudi Aramco; Salah M. Al-Ofi, Baker Hughes

Impact of Drilling-Generated Gas on Petroleum and Natural Hydrogen Exploration

Strapoc Dariusz, SLB; Laurent Gerbaud, Mines Paris – PSL

Molecular Simulation of Methane Adsorption Using Deep Potential Model

Yuhao Guo and Liqiang Sima, Southwest Petroleum University; Liang Wang, Chengdu University of Technology

Oxygen Activation Logging: A New 3D Framework for Activation Modeling Brings a Step Change in Stationary and Continuous Water Flow Log Interpretation

Laurent Mosse, Jeffrey Miles, and Chiara Cavalleri, SLB

Unveiling Reservoir Potential With World's First 360° Wireline Microresistivity Imaging in Oil-Based Mud for 12.25-Inch Borehole

Harish Datir, Anup Thorat, and Peter Schlicht, SLB; Joern Schuenemann and Iver Kjørsvik, Harbour Energy

Vendor-Independent Adaptive-Model-Based Inversion of LWD Azimuthal Resistivity Data

Mikhail Sviridov, Dmitry Kushnir, and Anton Mosin, ROGII Inc.

NMR TECHNOLOGY AND APPLICATIONS – HIGH OR LOW FIELDS, PORES, AND FLUIDS

Discrete Inversion Method for Nuclear Magnetic Resonance Data Processing and Its Applications to Fluid Typing and Quantification

Jun Gao and Hyung T. Kwak, Saudi Aramco; Geir H. Sorland, Antek; Gabor G. Hursan and Mohammed Boudjatit, Saudi Aramco

Machine-Learning Solutions for Mitigating Drilling Environment Impacts on NMR Logs in Brazilian Presalt Carbonates

Larissa Furtado Torres, Marcio Roque Coutinho, Marcelo Abbehusen Magalhães, Marcus Vinicius Fonseca Santini Tavares, Carlos Eduardo Dias Roriz, Emerson Barreto dos Santos, Marcelo da Silva Cordeiro, Rodrigo Soares de Souza, Fares Ferreira Pessoa, and Bruna Souza da Silva, Petrobras

Pore Network Characterization Utilizing LWD Acoustic Pore Aspect Ratio and NMR Rock Typing for Excellent Well Placement

Endurance Ighodalo and Shouxiang Mark Ma, Saudi Aramco; Marie Van Steene, SLB

Real-Time Data Inversion Uncertainty Estimation of NMR Logs

Wei Shao and Songhua Chen, Halliburton; Shouxiang Mark Ma and Gabor Hursan, Saudi Aramco

Study of Rock Physical Properties Characterization Methods in Porous Media Using Ultrashort Relaxation MRI

Zhenshuo Ma, Yan Zhang, and Lizhi Xiao, China University of Petroleum Beijing

Validation of the Results of 2D Image Analysis Using Laboratory Measurements of Porosity, Permeability, and NMR T_2 Distributions

Lori Andrea Hathon, Michael Myers, and Davis Ekeke, University of Houston; James Funk, Core Imaging; Jomana Razik, University of Houston

NOVEL APPLICATIONS OF DATA ANALYTICS, MACHINE LEARNING, AND AI

A Method of Perforation Depth Investigation Using Borehole Acoustic Logging

Li Zhang, Wen Chen, Yue Liu, Xuekai Sun, Kun Shao, Xiqiang Li, Siyi Li, Hao Sun, Ran Zhang, and Qi Zhang, Acoustic Research Center, China National Logging Corporation (CNLC), CNPC

Advanced Reservoir Characterization Using Drill-Cuttings-Based Advanced Image Analysis, Elemental Analysis, and AI Algorithms: A Case Study of the Orgánico Inferior and Cocina Members, Vaca Muerta Formation, Neuquén Basin, Argentina

Agustin Kriscautzky, Guy M. Oliver, and Cesar Lugo, Geolog; Denis Marchal and Claudio Naidés, Pampa Energia

Assessment of Textural Heterogeneity Tensor Using Integration of 3D Micro-CT Scan Images and Image Logs

Pallavi Sahu and Zoya Heidari, The University of Texas at Austin

Automated Depth Alignment of Well Logs Using Siamese Neural Networks

Sushil Acharya and Karl Fabian, Norwegian University of Science and Technology; Kjetil Westeng, Aker BP

Data-Driven Methodologies for Enhancing Efficiency and Accuracy in Wireline Formation Testing

Marcelo Abbehussen Magalhães and Lucas Abreu Blanes de Oliveira, Petrobras; Marcos Kalinowski, PUC-Rio

Dual Independent Oval Pads (DIOP) Platform for Testing Wide Range of Complex Reservoirs

Gibran Hashmi, Moutaz Abdein, Carlos Eduardo Vazquez, Tony van Zuilekom, Robert H. Gales, M S Iyer, and Sarvagya Parashar, Halliburton

Integrating Machine Learning and Data Augmentation for Automated Texture Classification in Borehole Image Logs

André M. Souza, Universidade de São Paulo (USP); Paola Braga, Rodrigo Piva, Matheus A. Cruz, Rodrigo Dias, and Paulo Siqueira, Wikki Brasil; Willian A. Trevizan, Candida M. de Jesus, and Camilla Q. Bazzarella, Petróleo Brasileiro S.A.; Rodrigo S. Monteiro, Flavia C. Bernardini, and Leandro A. F. Fernandes, Universidade Federal Fluminense (UFF); Elaine P. M. de Sousa and Mirela T. Cazzolato, Universidade de São Paulo (USP); Daniel C. M. de Oliveira and Marcos Bedo, Universidade Federal Fluminense (UFF)

Integration of Artificial Intelligence Into EFDT Formation Testers

Qiang Yu, Xiaodong Chu, Kong Sun, Yang Shen, Minggao Zhou, Xiaofei Qin, Yanmin Zhou, and Zhongli Bao, COSL

Machine-Learning Method Enables Fast and Accurate Pore Pressure Prediction With Well Logs: A Case Study in Offshore China

Yongde Gao, CNOOC Zhanjiang Ltd; Peng Liu, SLB; Dianqiang Sun and Ming Chen, CNOOC Zhanjiang Ltd

Revolutionizing Well Integrity: Temporal Deep Learning for Precise and Continuous Axial Groove Detection

Ahmad Ahmad, Gurami Keretchashvili, and Ana Escobar, SLB

Universal Data-Driven Permeability Modeling by Connecting MICP Analytics With Big Data

Oriyomi Raheem, Misael M. Morales, Wardana Saputra, Carlos Torres-Verdín, Craig Phillips, and Chicheng Xu, The University of Texas at Austin

Utilization of a Cuttings-Based Advanced AI, Image, and Elemental Analysis Workflow to Improve Subsurface Knowledge and Regional Geological Definition: An Example From the Devonian Section, Awali Field, Onshore Bahrain

Ezdeen Ibrahim, Bapco Upstream; Guy M. Oliver and Milton Sanclemente, Geolog

NUCLEAR TECHNOLOGY AND APPLICATIONS – MINERALOGY, FLUIDS, AND TRUE POROSITY

A Method for Formation Elemental Concentration Determination Based on the Macroscopic Capture Cross-Section Constraint

Guofeng Yang, Wenzheng Peng, Hongfa Ye, Zhengyan Wang, Meng Chen, and Xiangjun Liu, Southwest Petroleum University

A Novel Interpretation Method for Quantifying Mineral Using a Pulsed-Neutron Element Logging Tool

Ya Jin, China Oilfield Services Limited; Yi Ge and Qiong Zhang, University of Electronic Science and Technology of China; Min Li, Yin Lu, and Quanwen Zhang, China Oilfield Services Limited

An Improved Non-Archie Fluid Saturation Workflow in Organic Shales

Pingjun Guo, Brett Zastoupil, and Quentin German, ExxonMobil

Spectroscopy Mineralogy Application in a Mature Gas Field Using

a New Slim Pulsed-Neutron Tool

Siti Najmi, Petronas; Hernan Mora, Weijun Guo, and Bancha Srikampha, Halliburton

SPECIALIZED MEASUREMENT TECHNOLOGIES AND INTERPRETATION METHODS

3D Digital Rock Imaging Enhances Mercury Injection Capillary Pressure Analysis

Andrei Kazak, Ivan Deshnenkov, Yildiray Cinar, and Bruno Stenger, Saudi Aramco

An Unsupervised Collar Wave Suppression Method With Acoustic Physics Constraint in ALWD

Qiang Wang, Hua Wang, and Yunjia Ji, University of Electronic Science and Technology of China; Jun Wang, Harbin Institute of Technology; Shaopeng Shi, Gengxiao Yang, and Qizhi Bi, University of Electronic Science and Technology of China

Application of Effective Permeability Calculation Method Based on Time-Dependent Inversion of Resistivity While Drilling in Tight Formations in the East China Sea

Zhang Hongwei, China Oilfield Services Ltd.; He Yuchun and Zhang Guodong, China National Offshore Oil Corporation; Zhang Zhongqing, Hangzhou Sumay Technology, Corp.; Lu Fawei, China National Offshore Oil Corporation; Wei Jierui, China Oilfield Services Ltd.; Xiong Anjie, CNOOC Energy Development Co., Ltd; Mao Baohua and Liu Baoyin, Hangzhou Sumay Technology Corp.

Assessing Magnetic Methods for Estimating Mineral Content of Rocks in Northern Alberta

Elena Y. Temnikova and David K. Potter, University of Alberta; Arfan Ali, Shell UK Limited

Beyond Gas Bubbles in a Norwegian Oil Fields: An Integrated Technique to Understand Reservoir Fluid Distribution

Maria Cecilia Bravo, Frode Ungar, Sandrine Donnadiou, Gulnar Yerkinzyzy, Silvia Roblero, Tao Yang, and Paal Fristad, Equinor

Evaluating Waterflood Effectiveness and Hydrocarbon Recovery Using Constraint Inversion of Resistivity Sigma and Core Data

Harish Baban Datir, SLB; Sudipto Datta, Amit Singh, and David John Jackson, Total Energy

Fast Multilevel and Multigrid Resolution Stochastic Inversion of UDAR Measurements

Nazanin Jahani and Kristian Fossum, NORCE Norwegian Research Centre; Carlos Torres-Verdín and Wardana Saputra, The University of Texas at Austin

Fluid Production Profiling in Deepwater Carbonates: Intrawell Chemical Tracers Application in Long Horizontal Drains

Marco Pirrone, Giuseppe Galli, and Sara Moriggi, Eni S.p.A.

Magnetic-Electric Dual-Drive Time-Domain Electromagnetic Wave Look-Ahead Focusing for Remote Detection Method Research

Zhanshan Xiao, Yujiang Shi, Haitao Hu, Chao Qi, Haining Zhang, Wenhui Chen, Bin Wei, Kun Shao, and Chunming Yao, China National Logging Corporation

Precision Beyond Limits: Breaking New Ground in Complex Structures With Ultradeep Resistivity Geomapping for Accurate Geosteering

Ida Bagus Gede Hermawan Manuaba and Abdullah Ali Alshehri, Saudi Aramco; Eduard Bikchandaev and Hesham Elmasry, Halliburton

Recent Developments and Verifications for the Multidimensional and Data-Adaptive Interpretation of Borehole UDAR Measurements

Carlos Torres-Verdín, Wardana Saputra, Joaquin Ambia Garrido, Bruce G. Klappauf, and Weichen Zhan, The University of Texas at Austin; Nazanin Jahani, NOCRE Norwegian Research Centre AS; Jörn Zimmerling, Uppsala University; Vladimir Druskin, Sofia Davydycheva, and Ivan Davydychev, 3D EM Modeling&Inversion JIP

Technology for Monitoring the Wear and Defect of Casing and Tubing for Multistring Wells by the Method of Transient Processes

Gulnara Golovatskaya, Aleksandr Potapov, and Dimitri Perelygin, JSC Scientific and Production Firm GITAS; Aleksandr Shumilov, Perm State University; Mingjun Xie, University of Electronic Science and Technology of China

SURFACE DATA LOGGING – ROCK AND FLUID ANALYSIS

A Pseudo-Extraction Efficiency Correction Method for Standard Mud Gas Data

Cuthbert Shang Wui Ng, Equinor ASA; Wei Yan, Technical University of Denmark; Tao Yang, Equinor ASA

Cost-Effective Geochemical Strategies for Optimizing Formation Evaluation and Property Prediction in Conventional and Unconventional Plays

Humberto Carvajal Ortiz and Agustin Kriscautzky, Geolog Americas

Leveraging Thermal Conductivity Gas Detector for Quantitative Assessment of Fluid Contacts and Transition Zones

Khalid Qubaisi and Amjad Kharabah, Saudi Aramco; Steve Dsouza and Dina Gafurova, Excellence Logging

ULTRADEEP MEASUREMENT TECHNOLOGY

A Robust Joint Inversion for Improved Structural Mapping in UDAR Applications Using Multiple Measurement Sensitivities and Uncertainties

Hsu-Hsiang (Mark) Wu, Dagang Wu, Ting Yan, Jin Ma, Yijing Fan, Clint Lozinsky, and Michael Bittar, Halliburton

Geostopping With Ultradeep Electromagnetic Look-Ahead Technology to Mitigate Drilling Risks in Brazilian Presalt Carbonate Reservoir

Antonio Mainieri Vieira da Cunha, Petrobras S/A; Guillermo Marcelo Cuadros and Ligia Naia de Matos, SLB; Valerio Picorelli Ladeira Dutra, Petrobras S/A; Egor Kovarskiy, SLB

Production Estimation With Advanced Logging-While-Drilling Data in High-Temperature Offshore Metamorphic Condensate Gas Reservoir

Fangfang Wu, SLB; Peichun Wang, Lei Xiong, and Renfeng Zhang, CNOOC China Limited, Tianjin Branch; Shenzhuan Li, Xiao Gu, Jinlong Wu, Xin Zhou, and Changwei Qu, SLB

UDAR Horizontal Look-Ahead Mapping Technology Identifies Fault Ahead of the Bit

Jin Ma and Nigel Clegg, Halliburton; Frank Antonsen, Equinor; Arthur Walmsley, Nelson Suarez Arcano, Clint Lozinsky, and Alban Duriez, Halliburton; Kåre Røsvik Jensen and Andrew McGill, Equinor

UNCERTAINTY, SENSITIVITY, AND SCENARIO ANALYSIS

Mineralogy Characterization for Exploratory Eastern Offshore Field in India-Busting XRF and Cutting Lithology Myths: An Eye Opener for the Industry

Shruti Joshi, Anjana Devi Panchakarla, and Nora Alarcon, Baker Hughes

Modeling Oil Saturation Below a Present-Day Free-Water Level and Its Impact on Reserves Uncertainty: An Integrated Approach Using Logs, PGS Rock Typing, SCAL Modeling, and Saturation Depth Function

Muhammad Nur Ali Akbar, Prores AS; Matthew Guy Reppert and Ardian Pradhana Putra, Vår Energi

The State of the Art (and Science) of Predicting Nonexistent Saturation – How and Why It’s Supercritical for CCS Projects

Robert Laronga and Morten Kristensen, SLB



CPH



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SPWLA ANNOUNCEMENTS

MARCH 2025

S. MARK MA, VP PUBLICATIONS, IS PROUD TO ANNOUNCE THE BEST PAPERS, EDITORS, AND REVIEWERS FOR 2024. THESE PAPERS AND INDIVIDUALS WILL BE RECOGNIZED AT THE SPWLA 66TH ANNUAL SYMPOSIUM TO BE HELD IN DUBAI ON MAY 17–21, 2025.

Best Papers of 2024

Rasmus, J., Kennedy, D., and Homan, D., 2024, The Fundamental Flaws of the Waxman-Smiths and Dual Water Formulations, Attempted Remedies, and New Revelations From Historical Laboratory Complex Conductivity Measurements, *Petrophysics*, **65**(1), 5–31. DOI: 10.30632/PJV65N1-2024a.

Badruzzaman, A., 2024, Nuclear Logging in Geological Probing for a Low-Carbon Energy Future – A New Frontier?, *Petrophysics*, **65**(3), 274–301. DOI: 10.30632/PJV65N3-2024a1.

Valstar, D., Nettleton, A., Borchardt, E., Costeno, H., Landry, G., and Laronga, R., 2024, Importance of Well Integrity Measurements Throughout the CCS Project Life Cycle, *Petrophysics*, **65**(6), 896–912. DOI: 10.30632/PJV65N6-2024a4.

Top Editors

Priscila Furghieri Bylaardt Caldas
Joe Comisky
Wen Pan

Top Reviewers

Efeoghene Enaworu
Artur Posenato Garcia
Taha Okashah

Chapter News

ABU DHABI CHAPTER



The opening session of the 2025 season was a resounding success. Mr. Valentine Abashin delivered an engaging presentation on the latest innovations in minerals and hydrocarbon exploration technology. The event was well received by a diverse group of local chapter members who gathered at the ADNOC Headquarters in Abu Dhabi. The discussion continued enthusiastically during the social gathering that followed the presentation, where participants from various technical backgrounds exchanged ideas about the capabilities and efficiency of the new exploration solutions.

ARGENTINE STUDENT CHAPTER

General News

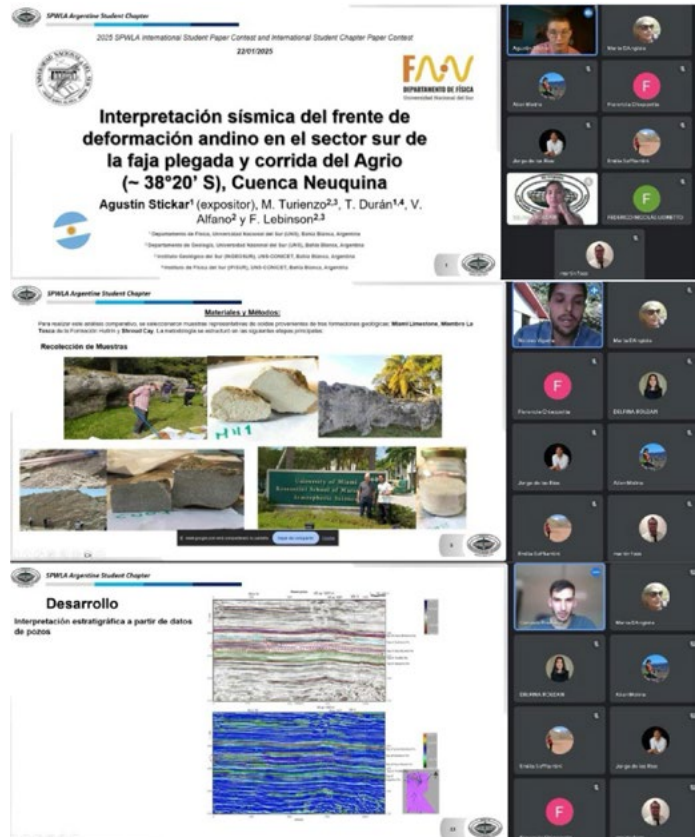
The Argentine Student Chapter continues to grow and consolidate itself as a key space for training and knowledge exchange in petrophysics and formation evaluation. We meet weekly to coordinate activities, plan events, and generate new opportunities for our members. This year, we started with a lot of energy and new projects on the way. We are organizing activities to continue strengthening our community and providing learning spaces for students interested in the oil and gas industry. In addition, we continue in contact with other student and professional chapters, sharing experiences and knowledge.

Recent Events

January 2025—The oral presentation of the second edition of the SPWLA Regional Student Paper Competition was held, where students presented their research in areas such as petrophysics, formation evaluation, and reservoir characterization. The papers were evaluated by a jury of excellence formed by Emilia Soffiantini, Marta D'Angiola, and Jorge A. de los Ríos, who provided valuable contributions to each presentation. We thank them for their commitment.



Event Flyer.



Presentation.

BANGKOK CHAPTER – THAILAND

2025 Bangkok Chapter Committee Members

Chapter President	Andrew Cox
Technical Coordinator	Ryan Banas
Sponsorship	Marvin Rourke
Secretary	Ronald Ford
Treasurer	Nipista Pongpanit
Web Coordinator	Alex Beviss
Corporate liaison	Rinlita Lertkornteeranan
Student Liaison	OPEN



Group photo.

Website: https://www.spwla.org/SPWLA/Chapters_SIGs/Chapters/Asia/Bangkok/Bangkok.aspx

Email: bangkok.chapter@spwla.org

Upcoming Events

In March, the renewal of the student chapter’s Board of Directors will take place, marking the beginning of a new stage for the organization. We are currently working on the transition to ensure the continuity of activities and strengthen the chapter’s growth.

For the first semester of the year, various activities are being planned, with the objective of continuing to promote student learning and participation in topics related to petrophysics and formation evaluation.



Recent Events

30 January 2025—“Fluid Contact Analysis Using Rock-Physics Technique in Challenging for the FP Tools Environment” presented by Greg Croft (independent petroleum consultant and adjunct professor in environmental and earth science, Saint Mary’s College in Moraga, California), and Donald G. Hill, PhD, emeritus consulting petrophysicist, Hill Petrophysics. Greg and Donald presented an enlightening presentation on the “Geology of the Jasmine Oil Field, Gulf of Thailand.” This talk provided insight into the impact of channelized reservoir sands with sealing faults, resulting in numerous small reservoirs typical in the Gulf of Thailand. Their presentation was very well received, and we thank both Mike and Donald for taking the time to present. Thanks to everyone who attended.

27 February 2025—“Integration of Geomechanics for Successful Drilling Operations” presented by Numan Phettkongkam (senior petrophysicist, Weatherford). Numan provided an exceptional presentation on the “Integration of Multidomain Data With Geomechanics” and how this contributes to the success of a well. Our sincere thanks to Numan for this excellent presentation.



Instagram post.



Andrew Cox (Bangkok Chapter) with Dr. Jirawat Chewaroungroj and some of the student attendees from Chulalongkorn University.



Numan Phetthongkam (senior petrophysicist, Weatherford).

Please check our local website for the latest information on events and activities for the Bangkok Chapter on the SPWLA main page:

https://www.spwla.org/SPWLA/Chapters_SIGs/Chapters/Asia/Bangkok/Bangkok.aspx

or visit us on LinkedIn (SPWLA Bangkok Chapter)

BOREHOLE IMAGING (BHI) SIG

General News

The BHI SIG is growing fast. We now have more than 500 members.

We reorganized the board of the BHI SIG and added the positions of dedicated VPs. Please find below a list of the new board and VPs

- Chair: Christian Rambousek, NiMBUC Geoscience
- Vice Chair: Chandramani Shrivastava, SLB

- Secretary: Tegwyn Perkins, Geoactive Limited
- VP Seminars: Peter Barrett, Halliburton
- VP Geomechanical Interpretations: Bernd Ruehlicke, Eriksfiord
- VP Cross-Discipline Integration: Roberto Berto, ENI
- VP Data Standards: Brice Fortier, Equinor
- VP Publications: Stephen Morris, Geoactive Limited

Recent Events

Due to the high interest in our geomechanics workshop on October 15, we organized a second Geomechanics – BHI workshop on February 27, 2025, at 9:00 am Central European Time (2:00 am US Central Time). The workshop will be held online, and participation is free of charge.

Please find the program below:

9:00 am: **Welcome**

9:05 am: **“Borehole Image Log analysis of Ramsay-1 and Ramsay-2 Part 2: Comparison of Aperture Analysis Methods Used to Constrain Secondary Porosity”** by Irene Wallis, Cubic Earth Ltd.; Andy Wilson, ImageStrat Pty Ltd; Julien Bourdet, Gold Hydrogen

9:35 am: **“Algorithm for Stress Inversion Based on Borehole Image Data: Application to a Carbonate Framework”** by Dalila Grilli, Alberto Vercellino, and Stefania Petroselli, Eni Natural Resources

10:05 am: **“Balancing Technical and Economic Aspects of Borehole Imaging in Geomechanical Applications”** by Sanjeev Kumar, Kuwait Foreign Petroleum Exploration Company (KUFPEC)

10:35 am: **TBD**

BRAZIL CHAPTER

General News

Our monthly meetings are being held online, predominantly every third Tuesday of the month, at 4 pm BRT (UTC-03), through our YouTube channel (<https://www.youtube.com/@spwlabrazil>). Please consider subscribing to the channel and turning on notifications to stay updated on our latest videos. Anyone wishing to participate is welcome. Meetings are held in Portuguese or English, depending on the preference of the speaker. Even if it is held in Portuguese, questions in English are also welcomed!

Please consider subscribing to our LinkedIn page (SPWLA Brazil Chapter: <https://www.linkedin.com/company/spwlabrazil/>), where we post chapter updates and meeting links.

For further information about the chapter, please contact our secretary, David Xavier (dx@equinor.com).

Membership to our chapter is free and can be claimed by filling out the form available at <https://lnkd.in/g4KQjYf>.

We're excited to announce we have launched our monthly meetings dashboard! Visit and check the statistics of all registered monthly meetings delivered by our chapter at <https://SPWLABRChapterdashboard>.

Recent Events

9–12 December 2024—The Brazil Chapter offered an in-person course on “Nuclear Magnetic Resonance for Formation Evaluation,” led by PhD Willian Andrig htto Trevizan (Petrobras consultant). The course was held at The Brazilian Center for Research in Physics (Centro Brasileiro de Pesquisas Físicas, CBPF). Over the 3 days, participants had the opportunity to learn and discuss topics such as NMR fundamentals, logging tools, lab measurements, and NMR-based reservoir evaluation. The course included practical sessions on interpreting NMR logs for porosity, permeability, and fluid saturation using the software Aspen Geolog™. The Brazil Chapter would like to express its sincere appreciation to our partners:



18 February 2025—The first monthly meeting of the 2025 series was held with Adna Vasconcelos (<https://www.linkedin.com/in/adnavasconcelos/>), presenting “An Automatic Approach for Core-to-Log Depth Matching in Presalt Carbonate Reservoirs,” which discussed the challenges of reconciling depth measurements of wellbore data. The webinar covered the presentation of a robust and automated depth-matching methodology, specially developed to account for the inherent heterogeneity within presalt carbonate rocks.

The SPWLA Brazil Chapter is planning the 2025 courses and presentation calendars, so stay tuned to our LinkedIn page and YouTube channel to stay up to date with our schedule.

DALLAS CHAPTER

BOARD 2025



President

Dr. Behzad Ghanbarian is an associate professor in the Earth and Environmental Sciences Department at The University of Texas at Arlington. His main areas of research are petrophysics, unconventional reservoirs, and underground energy storage. He is the author of more than 120 peer-reviewed journal articles and three books. Behzad was also listed among the top 2% of scientists in the world between 2021 and 2024. ghanbarianb@uta.edu M: 937-668-4907



Vice President

Tom Thompson is a senior account manager with Baker Hughes. He has 13 years of oil and gas industry experience and a strong understanding of business activity in and around the DFW area. Tom specializes in wireline logging and log applications. He has received a BS degree in management from Texas Tech and a Juris Doctorate in law from the Thomas Jefferson School of Law. Thomas.Thompson2@bakerhughes.com M:214-538-3842



Secretary/Editor

Nadine Igonin is an assistant professor at The University of Texas at Dallas, specializing in applied geophysics and seismology. She has a BSc and PhD in geophysics from the University of Calgary in Canada and now has an active research group consisting of one post-doc, two PhD students, and two MSc students. Nadine hopes to help by bridging the connection between industry and academia. She is passionate about students gaining exposure to rock physics and up-to-date industry trends. Nadine.Igonin@UTDallas.edu M: 512-781-0704



Publicist

Jim Lewis is a lifetime member of the SPWLA and has been a member since 1978. He has attended numerous national and international symposiums and has presented chapter talks. He has served in all positions (Publicist, Secretary, Treasurer, VP Technology, and President) for the Dallas Chapter. After almost 45 years of industry experience, including service companies, consulting companies, and major oil companies, Jim is now retired but will present a business card titled “The Great Crew Change!” With a BS in physics, Jim entered the industry as an openhole engineer for Dresser

Atlas and attained the General Engineer rating while working in the Rocky Mountain Computing Center in Denver. Jim had international experience; working in Russia and Kazakhstan resulted in his extensive knowledge of Soviet-style formation evaluation.

jlewis1@gmail.com M: 214-732-0822



Treasurer

Ray Wydrinski is a lifetime member of SPWLA. He has 35+ years of accomplished career as a petrophysicist with ARCO International Oil and Gas, BP America, and Pioneer Natural Resources. Presently, he is self-employed/semi-retired and joined “The Great Crew Change” with Jim. Ray has served SPWLA in various positions over the years. He holds a BS degree in mechanical engineering.

ermine_pappy@yahoo.com

HOUSTON CHAPTER OFFICERS (2024–2026)

 Ron J.M. Bonnie President	 Ali Eghbali V. President Northside	 Artur Posenato Garcia V. President Downtown
 QinShan "Shan" Yang V. President Westside	 Zeyad J. Ramadan Treasurer	 Ronke Olutola Secretary
 Muhammad Noman Editor	 Tianmin Jiang Webmaster	

President’s Corner

Q1 2025

Dear Members of the SPWLA Houston Chapter,

The past year turned out quite dynamic for the chapter: in early spring, we welcomed a refreshed Executive Board with several new faces (yours truly one of them), following elections with a great turnout. Only a few months into our “reign,” the Board saw two changes to its membership, and we hope that we will finish our ride with no more changes.

We hosted many technical presentations/luncheon meetings with great speakers discussing a wide variety of topics of interest to the Houston petrophysical community, evidenced by great attendance—we had one “sold-out” event—and animated discussions following the formal

presentations.

The monthly networking events at Cedar Creek Bar & Grill, too, were all well attended and a great opportunity for informal discussion of (petrophysical) issues on our minds, the state of the industry, science, football (soccer, too), travel, family, and friends.

Sadly, we were unable to organize the Annual Houston Technology Show in 2024 as we were unable to attract sufficient sponsors and vendors willing to commit to the show. A reflection of the state of the industry? We will double down on our efforts to bring the Technology Show back in 2025.

We constantly strive to improve and take feedback from our members seriously. Don’t be shy. We welcome your feedback, ideas, and suggestions and are also ready to schedule your (technical) presentation for an upcoming luncheon meeting.

Ron J.M. Bonnie

Houston Chapter President

Sponsors and Friends of the Houston Chapter

Q1 2025



Recent Events

Thursday, Jan 16, 2025

11:30 am–1:00 pm

SLB - 6350 West Sam Houston Parkway North, Houston, TX 77041

Westside Technical Talk / Luncheon Meeting

“Petrophysicist Bootcamp: Maximizing Insights and Potential”

By: *Yuan C. Cong*

Abstract: In the AI/ML era, mastering the training of models is crucial for long-term success and optimal results. Above all, the quality of the data is paramount, along with understanding the nature of each data category, whether quantitative or qualitative, and the analysis approach, whether probabilistic or deterministic. Petrophysicists must possess this knowledge to correctly and effectively instruct AI/ML models. This one-hour webinar is a concentration of a daily course that delves into the essential theories of logging equipment and

quality control in data acquisition and also explores software-independent readout and quick-look analysis techniques for swift decision making on-site. This webinar will focus on essential concepts, key points, and areas of concern instead of covering in-depth details

Biography: With over 35 years of experience in wireline logging and LWD with major service providers, his career has consistently been on the frontline, spanning hands-on operations, global technical support, and data analysis/interpretation. This includes overseeing critical logging jobs 24/7 from both operational and geoscience perspectives. Experience includes serving a range of IOCs, NOCs, and independent oil and gas companies worldwide. The work has covered everything from single-well operations to comprehensive field studies, encompassing exploration logging program planning, implementation, analysis, interpretation, completion evaluation, and production/injection well profile and integrity monitoring.



Wednesday, January 29, 2025

11:30 am – 1:00 pm Virtual

Downtown Technical Talk

“From Leak Path Detection to Quantitative Flow Profiling: The Exciting Journey of the Noise”

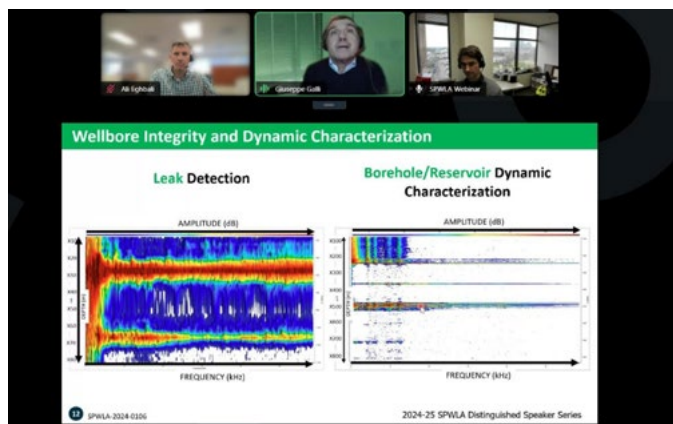
By: Giuseppe Galli (Eni S.p.A.)

Abstract: Downhole well surveillance is considered, during asset exploitation, a mainstay for the proper characterization of well completions and reservoir behavior. For these activities, specific tools have been developed to address wellbore integrity issues (e.g., sonic, ultrasonic, electromagnetic logs) and to depict downhole dynamics in injectors/producers (i.e., production logging). However, these standard techniques may have some limitations. For instance, cement logs provide an indirect static picture of the cement placement scenario and

are not able to highlight fluid movement behind tubulars if present. On the other hand, production logging can only capture fluid flow inside the completion. Therefore, it is not possible to know the flow path from the reservoir towards the well, together with the active reservoir units. Advanced noise logging (ANL, operating in a wide frequency range) can be an elegant solution to overcome these limitations. This paper first shows how ANL is the key to addressing tricky wellbore and completion integrity issues and then introduces a novel methodology for the quantitative use of ANL by means of an in-house spectral analysis of the recorded data. The versatility of ANL makes it suitable for multiple uses, and this is demonstrated here by several selected case histories involving different commercial tools. In detail, the measured signal (associated with particular fluid flow paths) is modeled to extract noise power amplitudes in specific frequency ranges and qualify fluid movements through the reservoir, cement channels/microannuli, pipes, and other completion elements (such as leaking valves and packers). For what concerns the presented wellbore integrity applications, the enhanced spectral analysis has provided a detailed noise classification and allowed a robust identification of the issue preparatory to possible remediation actions. Further, from a quantitative standpoint, modeling of ANL data in injection/production wells has been implemented to assess the relative flow rate in the borehole, the relative flow rate in the reservoir, and actual net pay. The latter are unique outcomes from ANL that are fundamental in challenging environments where standard production logging interpretations are not consistent or not exhaustive: the presence of asphaltenes, waxes, and/or solids in the borehole, highly heterogeneous reservoirs, stimulated scenarios, and complex completions. It is worth mentioning that the reliability of such ANL-based dynamic characterization has been validated in standard scenarios with conventional production logging results (for more than 20 surveys). The novelty of the approach relies on the key role played by the enhanced modeling of ANL data and the demonstrated versatility of the measurement, with applications spanning from unusual poor cement placement issues to completion microleaks. Moreover, the quantitative use of noise power amplitudes in selected frequency ranges is relatively new and puts ANL in a prime location for the dynamic characterization of very complex scenarios when the fluid flow path behavior near the wellbore is nontrivial. Finally, the outcomes of the extensive ANL analysis represent a strategic input for production optimization activities, remedial jobs, workovers, well test interpretations, permeability estimations, and 3D dynamic reservoir modeling.

Biography: Giuseppe Galli is a senior advisor in petroleum engineering and operations at Eni, with over 30 years of

experience in the oil industry. His expertise includes openhole and casedhole well logging, production logging, fiber optics, tracers, and reservoir monitoring. He is actively involved in reservoir management, production optimization, and the rejuvenation of mature fields. Giuseppe has authored numerous technical papers and posters. He graduated in geology from the University of Parma in 1990 and joined Eni in 1991 as a wellsite geologist.



Thursday, February 6, 2025

12:00 am – 1:00 pm Chevron Building, 1400 Louisiana St
Houston, TX 77002

Downtown Technical Talk / Luncheon Meeting

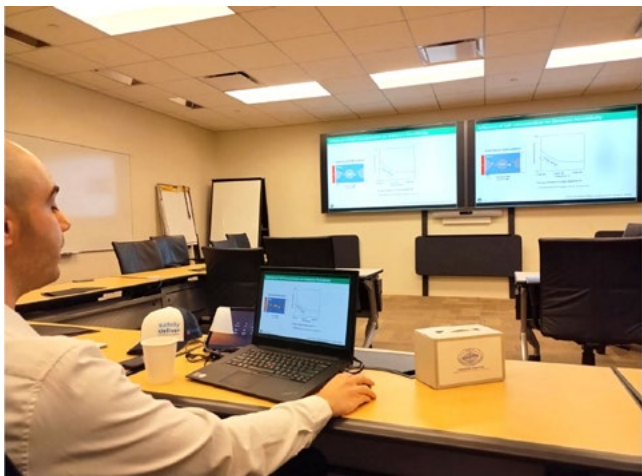
“Influence of Salt Concentration and Type on Dielectric Permittivity of Rocks”

By: Zulkuf Azizoglu (University of Texas at Austin)

Abstract: Ionic properties and concentration significantly influence the response of brine-saturated rock samples to electromagnetic disturbance. However, the dielectric permittivity response of rock samples under different ionic conditions is poorly described. This significantly limits the potential information that could be gained from dielectric permittivity measurements about the pore geometry and fluid content. Therefore, the influence of salt concentration and type on broadband dielectric permittivity must be quantified in the pore- and core-scale domains to develop analytical dielectric permittivity models. The objectives of this paper are to (a) investigate the influence of salt type and concentration on dielectric permittivity via experimental measurements and pore-scale simulations and (b) identify the limitations of current effective medium theories in the interpretation of dielectric permittivity measurements in samples with different ionic conditions. We investigate the influence of salt concentration and type on the dielectric permittivity of pore- and core-scale Berea sandstone samples. First, we perform frequency-domain dielectric permittivity simulations to quantify the

response of the pore-scale models to electric field excitation. The frequency-domain dielectric permittivity simulator solves Maxwell’s equations under quasi-static conditions at discrete frequencies. We simulate the dielectric permittivity in the frequency range of 20 MHz to 3 GHz. We run the simulations in samples saturated with NaCl, KCl, and MgCl₂ brines. The salt concentration of the brine solutions ranges between 2 to 100 PPT. For the core-scale analysis, we fully saturate the samples with different brine solutions at varying salt concentrations. In the core-scale domain, we use the exact brine solutions and salt concentrations defined for the pore-scale analysis. The dielectric permittivity measurements were conducted using a network analyzer with a high-temperature coaxial probe setup in the frequency range of 200 MHz to 3 GHz. We observed that relative permittivity at 1 GHz decreases with increasing salt concentration, irrespective of the brine type. However, the type of salt significantly controls the magnitude of the decrease in relative permittivity. After increasing the salt concentration from 10,000 to 100,000 PPM, relative permittivity at 1 GHz decreased by 7% and 11% when the samples were saturated with KCl and NaCl brine solutions, respectively. Furthermore, this behavior was enhanced as the frequency decreased. The impact of salt type on relative permittivity was negligible in samples saturated with 10,000 PPM brine solutions. Finally, we examined the potential errors that could arise from assuming an inaccurate salt type in the interpretation of dielectric permittivity measurements. We observed that incorrect assumptions about the brine type could result in up to 20% relative errors in water saturation assessment via dielectric permittivity measurements. Therefore, taking the influence of salt concentration and type into account is critical for a reliable interpretation of dielectric permittivity. The outcomes of this work will be helpful in the interpretation of dielectric permittivity measurements in formations with variable salt concentrations of formation water. Additionally, in the cases where the salinity of the formation water is unreliable, this work will illuminate the extent to which the dielectric permittivity measurements can be used for petrophysical analysis.

Biography: Zulkuf Azizoglu is a PhD candidate in the Hildebrand Department of Petroleum and Geosystems Engineering at The University of Texas at Austin. He holds a BSc in petroleum engineering from Middle East Technical University. He is currently a graduate research assistant at The University of Texas at Austin under the supervision of Dr. Zoya Heidari. His research interests include the interpretation of electrical measurements for petrophysical evaluation. He loves physics and philosophy.



Thursday, February 13, 2025

11:30 am – 1:00 pm SLB - 6350 West Sam Houston Parkway North, Houston, TX 77041

Westside Technical Talk / Luncheon Meeting

“Modeling and Correcting the Impact of the Rate of Penetration on LWD NMR Measurements: Addressing Over-Polarization and Motion-Induced Decay Effects”

By: Zeyad Ramadan

Abstract: The effect of axial motion, particularly the rate of penetration (ROP), on logging-while-drilling (LWD) nuclear magnetic resonance (NMR) measurements poses significant challenges in ensuring measurement accuracy during well logging. This is because the physics of a moving NMR tool differs from that of a stationary one. At high logging speeds, NMR tools experience over-polarization and motion-induced decay when logging formations with slow longitudinal and transverse relaxation times (T_1 and T_2). However, since the physics and mathematics of these effects are well understood, the impact of logging speed can be modeled and corrected. This talk will explore the underlying physics of the ROP effect and how it can be accurately modeled and compensated for to improve measurement reliability.

Biography:

Zeyad J. Ramadan is a principal petrophysicist at the SLB Houston Formation Evaluation Center. He has held various roles in borehole geology, well placement, petrophysics, and answer product development across several countries, including Libya, Qatar, Egypt, France, Kuwait, and the USA. He earned his MSc in earth science from Benghazi University in 2008. Zeyad’s current work focuses on petrophysical answer product development.



Networking Events

SPWLA Houston Chapter Networking Event

Location: Cedar Creek Bar & Grill, 1034 West 20th Street, 77008

Date and Time: Last Thursday of the month from 5 to 8 pm

The SPWLA Houston Chapter invites the entire community to join us for an exciting networking event! There’s no need to RSVP—just come as you are and enjoy an evening of casual networking with fellow petrophysics enthusiasts.

Our social gatherings attract professionals from various fields, including petrophysics, geology, geophysics, engineering, and management. You’ll also have the chance to mingle with current and past SPWLA international board members and recognized industry leaders.

This event will be partly outdoors, so please dress accordingly.

SPWLA Houston is committed to hosting engaging and enjoyable activities for our members. If you’re interested in sponsorship opportunities, feel free to reach out.

We look forward to seeing you there!



1 February 2025—University of Houston SPWLA Student

Paper Contest: Several SPWLA Houston Chapter board members were privileged to judge the 2025 SPWLA Student Paper Contest held at the University of Houston. Six students presented their research, covering topics such as estimating mechanical properties of carbonate-rich mud rocks, multiphysics characterization of multipore systems in carbonates, variable matrix-density estimation in shaly sandstones, assessing sand production risks, the impact of CO₂-brine interactions on rock properties, and salt creep assessment for underground storage applications. While all presentations demonstrated novelty and hard work, the judges selected the top three students to advance to the regional competition. Congratulations and best of luck to Tariq Saihood, Franklyn Angel-Saez, and Muhammad Noman-Khan as they move on to the next phase.



Thursday, February 27, 2025

11:30 am – 1:00 pm Baker Hughes, 2001 Rankin Rd Houston, TX 77073

Northside Technical Talk / Luncheon Meeting

“What is Rdeep (Deep Resistivity)?”

By: *Dr. Michael Rabinovich (bp)*

Abstract: Rdeep (deep resistivity) is an outdated concept that has been relevant for focused wireline measurements

when invasion is the main environmental effect to worry about. Unfortunately, this concept is still very much in use in operating companies when petrophysicists select just one resistivity curve to use in their petrophysical workflows and water saturation calculations. Currently, Rdeep usually means the apparent resistivity curve, which is the least affected by environmental effects and closest to R_t , but selecting Rdeep could be tricky, especially from unfocused LWD resistivity curves, because:

- Different environmental effects affect different curves differently.
- Several environmental effects may affect simultaneously.
- In the same well, different curves should be selected as Rdeep in different sections.

The best way to understand environmental effects and correct for them or/and select Rdeep if absolutely necessary is to use resistivity modeling and inversion. Ultimately, we recommend using R_t instead of Rdeep.

Biography: Michael Rabinovich is a principal subject matter expert in resistivity logging and geosteering at bp Central team. Before joining bp in 2012, he was with Baker Hughes for 18 years as a scientist, senior manager of the Computational Physics group, and later as deputy director of Research of Drilling and Evaluation. He received his MSc degree in 1983 from the Moscow Institute of Oil and Gas Industry and his PhD degree in 1989 from the Russian Academy of Science, both in geophysics. He is an author/coauthor of more than 100 publications and 44 patents.

Upcoming Events

Thursday, March 27, 2025

11:30 am – 1:00 pm Baker Hughes, 2001 Rankin Rd Houston, TX 77073

Northside Technical Talk / Luncheon Meeting

“Navigating the Energy Transition: The Evolving Role of Petrophysicists and Opportunities for Growth”

By: *Dr. Salazar*

Abstract: The energy transition is a pressing topic, inspiring both optimism and concern. Key questions arise: Will renewable energy fully replace fossil fuels? What role will hydrocarbon exploration and production professionals play in the decades ahead? According to the International Energy Agency, by 2050, approximately 50% of the world’s energy consumption will still rely on fossil fuels. This highlights the crucial role petroleum engineers and geoscientists will continue to play in building a sustainable, energy-efficient economy. Petroleum engineers, particularly formation evaluation

specialists, are uniquely positioned to drive the exploration of new energy resources and foster the development of cleaner technologies while also remaining leaders in the responsible exploitation of fossil fuels. In this presentation, I will discuss the evolving role of petrophysicists in both the current oil and gas industry and the future energy landscape, sharing insights from my own career journey. Additionally, I will provide strategies for refining both technical and soft skills, helping to build a resilient, long-lasting professional career.

Biography: Dr. Salazar earned his PhD and MSc in petroleum engineering from The University of Texas at Austin and his BSc in physics (with honors) from the Central University of Venezuela. In 2024, Salazar rejoined ConocoPhillips upon the acquisition of Marathon Oil in Houston, where he works as a petrophysicist for the Gulf Coast and Rockies Region, following various roles with Marathon Oil, ConocoPhillips, Occidental, and PDVSA across the US, Canada, Australia, and Venezuela, working in various technology, exploration, and operations positions for over 25 years. He served as President and VP Technology for the Society of Petrophysicists and Well Log Analysts (SPWLA), executive editor of the peer-reviewed *SPE Reservoir Evaluation and Engineering* journal, and an associate editor of *Petrophysics*. Jesús is currently an associate editor for the *SPE Journal* and was recognized with the SPE Peer Apart Award in 2020 and selected as one of SPE's Distinguished Lecturers for the 2022–2023 season. Dr. Salazar has published numerous papers in peer-reviewed journals and conferences, winning the Best Paper Award in *Petrophysics* in 2006. An avid traveler who has visited over 40 countries, Jesús enjoys running, hiking, watching movies, TV series, and MLB baseball, and, above all, sharing these experiences with his wife and two children.

HYDROCARBON RESOURCES SIG

The Hydrocarbon Resources Special Interest Group (SIG) recently submitted a workshop proposal in December for the SPWLA Annual Symposium in May. This workshop, prepared by our SIG board members and taught by some of us (Phillip Gibbons, Luis Quintero, Javier Miranda) and a special guest (Robert Laronga), will happen on Sunday, May 18, 2025, 8:00 am–4:30 pm, Arabian Standard Time, and it will be

offered in person only, as the rest of all the conference activities. More details about our workshop are as follows, including a summary of what you will learn, an outline and tentative agenda, and instructors. We strongly encourage you to register as soon as possible; seats are limited, and we will be honored for your support and presence.

WORKSHOP 10: The Importance of Petrophysics in Resources, Reserves and Storage Estimation and Overview of PRMS and SRMS

Abstract: Resources, reserves, and storage estimation is an essential task in our industry for internal resources accounting, risk assessment, financial transactions, and regulatory reporting. To ensure consistency, transparency, and reliability for these estimations, several entities (E&P industry, governments, and stock markets) have developed estimation guidelines. This workshop will cover the most prevalent and internationally recognized industry guidelines, the Petroleum Resources Management System (PRMS) and Storage Resources Management System (SRMS), sponsored by SPE, AAPG, WPC, SPEE, SEG, EAGE, and SPWLA. So, what is the role of petrophysics in resources, reserves, and storage assessment in line with these guidelines?

Workshop Outline:

- Overview of Petroleum Resources Management System (PRMS) and Other Guidelines
- Key Principles of PRMS
- Classification, Framework, and Definition of Resources
- The Role of Petrophysics in Resources and Reserves Estimation
- Net Pay and Other Key Concepts in Resources Definition
- Evaluation and Integration Methods
- Introduction to the 2022 Updated PRMS Application Guidelines
- Overview of Carbon Capture, Utilization, and Storage (CCUS) Projects
- Introduction to the CO₂ Storage Resources Management System (SRMS)
- The Role of Petrophysics in Storage Resources and Capacity Estimation in Line With SRMS

Tentative Agenda:

Start Time	End Time	Topic	Person in charge
8:00	8:30	Welcome, introductions, general agenda overview	J Miranda / L. Quintero
8:35	9:00	PRMS and other guidelines – Overview	J. Miranda / L. Quintero
9:05	9:50	Classification, Framework, and Definition of Resources	P. Gibbons / L. Quintero
9:50	10:00	Coffee Break	
10:00	11:00	Petrophysics in Resources and Reserves Estimation	TBD
11:00	12:00	Group Discussion – Key Influence Areas	TBD
12:00	13:00	Lunch	
13:00	13:30	Evaluation and Integration Methods	TBD
13:30	14:00	Net Pay, Cutoffs, and Their Impact on Net Pay and Volumetrics	P. Gibbons / J. Miranda
14:00	14:30	Overview of Carbon Capture, Utilization, and Storage (CCUS) Projects	R. Laronga
14.30	14.45	Coffee Break	
14:50	15:40	Petrophysics in CCS, Practical Applications, and Field Cases	R. Laronga
15:40	16:10	Overview of SRMS, Role of Petrophysics in Storage Resources Assessment	J. Miranda / L. Quintero / R. Laronga
16:10	16:30	Group Discussion – Chapter 5 of Application Guidelines Concluding remarks, other topics of interest. The way forward for PRMS Chapter 5 of Petrophysics and SRMS updates. Attendees’ feedback, general discussion, future updates, and upcoming SIG board	L. Quintero / P. Gibbons / R. Laronga / J. Miranda

We also continue our preparation for an upcoming Hydrocarbon Resources SIG seminar in spring 2025. It will be a follow-up of topics related to porosity and water saturation, the two main topics to be updated in the upcoming Petroleum Resources Management System (PRMS) edition to be published in 2029. It might seem far, but we have already started discussions, internal meetings, and inter-society meetings within the PRMS committee to prepare such an update. **Figure 1** shows the PRMS update coordination update timeline. Part of the main tasks for 2025 will be to engage subject matter experts (SME) as required to provide input on the current document and how it can be improved and updated, as well as its implementation via the application guidelines, most recently published in 2022. The Oil and Gas Reserves Committee (OGRC) developed the Application Guidelines (AG) to provide practical examples for applying and interpreting the principles of the PRMS. The 2022 AG corresponds with the most current PRMS published in 2018. The application guidelines released in 2022 (**Fig. 2**) contain one chapter solely dedicated to petrophysics, which was included in the guidelines for the first time. Such a chapter was entirely prepared by members of our SPWLA Hydrocarbon Resources SIG (**Fig. 3**), resulting in SPWLA being considered a sponsoring professional society. Our objective is to expand this chapter to cover other important issues related to petrophysics and their impact on resources,

reserves, and storage estimation. Some might remember that Chapter 5 covers different key elements to be considered in volumetric assessments:

- What Involves a Petrophysical Evaluation?
- Sources of Petrophysical Data
- What Is “Net Pay” and Pay Cutoffs
- Core Analysis and Review of Selected Properties Obtained From Them

Further updates are focused on the pending properties used as input in hydrocarbon volumetric estimates (porosity and hydrocarbon saturation). Feel free to reach out to our SIG if you have any questions or would like to provide feedback on the current document and what can be improved.

Also, stay tuned for further information about our upcoming online workshop.

This SIG seminar will be scheduled to happen around March, as we are now closing the reserves season, which kept us very busy with several parallel projects related to reserves updates, certifications, and audits.

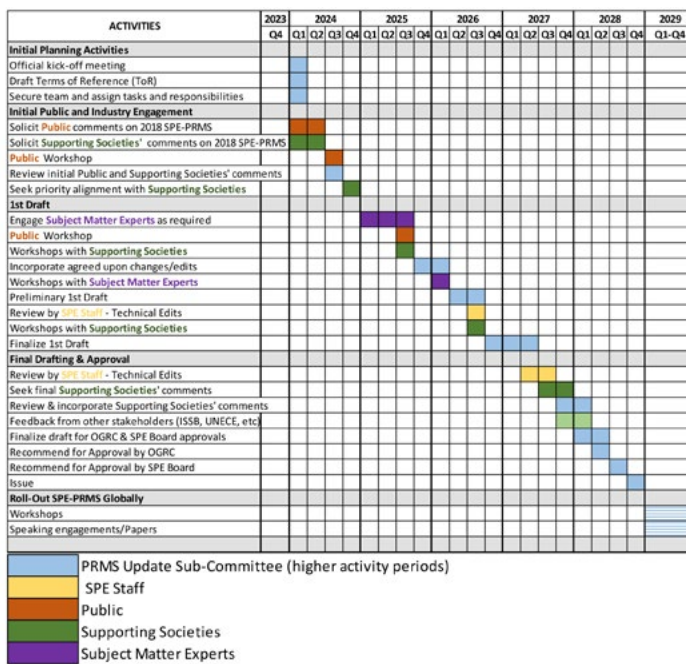


Fig. 1—PRMS Update Coordination Update Timeline.

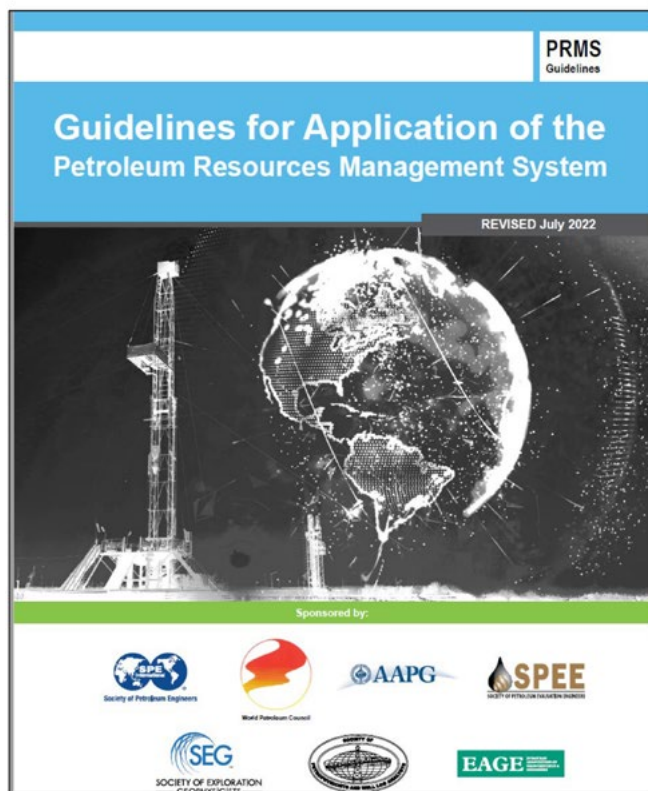


Fig. 2—PRMS Application Guidelines (AG) released in 2022, including the Petrophysics chapter for the first time.

Chapter 5
Petrophysics
 Luis Quintero (Chair)
 Javier Miranda, Joshua Oletu, Cecilia Flores, George Dames, and Philip Gibbons

5.1 Introduction
 Petrophysics (from the Greek *petra*, "rock" and *physis*, "nature") may be defined as the study of rock properties (physical, electrical, chemical, and mechanical) and their interaction with fluids (gases, liquid hydrocarbons, and aqueous solutions) (Archer 1950, 1967; Tabo and Donaddo 1990; ...)

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Fig. 3—PRMS Chapter 5 authored by the Steering Committee of SPWLA Hydrocarbon Resources Special Interest Group.

The *Petroleum Resources Management System* (PRMS) and the *Guidelines for Application of the PRMS* (the Guidelines Document) are administered by the Society of Petroleum Engineers (SPE). All references to PRMS are made herein as a non-commercial reference by the authors. The authors do not represent themselves as the sole authority of PRMS and only present any elements thereof as a standard professional society reference necessary for the implementation of an international standard for reserves and resources evaluation. A copy of the PRMS can be obtained at this address (Public Domain): <https://www.spe.org/en/industry/reserves/>

Our Vision

“Be the reference for petrophysicists and log analysts in the definition and estimation of hydrocarbon resources while providing minimum standards, norms, and guidelines for the analysis of petrophysics-related data used as an input in the reserves and resources estimation.”

Our Mission

“To promote the fundamental value that the science of petrophysics and log analysis delivers to the approved methods of quantitative estimation of hydrocarbon resources and provide guidance for definition of rock properties in the assessment of hydrocarbon resources and future updates of reserves and resources.”

Since its inception in 2020, our SIG has worked with the SPE OGRC in the update of the Guidelines for Application of the Petroleum Resources Management System (PRMS Application Guidelines). In particular, the SIG created Chapter 5 on Petrophysics, published in 2022 in the PRMS Application Guidelines document:
 (<https://store.spe.org/Guidelines-for-Application-of-the-Petroleum-Resources-Management-System-PRMS-P1221.aspx?ItemId=2078561&Options=2899&ga=2.71002070.730520363.1667833216-575030064.1599587895>)

Current updates and discussions about expanding this chapter with other topics are in progress among our SIG, coordinated with SPE OGRC. This has been one of the most important topics discussed in our regularly scheduled meetings three to four times a year, in an online format so far for the general meetings, although sometimes in person with the inaugural board members located in the US. As we diversify our membership and board, now with board members on three continents and general membership on four continents, it will be online with potential in-person meetings during the annual meeting. We also represent the main hydrocarbon resources auditing and certification firms in the world, with additional representatives from operating and service companies.

We are glad to extend an open invitation to our meetings and activities as well as welcome any member interested in joining our steering board, exchanging experiences, and socializing through technical discussions, workshops, and social activities

to discuss good practices, industry standardizations, and the evolution of measurements in key parameters as technology evolves. The group is open to all current SPWLA members, and interested colleagues are encouraged to become SPWLA members. If you are interested and/or planning to attend the annual conference, we will be delighted to meet you all for a coffee to go over the topics mentioned in this news release.

Are you a professional in petrophysics who is excited about resources quantification and characterization and wants to share your ideas and experiences? Our group is always looking for volunteers to help shape content and keep the conversation going in our subject.

Contact: Email us at reserves_sig@spwla.org

SPWLA Hydrocarbon Resources Board (2024–2025)



President: Javier Miranda (DeGolyer and MacNaughton)



Vice President: Philip Gibbons (Gaffney Cline)



Secretary: Brett Gray (Ryder Scott)



VP Communications: Maria Florencia Segovia (SierraCol)



Advisor and Past SIG President (2022–2023): Joshua Oletu (Gaffney Cline)



Advisor and Past SIG President (2019–2022): Luis Quintero (Halliburton)

INDIAN INSTITUTE OF TECHNOLOGY (ISM) STUDENT CHAPTER

Email: spwla.iitism@gmail.com

LinkedIn: <https://www.linkedin.com/company/spwla-iit-ism-student-chapter>



General News

We are delighted to announce the establishment of the SPWLA – IIT ISM Dhanbad Student Chapter, a significant milestone in our journey towards fostering innovation and excellence in the field of petrophysics and well-log analysis. The chapter was confirmed on September 6, 2024, and officially inaugurated on September 27, 2024, during the prestigious Geoconfluence’24, an annual technical fest organized by the Department of Applied Geophysics, IIT ISM Dhanbad.

The inauguration ceremony included an address by Prof. Partha Pratim Mandal, the faculty advisor, who has been instrumental in guiding this initiative. Prof. Mandal highlighted the importance of this chapter in bridging the gap between academia and industry, providing students with a platform to excel in technical expertise, research, and professional networking.



Inauguration speech of SPWLA Student Chapter by Prof Partha Pratim Mandal.

The SPWLA IIT ISM Dhanbad Student Chapter is dedicated to advancing knowledge in petrophysics and well-log analysis through a wide range of activities, including:

- **Technical Workshops:** Hands-on training sessions led by industry experts to enhance practical skills.
- **Industry Networking:** Creating opportunities for students to connect with professionals, fostering collaborations and mentorships.
- **Research Initiatives:** Encouraging student-led research projects and participation in conferences, furthering innovations in the field.
- **Knowledge Sharing:** Organizing seminars, guest lectures, and knowledge-sharing sessions to explore cutting-edge technologies and trends.



Chapter information during the inauguration.

As the SPWLA IIT ISM Dhanbad Student Chapter embarks on its journey, it is poised to become a vibrant hub of academic and professional growth. It will serve as a vital link between students and the global community of petrophysicists and well-log analysts, preparing the next generation of geoscience professionals to meet the challenges of an evolving energy landscape.

We extend our heartfelt gratitude to the SPWLA parent organization for their support and recognition, as well as to the faculty and students of IIT ISM Dhanbad for their unwavering enthusiasm and commitment to making this initiative a success.



Glimpse of Geoconfluence'24.



Faculty Advisor: Prof. Partha Pratim Mandal is an Assistant Professor in the Department of Applied Geophysics, IIT (ISM) Dhanbad, where he teaches borehole logging tools, formation evaluation, and energy geomechanics units. He holds a PhD degree from Curtin University, Australia, and earned an MSc Tech in applied geophysics from ISM, Dhanbad. Prior to that, he received a BSc in physics (Hons) from the University of Calcutta, India. In addition, he serves as a visiting scientist fellow at CSIRO Energy, Australia, and a technical advisor at Rezlytix. His research focuses on petrophysics, rock physics, and geomechanics for hydrocarbon exploration and development, energy transition (including CCS, natural hydrogen), critical minerals mapping with AI techniques, and geoscience software development. Partha leads the Subsurface Resource Characterization Group, which supports resource evaluation and the development of new technologies in energy transition projects. He is also the faculty advisor for the SPWLA student chapter, a committee member at the Centre for Hydrogen and CCUS Technologies at IIT(ISM), and serves on the technical committees of SEG and EAGE.

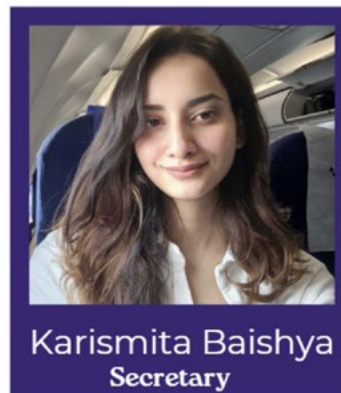


President: Rajkumar Mondal is a final-year MSc Tech student pursuing an applied geophysics degree at IIT (ISM) Dhanbad. He has gained practical experience in well-log analysis,

reservoir characterization, and seismic interpretation through internships at ONGC and IIT (ISM) geophysical field training programs. Rajkumar is skilled in data-driven approaches to formation evaluation, utilizing both supervised and unsupervised ML algorithms. He has led projects on electrofacies classification and real-time pore pressure monitoring. His technical expertise includes Python, MATLAB, scikit-learn, GIS software (Geosoft, ArcGIS), and Petrel. He also has experience in developing interactive GUIs, such as a petrophysical GUI for petrophysical analysis. Rajkumar's thesis focuses on geological site selection for underground coal gasification (UCG), with an emphasis on high-resolution geological modeling (HRGM), geomechanical assessment, and hydrological analysis. Currently, Rajkumar serves as the President of the SPWLA Student Chapter at IIT (ISM), Dhanbad, and has been recognized with the prestigious ONGC Scholarship.



Vice President: Tanmay Singh, a PhD scholar in the Department of Applied Geophysics at IIT ISM, focuses on advancing research in geologic hydrogen resources. He brings hands-on experience in gravity and magnetic data processing, petrophysical evaluation, and 2D forward modeling of gravity data, which forms the foundation of his expertise in subsurface analysis. His research is centered on exploring natural hydrogen source rocks, studying their migration patterns and temporary accumulation mechanisms. He aims to delve deeper into static and dynamic reservoir modeling and fracture/pore network modeling to enhance our understanding of hydrogen storage and flow dynamics.



Secretary: Karismita Baishya is a fourth-year Integrated MTech student in applied geophysics at IIT (ISM) Dhanbad with a strong passion for petrophysics, well logging, and data science. As a member of EAGE, she actively engages in geoscience advancements and has gained hands-on experience through training at ONGC, focusing on reservoir characterization and subsurface exploration. Proficient in Python, MATLAB, and problem-solving, she applies computational techniques to geophysical data analysis, integrating analytical and technical skills. She is particularly interested in leveraging data science for subsurface modeling and reservoir evaluation. Beyond academics, she enjoys singing and believes in balancing creativity with scientific rigor. As the Secretary of the SPWLA Student Chapter at IIT (ISM) Dhanbad, she is dedicated to fostering and creating opportunities for students to explore innovations in petrophysics.



Treasurer: Tignangshu Das is a dedicated MSc Tech student in applied geophysics at IIT (ISM) Dhanbad, with hands-on experience in seismic analysis, neural networks, and well logging. He has participated in workshops, field training, and internships, gaining practical knowledge in geophysical methods and geological mapping. His work includes "Predicting Seismic Source Signatures Using Neural Networks" and

conducting well-log case studies. With proficiency in Python, MATLAB, and data visualization tools, he combines technical knowledge with analytical skills. He has held leadership roles, such as graphic designer for the IGU-IIT (ISM) Student Chapter, and enjoys engaging in creative pursuits like singing, drawing, and sports.



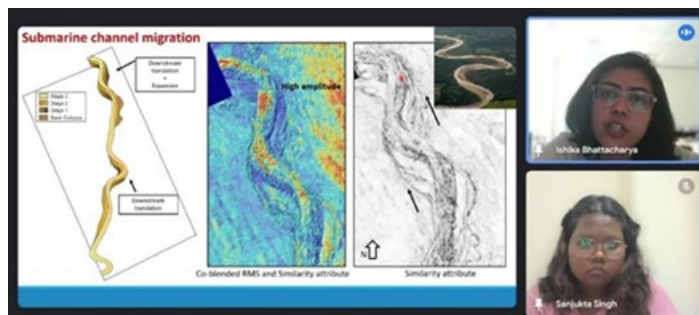
Social Media Manager & Outreach: Sanjukta Singh is a dedicated geophysics student at IIT (ISM) Dhanbad and is currently in the final year of MSc Tech. She has honed her expertise and sharpened her analytical and technical skills through rigorous academic training and hands-on experiences through internships at WIHG, ONGC, CSIR-NGRI, and IIT (ISM) geophysical training programs. Her academic interests span earthquake seismology and subsurface imaging. She is a great enthusiast of the oil and gas industry with a passion for continuously pushing boundaries to embrace innovation and for leveraging geophysical methods for sustainable development. Sanjukta is proficient in Python, MATLAB, C++, Fortran, GMT, SAC, and GSAC. Recognized for her leadership and communication abilities, she has been actively involved in student organizations (like JUSC, SEG Students Chapter IIT ISM, etc.) and outreach activities. Her thesis focuses on surface wave tomography using the Fast-Marching Method, where she has been monitoring dispersion curves to create high-resolution subsurface models. Simultaneously, she is working on the recent Chandrayan 3 mission on planetary seismology. Currently, she is serving as a social media manager of the SPWLA Student Chapter IIT ISM Dhanbad.

Recent Events

TechTrek: Expert Talks on Unveiling the Subsurface Mysteries:

TechTrek is a guest talk series organized by the SPWLA Student Chapter, IIT ISM Dhanbad. The series aims to bring experts from academia and industry to share insights on subsurface exploration, petrophysics, and geoscience advancements. Through these talks, students gain exposure to cutting-edge research, technological innovations, and real-world applications in geophysics and well logging. TechTrek serves as a bridge between students and professionals, fostering knowledge exchange and networking opportunities. Each session features specialists who discuss various topics, including seismic interpretation, reservoir characterization, formation evaluation, and energy transition technologies. The initiative helps students stay updated on industry trends and research developments beyond classroom learning. It also encourages interdisciplinary discussions, promoting a holistic understanding of subsurface exploration. By hosting experts from diverse backgrounds, TechTrek strengthens IIT ISM Dhanbad’s academic and research ecosystem. The series aligns with SPWLA’s mission to advance petrophysics and well-log analysis education.

26 October 2024—TechTrek hosted **Ishika Bhattacharya**, a senior research fellow at IISER Pune and an alumnus of the Department of Applied Geophysics, IIT ISM Dhanbad, who specializes in 2D and 3D seismic-based geological interpretation. Her talk entitled **“Understanding Marine Depositional and Fluid Processes Using Seismic Data Interpretation”** covered the integration of sequence stratigraphy, forward stratigraphic modeling, and numerical simulations to analyze marine subsurface environments. She emphasized the Pleistocene-Pliocene marine depositional history of the Taranaki Basin, New Zealand, showcasing how seismic data aids in understanding past fluid and sedimentary processes. The session attracted geoscience enthusiasts and provided insights into advanced seismic interpretation techniques.



Glimpse of the first TechTrek.

26 December 2024—Dr. Bappa Mukherjee, scientist-B at the Wadia Institute of Himalayan Geology and an IIT (ISM) Dhanbad alumnus, delivered a TechTrek talk on **“Application of AI/ML in Geosciences.”** Organized by the SPWLA IIT ISM Dhanbad Student Chapter as part of the institute’s Centenary Celebrations, the session explored various AI-driven advancements in seismic interpretation, petrophysics, and, most importantly, reservoir characterization. Dr. Mukherjee highlighted AI/ML applications in conventional hydrocarbons, gas hydrates, and carbon capture and storage (CCS) projects. He also shared insights from his research on geophysical signal processing and geophysical logging tool development. The talk emphasized how AI/ML enhances data accuracy, automates interpretation, and improves decision making in geophysical exploration. He also discussed future trends in AI-driven geoscience research, showcasing its potential to revolutionize subsurface studies.



Students and faculty attended the second TechTrek event.



GeoConfluence’24 Hackathon Overview

At Geoconfluence-2024, we organized a hackathon under the SPWLA IIT ISM Dhanbad Student Chapter on mineral mapping over the southern part of Rajasthan, with over 50 participating teams. With a total prize pool of ₹25,000 for the top three teams, the hackathon highlighted the transformative potential of data-driven and generative modeling in mineral exploration while enhancing technical skills among students and researchers.

The hackathon, “Terra-Prospect,” was focused on predicting base-metal exploration zones using Bouguer gravity anomaly, magnetic intensity, lithology, and stream sediment geochemical data. Participants applied machine learning and geospatial analysis to develop predictive mineral prospectivity models. The event featured interdisciplinary collaboration, expert mentorship, and real-world data sets, encouraging AI-driven exploration workflows. Innovative approaches included data integration, feature selection, and advanced visualization for mineral targeting. The hackathon successfully bridged geoscience and computational techniques, fostering new exploration strategies and industry-relevant solutions.

Upcoming Events

We have planned a few events for the next few months of this academic year:

- A quiz competition
- A guest talk on career counseling, CV preparation, etc.
- Continuation of “TechTrek: Expert Talks on Unveiling the Subsurface Mysteries”
- A three-day hands-on workshop on well-logging and petrophysics
- Drilling sites visit at Bokaro

INDIA CHAPTER

Recent Events

SPWLA India Chapter Explores AI/ML Potential in Petrophysical Evaluation

The **SPWLA India Chapter** recently organized a **Technical Session** on February 2, 2025, in Vadodra, Gujarat, India. The technical talk was presented on the topic **“From Data to Discovery: Machine Learning in Petrophysical Evaluation and Reservoir Characterization”** by **Mohammad Anees**, senior geophysicist-ONGC. The session was marked by a high level of engagement, with attendees actively participating in discussions. It was well attended by geoscientists, petrophysicists, and engineers.

The presentation, titled **“From Data to Discovery: Machine Learning in Petrophysical Evaluation and Reservoir Characterization,”** covered four broad agenda points. It began with an introduction to the fundamentals of AI and ML, discussing different types of ML algorithms and their key benefits in data analysis. This section also highlighted essential steps and terminologies involved in ML-based analysis.

Next, the presentation focused on the growing adoption of AI/ML in the oil and gas industry, emphasizing its advantages in petrophysical analysis. After establishing this foundational knowledge, various in-house case studies from both clastic and carbonate reservoirs were explored in detail. These case studies demonstrated the application of ML in predicting reservoir properties such as effective porosity, water saturation, and permeability. Additional use cases included missing log curve generation, especially sonic logs, borehole-affected log correction, and the development of a 1D mechanical earth model (MEM) through geomechanical property prediction.

The discussion also covered best practices for implementing ML in petrophysics, along with its benefits and limitations. Finally, the session concluded with key takeaways from the case studies, underscoring how ML can enhance petrophysical analysis by enabling petrophysicists to efficiently integrate multidimensional data and extract deeper insights from complex subsurface relationships.

About the Presenter: *Mohammad Anees is a senior geophysicist (Wells) with 13 years of diverse experience across leading organizations such as TCS, Schlumberger, and ONGC, bridging the domains of software and the oil and gas industry. He holds a post-graduate degree in applied geophysics from IIT Bombay.*

Glimpses of SPWLA INDIA Stall at Geo-India 2024



Mohammed Anees (speaker) presenting Technical Talk.



Speaker being recognized by President and VP (Research), SPWLA INDIA Chapter.

JAPAN FORMATION EVALUATION SOCIETY (JFES)

125th JFES Chapter Meeting

The 125th JFES Chapter Meeting was held on December 19, 2024. We welcomed more than 25 online audience members.

Presentation 1

<Title> “Laboratory Experiments on Hydraulically Driven Shear Slip of Granite Fractures Under Stress States in EGS Development: A Reconsideration of Shear Dilation”

<Speaker> Dr. Takuya Ishibashi, Geothermal Energy Team, Renewable Energy Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

Presentation 2

<Title> “Estimation of Fluid Behavior Based on High-Resolution Seismic Attenuation Tomography: Application to Water Recharge Tests in the Okuaizu Geothermal Field”

<Speaker> Dr. Kyosuke Okamoto, Geothermal Energy Team, Renewable Energy Research Center, National Institute of Advanced Industrial Science and Technology (AIST)

Upcoming Events

30th JFES Annual Symposium

We are organizing the 30th JFES Annual Symposium, scheduled to take place from **October 8–10, 2025**. We are seeking enthusiastic Technical Committee Members who are willing to volunteer their time to review technical papers and participate in discussions about conference operations. If you are interested, please contact us at info@spwla-jfes.org.

126th JFES Chapter Meeting

We are pleased to announce that the forthcoming 126th JFES Chapter Meeting will be held in March 2025 as an online/in-person hybrid event. Details are to be announced.

Presentation 1

<Title> TBA

<Speaker> Mr. Satoshi Endo (Halliburton)

Presentation 2

<Title> TBA

<Speaker> TBA

Email: info@spwla-jfes.org
<https://www.spwla-jfes.org/>

NORWEGIAN FORMATION EVALUATION SOCIETY (NFES)

Recent Events

Month	Title	Presenter	Affiliation	Attendance (incl speaker) at the Gård	Attendance (incl speaker) via Teams	Attendance (incl speaker) Total
jan.24	Looking through pipes, how do we use CT scans in the Oil and Gas industry?	Olivier Lopez	Leading researcher at Equinor	27	3	30
feb.24	Holistic Evaluation of Reservoir Oil Viscosity in Breidablikk Field – Including Mud Gas Logging Approach	Alexandra Cely	Principal reservoir engineer, Equinor	22	1	23
mar.24	OPEN-HOLE WIRELINE CONVEYANCE RISK MANAGEMENT (NEW MODELS, TECHNOLOGIES & INSIGHTS)	Guy Wheeler	Wireline specialist, Gaia Earth Group	28	3	31
apr.24	HALITE CEMENT	Richard Bootle	Advanced Petrophysicist at Aker BP	27	2	29
mai.24	Downhole Evaluation of Integrity Challenges using High Resolution 3D Ultrasonic Imaging	Vishal Sharma	Sales Director for Darrivision's Scandinavian Business	16	2	18
jun.24	Using the 'entire' acoustic waveform to quantify formation properties beyond just velocity	Philip Tracadas	Geoscientist subject matter expert for borehole acoustics	15	2	17
jul.24	Integrated application of advanced logging-while-drilling for understanding altered basement rocks: A case study from the Norwegian North Sea	Sayyid Ahmad	Geoscientist and image log analyst	25	3	28
aug.24	Logging-While-Drilling Oil Base Mud Electrical Imager Using Advanced Radar Technology	Inge Bye	Business Development Manager in WELL ID	32	2	34
sep.24	NFES-Norve: Formation Evaluation and Geosteering workshop	Workshop				100+
okt.24	Obtaining Remaining Oil Saturation For The Johan Sverdrup Field From a Variety of Logging Data Reservoir fluid properties from cuttings: An innovative Synergy of Gel Permeation Chromatography and Data Analytics	Brice Fortier Alexandra Cely	Discipline leader for petrophysics at Equinor Principal reservoir engineer at Equinor	32	3	35
jan.25	Obtaining Remaining Oil Saturation For The Johan Sverdrup Field From a Variety of Logging Data Reservoir fluid properties from cuttings: An innovative Synergy of Gel Permeation Chromatography and Data Analytics	Brice Fortier Alexandra Cely	Discipline leader for petrophysics at Equinor Principal reservoir engineer at Equinor	32	3	35

4 December 2024—Monthly Technical Meeting: We had a great closing of 2024 by hosting two very interesting talks given by Brice Fortier and Alexandra Cely, respectively, from Equinor with the following title: “Obtaining Remaining Oil Saturation for the Johan Sverdrup Field” and “Reservoir Fluid Properties From Cuttings: An Innovative Synergy of Gel Permeation Chromatography and Data Analytics.”



NFES Technical meeting, December 4, 2024, in Stavanger. Dier Mirza, NFES President, presents the NFES ice bear in gratitude for a well-attended and delivered presentation by Brice Fortier (to the right).



NFES Technical meeting, December 4, 2024, in Stavanger. Sergey Alyaev, NFES VP Academia, presents the NFES ice bear in gratitude for Alexandra Cely's well-attended and delivered presentation (to the right).

8 January 2025—Monthly Technical Meeting: We kickstarted the 2025 season by hosting a very interesting talk given by Mathias Horstmann (SLB) with the following title: “Advancements in Pulsed-Neutron-Generator-Based Formation Evaluation While Drilling.”



NFES Technical meeting, January 8, 2025, in Stavanger. Dier Mirza, NFES President, presents the NFES ice bear in gratitude for a well-attended and delivered presentation by Mathias Horstmann (to the right).

NFES 2024 Sponsors



PDDA SIG

General News

SPWLA PDDA SIG 4th Annual Machine-Learning Competition

SPWLA PDDA SIG’s 4th Machine-Learning Competition: Successfully Completed! We’re thrilled to announce the successful completion of SPWLA PDDA SIG’s 4th machine-learning competition on automatic fracture identification using resistivity image logs. This year, we had an incredible turnout with 37 teams and over 100+ participants showcasing their skills and innovation.



Announcing the Winners of the SPWLA PDDA 2024 ML Competition!

We are thrilled to announce the winners of the SPWLA PDDA 2024 Machine-Learning Competition! This year’s competition saw outstanding participation from talented teams worldwide, pushing the boundaries of petrophysical data analysis through innovative machine-learning approaches.

Top Five Winning Teams:

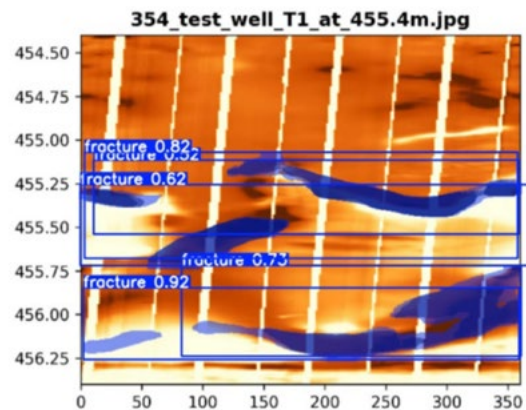
1. **Vdehdari**, with an F1 score of **0.6667**
2. **Atwah_Analytics** with an F1 score of **0.3200**
3. **We_will_log_you** with an F1 score of **0.2449**
4. **SWPU_WELL_LOGGING_TOP1** with F1 score of **0.2222**
5. **PETAI** with an F1 score of **0.2128**

Each of these exceptional teams demonstrated cutting-edge methodologies and exceptional predictive accuracy in test well evaluations. As part of their achievement, the winning teams will receive awards and will be coauthors of an upcoming *Petrophysics* journal paper, highlighting their innovative contributions to the field.

We extend our sincere gratitude to all participants, judges, and organizers for making this competition a success. Stay tuned for further details on upcoming opportunities and advancements in petrophysical machine learning! **Congratulations once again to the winners!**

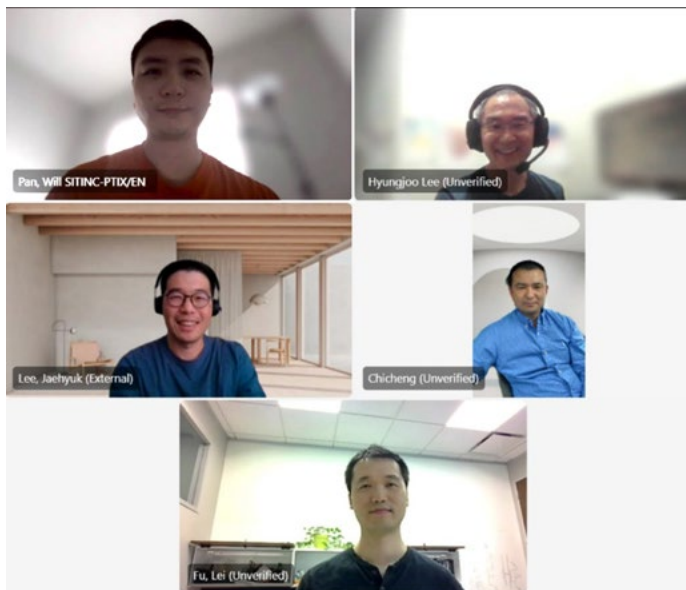
~SPWLA PDDA 2024 ML Competition Committee

Fracture prediction



SPWLA PDDA SIG Committee Meeting

7 February 2025—The SPWLA PDDA SIG committee met to discuss our plans for the year. These include a series of webinars, machine-learning competitions or hackathons, a workshop, and a topical conference. If you’re interested in participating in any of these events or have new ideas to share, we’d love to hear from you!



Sponsorship Opportunities

There are multiple interesting sponsorship opportunities. Contact our board if you have an interesting data set or a presentation you would like to share or if you would like to become a sponsor for the PDDA SIG or annual machine-learning competition.

Please stay tuned and check us 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, which are included below.



More details are available on the PDDA SIG website: https://www.spwla.org/SPWLA/Chapters_SIGs/SIGs/PDDA/PDDA.aspx

and the PDDA SIG LinkedIn profile: <https://www.linkedin.com/groups/13605420>

PERMIAN BASIN CHAPTER



General News

This past fall, the Permian Basin Chapter hosted several engaging luncheons and networking among industry professionals. To cap off the year, we also organized a festive Christmas party, bringing members together in a joyful celebration. We extend our heartfelt thanks to everyone who supported and participated in the activities of the Permian Basin Chapter. Your involvement is invaluable to our community!

We are excited to welcome our newest board member, Salvador Vargas, who joins us from ConocoPhillips. Salvador has recently relocated from Bakersfield, California, and expressed tremendous enthusiasm about becoming a part of our team. We are looking forward to working alongside him as we continue to prepare for next year!

We would also like to thank our former secretary, Jennifer Reeves, for her service to SPWLA. Her commitment and hard work have greatly contributed to the organization, and we truly appreciate the time and effort she invested in her role.

Below is a list of luncheons we hosted in the fall of 2024.

Recent Events

27 August 2024—Luncheon with Adam Haecker, P.G., director of geoscience, Milestone Carbon
 Title: “CCUS Petrophysics: How Is It Different? How Is It the Same?”



Abstract: Carbon capture, utilization, and sequestration (CCUS) petrophysics have significant overlap with existing workflows used in oil and gas exploration, but CCUS also has key differences. In this presentation, I will examine (1) the fluid properties that are very impactful, (2) how storage calculations differ from the standard OOIP and OGIP equations, (3) different storage methodologies, (4) a typical petrophysical workflow that one might use in CCUS, and (5) finally, special considerations for reservoir simulation. All these parameters are needed by the modern CCUS petrophysicist to effectively evaluate if a reservoir is viable for sequestration. Petrophysics is at the center of CCUS evaluation. Many things that are critical to a successful permit can only be determined by detailed petrophysical work. This talk will follow some of the ideas discussed at the SPWLA Stavanger workshop on CCUS Petrophysics that was taught by Katy Larson¹, Neeraj Gupta¹, Erik Nickel², and Philip Ringrose³ (¹Battelle Memorial Institute; ²Saskatchewan Energy and Resources; ³Norwegian University of Science and Technology).

26 September 2024—Virtual Seminar with Mitch Pavlovic, OXY project lead petrophysicist
Title: “Using Petrophysical Rock Types for Variable Electrical Properties (m and n exponents) in Archie Water Saturation Modeling”



Abstract: Economically important unconventional reservoirs provide many challenges for accurate petrophysical interpretation. While the accurate estimate of the complex mineralogical composition, organic matter content (TOC), and total porosity has been well documented, water saturation modeling of the “non-Archie” rock types provides unique challenges and remains the “Achilles’ heel” of the petrophysical assessment for the unconventional reservoirs. Unconventional reservoirs are characterized by low porosity and very complex pore structures ranging from nano porosity, including organic porosity in kerogen, connected and non-connected microporosity, very fine pore structure of the tight sands, and in some cases having pore structures resembling conventional

sandstone reservoirs (e.g., 1st BSPG only). Numerous types of reservoirs can be found across the Permian Basin, including “low-resistivity” siltstone/sandstone reservoirs (e.g., BSPG, Dean, Jo Mill, and Spraberry sandstone), interbedded “hybrid” reservoirs, tight carbonates/carbonate debris flow intervals, as well as the high-resistivity, organic-rich, mudstones reservoirs of the Wolfcamp and Avalon. Moreover, pronounced vertical heterogeneity (i.e., the presence of many different rock types) can be observed within most formations. For all these reasons, the traditional approach of using resistivity-based “Archie” water saturation, requiring ever-changing Archie electrical properties, is challenging and inherently unreliable. We propose a new method using facies (rock type)-driven electrical properties to improve water saturation estimation. This process relies on using petrographic and sedimentologic facies descriptions from core, SEM, and thin sections to derive a continuous, log-scale facies model. This approach captures the pronounced reservoir heterogeneity. In the next step, we relate core-derived electrical properties to continuous log facies and use them as input in petrophysical modeling.

22 October 2024—Jorge Fernandez, a geoscientist at Ikon Science
Title: “Pore Pressure Prediction in Organic-Rich Shales: The Need to Incorporate Rock-Physics”



Abstract: The evolution of a basin, shaped by geological processes like sedimentation, tectonic activity, and erosion, lays the foundation for pore pressure development. The composition of the basin, including rock types, their distribution, and the presence of minerals and organic matter, significantly influences pore pressure. These factors operate at multiple scales, from the vast basin scale to the microscopic level of mineral composition, impacting pore pressure in a complex interplay. Calibrating elastic properties

is key for accurate pore pressure prediction. However, elastic properties can be influenced by multiple rock properties, some of which may mimic or mask actual pore pressure. To address these complexities, integrating both geophysical and geomechanical data in pore pressure modeling is important. This iterative approach allows for a more comprehensive understanding of subsurface conditions. This talk illustrated, through basic theory and case studies, the importance of understanding how organic carbon (TOC) and mineralogy impact the elastic log response. This can help improve pore pressure estimates, leading to safer, more efficient drilling and better characterization of productive zones in unconventional shales.

Permian Basin Board

- Veronica Montoya (SLB), President
- Christopher Smith (Advanced Hydrocarbon Stratigraphy), Vice President
- Sebastian Ramiro-Ramirez (Diamondback Energy), Treasurer
- Salvador Vargas (ConocoPhillips), VP Communications
- Kate La Fleur (Beryl Oil and Gas), Secretary

We would like to thank our many sponsors and local societies for coming together to host this year’s Christmas party!

28 January 2025—Dr. Jennifer Adams, petroleum system analyst
 Title: “Recovery Estimation in Unconventional Plays by Quantifying Mobile Oil and Allocating Production Using Geochemistry and RockType® Mineral Map”



Abstract: This presentation—“Recovery Estimation in Unconventional Plays by Quantifying Mobile Oil and Allocating Production Using Geochemistry and RockType® Mineral Mapping”—reveals how leveraging low-temperature hydrous pyrolysis (EZ-LTHP) and automated mineral mapping refines total recovery predictions, enhances reservoir modeling, and optimizes completion strategies. Through case studies in plays such as the Niobrara, Denver Basin, and Montney, the team will demonstrate how quantifying mobile oil (rather than total oil saturation) provides a more accurate framework for assessing production, diagnosing mechanical issues, and guiding field development decisions. Discover how integrating geochemical allocation results with reservoir volumetrics leads to better reservoir model calibration and maximizes recovery, even in complex gas condensate fields. Don’t miss this opportunity to explore the next generation of insights for unconventional resource optimization.

25 February 2025—Tom Bratton – Advancement in Geomechanics for Unconventionals and Carbon Storage.



SOUTHWEST CHINA CHAPTER

Recent Events

19–21 January 2025—Against the background of rapid development in the field of resources and environment, the “5th SPWLA-SW Annual Academic Conference and International Symposium on Cross-Development of Artificial Intelligence + Geosciences” and the Annual Conference of Petrophysical Key Laboratory of Petroleum Southwest Oil and Gas Field Branch of PetroChina were held at the University of Electronic Science and Technology, Chengdu, China, in the Qingshuihe Campus. This conference is organized by the Southwest Chapter of the International Society of Petrophysicists and Well Logging Analysts (SPWLA-SW), fully hosted by the School of Resources and Environment of the University of Electronic Science and Technology and the Key Laboratory of Petrophysics of PetroChina Southwestern Oil and Gas Field Branch, and co-organized by the National Key Laboratory of Reservoir Geology and Development Engineering, Southwest Petroleum University, Chengdu University of Science and Technology, Chongqing University of Science and Technology, Yangtze River University, Harbin Institute of Technology, Jilin University, Northeast Petroleum University, China University of Petroleum (Beijing), and Xinjiang College of Engineering.



With the theme of “Opportunities and Challenges in the Cross-Development of Artificial Intelligence + Earth Exploration,” the conference gathered many famous experts, scholars, and enterprise representatives from home and abroad to discuss the in-depth fusion of AI and earth science and comprehensively demonstrated the latest research results and technological innovations in the field of resources and environment, which injected powerful impetus into the development of the industry.

Academic Insights Guide the Way, and the Presentations Are Truly Fascinating

The conference focused on the interdisciplinary development of artificial intelligence and earth exploration technology, with six core topics: artificial intelligence, logging methods and instruments, rock physics, well-log data evaluation and interpretation, production logging, and oil and gas field development. A total of 116 presentations were made during the conference, covering hot research topics and key technologies in the field.

During the keynote sessions, several distinguished guests from both industry and academia delivered high-level speeches.



Professor Xu Wenbo, vice dean of the School of Resources and Environment at the University of Electronic Science and Technology of China, welcomed all the guests on behalf of the university and congratulated the successful convening of the annual conference. Director Ran Qi of the Rock Physics Key

Laboratory of the Southwest Oil and Gas Field Branch of China National Petroleum Corporation (CNPC) provided a detailed introduction to the laboratory's cutting-edge research achievements in rock physics and its future development plans, pointing out new directions for technological innovation in the industry. Dr. Chen Kang, deputy director of the Rock Physics Key Laboratory of the Southwest Oil and Gas Field Branch of CNPC and director of the Geophysical Institute of the Exploration and Development Research Institute, presented the "Top Ten Issues of the Southwest Oil and Gas Field Rock Physics Key Laboratory," encouraging numerous scholars to conduct research. Dr. Harry Xie, SPWLA VP Technology, explained the mission and value of the association in promoting the development of global rock physics from an international perspective, broadening the global vision of the attendees. Professor Wang Hua, President of the SPWLA-SW Chapter, provided a comprehensive summary of the annual progress of the SPWLA-SW chapter's work and announced the annual Outstanding Presentation Award, motivating researchers to continue innovating. Former SPWLA President Zach Zhipeng Liu shared the latest global research developments on CCUS and congratulated the conference's successful organization. Professor Sun Jianguo, a Changjiang Scholar from Jilin University, shared innovative methods and practical experiences centered on rock physics modeling and received enthusiastic responses. Professor Shen Jianguo from China National Petroleum Corporation Logging Company gave an in-depth discussion on the evaluation methods for casing fracturing effects, providing important references for improving oil and gas field development efficiency. Professor Sun Jun from Yangtze University evaluated the gas content and well-logging data of the Cretaceous fractured sandstone in Kuqa. Professor Xiao Wenlian from Southwest Petroleum University presented research on CO₂ micro-enhanced oil recovery in ultralow permeability water-sensitive conglomerate reservoirs and the expansion of the affected area. Tao Aihua from China National Offshore Oil Corporation (CNOOC) introduced the development and application of the new-generation ultrasonic Lamb wave imaging logging tool, providing important references for the development of logging instruments. Associate Professor Zhang Chao from the Harbin Institute of Technology introduced research on automatic extraction and classification of wellbore dispersion curves based on the DeepLabV3+ deep-learning architecture, laying a solid foundation for subsequent inversion and evaluation. Sun Hao from China Petroleum Logging Company presented a machine-learning-based robust slowness estimation method with promising results. Professor Qin Chaozhong from Chongqing University shared the development and comparative study of multiscale digital core



Freelance Consultant Cong Yuancai gave an online presentation, discussing common issues in well-logging data. Dr. Chicheng Xu from the SPWLA PDDA SIG delivered an online talk on using open-source data and algorithms to accelerate the construction of well-logging big data and the process of digital transformation, aiming to bridge the gap between data and algorithms. Professor Zou Guangui from the China University of Mining and Technology conducted a viscoelasticity analysis of coal based on fractal theory. Professor Guan Wei from the Harbin Institute of Technology introduced a scheme for exploring material parameters and physical behaviors in pore-scale media through a combination of digital generation, pore-scale modeling, and machine learning. Professor Tang Jun from Yangtze University evaluated the gas content and well-logging data of the Cretaceous fractured sandstone in Kuqa. Professor Xiao Wenlian from Southwest Petroleum University presented research on CO₂ micro-enhanced oil recovery in ultralow permeability water-sensitive conglomerate reservoirs and the expansion of the affected area. Tao Aihua from China National Offshore Oil Corporation (CNOOC) introduced the development and application of the new-generation ultrasonic Lamb wave imaging logging tool, providing important references for the development of logging instruments. Associate Professor Zhang Chao from the Harbin Institute of Technology introduced research on automatic extraction and classification of wellbore dispersion curves based on the DeepLabV3+ deep-learning architecture, laying a solid foundation for subsequent inversion and evaluation. Sun Hao from China Petroleum Logging Company presented a machine-learning-based robust slowness estimation method with promising results. Professor Qin Chaozhong from Chongqing University shared the development and comparative study of multiscale digital core



multipore network models and continuous media models for pore networks, receiving enthusiastic responses. Li Wei from the Saudi Aramco Asia Pacific R&D Center introduced a new workflow and automation method for reservoir identification based on mud logging.

and multidimensional nuclear magnetic resonance response characteristics of different fluids in tight rock cores. Mao Haitao from the International Company of China Petroleum Group Logging Limited shared the application of full-spectrum saturation logging technology in an overseas oil field. Tang Cui from Hangzhou Ruili Acoustics and Electronics Technology Co., Ltd., discussed the role of artificial intelligence technology in rock physics and the development of logging. Professor Wang Liang from Chengdu University of Technology presented the progress of full-diameter core nuclear magnetic resonance measurements and interpretation at wellsites. Professor Liu Hongqi from Southwest Petroleum University shared research on the fracture identification method in imaging logging based on a multiscale hybrid attention mechanism, which received a warm response.

Sub-sessions

In Sub-session 1, experts and scholars from both industry and academia gave high-level presentations and engaged in discussions centered around the core topic of “artificial intelligence.”

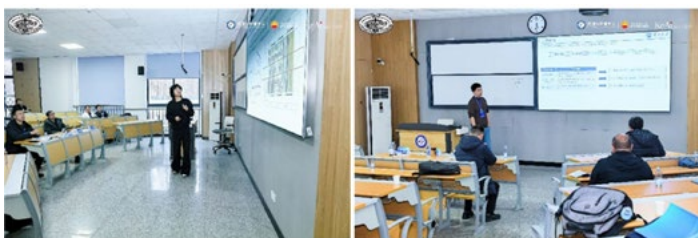


Zhou Zhiwen from China Petroleum Southwest Oil and Gasfield Company introduced the research on the Rev-UNet small-scale fracture prediction method based on feature amplification. Ren Shan from Chengdu University of Technology presented the machine-learning algorithm for identifying the Maoyi Formation tephra-bearing layer in the Sichuan Basin based on logging data. Shui Leilei from CNOOC Energy Development Co., Ltd. introduced the intelligent analysis and application of rock thin sections based on multi-optical fusion image processing and deep learning. Liu Jingyan from Southwest Petroleum University presented research and applications of complex lithology identification methods based on improved Tabnet. Additionally, Liao Yan, Wang Guohao, and Tang Wenjie from Southwest Petroleum University, Zhang Shun from the Chinese Academy of Sciences, Zhang Zetao, Jiang Yiyang, Qi Xiaohui, and Liu Yanjun from Chengdu University of Technology, Huang Xinglei from Jilin University, and Zhang Xiumei from the Institute of Acoustics, Chinese Academy of Sciences also gave reports and engaged in discussions around the theme of “artificial intelligence.”



Professor He Xiao from the Institute of Acoustics, Chinese Academy of Sciences, introduced the radial elastic imaging method for acoustic logging, which received a warm response. Senior Engineer Zhang Hairong from Guangdong Ocean University presented the prediction technology for sample contamination rate under oil-based-mud conditions. Associate Professor Xing Lanchang from China University of Petroleum shared the broadband electrical characteristics of hydrate sediments and the evaluation of hydrate and natural gas saturation based on MD-FE numerical simulations. Cai Yuefeng from CNOOC Energy Development Co., Ltd., discussed the evaluation of water injection oil displacement efficiency in high-temperature, high-pressure, low-permeability reservoirs in the western South China Sea. Associate Professor Zhang Gong from Yangtze University introduced the multifrequency

In Sub-session 2, experts and scholars engaged in high-level discussions centered around the core topic of “well-logging methods and instruments.”



Associate Professor Li Meng from Xi’an Petroleum University introduced the separation of A0 and S0 mode waves in casing ultrasonic wave logging based on VMD decomposition. Li Guojun from CNOOC Oilfield Services Co., Ltd., presented well-logging design schemes and applications based on artificial intelligence. Li Zhen from Chengdu University of Technology discussed numerical simulation research on the bit wave suppression method based on deconvolution with dual sources. Cai Ming from Yangtze University introduced the experimental and theoretical research progress on the dual-scale acoustic response of fracture properties. Additionally, Chen An from Southwest Petroleum University, Li Zhipeng, Li Peng, and Bin Luo from the University of Electronic Science and Technology, Zeng Yu from Chongqing University of Science and Technology, Liu Yuejiao and Sun Shuai from China University of Petroleum, and Zhang Yifei from Yangtze University also gave reports and engaged in discussions around the topic of “well-logging methods and instruments.”

In Sub-session 3, experts and scholars delivered high-level presentations centered around the core topic of “rock physics.”



Zhao Ning from Chengdu University of Technology conducted a preliminary study on the effect of saturated-water-filled pores containing micro-suspended particles on nuclear magnetic T_2 spectra. Hao Peng from CNOOC Energy Development Co., Ltd., introduced the establishment and application of a technical system for the fine characterization

and evaluation of the storage space in tight reservoirs based on digital rock technology, using the Paleogene system in the Bohai Sea as an example. Zhang Guanliang from CNOOC Energy Development Co., Ltd., presented the application of digital core technology in evaluating the compressibility of tight sandstone reservoirs. Gui Mingjing from PetroChina Southwest Oil & Gasfield Company discussed the fractal characteristics of pore structures in deep shale reservoirs in the Luzhou region. Additionally, Liu Xiuju from Ellington Geological Services, Jiang Zhihao from Xi’an Petroleum University, Fang Han, Liu Rui, Chen Muyao, Chen Haoyu, and Liang Demin from Southwest Petroleum University, Lv Changyuan and Chen Yizhi from Chengdu University of Technology, Ma Zhenchuan from Sichuan University, and Chen Jiayu from China National Petroleum Corporation Logging Co., Ltd., also delivered presentations centered on the topic of “rock physics.”

In Sub-session 4, experts and scholars delivered reports and engaged in discussions centered around the core topic of “evaluation and interpretation of logging data.”



Luo Xu from China National Petroleum Corporation Logging Co., Ltd., introduced research and applications on logging horizontal stress difference and maximum principal stress evaluation methods. Tong Zhixiong from the Chinese Academy of Sciences presented an inversion method for drilling azimuth electromagnetic wave data based on BiLSTM. Ai Yizhuo from Chengdu University of Technology introduced an automatic fracture parameter extraction method for electrical imaging based on transfer learning. Luo Jingchao from Southwest Petroleum University conducted an evaluation of the pore structure in deep, complex clastic rock reservoirs in the LD-X region based on layered learning analysis of pore structure influencing factors. Additionally, Jiang Lizhi from the Geophysical Institute of Chengdu University of Technology, Han Ruiyi from Jilin Architecture University, Long Yujing, Ran Shiyun, Ye Yu, and Li Jun from Southwest Petroleum University, Liu Jiacheng and Gao Hongyan from the University of Electronic Science and Technology of China, Wen Shanshi from PetroChina Southwest Oil & Gasfield Company, and Zeng

Fuqiang from China University of Geosciences also delivered presentations on the topic of “evaluation and interpretation of logging data.”

In Sub-session 5, experts and scholars delivered reports and engaged in discussions centered around the core topic of “production logging.”



Zhu Mengqin, senior engineer at the Testing Company of Qinghai Oilfield Company, introduced the research and application of sand production monitoring methods for upward wells in the Se Bei Gas Field. Zeng Chen from China National Petroleum Corporation Logging Co., Ltd., presented research and application of gas-liquid interface monitoring and evaluation methods based on the entropy weight method. Chu Xiaodong from CNOOC Oilfield Services Co., Ltd., introduced the technology of isotope coring, pressure sampling, and testing. Sun Chao from the Production Technology Center of the Testing Company of Qinghai Oilfield Company presented research and application of a qualitative identification method for gas layers in high-reservoir gas fields based on PNN+ logging. Additionally, experts from Southwest Petroleum University, including Qian Xuemei and Wang Chenxi, from Yangtze University, including Gao Zhipeng, Yin Heng, Li Ao, Xia Tie, and Wang Mingxing, from China National Petroleum Corporation Logging Co., Ltd., PetroChina International Company, including Fan Leyuan, and from University of Electronic Science and Technology of China, including Feng Qiangjun, also participated in the discussions on the core topic of “production logging.”

In Sub-session 6, experts and scholars delivered reports and engaged in discussions centered around the core topic of “oil and gas field development.”



Tang Rongyu from CNOOC Energy Development Co., Ltd., introduced experimental research on the microscopic pore-throat structure parameters of offshore rocks and oil displacement efficiency. Cheng Chao from Southwest Petroleum University presented a permeability prediction method based on seepage physical laws and data, using the T3X2 block of the Zhongba Gas Field in Sichuan as a case study. Liu Huaxue from Beijing Qingmeng Aike Technology Co., Ltd., introduced the development of a multifrequency multinucleus magnetic resonance analysis system and its applications in the energy industry. Wan Qiaosheng from China University of Petroleum presented experimental research on the wettability influencing factors of volcanic rocks. Additionally, experts and scholars from Southwest Petroleum University, including Wang Guohuan, Deng Liangang, Pei Lingjun, Bai Xinyu, Liang Chenxi, Luo Yiliang, and Zhu Shengrong, from Chengdu University of Technology, including Wang Qigui, Liu Yi, and Hu Haipeng, and from China Petroleum Southwest Oil & Gas Field Company, including Lei Canru, also delivered reports and engaged in discussions on “oil and gas field development.”

These reports were rich in content and broad in perspective, providing valuable academic exchange opportunities for the conference participants and further promoting the dual integration of technology and practice. After the session, excellent reports were selected based on their content, and the scholars were recognized for their outstanding contributions to the field of geophysics.



Promoting Academic Cooperation and Advancing the Industry

As the organizer of this conference, the Southwest Chapter of the Society of Petrophysicists and Well-Log Analysts (SPWLA-SW) has always been committed to building a high-end academic exchange platform, promoting the development of rock physics, well-logging technology, and related fields.

This year marks the fifth edition of the SPWLA-SW Annual Conference, a milestone event. Through the organization of high-quality academic activities, the chapter actively facilitates international and domestic academic exchanges as well as industry-academia-research collaborations, driving the deep integration of artificial intelligence and Earth sciences.

This year's conference also hosted a special event to commemorate the fifth anniversary of the journal *Artificial Intelligence in Geosciences*, reviewing its important role in promoting interdisciplinary research between artificial intelligence and Earth sciences while also looking forward to future development directions.



Looking Into the Future

Innovation and cooperation go hand in hand to promote the in-depth integration of disciplines. The successful hosting of the 5th SPWLA-SW Annual Conference not only showcased the latest research achievements in the fields of resources and environment but also provided valuable insights for future development directions. SPWLA-SW will continue to focus on the following areas:

Promote technological innovation:

- By integrating artificial intelligence, well-logging technology, and rock physics research, we aim to promote interdisciplinary studies and support technological upgrades in the industry.
- Strengthen academic collaboration
- Deepen cooperation with universities, research institutions, and enterprises to jointly address key technological challenges in the industry
- Build communication platforms
- Continue to host high-level academic events, promote global cooperation, and help China play a more significant role in the field of energy technology

In the future, SPWLA-SW will continue to explore the combination of academic research and industry needs and contribute more wisdom and strength to promote the development of geoscience and energy technology.



TULSA CHAPTER

General News

Tulsa Chapter hosted Distinguished Lecturer Dirk Valstar on the campus of the University of Tulsa as part of an effort to establish a student chapter there. More than 20 students and faculty, along with some chapter members, attended Dirk's presentation on "The Importance of Well Integrity Measurements Throughout the CCS Project Life Cycle."

UNIVERSIDADE FEDERAL DO CEARA BRAZIL (UFC)
STUDENT CHAPTER

Recent Events

20 September 2024—Our inaugural in-person lecture took place, featuring Fátima Brazil and Rodrigo Surmas (Petrobras petrophysicists), who spoke, respectively, about the role of the petrophysicist in Petrobras and digital rock.



15 and 17 October 2024—We held our first free online mini-course entitled “The Petroleum Provinces of the Tethys Sea and the Atlantic Ocean” with exploration geologist Antônio Garcia, who explained the genesis of the sedimentary basins associated with the Tethys Sea and the Atlantic Ocean.

22 and 23 October 2024—Our first paid online mini-course took place with Gabriel Cardoso (SLB petrophysicist) on the subject of “Introduction to the Evaluation of Carbonate Reservoirs,” who explained the geology of carbonate reservoirs as well as an analysis of classic well logs and nuclear magnetic resonance.

MINICURSO
Introdução à Avaliação de Reservatórios Carbonáticos

Gabriel Cardoso
Petrofísico da SLB

22/10 e 23/10
18h00 às 21h00
Google Meet
Link na bio

RS 15,00 (Público externo)
RS 10,00 (membros: AAPG, Black Oil, SEG e SPE)

*TODA A REMUNERAÇÃO ARRECADADA SERÁ DESTINADA AO CAPÍTULO SPWLA - UFC

@ufcspwla @ufcspwla-student-chapter SPWLA

PALESTRA
Sistemas Petrolíferos: Uma Abordagem Prática.

Jobel Moreira
Consultor Geólogo de Exploração

07/11
9h30
Google Meet
Link na bio

@ufcspwla @ufcspwla-student-chapter SPWLA

28 October 2024—Our online lecture was given by Lucas Blanes (Petrobras petrophysicist) on “Machine Learning Applied to Well Logs.”

12–14 November 2024—Our online mini-course entitled “Characterization of Igneous Rocks in Wells Using Profiles” took place, which dealt with the application of various well logs to igneous rocks.

PALESTRA
“Machine Learning aplicado a perfis de poço”

Lucas Blanes
Geólogo - Petrobrás

28/10
9h00
Google Meet

@ufcspwla @ufcspwla-student-chapter SPWLA

MINICURSO
Caracterização de Rochas Ígneas em Poços Utilizando Perfis.

Filipe Vidal
Pesquisador de Pós-doutorado da UFF

12/11 - 14/11
13h00 - 17h00
Google Meet
Link na bio

@ufcspwla @ufcspwla-student-chapter SPWLA

7 November 2024—Our online lecture entitled “Petroleum Systems: A Practical Approach” took place with exploration geologist Jobel Moreira (author of the Santos Basin stratigraphic chart and former Petrobras employee).

9–12 December 2024—The course “Nuclear Magnetic Resonance for Formation Evaluation” was held at the Brazilian Center for Physics Research (CBPF) in the city of Rio de Janeiro, Brazil, with William Trevisan (Petrobras

petrophysicist). This course was offered free of charge by the SPWLA Brazil Professional Chapter to Sabrina Abreu, Vice President of our student chapter.



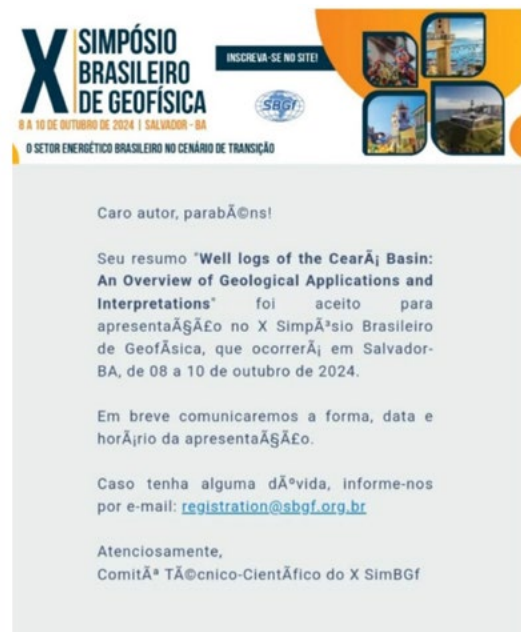
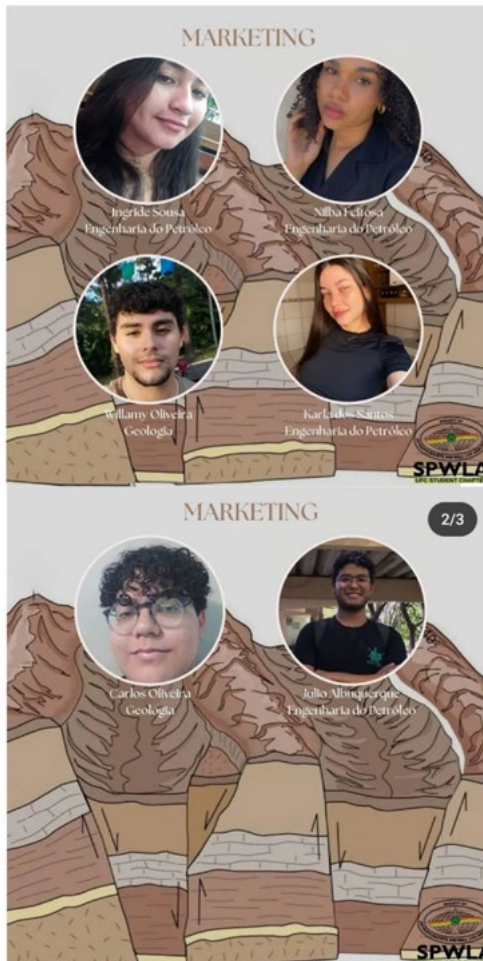
New Members

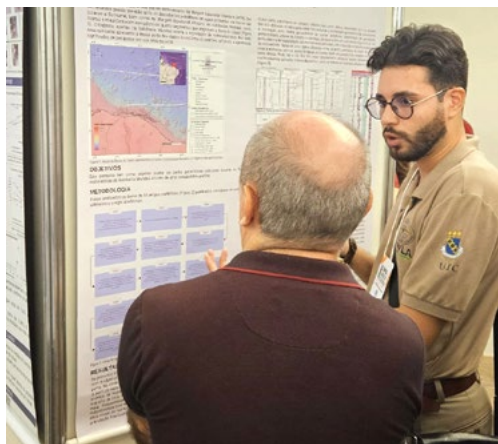
On September 4, eight new undergraduate members were accepted, four of whom were petroleum engineering students and four geology students, in a month-long selection process. Six students were assigned to the marketing group and three to the social relations group.



Other Activities

Abstract accepted for the X Symposium of the Brazilian Geophysical Society on the well logs used in the Ceará Basin since the beginning of its exploration. Abstract accepted for the X Symposium of the Brazilian Geophysical Society on the well logs used in the Ceará Basin since the beginning of its exploration. This sedimentary basin is part of the sedimentary basins of the Brazilian Equatorial Margin, which is a new exploratory frontier for Brazil due to exploratory success in the Guyana-Suriname Basin and in the sedimentary basins of the African counterpart (West Africa). The event ran from October 8 to 10 and took place in the city of Salvador, Bahia, Brazil. This work was presented on October 9 as a poster by the Student Chapter President, Leonardo Facundo.





UNIVERSITY OF HOUSTON STUDENT CHAPTER

General News

Software Training Workshop

Students learned how to utilize GeoDict, software from Math2Market, to simulate material properties related to transport and mechanics. This session, led by Dr. Mike Marsh, PhD, director of business development at Math2Market, offered:

- Access to cloud-hosted GeoDict sessions
- Techniques to transform lab images into simulation models for flow modeling
- Insights into tools for multi-phase flow, rock mechanics, electrical, and thermal conductivity

Student Paper Contest

SPWLA University of Houston Student Chapter hosted the annual Student Paper Contest, bringing together bright minds eager to push the boundaries of petrophysics and well-log analysis. The event showcased ongoing research, inspiring discussions, and a strong sense of community. Below is a list of the top three contestants and the judges.

PhD Category:

Tariq Saihood – 1st Place

Title: “Advanced Characterization of Carbonate Reservoirs: Quantifying Pore Contributions With SDEM Models”

Franklyn Javier Ángel Sáez – 2nd Place

Title: “Deriving a Variable Matrix Density Log for Shaly Sands”

Muhammad Noman Khan – 3rd Place

Title: “Novel Techniques of Carbon Capture Monitoring: Geochemical Studies Based on CO₂ Brine-Rock Interactions for CO₂ Sequestration”

Judges:

- Clara Palencia – ConocoPhillips
- Lei Wu – Baker Hughes
- Chicheng Xu, PhD – OpenPetro AI
- Ning Hao – SLB
- Adam Haecker, P.G. – Milestone Carbon
- Ali Eghbali – Baker Hughes
- Marta Anson – SLB



Recent Events

27 February 2025—The SPWLA University of Houston Student Chapter took a field trip to Baker Hughes. The visit included:

- Safety Briefing
- Rig Tour
- Logging Unit & Tools Visit
- HSE & Facility Tour
- Walk-in Lab Tour

SPWLA UNIVERSITY OF HOUSTON STUDENT CHAPTER PRESENTS

Field Trip to Baker Hughes

27th February, Thursday

9 am- 4:45 pm

Baker Hughes Education Center, Tomball (11340 FM 2920 ROAD (WHEC), Tomball, TX)

What this Trip will Offer

- Safety Briefing
- Rig Tour
- Visit logging unit and tools
- HSE, Facility tour
- Walk in Lab Tour
- and Many More



ONLY 20 SEATS AVAILABLE!!!! Book Your seat now.
Registration will be closed by 19th Feb!

● Car pooling service is available from building 9 at 7:30 am on 27th Feb



Register Here



UNIVERSITY OF OKLAHOMA STUDENT CHAPTER

Recent Events

The SPWLA OU Student Chapter had an exciting and impactful fall 2024 semester, engaging with the University of Oklahoma community through a series of events and activities that promoted the field of petrophysics and fostered student connections.

We kicked off the semester with a warm welcome to new and returning students during **Howdy Week** and the **MPGE and Mewbourne College Welcome Back** events. These gatherings allowed us to introduce SPWLA to the broader university community, highlight the benefits of membership, and inspire younger students by educating them about the role of a petrophysicist.

18 September 2024—SPWLA OU organized a visit to the **Integrated Core Analysis (IC3) lab**, one of the most

advanced petrophysical research facilities in the US. PhD candidate **Sidi Mamoudou** and Dr. **Mark Curtis** led an inspiring tour, offering insights into cutting-edge research and the innovative tools shaping the future of petrophysics. Students gained a deeper understanding of how IC3 is bridging academic research with industry applications.

22 October 2024—We hosted a **Tech Talk** with **Shahid Azizul**, reservoir engineering advisor and reservoir domain head at Schlumberger. His presentation, **“Formation Testing 101,”** introduced students to the fundamental concepts of formation testing in conventional reservoirs. Shahid covered topics such as basic petrophysical analysis, fluid sampling, and the importance of well logs, emphasizing how these techniques optimize oil and gas production. The session provided students with valuable insights into the practical applications of petrophysics in the energy industry.

November 2024—We collaborated with the SPE Student Chapter at OU to host a social event at **Sooner Bowling**. This relaxed and fun evening allowed students from both organizations to unwind, forge connections, and strengthen their sense of community within Mewbourne College. The event was a resounding success, fostering camaraderie and networking in an informal setting. As finals approached, SPWLA OU showed support for our MPGE students during their stressful exam week by providing snacks. This small gesture was our way of encouraging and wishing them success during one of the busiest times of the academic year.

January 2025—SPWLA OU proudly participated in the **MPGE Coalition Welcome Back Thursday**, bringing together students, faculty, and industry professionals to kick off the spring semester. This event created opportunities for networking, welcoming new students, and showcasing resources to support their academic and professional growth. It was the perfect way to start the year, reaffirming SPWLA’s commitment to fostering a thriving community within MPGE.

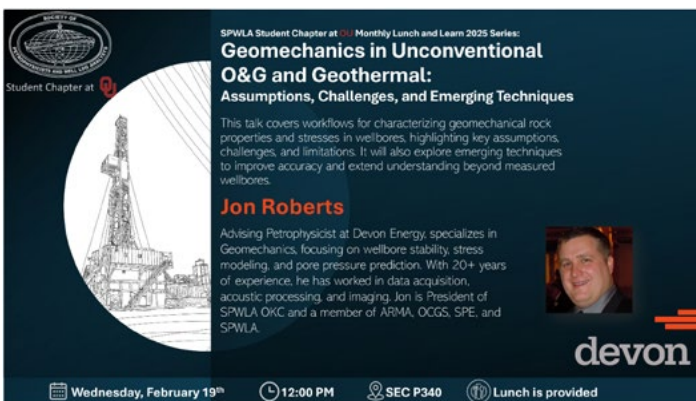
19 February 2025—SPWLA OU hosted its first **Lunch & Learn** of 2025, featuring **Jon Roberts**, an advising petrophysicist at Devon Energy with over 20 years of experience. Jon’s talk, **“Geomechanics in Unconventional O&G and Geothermal,”** delved into geomechanical characterization workflows, addressing key assumptions, challenges, limitations, and cutting-edge techniques. This session provided valuable insights into the latest advancements in geomechanics and was a must-attend for students eager to learn more about the field.



Highlights of IC3 lab visit, Tech Talk with Shahid Azizul, and the Sooner Bowling social event.



Professor Nie Xin delivered the opening ceremony speech.



Promotional materials for the Lunch & Learn featuring Jon Roberts.



The exciting moments of chapter students' presentations.

YANGTZE UNIVERSITY STUDENT CHAPTER

Recent Events

10 January 2025—2024 Annual Academic Conference and the preliminary round of the International Student Paper Competition were successfully organized by the SPWLA Yangtze University Student Chapter. The conference was chaired by Zhou Ying, President of the SPWLA Yangtze University Student Chapter. Professor Nie Xin, executive committee member of SPWLA China Southwest Chapter and director of the Well Logging Information Engineering Department, delivered the opening remarks. The judging panel included Professor Zhang Chong and Professor Song Hongwei from Yangtze University, as well as Professor Tang Yanbing from Southwest Petroleum University.

The conference focused on cutting-edge research areas such as reservoir monitoring, data processing, artificial intelligence identification, and lithology classification. Through the selection process, the following students have been recommended to submit papers to the 2025 SPWLA International Student Paper Competition (ISPC):

- Undergraduate Group: Yang Shuoqi
- Master's Group: Zhang Wenyi, Huang Haitao, Liu Sen
- Doctoral Group: Zhang Yuanjun



Awards were presented by Professor Song Hongwei and Professor Zhang Chong, followed by group photos.

The organization of this conference has led to an expansion of our chapter’s membership, signaling a steadily broadening sphere of influence within the academic community.

UFRJ SPWLA Student Chapter

General News

Our chapter maintains normal activities, now with 18 active members and a professor advisor, as organized below:

Board Members

- President: Luís Henrique Trianon
- Vice President: Manuela Braga
- Secretary: and Treasurer: Marina Alfradique
- Professor Advisor: Jorge Picanço

Advisor Members

- Rodrigo Azambuja
- Sarah Aleixo
- Sophia d’Orsi

- Amanda Bezerra
- Renan Camilo Silva
- Vittor Cambria

Marketing Members

- Gabriel Ferraz
- Ântonia Barbosa
- Iago da Costa

Logistic Members

- Alexandre Nobre
- Pedro Van Boekel
- Gabriel Amon’s

HR (Human Resources)

- Julianna Machado
- Lívia Isabor
- Luciano Barros

Recent News

The chapter is now led by Luís Henrique Trianon, with Manuela Braga serving as vice president. Renan Camilo and Vittor Cambria will temporarily hold advisory positions until we finalize updates to all chapter roles. Marina Alfradique remains the treasurer for now, though we plan to transition this role for personal reasons.

We would also like to formally announce our participation in the Student Chapter Symposium, which will be held remotely in early April. We have invited Andre Brandão, a petrophysicist at LAGESED, whose research focuses on CCUS in Brazil, to represent SPWLA-UFRJ at the symposium. His presentation, titled “Petrophysics of Lava Flow-Hosted Reservoirs: Insights from a CCS Research Project in the Paraná Basin, Brazil,” will explore key findings from his work.

Upcoming Events

Goals	March	April	May	June
Change of treasury position				
Update post of Instagram page				
Presentation of the student chapter for new students				
Selective process				
Update current member roles				
Student Chapter Symposium				
Webinar two - External member				
Petrel mini-course				

- Stage completed
- Stage in process
- Future stage

To promote and update the chapter's activities, we will maintain the practice of posting monthly. This initiative seeks to engage new students and enhance the chapter's visibility both within and beyond the university.

We will open our selection process to make our team grow even more and replace former students. We are waiting for new students to enroll so we can begin the new selection process.

For the webinars, we had the idea of holding one webinar per month, but we noticed a lack of petrophysicist contacts to invite, so we changed the period from one per month to two per month. We have professionals in mind to do the next webinar, like Andre Brandão on the topic of petrophysics and CCS, Maira da Costa (PhD from COPPE/UFRJ) on the subject of MICP or NMR, and Igor Nascimento (geologist at SLB) on the topic of petrophysics and the job market.

Group members understand the need to learn about Petrel software, so we will keep looking for a professional who can offer a mini-course for the chapter members, but we have not yet received an affirmative response. In partnership with other chapters and the course secretary, we are still coordinating a week of presentations about the geology program for incoming students this year.

Welcome New Members – December 10, 2024 – February 18, 2025

Ahmad, Hamza, SLB, Tripoli, Libya
Alves, Willamy, Federal University of Ceará, Fortaleza, Brazil
Aung, Moe, Baker Hughes Company, Youngsville, LA, United States
Bairwa, Girish, Equinor ASA, Sandnes, Norway, Norway
Baron, Mathilde, TotalEnergies, Vernouillet, France
Batista, Julio, Federal University of Ceará, Fortaleza, Brazil
Batista De Oliveira, Carlos, Federal University of Ceará, Fortaleza, Brazil
Bekhiet, Atef, ADNOC Onshore, Abu Dhabi, United Arab Emirates, United Arab Emirates
Campos, Nataly, University of São Paulo, São Carlos, São Paulo, Brazil
Chakraborty, Adrija, ONGC, Mumbai, Maharashtra, India
Chatterjee, Soma, Oil & Natural Gas Corporation, Mumbai, India
Chuilon, Pierre, TotalEnergies, Pau, France
Cook, Thomas, Energy & Geoscience Institute, Salt Lake City, UT, United States
Corrales, Miguel, KAUST, Thuwal, Saudi Arabia
De Farias, Antônio, Federal University of Ceará, Fortaleza, Brazil
De Sousa, Ingrid, Federal University of Ceará, Fortaleza, Brazil
De Sousa, Marcos, Federal University of Ceará, Fortaleza, Brazil
Dixit, Sumanyu, Oil and Natural Gas Corporation, Jorhat, India
Doshi, Manasi, SLB, Cambridge, MA, United States
Feitosa, Nilba, Federal University of Ceará, Fortaleza, Brazil
Galiev, Aydar, SLB, Khobar, Saudi Arabia
Ghanbarian, Behzad, University of Texas at Arlington, Arlington, TX, United States
Hu, Qinhong, China University of Petroleum (East China), Qingdao, China
Huang, Haitao, Yangtze University, Wuhan, China
Igonin, Nadine, University of Texas at Dallas, Richardson, TX, United States
Jawed, Rehan, Saudi Aramco, Dhahran, Saudi Arabia
Jeong, Cheolkyun, SLB, Sugar Land, TX, United States
Kronenberger, Kurt, Halliburton, Spring, TX, United States
Lazar, Raffik, GeomodL International, Dubai, United Arab Emirates
Legendre, Ulysse, SLB, Clamart, France
Liu, Sen, Yangtze University, Wuhan, China
Lixiong, Gan, Yangtze University, Wuhan, China
Ma, Jiaju, Yangtze University, Wuhan, China
Ma, Zhaoyang, Yangtze University, Wuhan, China
Martinez, Gabriela, Energy & Environmental Research Center, Louisville, CO, United States
Maydana, Facundo, Universidad Nacional De Río Negro, Lamarque, Río Negro Province, Argentina
Meador, Matthew, Texas Tech University, Lubbock, TX, United States
Mei, Qianzhe, Yangtze University, Wuhan, China
Mendoza, Alberto, BP, London, United Kingdom
Pirela, Jorge, Cardón IV SA, Caracas, Distrito Capital, Venezuela
Quesada, Daniel, SLB, Clamart, France
Ridzuan, Muhammad, Mohamed Bin Zayed University of Artificial Intelligence, Abu Dhabi, UAE
Rossiter, Jr., Phil, Texas Commission on Environmental Quality (TCEQ), Georgetown, TX, United States
Saadat, Soroush, University of Louisiana Lafayette, Lafayette, LA, United States
Safavi, Seyed, OilTech, Al-Musayib, Babel, Iraq
Silva Dos Santos, Karla, Federal University of Ceará, Fortaleza, Brazil
Spaulding, Daniel, SM Energy, Denver, CO, United States
Sugianto, Didiek, Halliburton, Kab Tangerang, Indonesia
Sungkorn, Radompon, Symbiit Ltd Co, Sannamish, WA, United States
Sutiyo, Sigit, PTP Resources, Subang Jaya, Selangor, Malaysia
Ting, Angelina, Shell, Miri, Malaysia, Malaysia
Tosetto, David, Halliburton, Dallas, TX, United States
Triana, Maximiliano, Rice University, Houston, TX, United States
Uchendu, Onyebuchi, NNPC, Benin City, Nigeria
Walsh, Robert, Shell International, Houston, TX, United States
Yang, Shuoqi, Yangtze University, Wuhan, China
Zanazzi, Lucio, FCNyM UNLP, La Plata, Argentina

