NAME OF CHAPTER

SPWLA HOUSTON CHAPTER





PRESIDENT'S CORNER

Only now do I realize that I have never properly introduced myself to the Houston SPWLA community and the community at large. Allow me to repeat the brief bio that was on the ballot:

Ron J.M. Bonnie retired June 1st from his 14-year tenure as Petrophysical Advisor in ConocoPhillips' Geoscience organization. Before, Ron has worked more than 15 years for Shell E&P in The Netherlands and Houston in a multitude of assignments in research, petrophysics, geophysics and operations. He was also 6+ years with Halliburton in the USA with positions in R&D for Numar and as Global Product Champion MRILWD for Sperry-Sun. Ron is an industry-expert on NMR technology and provides support for high-profile NMR projects in ConocoPhillips globally plus guidance, support and evaluation of petrophysically challenging projects in traditional and unconventional reservoirs. Ron is very well published and holder of several patents. He has a B.Sc. and M.Sc. in nuclear physics from the University of Amsterdam and a Ph.D. in laser physics from Twente University (both in The Netherlands). Ron is a founding Board Member, Vice President, and Former Secretary of SPWLA Nuclear Magnetic Resonance (NMR) Special Interest Group and 2024-2026 President of the SPWLA Houston Chapter.

Fun facts:

- 1. I would always bring my running gear on business trips and have run in 26 different countries on 5 continents
- 2. The first SPWLA Annual Symposium I attended was #32 (1991) in Midland Texas where I participated in 5K Log Jog (running behind a logging truck) and presented my first oil-industry paper with the title Evaluation of various Pulsed Neutron Capture logging tools under well-defined laboratory conditions.

<u>PRESIDENT'S MESSAGE TO THE HOUSTON</u> <u>SPWLA COMMUNITY</u>

This is the spot where the Chapter President shares profound words of wisdom. With the year almost done, I could do a look-back or a look-ahead. I will do neither. I could share some of my musings on a variety of relevant (and not so) topics, but won't do that either, as I feel said musings haven't properly matured yet and are, therefore, not yet ready for prime time. What I will do, is wishing each and everyone of you -and yours- a happy and festive holiday season and leave you with the best wishes – good health, happiness and prosperity – for the New Year 2025. Many of you still have (much) unused time-off: use it, enjoy it, spend it with loved ones, rest, relax, recharge and be safe when you travel. And those loved ones hug them a little tighter this season.

Ron

Current Sponsors





















GENERAL NEWS



Changes to '24 – '25 SPWLA Houston Chapter Executive Board

We would like to announce 2 changes to the chapter's Executive Board membership:

Incoming:

- **VP Northside** Ali Eghbali, Baker Hughes
- **Treasurer** Zeyad J. Ramadan, slb

Outgoing:

- **VP Northside** Amer Hanif, Baker Hughes
- Treasurer Shikha Prasad, slb

Amer Hanif has accepted the position of Director North America I for SPWLA International. With changes in job / responsibilities, Shikha Prasad can no longer commit her time and energy to the board.

We want to thank Shikha and Amer for all that you have done for the SPWLA Houston Chapter and for being great fellow board members. And at the same time, express a warm welcome to Ali and Zeyad; looking forward to working with you.

2024 - 2026 SPWLA Houston Chapter Executive Board members



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

Ron J.M. Bonnie, Ph.D. President SPWLA Houston Chapter

Recent Events

Event no: 01

SPWLA HOUSTON CHAPTER NETWORKING EVENT

Date: Thursday, June 27, 2024 Time: 5 pm – 8:00 pm (US CDT)

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





Networking event and gathering for SPWLA members and board officers during Thursday Happy Hours.

Event no: 02

Speaker: Chicheng Xu (Aramco Houston Research Center)

Co-Author: Iulian N. Hulea (Shell Global Solutions BV, The Netherlands)

Date: Wednesday, July 24th, 2024 Time: 11:30 am – 1:00 pm (US CDT)

Venue: Baker Hughes, 2001 Rankin Rd, Houston, TX 77073.

ABSTRACT:

Data and algorithms play pivotal roles in driving digital innovations within the petrophysics domain. On one hand, a wealth of high-quality petrophysics field data is accessible from public databases (such as the Utah FOEGE Geothermal project and the Kansas Geological Survey) or company releases (like Equinor Volve). On the other hand, innovative digital solutions continually emerge as open-source code contributions from research institutes, SPWLA machine learning

competitions, and individual enthusiasts on GitHub. We propose the creation of a cloud-based platform: Open Petrophysics Data & Utilities (OPDU) to enhance public data management, increase knowledge sharing and analogue use, and promote technology utilization across the SPWLA global community. This platform adopts the Open Subsurface Data Universe (OSDU) concept and exemplifies seamless data integration within an organization. Its purpose is to bridge the gap between public data sources and open-source petrophysics solutions, creating value for the energy industry. During our presentation, we will discuss proposed architectural solutions and, more importantly, engage with the audience to chart the course for a digitally empowered SPWLA community.

BIOGRAPHY:

CHICHENG XU joined Aramco Houston Research Center in 2017 and is working as a research petrophysicist in the Artificial Intelligence Technology Group. His research is focusing on petrophysics intelligence and automation using advanced computational techniques and data analytics for interpretation, classification, and modeling based on multi-scale subsurface data integration. He earned his PhD degree at the Petroleum & Geosystems Engineering Department of UT Austin in 2013 and worked as a petrophysicist/rock physicist for BP America and BHP Billiton from 2013 to 2017. He co-founded and chaired the SPWLA PDDA SIG and initialized a student scholarship for PDDA related graduate research. He also served as associate editor for several international scholastic journals including SPWLA Petrophysics, SEG Interpretation, and SPE Reservoir Evaluation & Engineering. He was selected to receive the SPE regional Formation Evaluation technical award by SPE - Gulf Coast in 2018, the SPWLA meritorious service award in 2019, the SPE outstanding associate editor Award in 2020, the SPWLA meritorious technical award in 2021, and the SPE regional Data Science and Engineering Analytics technical award by SPE – Gulf Coast in 2022. Chicheng is dedicating to SPWLA's publication and digitalization efforts and is currently leading a special task force for SPWLA PDDA SIG to build up the OPDU platform.

IULIAN N. HULEA is a Senior Petrophysicist working for Shell Global Solutions BV, Projects and Technology in the Netherlands, currently working on Global reservoir studies. In parallel he serves for the 2024-2024 term as SPWLA president.







Chicheng Xu presented a topic on "Bridging Data and Algorithms in the Petrophysics Domain: Introducing the Open Petrophysics Data & Utilities (OPDU) Platform" at the SPWLA Houston Chapter seminar.

Event no: 03

Topic: Monitoring of CCUS Operations for Containment Validation Using Electromagnetic

Methods

Speaker: Trevor Pugh Date: August 28, 2024

Location: Baker Hughes, 2001 Rankin Rd, Houston, TX 77073

We are thrilled to invite you to an exclusive seminar hosted by the SPWLA Houston Chapter. Join us as Trevor Pugh, a distinguished expert in the field, presents groundbreaking insights into how electromagnetic methods are transforming the monitoring of Carbon Capture, Utilization, and Storage (CCUS) operations. This seminar will focus on innovative techniques for validating containment and ensuring the integrity of CCUS projects.

Key Takeaways:

Advanced electromagnetic techniques for CCUS monitoring Strategies for effective containment validation

Why Attend?

Enhance your knowledge of cutting-edge monitoring technologies

Network with industry professionals and experts

Gain practical insights that can be applied to your projects

Don't miss this opportunity to stay ahead in the field of CCUS and make valuable connections!

We are proud to acknowledge GOWell as the sponsor of this seminar.

ABSTRACT:

Our team at ESG Solutions has provided long term seismicity monitoring for CCUS projects throughout the US and Canada. The team uses the microseismic data to update geo-mechanical model. The various projects have also demonstrated the importance of continuous monitoring during injection operations to ensure storage control and permanence. In addition, it was noted that the types of data recorded will vary over time in order to provide a consistent and cost-effective solution. The projects have demonstrated that basement seismicity increases in event density, size, and distance over time. Several passive microseismic approaches have been used to record these changes, in a downhole analog geophone array and a network of surface geophones with a sparse layout. While understanding the microseismic activity is a critical part of containment monitoring for CCUS operations, an additional piece of information that reinforces this data set is knowing the extent of the CO2 plume long term. Knowledge of the plume extent will be important to establish the long-term viability of a storage facility and the expected long term storage permanence of the in-place CO2. This paper will present a combined, cost-effective solution through the additional use of surface based Streaming Potential, Scatter Field Controlled Source Electromagnetics (S2CSEM). The S2CSEM method can be periodically deployed through the life of the storage facility to image the plumes horizontal extent. The scatter field method can also detect streaming potential changes over shorter periods of time, by changing the CO2 injection rate over a 24-48 hour period. Using both microseismic and CSEM to delineate the CO2 placement allows operators to understand what seismic activity is related to induced stress from CO2 injection and natural stress for the area. The combination of these methods will also provide understanding of capacity limitations and storage permanence at a facility. This knowledge will further help with governmental acceptance of the proposed CCUS solutions provided by the industry.

BIOGRAPHY:

Trevor Pugh is a serial entrepreneur with 40 years of experience in the O&G industry. His background is in Physics and R&D startups that provide innovative products for the industry. He has started and successfully exited several companies. His present project is Deep Imaging Technologies which recently purchased ESG Solutions; a company created to provide subsurface monitoring services by combining multiple measurement systems for the O&G industry. Trevor has authored numerous patents and white papers dealing with many facets of the industry.

Trevor is an experienced rock climber, glider pilot and scuba diver who also enjoys skiing and hiking in the mountains. He is married to Angie and has two sons.





Exciting Seminar on Wettability Quantification in Rock Components

Date: August 21, 2024

Time: 12:00 PM - 01:00 PM (US CDT)

Online Webinar (https://register.gotowebinar.com/register/4576179930225187415)

Join us for an insightful presentation by Isa Silveira de Araujo, a PhD candidate at the University of Texas at Austin's Hildebrand Department of Petroleum and Geosystems Engineering. Isa will discuss the intricacies of quantifying wettability in rock components through water adsorption isotherms.

ABSTRACT:

Multiple conventional experimental methods are available to estimate wettability, such as contact-angle measurements and imbibition tests on core samples. Although commonly used, the inconsistency in wettability assessment from these methods challenges the wettability quantification in mixed-wet rocks. Moreover, new reliable methods for wettability assessment in both homogeneous and heterogeneous surfaces, and in core samples that have a variable range of wetting states are still needed. The concept of adsorption is fundamental to understanding fine-scale interactions between solids and fluids and potentially can be used for wettability assessment.

For the first time, in this paper, we aim to conduct a systematic study on the relation between water adsorption and wettability. We experimentally compute water adsorption isotherms and perform sensitivity analysis on the impacts of (i) wettability levels, (ii) types of rock components, and (iii) concentrations of mineral constituents on water adsorption capacity. We synthetically change wettability of pure quartz powder to obtain samples with variable wettability level. Subsequently, we use part of the chemically treated powders to create pellets and measure contact-angle. On the remaining portion of the treated powders, adsorption isotherms are measured using a Dynamic Vapor Sorption Analyzer (DVS). We also obtain water adsorption isotherms on several types of pure minerals and organic components, including diverse clay types, quartz, calcite, and kerogen. Finally, different minerals are mixed at distinct concentrations to evaluate the effect of composition on adsorption capacity. Results demonstrated that Ca-montmorillonite exhibits more water adsorption than the other minerals, reaching adsorption of 0.23 grams of water per gram of Ca-montmorillonite at 90% relative humidity. We also measured water contact-angle on the pure minerals and found that on these samples, the water droplet completely spreads, demonstrating a 0°contact-angle. After chemically changing the wettability of quartz, a contact-angle of 120° was obtained. The adsorption isotherms show that the change in wettability of quartz resulted in a decrease of approximately 40% in the amount of water adsorbed at 80% relative humidity. A comparison of the water contact-angle with adsorption isotherm measurements, suggests that the isotherms are more sensitive to variations in wettability than contact angle. Water adsorption on immature kerogen is found to be larger compared to most of the evaluated minerals. Results also suggested that the structure of kerogen is flexible and capable of large water uptake. Adsorption isotherms estimated on mixtures of minerals also proved that these measurements are extremely sensitive to small variations in the mineral composition. We proved that the fine-scale solid-fluid interfacial interactions can be quantified with adsorption isotherms and upscaled to wettability. The outcomes of this work also demonstrate the affinity of individual rock components to water. These results can potentially be used for further development of new methods for wettability assessment of mixed-wet rocks and rocks with complex mineral composition.

BIOGRAPHY:

Isa Silveira de Araujo is a PhD candidate in the Hildebrand Department of Petroleum and Geosystems Engineering at The University of Texas at Austin. She earned her B.S. degree in Chemical Engineering from Universidade Federal dos Vales do Jequitinhonha e Mucuri (UFVJM), Brazil, and her M.S. degree in Chemical Engineering from the University of Campinas (Unicamp), Brazil. She is one of the recipients of the 2022 SPWLA Distinguished Speaker Award. She is also the recipient of the Osmar, Mercedes, and Roberto Abib Memorial Endowed Presidential Scholarship in Petroleum Engineering from the Cockrell School of Engineering. Her research interests focus on the petrophysics of unconventional reservoirs and rock-fluid interactions.

Event no: 05

SPWLA HOUSTON CHAPTER NETWORKING EVENT

Date: Thursday, September 26, 2024 Time: 5 pm – 8:00 pm (US CDT)

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

Event no: 06

Exciting Seminar on Effective transport properties of micro-structures

Date: August 18, 2024

Time: 12:00 PM - 01:00 PM (US CDT)
Online Webinar (https://lnkd.in/gd_sMvh)

Join us on September 18, 2024, for an enlightening seminar featuring Professor Carl Fredrik Berg from the Norwegian University of Science and Technology (NTNU)

ABSTRACT: Effective transport properties of micro-structures, e.g., the pore structure or the fluid distribution within a pore structure, can be decomposed into morphological descriptors such as tortuosity, characteristic length, and constrictivity. In this talk, we will consider evolving micro-structures. One example is the changing pore structure during a diagenetic process. Another example is changing fluid geometry during a drainage process. We will present how the morphological descriptors change with changing micro-structure, which descriptors dominate the change in effective transport, and describe effective transport properties close to the percolation threshold.

About the Speaker: Carl Fredrik Berg, a distinguished professor at NTNU, brings extensive experience from both academia and industry. With a Ph.D. in algebra and a background as a reservoir engineer at Statoil/Equinor, Professor Berg's expertise spans digital rock modeling, upscaling transport processes, and optimizing reservoir simulations.

Event no: 07

Exciting Seminar on quantifying the impacts of reservoir geochemistry and pore structure on the co2 diffusion and leakage in organic-rich mudrock formations and caprocks

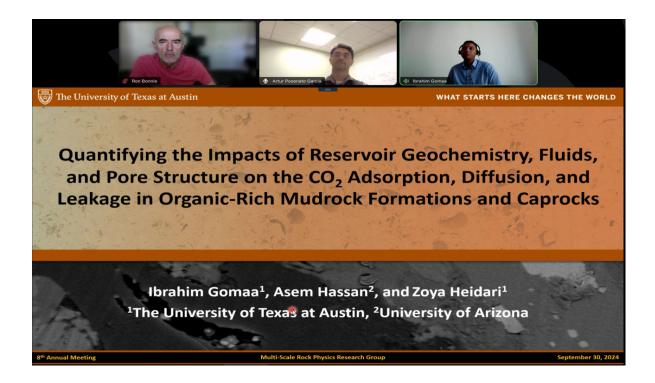
Date: October 10, 2024

Time: 12:00 PM - 01:00 PM (US CDT)

Online Webinar

BIOGRAPHY:

Ibrahim Gomaa is a graduate research assistant and Ph.D. candidate at the Hildebrand Department of Petroleum and Geosystems Engineering. His research focuses on the petrophysical and geochemical properties influencing CO2 storage and trapping mechanisms. With degrees from the British University in Egypt and King Fahd University of Petroleum & Minerals, Ibrahim has a rich background in enhanced oil recovery and sandstone reservoir stimulation.



Exciting Seminar on Unlocking the Power of Anisotropic Mechanical Properties through

Digital Sonic Processing and Core Data Integration

Date: October 24, 2024

Time: 11:30 PM - 01:00 PM (US CDT)

Venue: SLB, 6350 West Sam Houston Parkway North, Houston, TX 77041

ABSTRACT:

Sonic data processing and interpretation, combined with a fully 3D planar hydraulic fracture simulation, are critical components for evaluating well completion quality (CQ). This evaluation encompasses anisotropic mechanical properties and horizontal stress calculations but is often bottlenecked by the extensive processing time required. The objective of this talk is to present an improved workflow that leverages the latest advancements in digital borehole sonic technology to derive anisotropic mechanical properties and horizontal stress profiles comparing these results against geomechanical core data from the same well in the Midland Basin to enhance confidence in stimulation design. We will outline the geomechanics workflows for core data, including the extraction of anisotropic properties from ultrasonic velocities. These will be integrated and compared with digital sonic workflow services, which utilize advanced algorithms to deliver accurate measurements of compressional, shear, and anisotropic properties directly from the wellsite. A multimode machine learning inversion, incorporating flexural and Stoneley waves, is employed to determine anisotropic constants while accounting for mud-speed variations in the borehole. This approach yields precise anisotropic mechanical properties and horizontal stress profiles. The adapted workflow proposed in this paper utilizes two of the newest methodologies in

digital borehole sonic services to meet the challenges of drilling in unconventional reservoirs, thus expediting the selection of lateral landing points. In this case study, various zones have been identified: high stress-induced anisotropy intervals, high-layer (transversely isotropic) anisotropy intervals, and isotropic/fractured carbonate streaks. The results demonstrate an excellent correlation between core data and sonic-derived data. The findings indicate that the proposed sonic data processing workflow can effectively serve as input for hydraulic fracture simulations, reducing processing time by three-fold, increasing the accuracy of anisotropic constants by better understanding mud speed variation, and ultimately empowering operators to make timely, informed decisions without compromising operational efficiency.

BIOGRAPHY:

Edgar Velez currently serves as the Acoustics Geomechanics Domain Champion Advisor for the western hemisphere, based in Houston. He has been leading the application of acoustics tools across diverse environments since he assumed this role in 2018.

Edgar began his career at Schlumberger in 2003 as a junior petrophysicist within the Data & Consulting Services team in Villahermosa, Mexico. In 2008, he transitioned to become the acoustics domain champion for the Latin American region. From 2012 to 2014, he was based in Argentina, where he continued to specialize in unconventional reservoirs. In 2014, he moved to Houston, taking on the role of acoustic domain champion for North America land, where he has maintained similar responsibilities to his current position.

Edgar graduated with honors with a bachelor's degree in geophysics from the Universidad Nacional Autónoma de México (UNAM) in 2002.

Event no: 09

Exciting Seminar on Simulation of Reservoir Charge Over Geologic Time to Predict

Present-Day Spatial Distributions of Fluid Composition

Date: November 14, 2024

Time: 11:30 PM - 01:00 PM (US CDT)

Venue: SLB, 6350 West Sam Houston Parkway North, Houston, TX 77041

ABSTRACT:

Reservoir fluids often exhibit compositional complexity vertically and laterally in reservoirs. These complexities include viscous oil and tar distributions, and gas-oil ratios and can also include more subtle fluid variations such as varying biomarker ratios and isotopic ratios. Recent advances have led to resolving of many mixing dynamic processes of reservoir charge fluids over geologic time. The objective is to simulate reservoir charge over geologic time to (a) constrain key attributes of the reservoir which comprise the geologic model and (b) to improve the prediction of fluid properties across tectonic features. The analysis of 80 reservoirs within the context of reservoir fluid geodynamics has allowed identification of mass transport and mixing dynamics of different charge fluids over geologic time. Reservoir simulation can be used to predict resulting compositional distributions; these predictions depend on (1) reservoir attributes, both known and uncertain, (2) the properties and locations of charge fluids, such as density and

viscosity, and (3) the time since charge. The comparison of predicted and measured fluid distributions allows history matching of reservoir charge. Fluid mechanics principles are shown to validate simulation results building confidence in their predictions. Forward modeling with reservoir simulation shows that even simple 2D simulations can illuminate key reservoir attributes that impact fluid compositional distributions such as connectivity and baffling especially over different areal sections of the reservoir. Reservoir case studies are used to validate the charge and mixing dynamics that are employed in modeling. Reservoir simulation shows that a substantial range of the extent of mixing is found dependent on reservoir and fluid properties, thereby providing a very sensitive test of these reservoir parameters. Simulation of reservoir charge for history matching is a very new concept, yet it relies on standard reservoir simulation (over geologic time) for comparison between predicted vs measured fluid compositional distributions of present day to test the reservoir and geologic models. This approach has shown that several presumptions about mixing of charge fluids were not general and inhibited the new workflow. Removing such conceptual limitations has been crucial to developing novel workflows.

BIOGRAPHY:

Tarek S. Mohamed is an Interpretation development engineer at SLB. He co-leads the new direction of modeling fluid dynamic mixing processes and history-matching reservoir charge over geologic time to predict fluid spatial compositional distributions in untapped regions and to test geologic models. He is the co-author of over 16 technical papers accepted by 7 organizations including SPWLA, SPE, SEG, AAPG, and ACS. He completed projects with collaborators from academia, the energy industry, and Los Alamos National Laboratory. He holds a PhD in petroleum engineering from the University of Texas at Austin, an MS in petroleum engineering and a graduate certificate in data science and analytics from the University of Oklahoma, and a BS in petroleum engineering from Suez University.



Exciting Seminar on Why Look at Rocks? Developing Models for Resistivity, Permeability,

Velocity and Compressibility Date: November 20, 2024

Time: 11:30 PM - 01:00 PM (US CDT)

Venue: Baker Hughes, 2001 Rankin Rd, Houston, TX 77073

ABSTRACT:

This talk is an overview of the importance of applying imaging and image analysis methods to understanding and modeling rock properties. The measured properties included in this discussion are Resistivity, Permeability, Velocity, and Compressibility. At the heart of these models is the concept that the relevant length scales have to be included in the models to accurately predict and upscale their properties. Staged Effective Medium models are used to include these differing length scales. This allows the influence of pore structure on rock properties to be discerned including the influence of: • Oil saturation on resistivity • Dispersed clays on the formation factor F* • Vugs on the formation factor of carbonates • Permeability • Velocity • Compressibility Brief explanations of the underlying models are presented for discussion. Future work is also discussed. The saturation data fits conceptually with the porosity and salinity dependent models under water wet assumptions. A changing saturation was found to be equivalent to a porosity change for the geometric dispersion. The clay term was found to be saturation independent. The work represents a significant step forward towards an integrated approach to understanding the dielectric and conductivity response of shaly sands.

BIOGRAPHY:

Dr. Michael T. Myers (Associate Professor, Ali Daneshy Endowed College Professor, University of Houston)

Dr. Myers has twenty five years research experience in rock and fluid properties at Shell International Exploration and Production. He served as an Adjunct Faculty at UH before joining the department full time. His research areas of interest include static and dynamic properties of porous media. He has a Ph.D. in Physics in Nonlinear Optics, from University of Michigan, M.S. Physics, from University of Michigan and B.S. Physics from Michigan Technological University.

Dr. Lori Hathon (Assistant Professor, University of Houston)

Dr. Hathon was senior research geologist for Shell International E&P, Inc. before she joined the UH Cullen College faculty. For more than two decades, her work has focused on routine and special core analysis, clastic petrology, reservoir quality analysis and predictive modeling, applications of image analysis to rock physics, organic petrography and thermal maturity analysis. Her experience has also included well-drilling operations and post-well appraisals. She has Ph.D. from University of Missouri.



SPWLA Houston Chapter Networking Event

III Date: Thursday, Nov. 21, 2024

O Time: 5:00 PM – 8:00 PM (US CDT)

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

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 a variety of fields including Petrophysics, Geology, Geophysics, Engineering, and Management. You'll also have the chance to mingle with both current and past SPWLA international board members and recognized industry leaders.

This event will be partly outdoors, so please dress accordingly! 🔷 🍹

Mark Your Calendars:

We're also excited to announce our next event on Jan. 30, 2025, at the same time and location!

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!

SUMMARY OF THE NEWSLETTER

In this edition of the newsletter, we are excited to share the successful organization of numerous events and seminars designed for researchers, engineers, petrophysicists, and professionals across the oil and gas industry, as well as those focused on the growing field of energy transition. These events served as valuable platforms for networking, knowledge exchange, and the latest advancements in technology and research.

Our efforts aimed to bring together experts and thought leaders to discuss key challenges and innovations in their respective fields. We are proud of the engagement and the strong sense of community we have built so far. Looking ahead, we remain committed to organizing more impactful events to further develop and expand the SPWLA community, providing opportunities for collaboration and continuous growth in the energy sector.