



spwla today

Welcome to the
SPWLA
62nd Annual
Symposium



NEWSLETTER

You're ready. Is your LAS data?

- *Spending too much time fixing your LAS files?*
- *Putting too much effort into organizing your data?*
- *Frustrated trying to find just the data you need?*

If any of this sounds familiar, get LAS WORX working for you. It's easy to use—be up and running in minutes, quickly cleaning and organizing your LAS data, one file or thousands at a time. Come find out how LAS WORX, the industry's leading solution, is being used to:

- Locate and index over 25,000,000 LAS files, without having to move a file!
- Fix and standardize over 20,000,000 LAS files, saving more than 3 million hours!
- Store and share over 10,000,000 LAS files, with the newest added feature!

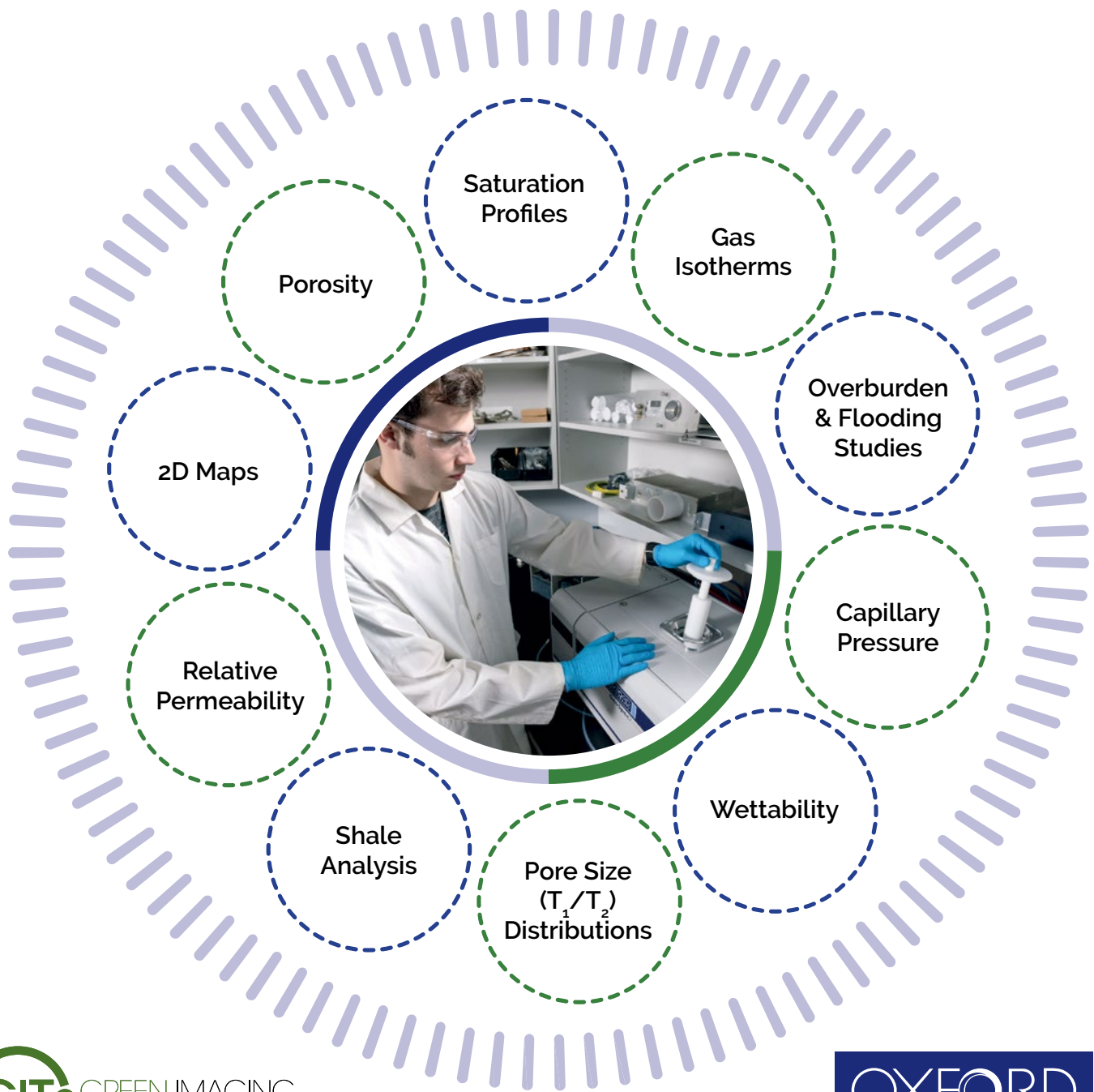
***Don't waste another minute.
Go to LASWORX.com to learn more
and start your free* evaluation.***

*Some restrictions apply.

Make NMR core analysis routine with GeoSpec

Contact us now to discuss your core analysis requirements.

No NMR expert, no problem



INSIDE THIS EDITION

Calendar of Events.....	05
From the President	06
From the Editor	08
Board of Directors Reports	
Up Next	09
Tech Today	10
Learning Opportunities	11
Regional Understandings	
North America 1 & 2	14
Latin America	16
Articles	
A Brief History of Schlumberger (Part 1 of a 5-Part Series)	17
Oilfield Wakeup Calls.....	21
The Joy of Trophy Hunting	22
Petrophysics Quiz and Delightful Statistics.....	23
Throwback Thursday	31
The Bridge	
New Skillset for Petrophysicists in the Age of Big Data.....	35
An Interview With Clara Palencia: Past SPWLA Scholarship Recipient	38
Crossword Puzzle	41
Chapter News.....	43
New Members.....	65





President
James Hemingway
Consultant
Manitou Springs, CO, USA
(+1) 281-433-5170
President@spwla.org



**VP Finance, Secretary,
and Administration**
Doug Patterson
Baker Hughes, a GE Company
Houston, TX, USA
(+1) 713-879-4056
VP-Finance@spwla.org



President-Elect
Katerina Yared
SM Energy
Highlands Ranch, CO, USA
(+1) 720-431-7482
President-Elect@spwla.org



VP Publications
Songhua Chen
Halliburton
Houston, TX, USA
(+1) 281-687-9559
VP-Publications@spwla.org



VP Technology
Tegwyn Perkins
Lloyd's Register
Houston, TX, USA
(+1) 713-670-4976
VP-Technology@spwla.org



VP IT
Lin Liang
Schlumberger-Doll Research
Cambridge, MA, USA
(+1) 617-335-4469
VP-InfoTech@spwla.org



VP Education
Fransiska Goenawan
Halliburton
Houston, TX, USA
(+1) 346-401-8201
VP-Education@spwla.org

REGIONAL DIRECTORS



N. America 1
Robin Slocome
Schlumberger
Houston, TX, USA
(+1) 281-690-0837
Director-NA1@spwla.org



Middle East/Africa
Nelson Suarez
Dubai Petroleum Establishment
Dubai, UAE
(+971) 504-528576
Director-ME@spwla.org



N. America 2
Kelly Skuce
Core Petrophysical Consulting
Calgary, Canada
(+1) 587-228-0203
Director-NA2@spwla.org



Asia and Australia
Jennifer Market
MPC Kinetic
Perth, Australia
(+61) 417-598-269
Director-Asiapacific@spwla.org



Latin America
Bruno Menchio Faria
ENEVA
Rio de Janeiro, Brazil
(+55) 219-9140-150
Director-LA@spwla.org



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



Europe
Craig Lindsay
Core Specialist Services Ltd.
Aberdeenshire, United Kingdom
(+44) 7530-040117
Director-Europe@spwla.org



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

Publication Manager
Anna Tarlton
InkSpot Printing
2301 S. Shaver
Pasadena, TX 77502, USA
(+1) 713-472-1100
orders@inkspotprinting.com

CALENDAR OF EVENTS

May 15–20, 2021

SPWLA 62nd Annual Symposium
Online–Virtual Event
www.spwla2021.com

June 8–10, 2021

Practical Geomechanics Training Class
Instructor: Tom Bratton
www.spwla.org

September 15–17, 2021

The 12th UPC International Symposium
Hosted by: The East China Chapter of SPWLA
Theme: “New Well Logging Techniques”
www.spwla.org

September 30–October 1, 7, 8, 2021

The 26th JFES Formation Evaluation Symposium
Virtual Event
Special Session: “Integrated Evaluation”
<http://jfes-spwla.org>

October 21–22, 2021

SPWLA Topical Conference
Topic: “Unconventional Petrophysics”
Houston, TX
www.spwla.org

About the Cover

The Boston Chapter is excited to partner with SPWLA to host the 62nd Annual Symposium Online on May 17–20. Making the Annual Symposium a virtual event for 2021 is absolutely the correct decision for SPWLA and our members. The Annual Symposium Online makes our flagship event accessible to our entire community at a time when global health and economic headwinds both make it practically impossible for our members to travel and meet in person.

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

From the President



James Hemingway
2020-2021
SPWLA President

This will be my last column as President of the SPWLA. Time has really flown by, but all things considered, that is a good thing. The year 2020 couldn't go away fast enough. It's certainly been an unusual term, starting with the Banff symposium, which had to be held online, and ending with the Boston symposium, which will also be online. It is sad having to miss both symposiums, but we have to be adaptable.

It was almost 40 years ago (May 4, 1981, to be exact) that I became a member of the SPWLA. I have learned a great deal from the members of this society and feel that I owe a debt of gratitude to so many. We've seen good times and bad times, a cycle that keeps repeating. One thing that I have learned is that the future is not only unpredictable but that we should never listen to anyone who thinks they know what will happen next. Unless, of course, you predict that change will happen, in which case you will always be correct.

I thought I was starting to make a proper interpretation of our business cycles when it appeared that the business cycles were getting shorter. But then, 2014 hit and then the pandemic, so now we have a downturn in the middle of a downturn. There is no doubt that since I hired on with Schlumberger in 1979, this is the worst oilfield recession we have ever seen. But, let's stay positive. Things will improve. I'm just not saying when.



2020 in pictures. Los Angeles International Airport, October 2020.

I'd like to welcome the newly elected Board of Directors who will take office during our online symposium next month. I'd also like to welcome Mathilde Luycx, who will be our first Vice President of Social Media.

Going back to my comment in the first paragraph about being adaptable, this is something that needs to be applied to technology as well as our business planning. There will be downturns when low-cost innovation will be the key to success for our profession. Likewise, there will be new environments and upturns in business when new ideas, new technology, and thinking out of the box will be crucial. Our profession evolved from simple decision-making solutions for porous clastic environments as published in Archie's seminal 1942 paper and evolved to include carbonates, shaly sands, low porosity, etc. We've tweaked (and sometimes tortured) Archie-based solutions to be adapted for nearly every imaginable environment over the past 75+ years.

Perhaps it's time, or past time, to step completely out of the box and look at alternative decision-making answers. The number of techniques we have available today for making completion decisions goes far beyond what we relied on 40+ years ago and what, for the most part, we continue to rely on today. In particular, I am referring to the unconventional resources that we hear so much about but do not mention much within our profession. This is not due to a lack of interest but most likely due to the simple fact that many of these new wells are not being evaluated using conventional formation evaluation techniques. Therefore, completion designs are not using the types of data collected in the past. This is not something we need to accept.

From the President

Our profession's survival requires that we broaden our perspective based on all available measurements available to us today and not be afraid of stepping away from traditional empirical techniques that were spawned nearly 80 years ago. Porosity and water saturation will always be useful, but in many cases today, they are not the most valuable pieces of information we need to design a proper completion. Openhole, casedhole formation evaluation (CHFE) and logging while drilling should not compete with each other any more than an induction measurement would be a competitive threat to a density log. We need to be open to choosing the best tool for the environment where we are operating.

Please join us in May at our online symposium. Since we have had more time to plan for this one, we are trying to make it similar in format to a traditional in-person symposium. That canned Boston clam chowder may not be as good as actually being in Boston, but the technology will still be the best.

Thanks for having me as President for the past year. The SPWLA will be in the hands of a very capable and experienced board for 2021–2022. I'm looking forward to seeing many old friends at our "hopefully in-person" symposium in 2022.

Best Regards,
James Hemingway
SPWLA President 2020–2021



"A man outstanding in his field." Except, it's not actually mine. Now that I'm retired, I plan on standing in as many fields as possible and spending my free time promoting the use of more science in completion designs. 😊

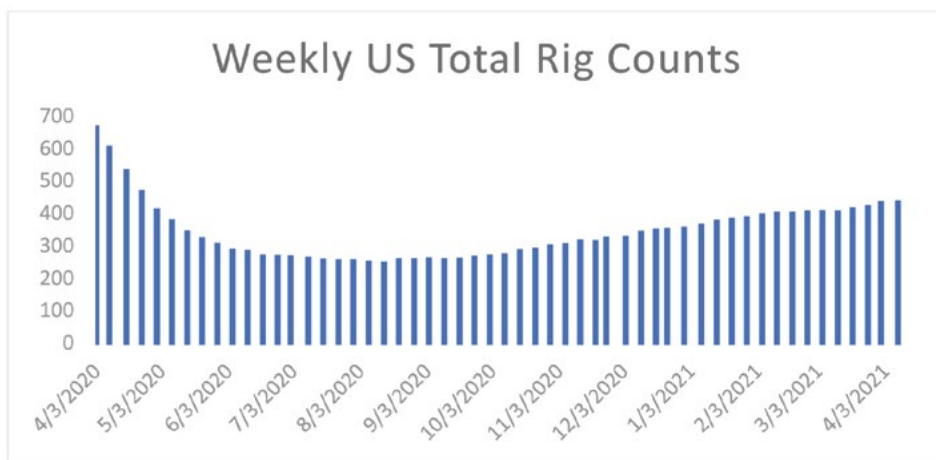


Songhua Chen
2021–2022
Vice President Publications

Greetings and welcome to the May 2021 issue of *SPWLA Today*. This is my first column as VP Publications, and I’m honored to have this opportunity to lead SPWLA publications, including this newsletter and *Petrophysics* journal. I would like to thank my predecessor, Mayank Malik, for doing a wonderful job of getting the publications out on time during the difficult COVID-19 pandemic and under a tight budget. Under his leadership, several tutorial articles have been recently published, which are well liked. Mayank also wrote excellent columns that captured the then-current local and global events that are relevant to the SPWLA, the industry, and all of us. Even though I do not know Mayank very well personally, reading his columns made me feel like I could easily strike up a conversation with him. I also thank Elizabeth Naggar, managing editor for both *Petrophysics* and *SPWLA Today*, whose experience and dedication to editorial work are so valuable to the success of both. I have known Elizabeth for years. She has edited many of my publications at Baker Hughes and later at Halliburton. I am so grateful for her help and feel very fortunate to work with her in this new capacity.

The global pandemic of COVID-19 has completely changed how we live, work, socialize, communicate, and travel—beyond anyone’s imagination prior to the pandemic. Many of these changes hit the petroleum industry extremely hard, and some of these transformations may become permanent even after the pandemic ends. SPWLA is a society that always welcomes new challenges, and its determined members always meet the challenges by creating new and better methods of formation evaluation and reservoir characterization, which makes oil exploration and production safer, cleaner, cheaper, and more efficient. Much of the technology advancements are recorded in the SPWLA publications and the idea exchange events that are announced in the *SPWLA Today* newsletters. I encourage all our SPWLA members to share their ideas by participating in these events and contributing to the body of knowledge in the SPWLA publications.

With the acceleration in vaccine production, distribution, and administration, ending the global pandemic is nearer. I noticed that freeways in Houston were much busier in April 2021 than in April 2020. Though still way below the pre-pandemic level, the US weekly total rig counts show a steady increase starting last summer, indicating the worst is probably behind us. It is still very challenging, and in some countries, the fourth wave of COVID-19 still hits hard, including some states in the US. We should continue to exercise caution and follow the CDC and WHO guidelines on prevention. Hang in there! Take care of yourself and your loved ones. Together, we will ride out the pandemic, ride out the downturn of the oil industry, and become stronger than ever, both physically and economically.



Weekly US total rig counts from April 2020 to April 2021. (Source: Baker Hughes)

Enjoy the spring and keep safe and healthy!

Songhua Chen
Vice President Publications
songhua.chen@halliburton.com
(281) 687-9559



Katerina Yared
2020-2021
SPWLA President-Elect

Dear SPWLA Members,

We are very excited to welcome a new board, whom I have the honor to be leading through our 2021–2022 term.

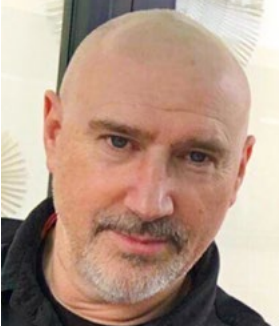
Our society has benefited greatly from our officers and board members in the past year, and we sure want to keep the momentum going. If you would like to volunteer, we have many opportunities for volunteers to contribute to the success of our society. From our members to our members.

I always invite feedback from our members, and I will make it a point to reach out to as many members as possible. I hope you all will enjoy our virtual symposium, and I really hope for us to meet in person in Norway at #SPWLA2022!

Sincerely yours,

A handwritten signature in blue ink that reads "Katerina Yared". The signature is fluid and cursive.

Katerina Yared
SPWLA President 2021–2022



Tegwyn Perkins
2020–2021 Vice President
Technology

Hello and welcome to my sixth column for the *SPWLA Today* newsletter. This will be my final one as VP Technology, but I am grateful to the membership for electing me to President-Elect for 2021–2022. Thank you!

We are less than a month away from the SPWLA 62nd Annual Symposium, and preparations are almost complete. I believe we have an excellent program of events lined up, including four workshops, a keynote speaker, a panel discussion on “The Future of Petrophysics,” and of course, presentations on all facets of petrophysics and formation evaluation.

From a total of 251 submitted abstracts, we have accepted 119. A complete listing of accepted abstracts and authors can be found [here](#), and a booklet with full abstracts can be found [here](#). All presentations will be delivered as prerecorded videos with a live Q&A to follow.

During the symposium week, we will be using Pheedloop (<http://pheedloop.com>) to deliver the technical sessions. Pheedloop provides a completely virtual event with an exhibit hall, sessions streaming, and networking facilities. Registrants receive a single sign-on and will have access to all the events they are entitled to from the event lobby. This year’s format will feature dual sessions,

and all presentations will be made available on-demand, so if you miss one, you can catch up later.

We also have a diverse selection of workshops available. They will be held during the week before the symposium (i.e., May 10–13) as we don’t expect you to give up your weekends for an online course! Featured courses include:

- Uncertainties in Petrophysics: Methods of Statistical Analysis
- Petrophysics Role in the Energy Transition
- SPWLA Workshop on Machine Learning and Artificial Intelligence
- Petrophysical Rock Typing From Empirical to Probabilistic Methods Including Validation

More details about all of these events are available on <http://spwla.org> and <http://spwlaworld.org>.

Please don’t hesitate to contact me at VP-Technology@spwla.org with any thoughts and suggestions you have in regard to the symposium arrangements.

If you have submitted an abstract anytime in the past three years (i.e., using the WP Abstracts software), please consider completing this short survey to let us know what your experience was like. We are always looking to make improvements to the system, and your constructive feedback would be welcome: <https://www.spwlaworld.org/abstract-submission-survey/>. We will publish the results from the survey in the next edition of *SPWLA Today*.

As this is my last column as VP Technology, there are several people I would like to thank. First, no one can handle the amazing amount of digital paperwork that this position yields without the support of Stephanie Turner at the SPWLA Business Office. It is amazing what she is capable of and always provides support for the incumbent. Secondly, Paul Craddock, the chairman of the Organizing Committee, took on this role expecting to have an in-person symposium for Boston, but we transitioned mid-year to an online event. He accepted the challenge without hesitation and has been a huge driving force in what we have achieved.

I would also like to thank my manager, Derek Crombie, and my company, Lloyd’s Register, for supporting me in this adventure over the past year. I don’t believe that we anticipated just how much work would be involved in organizing a technical conference, but we sure do now. I think it was compounded by the fact that I have also been responsible for the symposium website and the abstract submission software. I suspect that there will be a couple of volunteer positions appearing on the SPWLA Notice Board before next year’s event kicks off.

Finally, I would like to thank my wife, Julie, for providing me with comfort and support not just through the year but for as long as I have known her. She has also been drafted in on numerous occasions to work on the symposium website.

Diolch am eich holl gefnogaeth! Nos da pawb.
Thanks for all your support! Goodnight, everyone.

Tegwyn Perkins
Vice President Technology 2020–2021
VP-Technology@spwla.org

Learning Opportunities



Fransiska Goenawan
2020-2022
Vice President Education

Dear SPWLA Colleagues,

I hope everyone is safe and healthy!

It's been nearly 18 months since the COVID-19 pandemic began at the end of December 2019. Since then, the virtual meeting has become a key component for members to meet. Thank you to all SPWLA Chapters that trust the SPWLA GoToWebinar platform as part of your success in conducting your monthly webinar:

1. SPWLA Bakersfield Chapter
2. SPWLA Bangkok Chapter
3. SPWLA Boston Chapter
4. SPWLA Brisbane Chapter
5. SPWLA DPS Chapter
6. SPWLA French Chapter
7. SPWLA Houston Chapter
8. SPWLA New Orleans Chapter
9. SPWLA Oklahoma City Chapter
10. SPWLA Tulsa Chapter
11. SPWLA UT Student Chapter
12. Formation Testing SIG
13. High-Angle High-Horizontal SIG

I hope that with the vaccines, the situation is improving, and finally, we will be able to have face-to-face meetings again. Until then, GoToWebinar is always open for you to reserve. Please kindly contact me to schedule your next monthly meeting.

Special thanks to all 2020–2021 SPWLA Distinguished Speakers and Global Distinguished Speakers. Thank you for all your services, effort, and support to continuously share your work with all SPWLA members.



An upcoming SPWLA webinar will be held on May 6 with the topic “Revealing Hidden Information: High-Resolution Logging-While-Drilling Slowness Measurements and Imaging Using Advanced Dual Ultrasonic Technology” (SPWLA 5077) by Matthew Blyth (Schlumberger).

I would like to share my appreciation for the More You Know Series Speakers and Katerina Yared, who put her heart 100 percent into the series. I also would like to thank all Nuggets of Wisdom Speakers who dedicated their time to share their wisdom through this channel. If you are interested in sharing your nuggets of wisdom, please kindly contact me!

Recordings of past webinars of the Distinguished Speakers Series are available at [knowledgette.com](https://www.knowledgette.com). Kindly access SPWLA TMYK and SPWLA Nuggets of Wisdom via the SPWLA YouTube Channel. Please don't forget to subscribe, like, and share! At this time, I would like to thank Lin Liang for diligently maintaining the SPWLA YouTube Channel.

We have had great success with our SPWLA Short Courses: Petrophysical Multimineral Analysis by Patricia Rodrigues, Practical Geomechanics by Tom Bratton, and NMR Data Fundamental/NMR Data Intermediate and Advanced Interpretation by Brian Stambaugh. Another milestone reached was conducting the first short course in Spanish, “Análisis Petrofísico Multimineral” by Patricia E. Rodrigues, PhD. Information about upcoming courses is available on the SPWLA webpage. If you have any ideas about what course should be next, please email me at vp-education@spwla.org.

Learning Opportunities

The 2021 International Student Paper Contest is almost here! The final round will be held on May 16, preceding the 2021 SPWLA Annual Symposium, and there will be free access for all members and non-members of SPWLA. Please join us as we present the first, second, and third place winners for each category. We will announce the link to register for the event soon.

I am grateful for having such a wonderful VP of Education Team: Haryanto Adiguna, Tianmin Jang, and Mathilde Luycx. Mathilde, congratulations on your new role as VP of Social Media. I believe social media is in good hands. I also offer my great appreciation to Katerina Yared for being such a fantastic advisor for the 2020–2021 period. Thank you so much for the great collaboration this year to President Jim and outgoing BOD (Lin, Mayank, Kelly, Doug, Jennifer, and Craig). I also extend a warm welcome to the new BOD.

Lastly, thank you for being a faithful member of SPWLA, and I look forward to better serving you in 2021–2022! Stay safe and keep on learning!

Kindly regards,
Fransiska Goenawan

VP-Education@spwla.org

Follow us on social media: @SPWLA SocialMedia (Linkedin) | @Society of Petrophysicists and Well Log Analysts (Facebook) | @spwlaorg (Twitter)

Regional Understandings - North America 1



Robin Slocombe
2020-2022 North America 1
Regional Director

Over the past few weeks, I have been continuing my duties for North America on the board of directors while based in Qatar. It seems every time I get a position with SPWLA, it is shortly followed by a letter of assignment!

Despite the time difference, I have been kept up to date with plenty of activity from the North American chapters. I have yet to hear of any in-person events, but I am sure it is only a matter of time. I am grateful to be in the privileged position to be vaccinated, and it is clear from reports from around the world that this crisis is still a significant threat. Please remain vigilant, stay safe, and follow the health protocols.

Texas Tech University held its Internal Student Chapter Paper Contest on Thursday, March 11, 2021. Katerina Yared and I were fortunate to be invited by Sunita Pathak to be external judges. The winning paper was Pore Pressure Prediction Using Model-Based Seismic Inversion and Downhole Measurements by Mr. Sajjad Esmailpour. Second place was Mr. Nelson Tatsipie with Generating Pseudo Well Logs for a Part of the Upper Bakken Using Recurrent Neural Networks, and Third Place went to Mr. Nitin Kulkarni, who presented Dynamic Formation Evaluation for Calibration of the Estimated Pore Pressure. Congratulations to everyone who participated.

Events such as these at Texas Tech benefit greatly from the support of larger, nearby city chapters. The board of the Houston Chapter, led by Javier Miranda, has generously donated \$500 each to the student chapters at Texas Tech, Texas A&M at Kingsville, and the University of Houston Chapters. My sincerest thanks to the Houston team for this valuable gesture.

Finally, I will continue to support the other members of the board of directors and the organizing committee for the Boston conference as we make the final touches to this year's event and the 2021 awards. Please stay safe and healthy, everyone!

Robin Slocombe
North America 1 Director
(+1) 281-690-0837
Director-NA1@spwla.org



Kelly Skuce
2019-2021 North America 2
Regional Director

Hey All,

So, as you probably already know, I didn't win the election for a new Board position. The new position of VP Social Media is a long time coming for the SPWLA. The position actually has a number of responsibilities, which were taken up by a number of others and done by committee. I am glad we have this new role as a VP on the Board of Directors. It shows how the Society has grown in its reach past its roots. We still have a long way to go to get away from the Houston mothership. This past year has done a number to a lot of ideas we wanted to expand and prevented us from meeting with other groups of petrophysically minded people. But, the virtual meetings, webinars, and technology that allow us all to "see" each other despite our vast distances have also seemed to make us closer. I congratulate all the winners of the election and hope they excel in their new roles. It was a great two-year ride as the Regional Director. However, I am not out yet as I have volunteered my time on several committees (Education SIG, Technical Committee, Scholarships and Grants, etc.), so you may still hear from me. I may even be back on the Board again. Only time will tell.

I wanted to also talk about a topic, which became a soapbox rant recently for me. I have been providing beginner and basic petrophysical log analysis courses to university and young professionals in the geoscience realm for about 5 years now. I don't know if I am any good or my material is that good, but they keep coming back and wanting me to do it again. I just ran two courses in March offered through the Canadian Society of Petroleum Geologists (CSPG). Each one was 4 hours of lecture on basic log interpretation and evaluation. It is mostly drinking from a fire hose for the students, and many have that deer-in-the-headlights glassy stare when I am done.

However, one student asked me what I think of the future of the role of petrophysicists. He asked about how we don't acquire logs in a lot of the mostly infill horizontals (in North America) and how machine learning and AI are a catch-all for everything now. I answered the easy part first. Automation in petrophysics is great to help get through the monotonous portions of data munging, but once interpretation takes over, there must be a trained eye upon it. Mistakes are too easily made by not keeping track of what the software is doing.

I don't think the rest of my answer was what he and the other students were expecting. I said, ***"There is no other role out there in the subsurface realm whose sole responsibility is to interpret the data we retrieve from downhole drilling and logs. Not to put anything against the geophysicists in the crowd, but that is where we live. When drilling a new well or looking at older wells, it does not matter if it was drilled for hydrocarbon, water, geothermal, carbon capture and storage, mining, or anything else. If they acquired logs at any time during the life of the well in question, there must be someone to interpret it. That is where the petrophysicist comes into focus."*** I also mentioned if you have not seen Steve Cuddy present his paper on "The Benefits and Dangers of Using Artificial Intelligence in Petrophysics" yet, I highly recommend it.

In closing, thanks for all the support from the regional chapters and the people who supported my position on the SPWLA.

"Open the pod bay doors, HAL,"

Kelly Skuce
North America 2 Director
(+1) 587-228-0203
Director-NA2@spwla.org

Regional Understandings—Latin America



Bruno Menchio Faria
2020–2022 Latin America
Regional Director

Hello Petrophysical Community,

First of all, I would like to welcome all the new members of the Board and wish them a lot of success and good luck in their terms.

The professional chapters of Argentina and Brazil presented some great lectures related to the themes of Machine Learning, Non-Conventional, and Multimineral Analysis. The UFRJ (Brazil) and UIS (Colombia) Student Chapters maintain their regular activities and lectures, and we will have news from them soon. These brilliant students always surprise us with their excellent ideas.

I would like to congratulate all the organizers and participants of the first Multimineral Petrophysical Analysis course in Spanish, especially Patricia Rodrigues, for the excellent course and all the effort to carry out this course in Spanish.

I am excited about the forthcoming arrival of the annual SPWLA symposium. I participated as a member of the Technical Committee and in selecting the best abstracts for the Student Paper Contest. I will also be on the panel of judges that will select the awarded works. We will soon watch

the presentations of the selected papers and debate on the most current and relevant topics in petrophysics.

Stay tuned for the workshops that will take place before the beginning of the annual symposium. Relevant themes like petrophysical uncertainties, the role of petrophysics in the energy transition, machine learning, and rock typing will be discussed. Excellent discounts will be given to students and individuals who are unemployed.

I will participate in the 3rd Annual Guyana International Petroleum Business Summit & Exhibition, where I will lecture on the importance and benefits of becoming a member of the SPWLA. The event will take place in June, and it will be a great honor to represent our professional society.

I would like to recognize the UNI Student Chapter of Peru, which is in the process of opening the first chapter in this South American country. These initiatives bring me a lot of enthusiasm and the perception that despite the hard times we have been facing, science does not stop. Let's keep things going!

Kind regards,

Bruno Menchio

Latin America Regional Director

Director-LA@spwla.org

<https://www.linkedin.com/in/bruno-menchio/>

A Brief History of Schlumberger

An Introduction by Philippe Theys

Married for almost 50 years, I often repeat that I could not have married another woman. After spending 32 years with Schlumberger, I often repeat that I could not have worked for another company.

My educational background definitely did not direct me towards the oil industry. My plasma physics degree was more a foundation for research on controlled fusion. Fortunately, for the previously mentioned wife, I did not work in this field, as, of today, controlled fusion still does not work.

I had the opportunity to contribute (a little) to Mark Mau's book, *Groundbreakers* (coauthored with Henry Edmundson). So, when I discovered his article, "A Brief History of Schlumberger," almost by accident on the web, I quickly inquired if it could be included in the *SPWLA Today* newsletter. "A Brief History of Schlumberger" initially appeared in the 2016 *Oil-Industry History*, Volume 17, pages 111–140. Mark promptly and efficiently contacted the Petroleum History Institute, publisher of *Oil-Industry History*. They generously agreed.

Though my blood is essentially blue and white, this article is by no means a recruiting exercise for Schlumberger. If you are looking for a job, please collect more recent information. I have met extraordinary people outside of Schlumberger. I will only mention one among many others, Marvin Gearhart. His name, not his person, was a nightmare for me 40 years ago. At that time, he was a fierce and smart competitor. Since then, we have had very pleasant and productive discussions until he died in 2019. For this very reason, I invite "senior" and "retired" SPWLA members to contribute historical articles on their companies. I bet that this information would not be boring and would benefit *SPWLA Today*. After all, digging into all those years BC (before computer) could be useful. George Santayana writes, "Those who cannot remember the past are condemned to repeat it."

Mark's original opus was 30 pages long. We have cut it into five pieces. To avoid any spoilers, I mention only Part 1: The Beginnings.

Philippe Theys

A Brief History of Schlumberger

By Mark Mau

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

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

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

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

INTRODUCTION

The values of Schlumberger—people, technology, and profit—go back to the beliefs and ethical standards of the Schlumberger family. The two brothers Conrad (1878–1936) and Marcel Schlumberger (1884–1953) who created Schlumberger in 1926 descended from a wealthy Protestant family in the textile business of Alsace, France. The family belonged to the small Alsatian elite in trade and industry that shared the Protestant faith in a predominantly Catholic region. As any minority, the Schlumbergers showed discretion and actively sought to stay off the skyline. They didn't display their wealth and continuously invested profits into their business. In 1905, the German sociologist Max Weber analyzed this particular Protestant way of working in Alsace and elsewhere in the world, especially in the US with successful Protestant businessmen such as Andrew Carnegie and John D. Rockefeller. Weber published the results in his essay *The Protestant Ethic and the Spirit of Capitalism* arguing that Protestantism promoted the rise of modern capitalism and saw the protestant entrepreneur as bearer of the distinctive characteristics of modern capitalism. The Schlumberger family can be seen as a paragon of modern capitalism and the Protestant work ethic.¹

Discussing the roots of the company culture in 2010, Nicolas Seydoux, one of Marcel Schlumberger's grandsons and former member of the Schlumberger board of directors recalled how his grandfather was convinced that the success of Schlumberger was based on "hard work, imagination and the tenacity to find a solution no matter what." Seydoux explained the unique respect for money: "In the Schlumberger family, money was not something to be embarrassed about. There was a strong Protestant work ethic, as well as the belief that hard work deserved a fair reward. However, money was never an end in itself. It was the means to do something else: For the company, money is the means to invest in technology so it can be the best; to be the best so it can be profitable; to be profitable so it can be independent."²

The beliefs and ethical standards of the Schlumberger family were practiced by the leaders who followed Conrad and Marcel Schlumberger, from Marcel's son Pierre to Jean Riboud, to Michel Vaillaud, to Euan Baird, to Andrew Gould and to the present CEO Paal Kibsgaard. This article describes the entrepreneurial roots of Schlumberger and portrays the impact of Schlumberger's leaders on the development of the company. It shows how the company culture has played and continues to play a crucial role for the company's growth and success.

THE ENTREPRENEURIAL ROOTS OF SCHLUMBERGER

Alsace was one of the earliest industrialized regions of the European continent. The textile industry was a cornerstone in the development of the region. The first Alsatian manufacture of Calico printing appeared in 1746 in Mulhouse. In the late 18th century, Peter Schlumberger, the great-great-grandfather of Conrad and Marcel Schlumberger, started a company in cotton-weaving, and in 1810, Peter's son Nicolas constructed a new factory (Fig. 1).³

In the late 1820s, Peter's grandson and Nicolas' nephew, Jules-Albert Schlumberger, worked as the company's account director and took regular notes. In 1829, he revised the inventory and found that the cotton was valued at 1,700 Francs, 600 Francs higher than the current market price. Jules-Albert Schlumberger wrote, "We think we're richer than we are, we are having the illusion that the expenses are in line with our income, and in the end, we will find ourselves at the edge of an abyss, the fall will be inevitable." But Schlumberger didn't fall—thanks to Jules-Albert's sound financial management, the Schlumberger family business was saved. He was also a gifted innovator, and in the 1830s he invented a mechanical velvet-weaving machine that gave the Schlumberger factory an important competitive edge.⁴

When Jules-Albert's cousin and Nicolas' son Jean Schlumberger joined the company in 1843, he found a business in good shape. Jean, the grandfather of Conrad and Marcel, managed the family business until 1902 and, following his father Nicolas' retirement in 1865, he owned the company with his younger brother Adolph. Jean was managing the factory and the day-to-day business, whereas Adolph was responsible for the mechanics workshop. Jean Schlumberger in particular reflected the deliberate family attitude toward the use and cultivation of capital, and with his nearly 60 years in the family business, Jean shaped the company as no one else did. He was modest and disciplined. Conrad and Marcel's elder brother Jean, the writer and co-founder of the *Nouvelle Revue Française*, remembered in his autobiography: "They [the grandparents Jean and Clarisse] treated the grandchildren with a totally administrative uniformity: every grandchild received 20 marks at Christmas, five marks at a birthday, and a golden watch at the first communion. Never the smallest manifestation or special kindness for any of the grandchildren."⁵

Grandfather Jean was more interested in politics than in business as Conrad and Marcel's brother Jean recalled: "Before politics absorbed him, he went to work at the factory very punctually, more as a traditional duty than as a choice." He served as president of the local parliament of Strasbourg, and in 1902 he was ennobled by the German Kaiser (Alsace was a part of the German Empire from 1870 to 1918). His name changed to Jean de Schlumberger. None of Jean de Schlumberger's descendants adopted the noble title, though.⁶

Paul, Conrad and Marcel's father, was the first Schlumberger who showed academic ambitions. In March 1871, in a letter to his parents, he wrote, "It would be wonderful if business and industry would suit me, but I don't have the needed qualities. The

A Brief History of Schlumberger

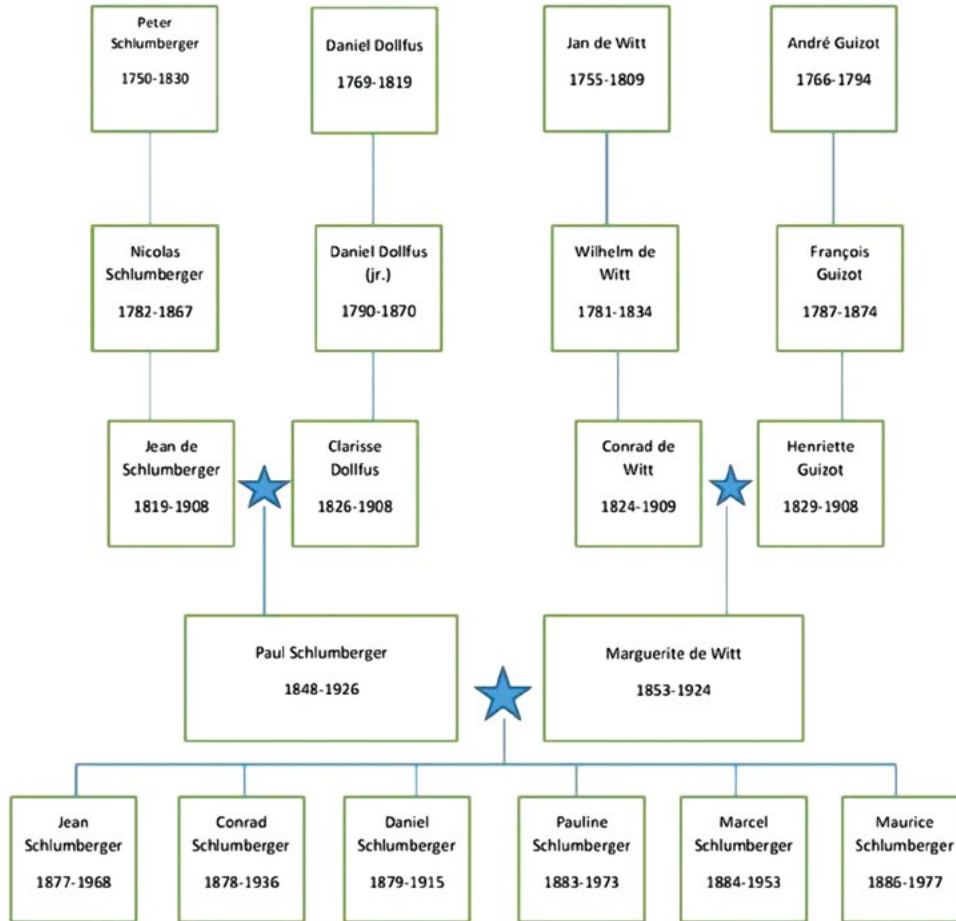


Fig. 1—Family tree of the Schlumberger family, showing Conrad and Marcel Schlumberger, their siblings, and selected ancestors. The stars indicate marriage.

study in the sciences attract me much more. I would like to become a professor.” However, Paul had to join the family business in the end, although he was able to work for his uncle Adolph in the mechanics workshop where he found himself closer to the sciences than in the management offices.⁷

In 1876, Paul Schlumberger married Protestant Marguerite de Witt, a member of the social purity movement and campaigner for women’s rights. Marguerite’s parents were Conrad de Witt, a local conservative politician from Normandy who represented the Calvados department in the French National Assembly, and Henriette Guizot, a writer and daughter of François Guizot, a historian and statesman, notably a minister of Louis Philippe, the last king of France (1830–1848).⁸

Marguerite and Paul’s second child, Conrad, was, like his father, passionate about the sciences and mathematics. His brother Jean wrote in his 1949 biography about Conrad: “At the age when he was learning rudimentary geometry, a fierce dispute with his tutor resonated throughout the entire house. He had revolted against Euclide’s Postulate and upheld that there was no reason that one could not, through a given point, draw several parallels to a line.” Marcel felt most attracted by the machinery at the family’s factory. He was intrigued by mechanics and loved it when his father Paul took him to the factory to experiment with spinning machines. At ten, he won a prize given by the magazine *Mon Journal* for the design of a churning machine. At fourteen, he fixed his father’s car (Figs. 2 and 3).⁹



Figs. 2 (left) and 3 (right)—Conrad (1878–1936) and Marcel Schlumberger (1884–1953), the brothers who founded Schlumberger in 1926 (courtesy of Schlumberger).

Both Conrad and Marcel left Alsace as teenagers in the 1890s because the law prescribed that they had to settle in France to keep their French citizenship and continued their education in Paris where they lived with their maternal grandparents. In school, Conrad distinguished himself by his “thorough and well-done work.” Marcel was more outgoing and impulsive than Conrad. One day at school, he used his inventive mind to compensate for an uncharacteristic moment of laziness: after failing to prepare for an exam, he poured oil in the inkwells, thus disabling the penholders.¹⁰

Marcel became an engineer, graduating from the École Centrale Paris, one of the oldest and most prestigious engineering schools in France, in 1907. After obtaining his degree, Marcel was hired by Decauville, an industrial railways company, and designed locomotives. But this job didn’t match his ambitions, so he left and opened a machine shop near the Bastille area in Paris where he built an automatic gearbox. In the early 1910s, Marcel gained his first exploration experiences as he joined a number of French mining companies, such as Charbonnages d’Heraclée, Mines de Bor and Mines d’Ouasta et Mesoula, exploring for copper, coal and lead in Serbia, Turkey and Algeria.¹¹

Conrad graduated from the École Polytechnique, France’s leading technical university, in 1900. He was appointed to the Corps des Mines, the foremost of the technical Grand Corps of the French state, and was enrolled into an elite curriculum at the École des Mines, the school of mines, in Paris. When Conrad finished his studies, he took the position of State Mining Engineer at Rodez in the South of France and later at Toulouse. Supervising and enforcing the mining laws and regulations did not suit him very well. “He needed more mental stimulation, more activity, and particularly more activity in a field that would not be so strictly materialistic,” recalled Léon Migaux, a fellow engineer at the Corps des Mines.¹²

Conrad was intrigued by the possibilities of applying physics to mining. When a Chair in physics at the École des Mines became vacant, Conrad was regarded the best choice, and in 1906, he was appointed professor of physics. In his teaching, Conrad did not try to make things appear simple by dodging the difficult questions and problems. He would explain problems thoroughly, leaving nothing in doubt.

~To be continued~

¹ LANDES, David, 2005, Family Guys: The Protestant Work Ethic and the spirit of capitalism: *The American Interest*, v. 1, no. 1 (September); LANDES, David, 2006, *Dynasties: Fortune and misfortune in the world’s great family businesses*, p. 263; WEBER, Max, *The Protestant Ethic and the Spirit of Capitalism*: London and New York, Routledge Classics, 2001; and www.slb.com/about/guiding_principles.aspx

² SEYDOUX, Nicolas, 2010, Family Values: *InterChange*, no. 41 (February), pp. 24-25

³ HAU, Michel, 1987, *L’Industrialisation de l’Alsace (1803-1939)*, Strasbourg: Association des Publications près les Universités de Strasbourg; and STOSKOPF, Nicolas, 1994, *Les Patrons du Second Empire: Alsace*: Le Mans: Picard, p. 212

⁴ TEISSONNIÈRE-JUSTIN, Paulette, 1989, “Les Schlumberger de 1830 à 1930,” in HAU, Michel, eds., *Regard sur la Société Contemporaine: Trois familles industrielles d’Alsace: Les Bussière, Les Sagli et les Schlumberger*: Strasbourg, Oberlin, pp. 121-213, here p. 134; and “Grandes familles: 20. Les Schlumberger-Seydoux,” *Les Echos*, August 28, 2000, no. 188223

⁵ LANDES, David, 2006, *Dynasties: Fortune and misfortune in the world’s great family businesses*: London, Viking, p. 265; SCHLUMBERGER, Clarisse, 1997, *Schlumberger: Racines et paysages*: Strasbourg, Oberlin, p. 193; and SCHLUMBERGER, Jean, 1950, *Éveils*: Paris, Éditions Gallimard, p. 37; and STOSKOPF, Nicolas, 1994, *Les Patrons du Second Empire: Alsace*, pp. 209-212

⁶ SCHLUMBERGER, Jean, 1950, *Éveils*, p. 38 STOSKOPF, Nicolas, 1994, *Les Patrons du Second Empire: Alsace*, pp. 209-212

⁷ SCHLUMBERGER, Clarisse, 1997, *Schlumberger: Racines et paysages*, p. 202

⁸ THEYS, Philippe, 2013, Marcel Schlumberger: *Petrophysics*, v. 51, no. 4 (August), p. 273-276, here p. 273; Schlumberger family tree, in Schlumberger Limited, History Project server, Archive SL Paris, SLP-01C01; Schlumberger family genealogy (1970); https://en.wikipedia.org/wiki/Marguerite_de_Witt-Schlumberger; and www.slb.com/about/history.aspx

⁹ SCHLUMBERGER, Jean, 1949, *Conrad Schlumberger*: Lagny-sur-Marne, Emmanuel Grevin et Fils, p. 20; and THEYS, Philippe, 2013, Marcel Schlumberger, p. 274

¹⁰ THEYS, Philippe, 2013, Marcel Schlumberger, p. 274; and “The story of Conrad Schlumberger,” *Sonde Off*, v. 1, no. 10 (July 1949), pp. 2-3

¹¹ LÉONARDON, E.G., On the death of Marcel Schlumberger: *Sonde Off*, v. 5, no. 10 (August 1953), p. 1; and THEYS, Philippe, 2013, Marcel Schlumberger, p. 274

¹² MAILLET, R., and MIGAUX, L., 1942, *Conrad Schlumberger et la Prospection Électrique*: Paris, Dunod (“Extrait des Annales des Mines, 1re et 2e livraisons 1942”), p. 10; and “The story of Conrad Schlumberger,” *Sonde Off*, v. 1, no. 10 (July 1949), pp. 2-3



Richard Bateman

Richard Bateman is a veteran of the oil patch and an occasional contributor to the SPWLA's publications, both as a petrophysicist and as a raconteur. He is now retired and living in the Appalachians.

Cock-A-Doodle-Bang

Wireline logging engineers who venture into distant lands often run across challenging situations that require a high level of ingenuity in order to solve pressing problems. Many years ago, one such case arose in far-off Patagonia where a Frenchman (who will remain nameless) had trouble with his sleeping arrangements. He was billeted in typical oil patch temporary housing in a semi-rural area on the edge of town near the service company's shop. Every morning, he was woken at dawn by a cock that crowed, very loudly, right outside the trailer house where he lived.

The rooster in question would perch on the same piece of fence wire like clockwork every morning at dawn and greet the new day with a hearty "Cock-a-doodle-do." Annoyed by this continuous sleep deprivation, the Frenchman devised a wicked plan. He taped a string of explosive prima cord to the fence wire, where the cockrel liked to perch, and hooked it up to a blasting cap. He then strung the detonator wires through his bedroom window and placed them within easy reach of his bedside, where he also had a fully charged pickup battery ready to be put to good use.

The next morning was the rooster's last. No sooner had it emitted its first crow did the sleepy logging engineer from France lazily reach out of his bed and touch the wires to the poles of the battery. The wretched bird was not immediately blown to pieces in a mess of feathers and guts as hoped for. Instead, a few remaining parts of the unfortunate bird managed to lurch round in a circle a couple of times, making gurgling noises, with a one-eyed venomous stare fixed on his executioner, before keeling over, giving up the unequal struggle and departing to the happy hunting ground. Thereafter, the Frenchman slept peacefully in the mornings.

The jury is still out on whether Marcel and Conrad would have approved of this illicit use of their company supplies for such a questionable end. My bet is that they would have given a shrug and said, "C'est la vie!"

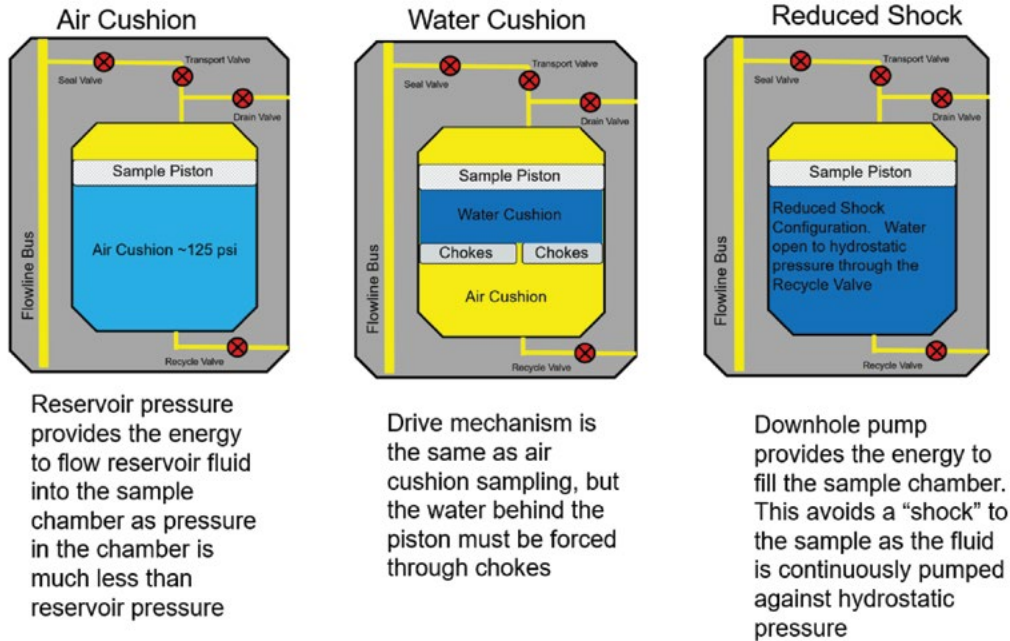
The Joy of Trophy Hunting.

Also, High-Pressure Fluid Sampling Is Impossible Without Reduced Shock Sampling Techniques

By Wade Samec

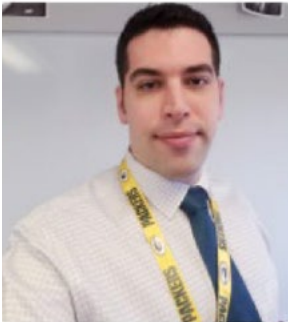
It seems so obvious now that when running a formation tester to obtain reservoir fluids, those fluids should be pumped out of the tool against hydrostatic pressure until the mud-filtrate contamination dwindles to an acceptable level. Then, a fluid sample should be captured in a sample bottle that is also balanced against hydrostatic pressure. Thus, the flow into the tool is uninterrupted, and there is no pressure drawdown or “shock” to the fluid sample and the formation. For the first seven years in the history of pumpout formation testers (1989 to 1996), this was not the case. Prior to 1996, fluid samples were captured using the “air cushion” (possibly with a throttling technique) or “water cushion” methods, neither of which are viable methods at high pressures.

Schematic of Different Sampling Techniques



I only know of one wireline job with all three techniques combined into a single descent, and the reduced shock technique was the only successful technique. Immediately, nearly all attempts at high-pressure fluid sampling going forward were via this new technique. This occurred in June 1996 in Garden Banks Block 602 for Shell on what I believe was the discovery well for what they call the Macaroni Field. At the time, it was the deepest TVD well in the Gulf of Mexico at less than 25,000 ft! That certainly does not seem very deep by today’s standards. With all three sampling techniques, the reservoir fluid was pumped using the downhole pump, but when it came time to sample, both the “air cushion” and “water cushion” techniques expose a much lower pressure part of the chamber to the reservoir fluid, thus allowing the reservoir fluid to force its way into the chambers. At high pressures, this basically becomes a water saw. The chokes were eroded out of the water cushion bottles, and the Monel valve stem in the “air cushion” chamber was cut clean through right in the middle where the fluid contacted it! The reduced shock configuration worked just fine. This is precisely the run that demonstrated we could increase sampling efficiency (less lost seals, less valve failures) and improve sample quality (prevent dropping below the bubblepoint). That kicked off a tremendous increase in the market for wireline formation testing in deep water.

For the few who are new to the industry in this downturn, I strongly encourage you to go after trophies. By trophies, I mean projects that are first, biggest, most, deepest, etc. Those are the ones that you really remember. You remember the people with whom you worked on those projects, and you get to reminisce with them and trade stories at industry events. I can take no credit for hunting for this particular “trophy.” I did not invent the technique nor identify the opportunity. I was simply a logging engineer having lunch one day who got a call saying that he was assigned to the job, but it is certainly one I will remember due to the records it broke and the way it immediately drove the industry to pivot to reduced shock sampling techniques. I was hooked, and ever since, I can feel my ears perk up whenever we go after something that is first, biggest, newest, deepest, etc. Pushing boundaries is fun!



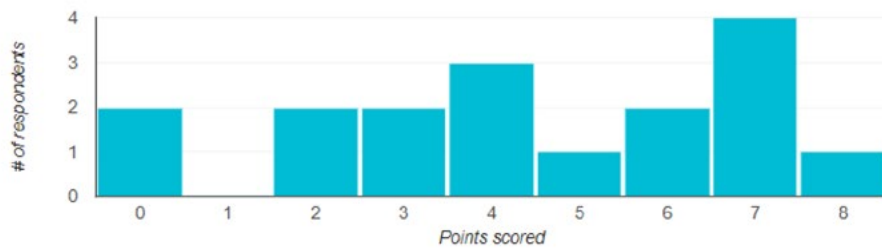
Adam Haecker

Hello all. The world is finally emerging from the pandemic. If you are still working from home, do not forget to log into the SPWLA app from time to time and take the free fun quiz that is updated periodically. Despite my advertising on LinkedIn, we only had a few respondents last month. I was entertained that most of our peers think Tom Brady is the Greatest of All Time (G.O.A.T). I suspect that may just be the Boston Chapter answering in mass, though! I am onto you Paul Craddock, Lin Liang, and friends! In any event, happy quizzing. I am probably going to update it again in May since April has been terribly busy with other SPWLA business.

February Quiz

Average 4.41 / 8 points	Median 4 / 8 points	Range 0 - 8 points
-----------------------------------	-------------------------------	------------------------------

Total points distribution

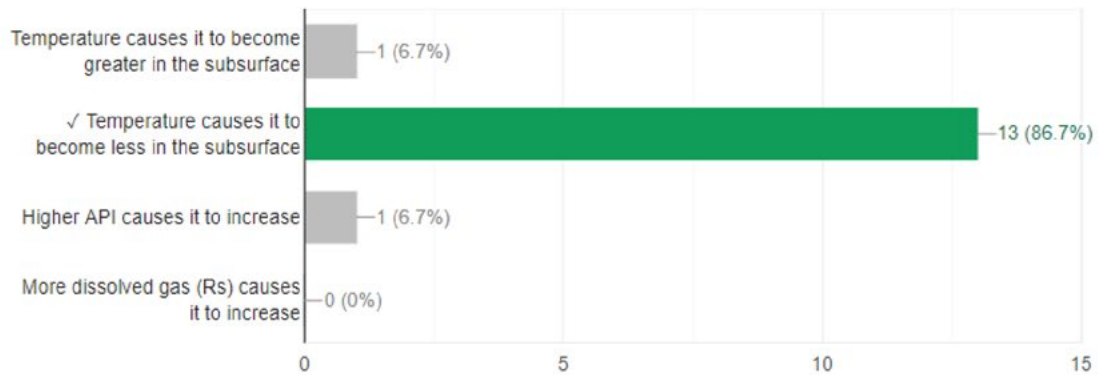


Frequently missed questions ?

Question	Correct responses
Schlumberger is actually incorporated in what country?	4 / 15
When we measure Dielectric Permittivity, we actually measure what two properties?	7 / 15
Which of the following core imaging techniques also delivers the bulk density and atomic number?	5 / 15

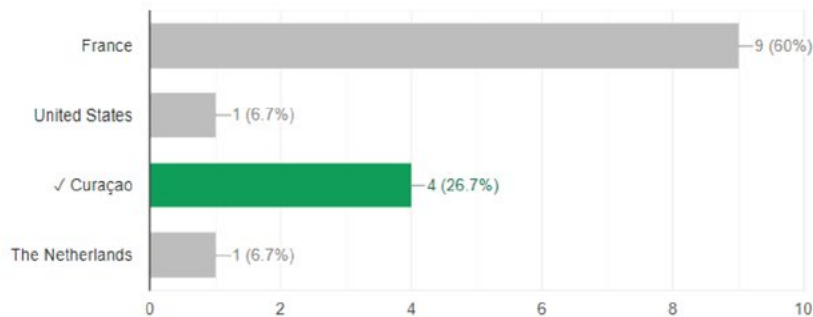
Which of the following is true of Viscosity of Black Oil?

13 / 15 correct responses



Schlumberger is actually incorporated in what country?

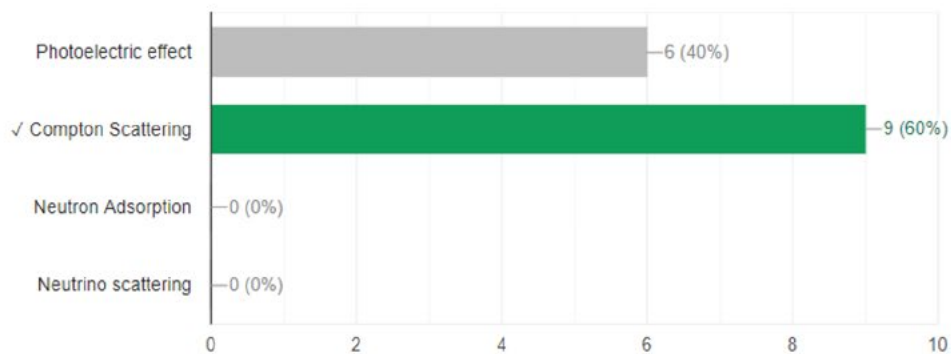
4 / 15 correct responses



What best describes the scattering of a photon by a charged particle, usually an electron? If it results in a decrease in energy (increase in wavelength) of the photon (which may be an X-ray or gamma ray photon) Part of the energy of the photon is transferred to the recoiling electron?



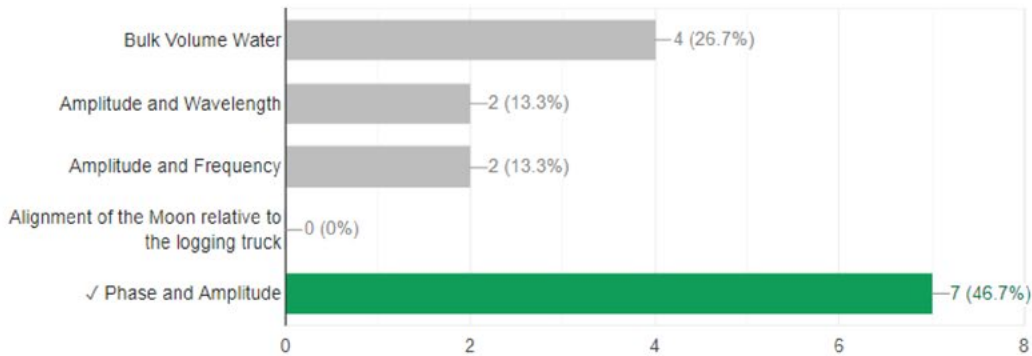
9 / 15 correct responses



When we measure Dielectric Permittivity, we actually measure what two properties?



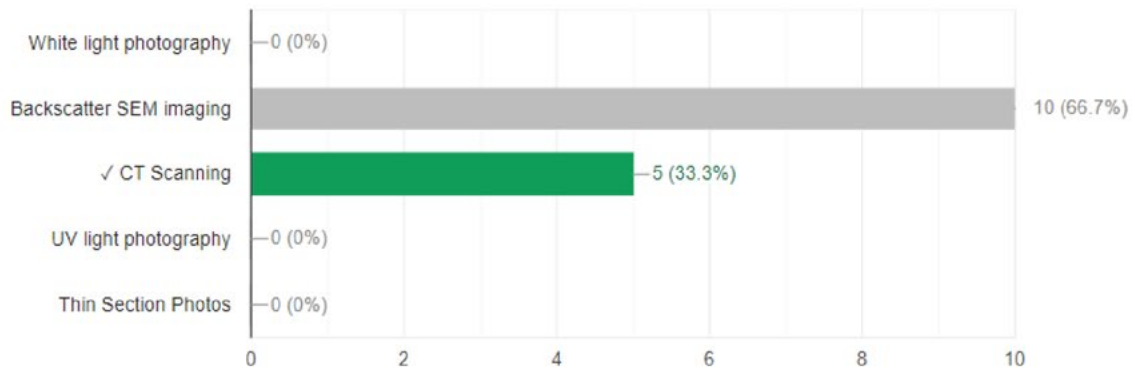
7 / 15 correct responses



Which of the following core imaging techniques also delivers the bulk density and atomic number?



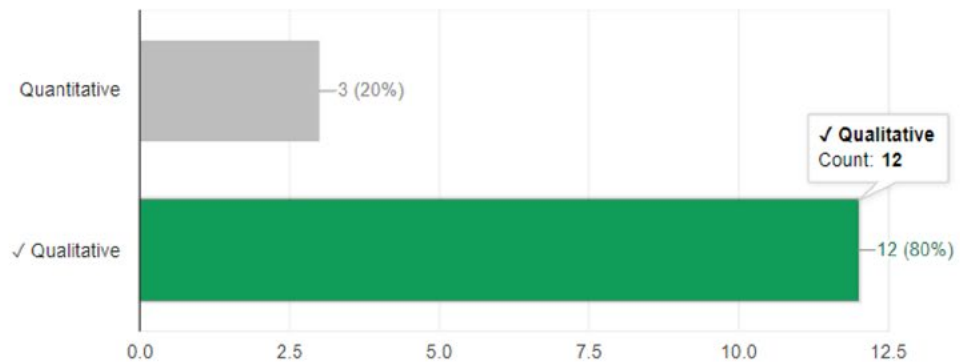
5 / 15 correct responses



Spontaneous Potential (SP) is a _____ measure of permeability



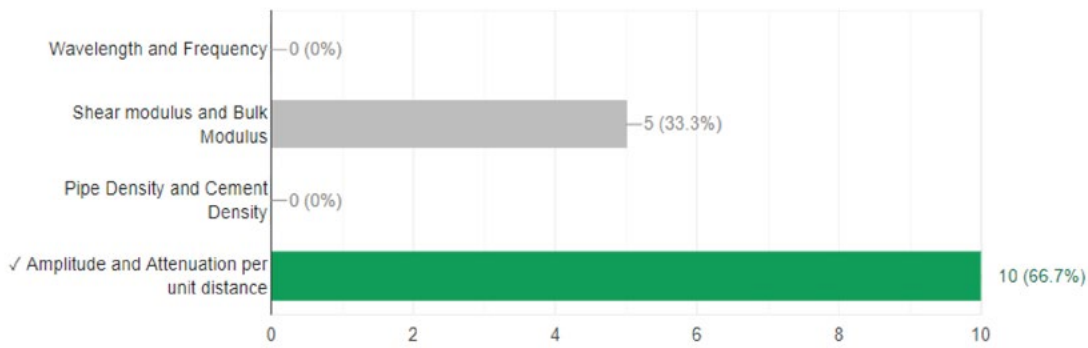
12 / 15 correct responses



Modern acoustic cement-evaluation (bond) devices are comprised of monopole (axisymmetric) transmitters (one or more) and receivers (two or more). They operate on the principle that acoustic amplitude is rapidly attenuated in good cement bond but not in partial bond or free pipe. These cased-hole wireline tools measure which of the following?



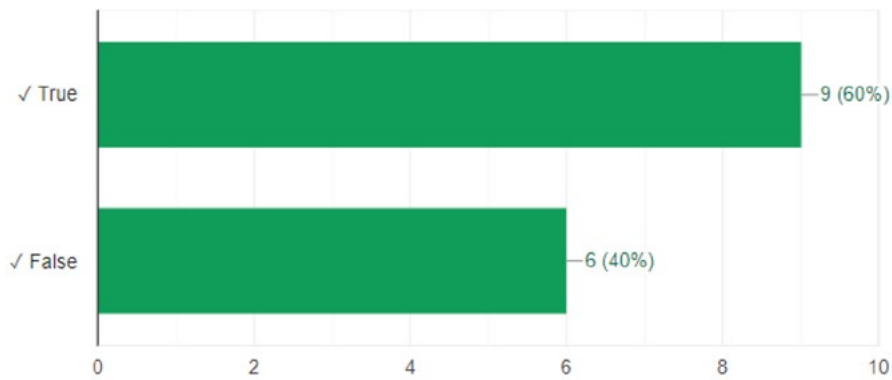
10 / 15 correct responses



True or False Tom Brady is the goat? Hope Everyone enjoyed the Superbowl this year.



15 / 15 correct responses

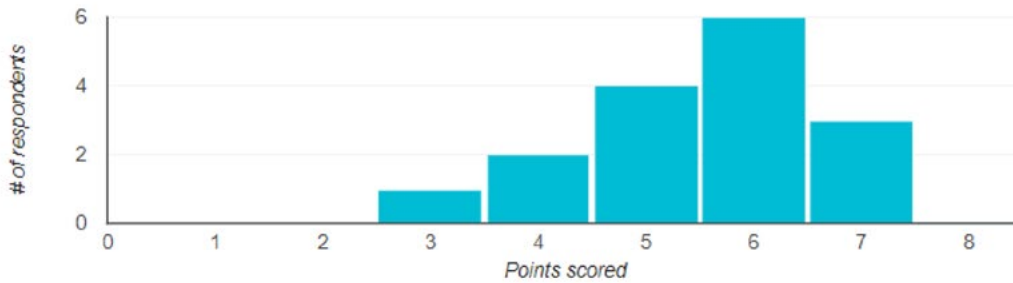


It turns out, by popular opinion, Tom Brady is the Greatest of All Time (G.O.A.T).

March Quiz Answers

Average 5.5 / 8 points	Median 6 / 8 points	Range 3 - 7 points
----------------------------------	-------------------------------	------------------------------

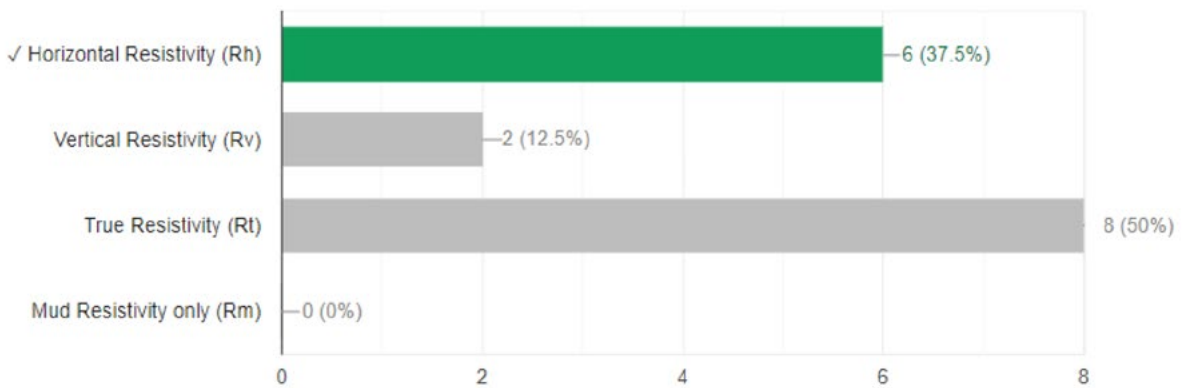
Total points distribution



Frequently missed questions ?

Question	Correct responses
Inductions measure which property? (non dipping homogenous isotropic formation)	6 / 16

Inductions measure which property? (non dipping homogenous isotropic formation)
6 / 16 correct responses

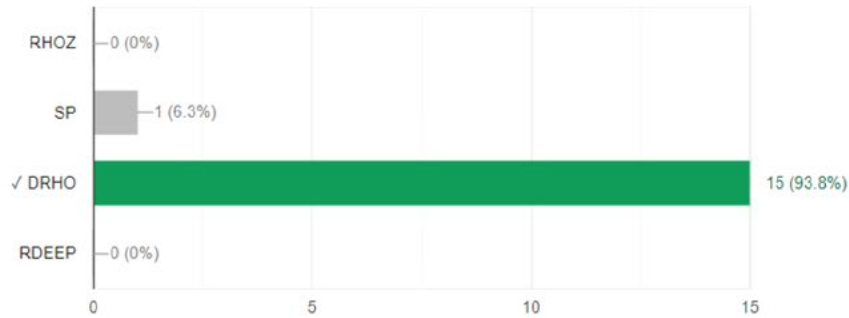


Petrophysics Quiz and Delightful Statistics

Which of the following is a common log curve acronym for density correction?



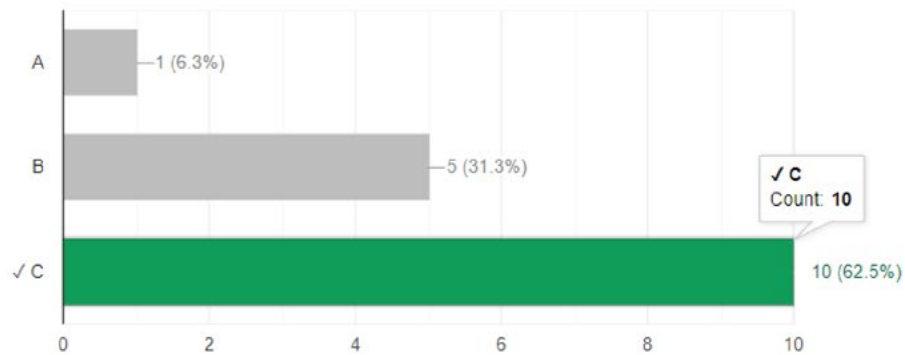
15 / 16 correct responses



Which of the following (A, B or C) best approximates the famous Leverett J function used to estimate water saturation from capillary pressure?



10 / 16 correct responses



A

$$k = 389 \left[\frac{S_b}{p_c} \right]_A^{1.691}$$

B

$$p_c = p_d (S_w^*)^{-1/\lambda}$$

$$S_w^* = \frac{S_w - S_{wt}}{1 - S_{wt}}$$

C

$$= \frac{p_c(S_w) \sqrt{k/\phi}}{\gamma \cos \theta}$$

A was a form of the Carmen Kozeny equation

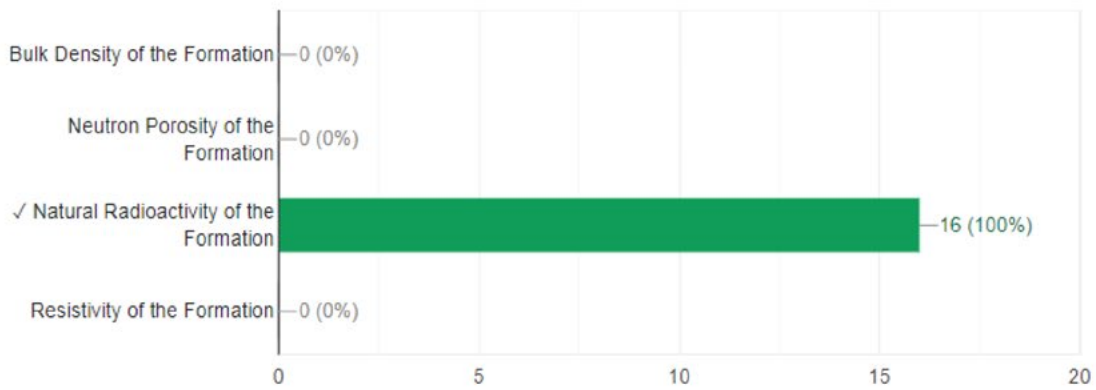
B was the Corey Brooks solution for relative perm

C was the right answer, the Leverett J Function, with J missing of course. Can't make it too obvious

The Gamma Ray log measures which of the following?



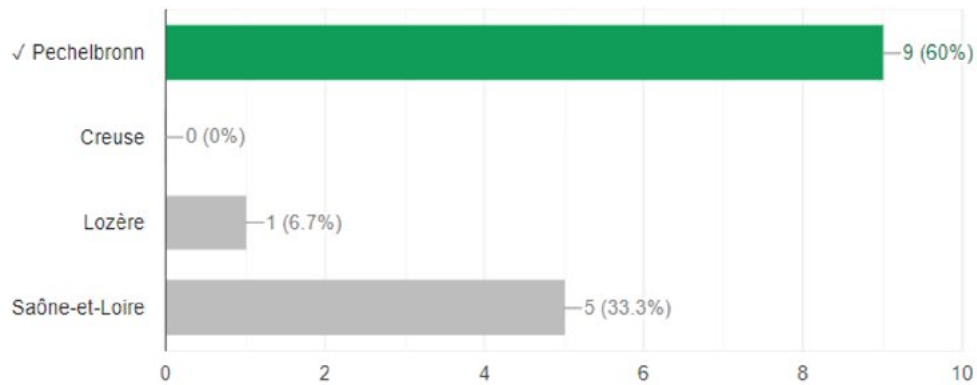
16 / 16 correct responses



The first electric log was performed in which commune of France?



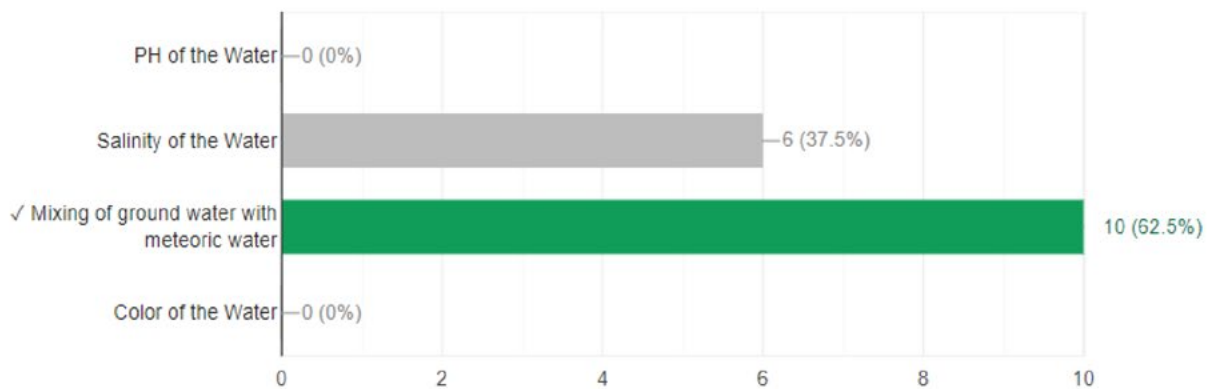
9 / 15 correct responses



A Deuterium and Oxygen-18 plot is useful to determine what property? (example below)



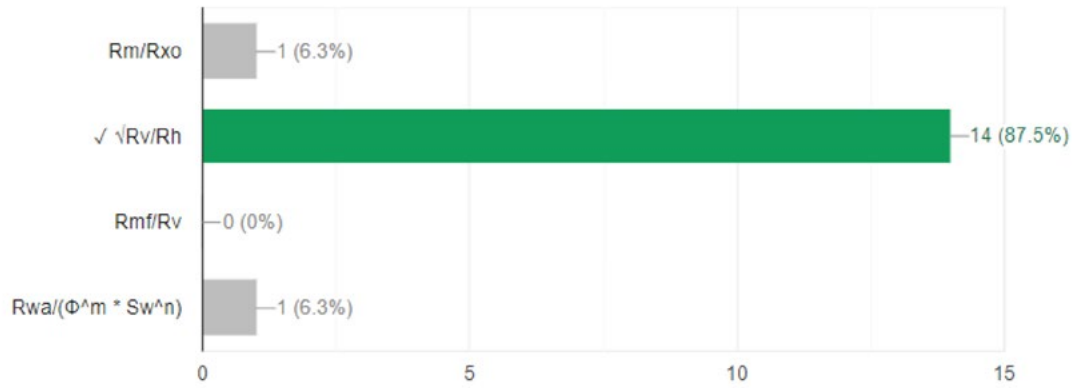
10 / 16 correct responses



Resistivity Anisotropy (λ) is defined as what?



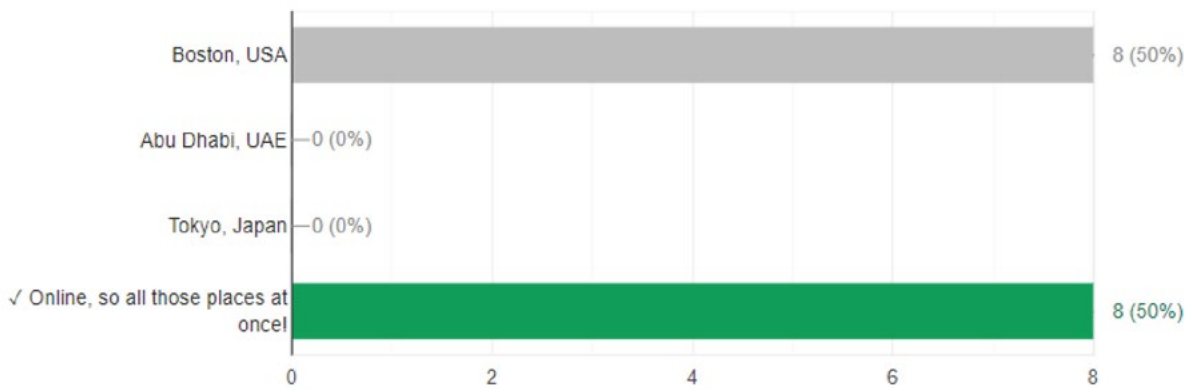
14 / 16 correct responses



The SPWLA Symposium will be held where this year (2021)?



8 / 16 correct responses



The last question was a bit tricky. The symposium was originally going to be held in Boston but was later moved online by the board. Don't forget to sign up if you have not already.

Throwback Thursday



Sonia Marino

A lot has happened in the Throwback Thursday section of the SPWLA mobile app during the last two months! We expressed our support to our friends and colleagues in North America after a major winter storm hit the region in February by reporting the lowest temperature ever measured on Earth. We celebrated Women in Science in March and posted some British humor for April Fool's Day. Of course, we continued to share pictures of historical milestones in the energy industry and photos from your personal memories.

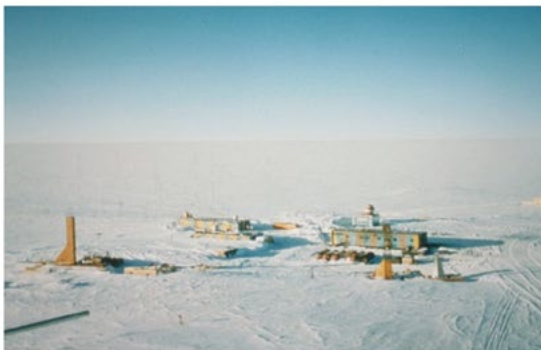
Merrill Haas's paper proclaimed that log analysts are important people and gave us the opportunity to run our second contest on March 25 about the SPWLA name change from the Society of Professional Well Log Analysts to the Society of Petrophysicists and Well Log Analysts. It happened in 2003! Four people guessed the

correct answer. Congratulations to Steve Boljen, Adam Haecker, Javier Miranda, and Jesus Salazar!

If you have no idea what this is all about (no need to raise your hand, we know who you are!), let me explain. Since January 2021, the SPWLA app includes a Throwback Thursday #TBT section, accessible from the homepage, as shown in the picture on the right. Check it out. It's fun!

See below what has been posted since the last newsletter. Enjoy and keep checking the SPWLA app every Thursday for more. Use the feedback section to send your thoughts and photo contributions. We would love to hear from you.

There will be another #TBT contest on June 3. Details will be announced on social media.



February 18th, 2021

Hey Texas, while fighting the winter storm this week, have you ever wondered how low temperature could get?

The lowest natural temperature ever directly recorded at ground level on Earth is -89.2°C (-128.6°F) at the Soviet Vostok Station in Antarctica on 21 July 1983.

From Wikipedia.

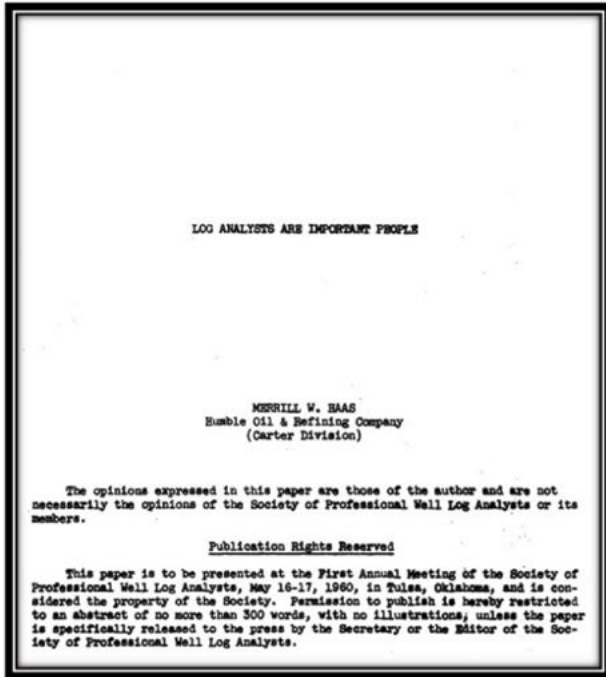


March 18th, 2021

Fast forward a few decades in the Grand Banks waters of Newfoundland...

Photo of the iced riser head taken from the moonpool under the rig floor of the Glomar Grand Banks semi-sub rig, minutes before the PVT sampler came out of the well (January 1999).

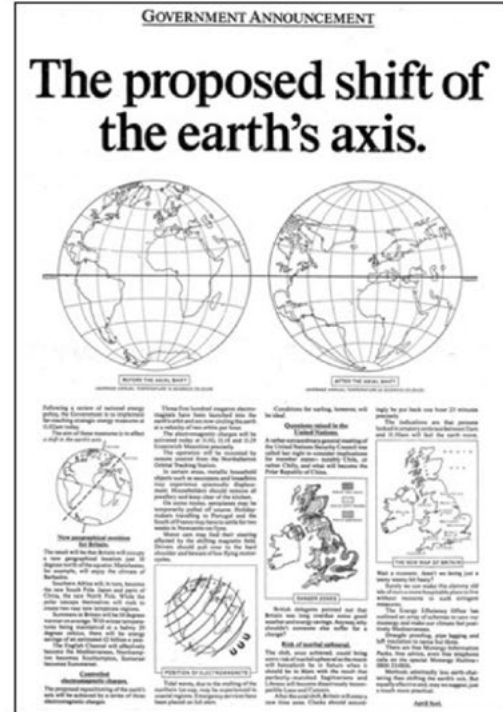
From Chris Batzer – Personal Collection.



March 25th, 2021

Log analysts are important people. This paper by Merrill W. Haas was presented at the first annual meeting that the SPWLA held in May 1960 in Tulsa, Oklahoma.

When it was formed in January 1959, our Society was called the "Association of Professional Well Log Analysts," then renamed 3 months later to "Society of Professional Well Log Analysts." Any idea when it became the "Society of Petrophysicists and Well Log Analysts" that we know today? Submit your answer in the Feedback section below and be the first to win a prize!! The correct answer was 2003.



April 1st, 2021

On April 1st, 1986, the British Department of Energy ran a full-page ad in the Times and Guardian newspapers announcing that the Earth's axis would be shifted at 11:02 a.m. that day in order to warm Britain's climate and conserve energy. Indeed, after the repositioning of the Earth's axis by 3 consecutive electromagnetic charges, Britain would occupy a new geographical location just 10 degrees North of the Equator!

The ad ended by the phrase "April Fuel." Happy April Fool's Day!

From The Museum of Hoaxes.



February 25th, 2021

TerraTek load frame, circa 1970s, in Salt Lake City, Utah. Such load frames are still in use today to test geomaterials like rock and concrete. The largest ones, designed to test samples from deep boreholes, can apply confining pressures up to 40,000 psi and exert axial loads over 1 million lbf. At TerraTek, load frames were given names like Zeus, Apollo, Endeavor, Creep, etc.

Picture shared by Wes Martin.



March 4th, 2021

Hydraulic fracturing began in 1947 as an experiment conducted by Stanolind Oil in the Hugoton gas field, Kansas. This first experimental frac job utilized 1,000 gallons of naphthenic-acid and palm-oil- (napalm-) thickened gasoline and sand from the Arkansas River.

From Kansas Geological Survey Publications.



March 11th, 2021

Let's celebrate women in science with a photo of Inge Lehmann taken in 1932. Lehmann (1888-1993) was a Danish seismologist who discovered in 1936 that the Earth has a solid inner core inside a molten outer core from analyzing seismic wave measurements. Even though her results were quickly adopted by the scientific community, it took until 1971 for her interpretation to be proven correct by computer calculations.

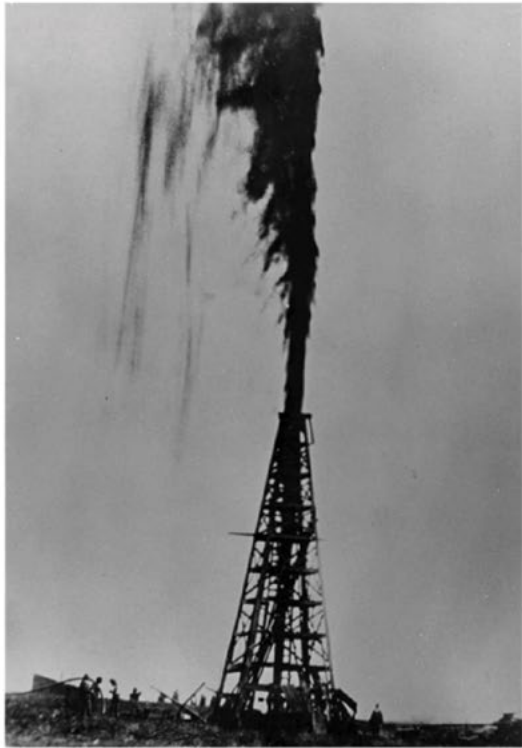
From Inge Lehmann, Wikipedia.



April 8th, 2021

Alfred E. Treibs (1899-1983) is recognized as the father of organic geochemistry. After isolating porphyrins from petroleum in the 1930s, he noticed their close structural similarity to chlorophylls, the green pigments present in algae and plants. This discovery confirmed the biological origin of petroleum.

From the Geochemical Society website and Wikipedia.



April 15th, 2021

On January 10th, 1901, on Spindletop Hill in Beaumont, Texas, a geyser blew oil over 150 feet (50 m) in the air at a rate of 100,000 barrels per day on average, for 9 days, from a depth of 1,139 ft (347 m). The Lucas gusher led the United States into the oil age!

From the Houston Chronicle and Wikipedia.



MAY 2021

2021 Steering
Committee

Editors

Javier Miranda
Mathilde Luycx
Kanay Jerath
Ishank Gupta
Mostafa Amin
Luis Enrique Navarro

Senior Editor
Siddharth Misra

SPWLAYP@SPWLA.ORG

In this edition:

New Skillset for Petrophysicists in the Age of Big Data
by Ishank Gupta

*An Interview With
An Interview With Clara
Palencia: Past SPWLA
Scholarship Recipient*

Crossword Puzzle

New Skillset for Petrophysicists in the Age of Big Data

by Ishank Gupta

The year 2020 will always be remembered as the year when the world was plagued by COVID-19, which has killed approximately 2.5 million people worldwide. The oil and gas industry is collateral damage to this tragedy. An article (S&P Global, 2021) shows how the industries most impacted by COVID-19 include airlines, oil and gas, and auto. Planes stopped flying, cars stopped moving, oil demand went down, and the loss of investor confidence was evident when oil prices plummeted and touched a low of negative \$37.63 per barrel in March 2020. This caused a chain reaction that led to significant layoffs across oil and gas companies. One article (Dunn, 2020) estimated that the US alone lost more than 100,000 jobs in the oil and gas industry in 2020. The industry also saw a large wave of mergers and acquisitions (Krauss, 2020), the largest among them being ConocoPhillips acquiring Concho Resources, Chevron acquiring Noble Energy, and Devon Energy acquiring WPX Energy. These mergers and acquisitions further catapulted layoffs, and the industry will see a domino effect for years to come.

In a parallel universe, COVID-19 provided a stimulus and led to the acceleration of digital technology adoption by several years (McKinsey & Company, 2020). The survey done by McKinsey shows that companies now consider digital transformation as a critical component of the business rather than a means to improve cost efficiencies. This has completely transformed the market space and how consumers are conducting business. To give a few examples, remote working is now becoming a standard practice in several companies, which means airlines/hotels/autos are losing business to telecommunication companies like Zoom. Stay-at-home fitness companies like Peloton are taking market share away from brick-and-mortar gyms, and the popularity of Amazon has led to the closure of several popular stores like JC Penny, Pier 1 Imports, and Sears, to name a few.

The oil and gas industry—burdened by lower revenues, increased competition from renewable energy resources, and loss of investor confidence—has quickly adapted to the changing market dynamics and adopted digital transformation. Major oil companies have partnered with Microsoft, Google, Amazon, and others to automate their exploration and development operations (*Energy Voice*, 2020). The article (*OILMAN*, 2020) surveyed executives of major oil and gas companies and found the general consensus that more investments are needed in technology and workforce to make oil and gas competitive. The biggest demand in the skillset desired is in data science and artificial intelligence (AI). The hiring of data scientists in 2019 increased a staggering 158% over the previous year (*Energy Voice*, 2020). I recently came across job posts from petroleum engineering departments in universities like Colorado School of Mines, Texas A&M, the University of Texas at Austin, and the University of Tulsa looking for professors with data science experience. This shows both industry and academics alike have increased demand for data science skills.

Like any other domain in the oil and gas industry, petrophysics has dramatically benefited from the application of data science techniques. Machine learning has found use in almost every aspect of petrophysics, for example, prediction of synthetic sonic logs (Gupta et al., 2019; John, 2020), geofacies classification and rock typing (Zhao et al., 2015), shale microstructural analysis (Knaup et al., 2019), geomechanical property estimation (Gu et al., 2016), estimation of petrophysical properties like porosity, saturation, permeability, and net pay (Jain et al., 2015; Shabab et al., 2016; An et al., 2018), and data quality control like identifying bad hole flags, etc. Xu et al. (2019) published an article summarizing the current work done on applying machine learning to improve efficiency, accuracy, and interpretation of petrophysical data. For more details and case studies, readers are referred to the book by Misra et al. (2019), which extensively discusses 13 case studies using lab, field, and simulation data, providing a valuable source for this topic.

New Skillset for Petrophysicists in the Age of Big Data

The next question that arises is what specific skills are desired and what are the available resources. The first step for any analysis is to collect data for analysis. The data can be acquired in labs on cores or in the field using logs/seismic. This data can exist in databases like SQL servers, Excel sheets, PDFs, text files, etc. Extracting the data from different sources, preprocessing it for analysis, i.e., data QC, removing outliers, and impute missing values, comes under the broader category of “data engineering.” Different popular tools to do data engineering are Excel, SQL queries, Python, R, KNIME, and Alteryx. Excel and SQL are powerful tools that require some degree of expertise and may not be suitable for advanced data engineering, like handling a large number of text files or extracting information from a PDF file. Alteryx and KNIME are more advanced data engineering platforms that are easier to learn and can create processes/workflows that can be applied to similar data sets. While Alteryx is a paid license, KNIME is an open-source alternative to Alteryx. Python and R are programming languages commonly used for developing data engineering pipelines. While these languages are equipped to handle any complex data engineering problem, it requires extensive training and developing data pipelines using Python/R, which is time intensive. Every company uses a different set of tools, and a good machine-learning practitioner often has proficiency in several of these tools.

The next step is carrying out statistical analysis and applying machine-learning algorithms. The most commonly used machine-learning techniques fall under three broad categories, i.e., clustering, classification, and regression. The programming languages widely used to apply these techniques in order of increasing popularity are MATLAB, R, and Python. Among the three, R and Python are open-source platforms, and budding data scientists can find ample support online. For example, I would recommend checking out the GitHub repositories for petrophysics case studies along with entire data sets and code files ([link](#)). There are some commercial tools/platforms, like Microsoft’s Azure Machine Learning Studio, JMP, DataRobot, BigML, and Google Cloud AutoML, which have built-in workflows and processes, are easier to learn, and have faster support but lack the flexibility of open-source platforms. The last step in analyzing the data is visualizing the results for which the tools most commonly used by the analytics community are Power BI, Tableau, and Spotfire. The tools previously mentioned, like Excel, Python, R, and MATLAB, can also be used for visualization but are not as popular.

A big driver for digital adoption is the resources available online. “[Towards Data Science](#)” is a website that will commonly pop up while doing any search for applying a particular machine-learning algorithm. “[Stackoverflow](#)” is another open community for anyone who codes and is probably the first stop when you get stuck while using Python, R, or MATLAB. For more organized training, [LinkedIn Learning](#), [Coursera](#), and [Udemy](#) have several courses structured for beginners, intermediate, and expert practitioners. The last (but not the least) option for those petrophysicists interested in more formal training on these aspects is acquiring an online MS in data analytics while working. There are a few good options, like [Georgia Tech University](#) (ranked within the Top 5) and the [University of Texas at Austin](#). In my opinion, both these degrees are the best value for your money and combine affordability (less than USD 12,000) with quality.

Throughout this article, I discussed very little about good-quality data (measurements/simulations) and the importance of robust technical petrophysical workflows. The role of data science is not to replace either of these components but rather to provide tools to the petrophysicists to extract more information out of the available data. The oil industry is in the process of reinventing itself to adapt to the low price and low-carbon emission environment. Digital transformation is a necessary evil, and for companies, training their workforce is a natural consequence. We all should embrace this opportunity to acquire market-relevant skills that improve our efficiency and increase future job opportunities. As Eric Hoffer famously said, “In a time of drastic change, it is the learners who inherit the future.”

References

1. S&P Global, 2021, Industries Most and Least Impacted by COVID-19 From a Probability of Default Perspective—September 2020 Update. [Weblink](#). Accessed February 20, 2021.
2. Dunn, K., 2020, The Oil and Gas Industry Has Lost More Than 100,000 Jobs This Year, *Fortune*. [Weblink](#). Accessed February 20, 2021.
3. Krauss, C., 2020, Oil Industry Turns to Mergers and Acquisitions to Survive, *The New York Times*. [Weblink](#). Accessed February 20, 2021.
4. McKinsey & Company, 2020, How COVID-19 Has Pushed Companies Over the Technology Tipping Point—and Transformed Business Forever. [Weblink](#). Accessed February 20, 2021.
5. *Energy Voice*, 2020, “Surprisingly Swift” Uptake of Data Science in Oil and Gas. [Weblink](#). Accessed February 20, 2021
6. *OILMAN*, 2020, Oil & Gas Digital Transformation and Workforce Survey. [Weblink](#). Accessed February 20, 2021.
7. John, A.B. Jr., 2020, Machine Learning Application in Petrophysics Industry: A Sonic Log Synthesis Prediction Story. [Weblink](#). Accessed February 20, 2021.

8. Gupta, I., Devegowda, D., Jayaram, V., Rai, C., and Sondergeld, C., 2019, Machine Learning Regressors and Their Metrics to Predict Synthetic Sonic and Brittle Zones, Paper URTEC-2019-148 presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Denver, Colorado, USA, 22–24 July. DOI: 10.15530/urtec-2019-148.
9. Zhao, T., Jayaram, V., Roy, A., and Marfurt, K. J., 2015A, A Comparison of Classification Techniques for Seismic Facies Recognition, *Interpretation*, **3**(4), SAE29–SAE58.
10. Gu, M., Gokaraju, D., Chen, D., and Quirein, J., 2016, Shale Fracturing Characterization and Optimization by Using Anisotropic Acoustic Interpretation, 3D Fracture Modeling, and Supervised Machine Learning, Paper v57n6a1, *Petrophysics*, **57**(06): 573–587.
11. An, P., Yang, X., and Zhang, M., 2018, Porosity Prediction and Application with Multiwell-Logging Curves Based on Deep Neural Network, Paper SEG-2997945 presented at the 2018 SEG International Exposition and Annual Meeting, Anaheim, California, USA, 14–19 October. DOI: 10.1190/segam2018-2997945.1.
12. Jain, V., Gzara, K., Makarychev, G., Minh, C.C., and Heliot, D., 2015, Maximizing Information Through Data Driven Analytics in Petrophysical Evaluation of Well Logs, Paper SPE-174735 presented at the SPE Annual Technical Conference and Exhibition, Houston, Texas, USA, 28–30 September. DOI: 10.2118/174735-MS.
13. Xu, C., Misra, S., Srinivasan, P., and Ma, S., 2019, When Petrophysics Meets Big Data: What Can Machine Do?, Paper SPE-195068 presented at the SPE Middle East Oil and Gas Show and Conference, Manama, Bahrain, 19–21 March. DOI: 10.2118/195068-MS.
14. Knaup, A.S., Jernigen, J.D., Curtis, M.E., Sholeen, J.W., Borer, J.J., Sondergeld, C.H., and Rai, C.S., 2019, Unconventional Reservoir Microstructural Analysis Using SEM and Machine Learning, Paper URTEC-2019-638 presented at the SPE/AAPG/SEG Unconventional Resources Technology Conference, Denver, Colorado, USA, 22–24 July. DOI: 10.15530/urtec-2019-638.
15. Misra, S., Li, H., and He, J., 2019, Machine Learning for Subsurface Characterization, Elsevier. ISBN: 9780128177365. [Weblink](#).

An Interview With Clara Palencia: Past SPWLA Scholarship Recipient



Clara Palencia

Clara Palencia is a petrophysicist who enjoys working on a team to achieve their rock characterization and educational objectives by promoting a collaborative mindset, where hard work and team effort produce results that exceed individual abilities. She is a leader by example with 10 years of experience supporting engineering teams in both conventional and unconventional reservoir exploration and production in South America. Clara has strong skills in coring and logging operations, data analysis, integration, and modeling. During her years working in the industry, she was also responsible for mentoring and delivering petrophysical training courses to young professionals. Clara holds a bachelor's degree in petroleum engineering and a master's degree in geology. She is currently working on her PhD in petroleum engineering, researching the petrophysical properties of shale gas reservoirs. Clara loves teaching and is a true believer that education, research, and technology play a relevant role in developing new technologies to help society. She has been a research and teaching assistant for several courses in the Petroleum Engineering Department at the University of Houston (UH). She served as the SPWLA–UH Student Chapter president during 2016–2017 and as vice president since 2018. As a PhD student, Clara has won multiple paper and poster competitions and scholarships at SPE and SPWLA events around the United States. Clara loves to run marathons around the world, read books with her book club, and spend quality time with family and friends.

When did you receive your SPWLA scholarship, how did you learn about it, how was the process applying for it, and how did that help you or influence your career?

I have received an SPWLA scholarship twice, one from a Resistivity SIG in 2016 and another from SPWLA International in 2018. SPWLA has been part of my petrophysics career from the very beginning of 2006 in my home country, Colombia. I have always tried to be part of the society by assisting at conferences, presenting talks, by visiting its website regularly, and reading *Petrophysics* to be updated about worldwide research interests. However, I did not know about scholarship possibilities until I was a graduate student at the University of Houston. SPWLA is doing a great job encouraging students. I am happy to share that the process was straightforward and without a lot of bureaucracy. It was not complicated at all. The application was completed by filling out a simple form and attaching the research abstract. At that point in my graduate study, more than the monetary aid, which is important of course, these scholarships motivated me to work even harder on my objectives and made me appreciate the opportunity that I was given to be a PhD student. It also gave me the chance to inform other students about the resources that are available.

What do you think was the main reason SPWLA approved your scholarship?

SPWLA approving my project was a series of fortunate events. These projects were about unconventional reservoir characterization, resistivity modeling, and modeling petrophysical properties from hydraulic fracturing flowback water, a hot topic since 2009 when the shale revolution kicked off in the United States. Right time, right topic, right effort.

Did the SPWLA scholarship have some influence on the path you took during your professional life and being a member?

SPWLA has been influencing my career strongly, not only with the scholarship. Assisting at the symposium every year in different parts of the world gave me a global perspective. The game-changer for me is the people that I have had the opportunity to meet due to my SPWLA membership. Those people advised me to pursue grad school (David Patrick Murphy) and have been my mentors without knowing it, changing my life with one word of motivation and a research idea. It warms my heart to see the sparks in the eyes of a person talking about petrophysics so passionately. I am looking forward to opportunities to add value to the society and pass the favor along.

What do you remember from those times as a student and SPWLA scholarship recipient?

It was a lot of fun, very versatile work, reading a lot, working on different problems, learning how to use equipment in the lab, building my own equipment, being creative, and sharing my time with people from other cultures with different perspectives. Being back in school to get my PhD is one of the most productive and life-changing experiences I have ever had. SPWLA has

An Interview With Clara Palencia: Past SPWLA Scholarship Recipient

always been present and very supportive of my research, not only with scholarships but giving me the opportunity to present at conferences and participate in paper competitions. I won second place for the PhD category in 2017.

Was there an SPWLA professional or student chapter in your school? Were you a regular at SPWLA events, if any?

When I joined the University of Houston 4 years ago, SPWLA did not have a student chapter, so the UH rock laboratory team was the founder. We started it in 2016. Since then, we have been working hard to close the gap between academia and industry by doing webinars, talks, networking events, and having a booth at the SPWLA symposium every year. I had the honor to be the president in 2016–2017 and the vice president since 2018. It has been a wonderful journey, a lot of learning, and fun.

What was your biggest challenge during graduate school, and how did you overcome it?

I have had many challenges, but they all revolve around the same thing. One must develop a “growth” mindset. To me, this means losing the fear of asking questions, fear of being judged, learning that it is not only about ourselves but about others, and that hard work and perseverance and not just natural abilities are necessary.

Is there a mistake you made in school that you want to share with others to avoid?

Do not rush everything without enjoying the golden opportunity of being in grad school. Enjoy every class, ask as many questions as possible, enjoy being in the laboratory, and do not take anything for granted.

Who was your role model at school, and when you started your career? You can name more than one.

Both my parents are my role models. My father was the president of the largest public library in my hometown in Colombia for almost 40 years, and my mother founded with a friend a private elementary school nearly 50 years ago, so they literally taught multiple generations. They are my most important role models. In my time working in the industry, my teammates played a significant role in my career, always motivating me to give the best to my job. At graduate school, for my master’s degree, my advisor, Dr. Andres Mantilla, current president of the Colombian Institute of Petroleum, and for my PhD degree, Dr. Lori Hathon and Dr. Michael Myers. They have been truly my family, my friends, my support, and my motivation every day.

How did you start your career in petrophysics and formation evaluation?

A former boss, who is still a very good friend, once told me, “Knocking at a door does not mean you got it.” I was a junior reservoir engineer at BP Colombia at that time, and an opportunity to apply for a position as a petrophysicist became available. I was afraid to apply. I thought that the position seemed interesting, but I did not have the experience to do it. So, my friend gave me the encouragement I needed at that time. I got the job, and it changed my career.

How do you convey the importance of petrophysics/formation evaluation to your colleagues from other disciplines when collaborating on a project?

Collaboration is key, and being a petrophysicist is the perfect way to combine physics, geology, petroleum engineering, and data analysis. Working together with a multidisciplinary team is the best way to understand a reservoir. I used to work with geologists and reservoir engineers to evaluate the data acquired from subsurface and field data. I would then work with drillers and service company engineers to define and implement the data acquisition program for drilling wells. Finally, I would analyze the data to make the final recommendation in terms of the well completion. It was about safety, teamwork, common objectives, lessons learned, and continuous improvement. Collaboration and the right communication were and will be key to success.

Where do you see yourself in five years?

A petrophysicist–petroleum engineer PhD, with a post-doctorate, working on a team researching new sources of energy or an environmental project, such as geothermal well drilling and completion and/or hydraulic fracturing water recycling and disposal. I would like to continue teaching students and learning from them how to be a better researcher every day.

Any personal activities or background you want to share?

Besides my career, which I really enjoy, I love to run marathons in different countries with family and friends—26.1 miles of discipline, effort, pain, and commitment. Reading and singing are my other two passions. I am a member of the Imelda's pages reading club, with two friends. We read books about leadership, effective communication, and soft skills. I used to have a rock band with my friends in both countries (Colombia and United States). Music, books, smiles, and miles are my treasures.

What do you recommend to current students in petroleum engineering and geosciences, especially with work/research in the field of petrophysics/formation evaluation?

The oil/gas industry is not going to disappear, and we do need petroleum engineers and geoscientists. We still have a way to go, but adaptability is the key to facing new challenges of clean energy and environmental problems, as well as working/learning remotely in a new normal post-COVID-19 world. CO₂ sequestration, geothermal energy, and produced water remediation are new areas that will require our skills as petroleum engineers and geoscientists. You need to be open to new topics of research and to learn new approaches to analyze data. Always, if you have the chance, be happy at what you do and where you are. Choose the pond where you feel you are the best swimmer. Be flexible, adapt quickly, and be nice to everybody because all of us are fighting our own personal war.

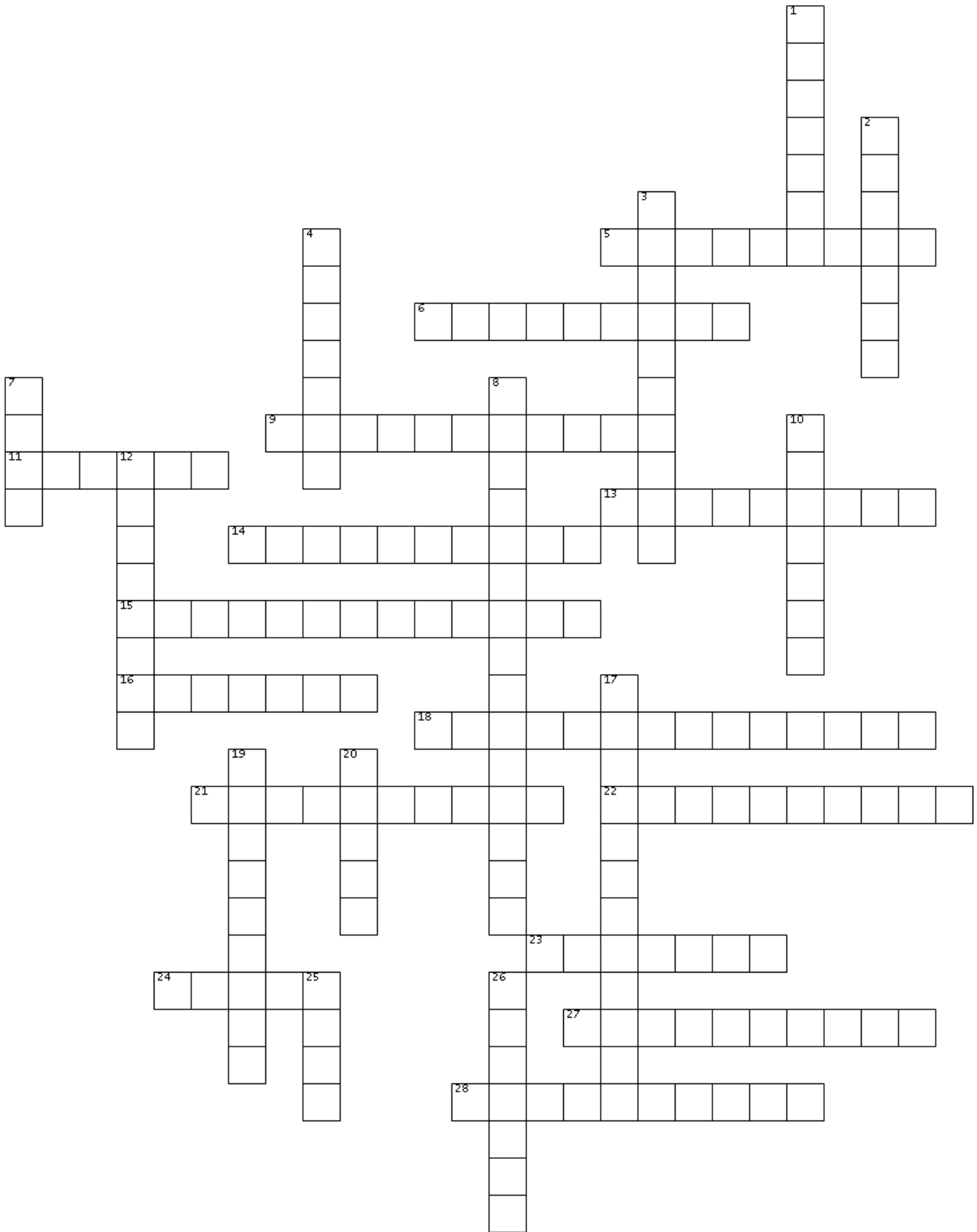
How do you see the future of SPWLA, and what do you think we need to do to keep our society current?

SPWLA has played a very important role in my career, and I truly think that being part of it changed my life, both professionally and personally. The society is growing in members and in worldwide recognition due to its highly technical-driven approach and extraordinary work supporting industry/academia. The opportunity now is to adapt quickly to new challenges in terms of work life/research and education, especially remotely. I think we need to work harder with the universities and improve communication with the student chapters, promoting research in renewable resources and environmental ways to improve oil/gas recovery factors in the USA and especially worldwide.

Anything else you want to add?

Being a petroleum engineer and especially a petrophysicist has allowed me to have a wonderful career by working in oil fields, being a bridge between multidisciplinary teams, traveling to different parts of the world and meeting extraordinary people, and in general to add value to a society that needs us now more than ever. I feel really blessed to be part of the oil industry.

Crossword Puzzle



Crossword Puzzle

ACROSS

5. The amount of displacement of a seismic wavelet measured from peak to trough
6. A set of equations that describes the partitioning of energy in a wavefield relative to its angle of incidence at a boundary
9. The pressure and temperature conditions at which the first bubble of gas comes out of solution in oil
11. A relatively low-standing fault block bounded by opposing normal faults
13. A principle of physics stating that the product of pressure and volume divided by the temperature is a constant for an ideal gas
14. The coefficient representing goodness of fit
15. A geological surface that separates younger overlying sedimentary strata and represents a large gap in the geologic record
16. Space between wellbore and casing
18. A graphical representation of concentrations in a system with three components
21. A reservoir-drive mechanism whereby the oil is driven through the reservoir by an active aquifer
22. Two fluids that are incapable of making a homogenous mixture
23. Log-log plot of resistivity and porosity
24. Topography formed in areas of widespread carbonate rocks through dissolution
27. A measure of the geometric complexity of a porous medium
28. Pertaining to an environment of deposition in lakes

DOWN

1. An apparatus for cleaning core samples using the distillation extraction method
2. Oil that contains no dissolved gas
3. The process of absorbing a wetting phase into a porous rock
4. A line on a map that represents a constant value of the parameter being mapped
7. Voids or large pores in a rock that are commonly lined with mineral precipitates
8. Ratio of density of a material to that of water
10. Global sea level variations
12. The motion of atoms and molecules in fluids due to the temperature of the fluid
17. Describing rocks or sediments containing particles that are silt or clay sized
19. A statistical function that describes the correlation or continuity between sample values
20. A general term for unrefined petroleum
25. Lithified volcanic ash
26. A percentage share of production paid from a producing well

ANSWERS FOUND ON PAGE 68

Chapter News

ABERDEEN CHAPTER (Aberdeen Formation Evaluation Society, AFES)

Recent Events

- 10 March 2021—Technical Talk: Alberto Ortiz (YPF S.A. Argentina and SPWLA Distinguished Speaker) presented “What Have We Learned From Petrophysical Evaluation of The Vaca Muerta Formation During the Last 7 Years of Unconventional Shale Play Exploration and Development?” The AFES enjoyed hosting Alberto live via weblink from Argentina. The event was well attended and stimulated much discussion after the end of the talk. Details and slides from the event are available in the archives section of the AFES website.
- 14 April 2021—Technical Talk: SLB presented their next-generation wireline formation sampling tool, Ora, via a web portal. The event was well attended.

Note that all recent talks have been web-based. This has offered significant advantages over real events as it enables a much broader audience to attend. Additionally, sourcing speakers is also much easier due to the lack of any geographical constraints. However, the downside to this is the lack of any face-to-face interaction and that all-important networking. Currently, our hands are, of course, tied, but we do hope to resume to some format of web and physical technical talks as we move forward.

- 21 April 2021—AFES hosted a web-based, half-day seminar with the theme is Porosity/Permeability. The afternoon event featured five speakers.



Upcoming Events

AFES is looking forward to the rest of 2021 when hopefully we'll be able to resume somewhat normally with physical events. We've got a lot to catch up on, such as field trips, social gatherings, workshop tours, plus the now world-famous AFES Christmas Pub Quiz.

Our additional offerings for 2021 are:

- 12 May 2021—“Unlocking Data Analytics for the Automatic Evaluation of Cement Bond Scenarios” presented by Dario Reolon (ENI).
- 16 June 2021—“Verifying Seal Integrity of a Formation Barrier Behind Pipe Spectral Acoustics” presented by Remke Ellis (TGT).

Please check our website (www.afes.org.uk) or contact Greg Blower (President@afes.org.uk) for details. We are also available on Facebook and LinkedIn.

DEVEX 2021

8–9 June 2021—DEVEX is a two-day conference focusing on UKCS exploration and production, produced jointly by SPE, PESGB, and AFES. The DEVEX 2021 program and registration will be available soon at www.devex-conference.org.



AFES SEMINAR 2021			
TIME (UK - BST)		PRESENTER	TITLE
13:00	13:30	Alan Johnson	Effective porosity from capillary data
13:30	14:00	Keith Milne	Incorporating directional permeability into geological modelling
14:00	14:30	Steve Cuddy	Should petrophysics calculate total or effective porosity?
14:30	15:00	Craig Lindsay	Relative porosity – does it exist and if so how can we measure it? Does it matter?
15:00	15:30	Ibrahim B. Milad	Permeability prediction in a complex carbonate reservoir in south Iraq, by combining FZI with NMR

Finally, AFES would like to extend thanks to our sustaining annual sponsors:



ARGENTINA CHAPTER

General News

This committee meets monthly. We have already held two meetings during this first quarter of 2021, and the different activities to be carried out are being outlined.

Technology/Innovation Team

This team is actively working, trying to cover the topics of greatest interest to our chapter’s community. For example, they are contacting centers with high-technological capacities, such as YPF Tecnología (Y-Tec), who are preparing a workshop to show the latest advances for the characterization of unconventional reservoirs. Other topics of interest that were suggested were “Digital Rock” and “Machine Learning,” so the team is working on contacting speakers.

The **regional delegates** are contacting university liaisons to determine the needs of recent graduates and students. Given that the topics of interest are fundamentally associated with the job market, the idea is to generate a series of activities to support this segment of our chapter.

We started a campaign to normalize Argentina Chapter memberships. We encouraged professionals interested in our activities to enroll in one of the membership categories SPWLA offers. The results were amazing, and today, we have 114 affiliated members of the Argentina Chapter YTD.

One of our main objectives this year is to be present in the student agenda of the universities. We are designing activities and strategies to capture the interest of seniors in college and help them through the complex transition to work life.

Due to the global pandemic, we are designing different formats of activities. We must be creative and take this situation as a great opportunity for professional and personal growth. To learn more about us, go to [LinkedIn](#) or email: spwlacapituloargentina@gmail.com.

Recent Events

11 March 2021—GDS Alberto Ortiz (ZCSolutions) gave a very interesting talk about “Vaca Muerta and the Energy Transition Processes in the World.” It was well attended due to the importance of the topic. If you would like to see the presentation, it can be found here on our channel: <https://youtu.be/cle6i5xWa-l>.



GDS Alberto Ortiz spoke at the first 2021 event for the Argentina Chapter.



(From left to right) Marta D'Angiola (Chapter President) presents Alberto Ortiz (GDS) with a certificate.

14 April 2021—Patricia Rodríguez, PhD (petrophysical and geoscience advisor, Seispetro Consulting), presented “Advanced Multimineral Solution—Using Genetic Algorithm to Accelerate and Improve Multimineral Petrophysical Analysis.”



Patricia Rodríguez' presentation to the Argentina Chapter.

Upcoming Events

May 2021—Jorge Barboza (Emerson) (Confirmed) will present “Methodology and Application of Synthetic Curves.”

After June 2021—Proposed talk topics include Denis Klemin (senior digital rock engineer, Schlumberger) about “Digital Rock in Unconventional Rocks and Carbonates” and Steve Cuddy (Petro-Innovations Aberdeen) about “Machine Learning.”

Other Activities Related to Soft Skills Acquisition

We propose the organization of formative and informative activities for students in the last steps of their college career, which may also be of interest to the general audience.

18 May 2021—Karina Michini (HR advisor) will present “Introduction to the World of Work. How to Conduct Ourselves?”

SPWLA: “The World of Formation Evaluation”

Petrophysics in the area of hydrocarbon exploration and development could build a map of activities/specialties within the organization where different petrophysicists could work, describing the importance and possibility of professional growth and development.

What Opportunities Do Oil Companies and Service Companies Offer?

Our team will determine what plans they have for internships or other opportunities from the main oil companies.

BAKERSFIELD CHAPTER

General News

We continue to meet monthly for a Technical Talk.

Recent Events

March Technical Talk—Philip Tracadas presented “Sonic Logging—Advancement in Acoustic Analysis for Reservoir Description Applications; Case Studies for Geomechanics, Geophysics, and Geology.”

April Technical Talk—Haijing Wang presented “Improving Dielectric Interpretation by Calibrating Matrix Permittivity and Solving Dielectric Mixing Laws With a New Graphical Method.”

Upcoming Events

The Bakersfield Chapter will continue to meet on the third Wednesday of the month at noon for May and June, then will take a break for summer.

BANGKOK CHAPTER

General News

The COVID-19 roller coaster continues, and Thailand has returned to virtual meetings amid a new wave of infections.

The SPWLA Bangkok Chapter would like to congratulate Mr. Ryan Lafferty for his election as the new Regional Director—Asia and Australia.

2021 Chapter Committee Members

President	Andrew Cox
Technical Coord	Numan Phetthongkam
Treasurer	Sirinya Maykho
Web Coordinator	Alexander Beviss
Secretary	Ronald Ford
Sponsorship	Ryan Lafferty
Student Liaison	Kruawun Jankaew
Member at Large	Greg Heath

Please visit [Bangkok Chapter](#) for meeting information. Email: bangkok.chapter@spwla.org.

Recent Events

March 2021—Live Event: “How to Obtain Quality PVT Samples for Heavy Oils in the South East Asia Region” (Paper Ref: OTC-30226-MS) was presented by Dr. Saifon Daungkaew (reservoir engineer advisor, Schlumberger). This was the first live meeting in some time and offered a welcome chance for members to catch up with friends and colleagues. The meeting was well attended, and Dr. Daungkaew gave an excellent presentation with a lengthy discussion at the conclusion. Overall, it was a very enjoyable event.

April 2021—TBD: Details of the April meeting are still unconfirmed at the time of writing.

Upcoming Events

May 2021—Venue TBD.

Please check our website for information on local events and activities for the Bangkok Chapter: [Bangkok Chapter](#).



(From left to right) Andrew Cox (Chapter President) and Dr. Saifon Daungkaew (reservoir engineer advisor, Schlumberger).

BOSTON CHAPTER

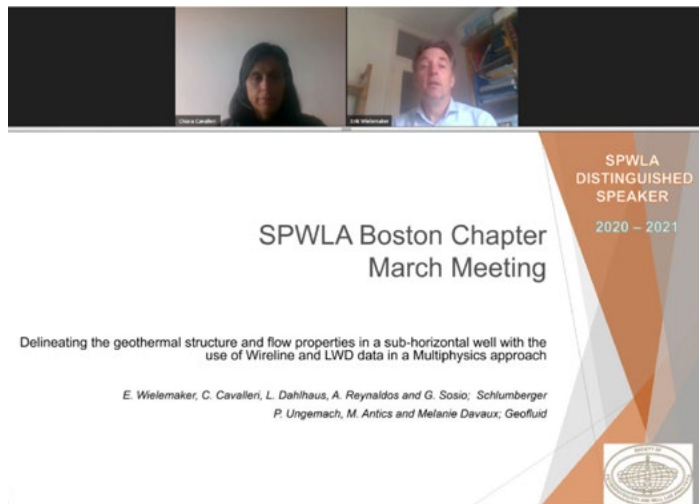
General News

The SPWLA 62nd Annual Symposium is nearly upon us! We hope to see everyone online for a packed agenda, May 17–20, plus a slate of topical workshops the preceding week. The Boston host chapter and the symposium organizing committees have been in constant contact, and the groundwork has been laid for the big event. All that’s needed is your participation! Registration is open now. Details, including the technical program and registration, can be found at <https://www.spwlaworld.org/>.



Recent Events

- 5 March 2021—The Boston Chapter hosted Erik Wielemaker and Chiara Cavalleri (Schlumberger) for an online presentation of their Distinguished Speaker lecture, “Delineating the Geothermal Structure and Flow Properties in a Sub-Horizontal Well With the Use of NMR With Sonic and Image Logs in a Multiphysics Approach.” The talk was engaging, well attended, and provoked many questions.
- 16 April 2021—The Boston Chapter hosted Dario Reolon (Eni) for an online presentation of his Distinguished Speaker lecture, “Unlocking Data Analytics for the Automatic Evaluation of Cement Bond Scenarios.”



Chiara Cavalleri and Erik Wielemaker (Schlumberger) at their lecture webinar for the Boston Chapter on March 5, 2021.

Several members of the Boston Chapter are in the midst of Distinguished Speaker tours, with recent presentations by Paul Craddock, Julie Kowan, and Jeffrey Miles to various chapters across the international SPWLA community.

Upcoming Events

17–20 May 2021—The SPWLA 62nd Annual Symposium is upon us! Register for the symposium and preceding workshops at <https://www.spwlaworld.org/>.

Boston Chapter Elections: The tenure for the current Officers of the Boston Chapter will end in July 2021. We invite members of the Boston Chapter to consider volunteering as an Officer for the next two-year period. Specific instructions will be sent to Chapter Members via email shortly. Serving as an Officer is a fantastic way to engage with the SPWLA community and gain professional exposure!

SPWLA general members and Boston-affiliate members are invited to browse our chapter website <http://boston.spwla.org> for up-to-date information on our mission and events, including event details and registration.

BRAZIL CHAPTER

General News

Since August 2021, our monthly meetings are being held online every third Tuesday of the month, at 4 pm (Brasilia Time). Anyone wishing to participate is welcome. We also post chapter updates and meeting links on our LinkedIn page (SPWLA Brazil Chapter)—check us out. We decided to discontinue our Facebook page. For further information about the chapter, please contact our secretary, Jesus Salazar (Jesus.Salazar3@bakerhughes.com). Membership to our chapter is free and can be claimed by filling out the form available at <https://lnkd.in/g4KQjYf>.

Recent Events

16 March 2021—Steve Cuddy (petrophysicist, director of Petro-Innovations and current SPWLA Distinguished Speaker 2020–2021) presented the work “The Benefits and Dangers of Using Artificial Intelligence in Petrophysics,” which was presented at the SPWLA 61st Annual Logging Symposium (DOI: 10.30632/SPWLA-5066).



182ª Reunião Mensal
Terça-feira, 16 de março, 16h – Teams Meeting

The Benefits and Dangers of using Artificial Intelligence in Petrophysics



Steve Cuddy
Distinguished Speaker
SPWLA 2020-2021

Invitation to the March monthly meeting of the SPWLA Brazil Chapter.

20 April 2021—Philip Tracadas (geoscientist SME for WL & LWD Acoustic, Halliburton) presented “Sonic Logging—Advances in Acoustic Analysis for Reservoir Description Applications; Case Studies for Geomechanics, Geophysics, and Geology.”




183ª Reunião Mensal
Terça-feira, 20 de abril, 16h – Teams Meeting

Sonic Logging - Advances in Acoustic Analysis for Reservoir Description Applications Case Studies for Geomechanics, Geophysics and Geology



Philip Tracadas
Geoscientist SME for WL & LWD
Acoustics at Halliburton

Invitation to the April monthly meeting of the SPWLA Brazil Chapter.

To stimulate the engagement of university groups in the activities of our chapter, we decided that some of our monthly meetings in 2021 will be presented by invited Brazilian university researchers with relevant contributions to petrophysics. We are planning to have these presentations during our May and June monthly meetings. We expect to post the details of the meetings on our LinkedIn page and email our associates.

DENVER WELL LOGGING SOCIETY

General News

Lunch meetings are continuing to be held virtually for the time being at no cost to attend; however, you must register before attending. Typically, the lunches are every third Tuesday of the month; however, please check the calendar at <http://dwls.spwla.org>. We are working on adding the webinar reservation link to our website. Please continue to check the website for registration and upcoming talks. In the meantime, the DWLS monthly newsletters will include the webinar reservation link. If you are currently not receiving the monthly newsletter, please email vp_membership@dwls.spwla.org to be added to the monthly newsletter email distribution.

Recent Events

16 March 2021—Greg Salter (Core Laboratories) presented the March Talk entitled “Pressure-Dependent Permeability of Shale Reservoirs and the Implications for Estimated Ultimate Recovery.” The talk was well received.



Greg Salter (Core Laboratories)

20 April 2021—SPWLA Distinguished Speaker Luis Stinco (Olempetra) presented the April Talk called “Formation Evaluation Applying Deductive and Inductive Methodologies: Which One to Use When Characterizing Reservoirs.”



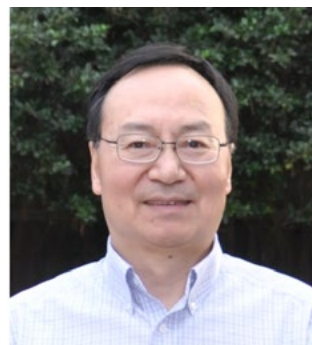
Luis Stinco (Olempetra)

22 April 2021—DWLS hosted the Rockies MiT (Members in Transition) webinar series. Dr. Amanda Kolker (National Renewable Energy Lab) spoke on “Geothermal 101: Resources, Utilization, and Project Development.” Rockies MiT is a joint effort of AAPG, COGA, CU Global Energy Management, DERL, DIPS, DWLS, RMAG, SPE, WENCO, WGA, and WOGA in the Rocky Mountain region to help association members during a career transition.

29 April 2021—The DWLS Spring Workshop was held online. We recycled our last year’s topic, which was canceled due to the pandemic: “Horizontal Petrophysics: Applications and Interpretation Techniques in Reservoir Characterization,” and had nine expert speakers with original research, including three SPWLA Distinguished Speakers.

Upcoming Events

25 May 2021—The final talk before the summer break will be Harry Xie (Core Laboratories), who will present “Characterization of Kerogen and Solid Organics of Unconventional Source Rocks Using Solid-Type 20MHz NMR Techniques.” To attend the talk, you must register prior, which you can do at this link: [webinar](#). The DWLS monthly newsletters also include the webinar reservation link. If you are currently not receiving the monthly newsletter, please email vp_membership@dwls.spwla.org to get added to the monthly newsletter email distribution. We are working on adding the webinar reservation link to our website. Please continue to check the website for registration and upcoming talks: <http://dwls.spwla.org>.



Harry Xie (Core Laboratories)

DUBAI CHAPTER

General News

In 2021, the Dubai Chapter continues with online meetings being held every two months. Our online technical events are usually held on the first Wednesday of each month. Anyone interested is welcome to visit our profile on LinkedIn SPWLA Dubai Chapter or email (dubai@spwla.org) to join the online events and ask any questions regarding the regional chapter.

Recent Events

17 March 2021—Pablo Saldungaray presented his work “Cased Hole Formation: An Alternative to Optimize Data Acquisition and Reduce Overall Costs in Mature Fields.” It was a very interesting presentation and was clearly delivered to the audience, who found the presentation very useful. Questions were answered at the end of the presentation and were well explained by the presenter.



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

CASED HOLE FORMATION: AN ALTERNATIVE TO OPTIMIZE DATA ACQUISITION AND REDUCE OVERALL COSTS IN MATURE FIELDS
Speaker: Pablo Saldungaray

Please join us for this SPWLA Microsoft Teams-Webinar
Date : Wednesday, 17th March 2021
Time : 4:30pm - 5:30pm Dubai-UAE Time
Registration for the technical session event in the link below:
[Webinar Registration](#)

SPWLA Dubai Chapter Sponsor
GOWELL

operations and was presented by Jessica Barbagelata and Christophe Tremaudant (TOTAL, engineer specialist reservoir PVT) on the “Benefits of Real-Time Follow-Up of WFT & DST Sampling Operations by Fluid Specialists.” The second topic was related to measurements and was presented by Hadrien Dumont (Schlumberger, reservoir technical director, reservoir performance) titled “Recent Developments in Wireline Formation Testing Technology and Products.” These two topics gave a detailed understanding of both the tool and measurement techniques and the critical information made available for operations, demonstrated through several case studies.

Upcoming Events

26 May 2021—Nelson Suárez Arcano will present “Successful Geosteering for Development of Carbonate Reservoirs Offshore Dubai.”



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

SUCCESSFUL GEOSTEERING FOR DEVELOPMENT OF CARBONATE RESERVOIRS OFFSHORE DUBAI - CASE HISTORIES
Speaker: Nelson Suárez Arcano

Please join us for this SPWLA Microsoft Teams-Webinar
Date : Wednesday, 26th May 2021
Time : 4 pm - 5 pm Dubai-UAE Time

SPWLA Dubai Chapter Sponsor
GOWELL

Dubai SPWLA Chapter would like to thank GoWell for the generous sponsorship.



FRANCE CHAPTER

Recent Events

5 March 2021—SPWLA France Chapter organized a remote Lunch and Learn technical session on Formation Testing and Sampling. Two topics were covered. The first one illustrated the added value of fluid sampling for

HOUSTON CHAPTER

General News

The SPWLA Houston Chapter board is pleased to share that we supported the 8th Semi-Annual Upstream Oil and Gas Professionals Hiring Event in collaboration with SPE. The event was a success, with more than 400 participants registered and 33 companies/employers in attendance. We will continue supporting these initiatives that add great value to our members, especially during these times via partnership with other professional societies and local chapters, such as the SPE GCS. With vaccinations now fully available for everyone in Texas, the landscape looks promising. Oil prices are an indication that we are going in a positive direction. More job postings are available than six months ago, and more companies are participating in these networking events.

For those of you who have not realized it yet, our website has been completely revamped. It went live in January 2021. Among the main changes, we included new features that will allow us to interact with our members and manage the chapter better. We’d also like to invite you to check out some of the webinars available in our video gallery. Please register on our new website to receive notifications of upcoming events and chapter news. There are also several interesting sponsorship opportunities, and job postings can be announced there. Please contact us in case you are interested. We are open to new speakers for our seminars. We like to bring other guests, in addition to our SPWLA DS guests, especially if the topic is of interest to our audience. Contact any board members in case you have a presentation you want to share.

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

SPWLA Houston Chapter Board for 2020 – 2021



Javier Miranda
PRESIDENT

president@spwla-houston.org



Jeff Crawford
VICE-PRESIDENT NORTH SIDE

vpnorthside@spwla-houston.org



Hyungjoo Lee
VICE-PRESIDENT DOWNTOWN

vpdowntown@spwla-houston.org



Bernd Ruehlicke
VICE-PRESIDENT WESTSIDE

vpwestside@spwla-houston.org



Ronke Olutola
TREASURER

treasurer@spwla-houston.org



Hans Wong
SECRETARY

secretary@spwla-houston.org



Artur Posenato Garcia
EDITOR

editor@spwla-houston.org



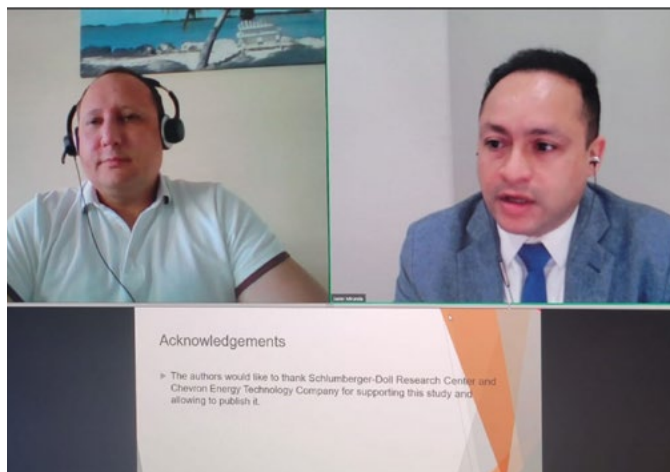
Tianmin Jiang
WEBMASTER

webmaster@spwla-houston.org

Recent Events

10 March 2021—SPWLA Houston Chapter recently organized a virtual seminar with SPWLA Distinguished Speaker (DS) Nikita Seleznev titled “Determining Water-Filled Porosity of Tight Oil Reservoirs With a New Interpretation Method for Dielectric Dispersion Measurements.” This seminar

was well attended, with more than 80% of the people registered attending. We thank Nikita for volunteering to present his work to our chapter members and others from overseas who were interested in the topic. We had a very dynamic Q&A session where Nikita expanded on the subject and addressed all the questions and comments from the audience.



SPWLA DS Nikita Seleznev (left) and SPWLA Houston Chapter President Javier Miranda (right).

29 April 2021—Our April virtual seminar featured “Formation Chlorine Measurement From Spectroscopy Enables Water Salinity Interpretation” by Jeffrey Miles (Schlumberger-Doll Research Center).

Upcoming Events

End of May—“Petrophysical Machine Learning (ML) Model” will be presented by Andrew McDonald (Lloyd’s Register). More details will be available soon on the Houston Chapter’s website. <https://www.spwla-houston.org/>

Summary of 8th Semi-Annual Upstream Oil and Gas Professionals Hiring Event

The SPWLA Houston Chapter supported the 8th Semi-Annual Upstream Oil and Gas Professionals Hiring Event for professionals of energy and upstream oil & gas disciplines, which the SPE-GCS organized. As a result, SPWLA Houston Chapter’s current professional members were entitled to participate as job seekers. This hiring event was held online on April 7 with more than 400 participants registered, 33 companies, and more than 50 collaborating organizations, as shown below. The Hiring Event was one of the most remarkable happenings bringing together experienced and

talented professionals with employers and recruiters from various sectors “virtually under one roof,” thereby serving as the platform for open and vast-ranging employment opportunities.

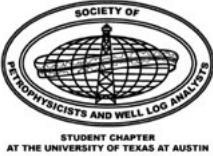
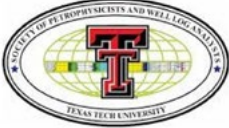
The event received great feedback from Texas Workforce Solutions. For the first time, the Hiring Event was free for both employers and job seekers.

For more information about the event and participants, visit our website: <https://www.spwla-houston.org/>.

Supporting Student Chapters of SPWLA

The Houston Chapter is proud to continuously provide financial support to regional student chapters of SPWLA. The student chapters are an important component of our society as they organize a significant number of technical events to highlight and disseminate petrophysics and formation evaluation knowledge among students, academics, and local professionals. We recently provided financial help to support two chapters in Texas with their student paper contests, monthly seminars, and other activities.

The latest recipients include the chapters at:

	<p>The University of Texas at Austin (Hook' em!)</p>
	<p>Texas Tech University (Guns up!)</p>

**JAPAN CHAPTER
(Japan Formation Evaluation Society, JFES)**

General News

New Committee Member

Masaaki Okita (JX) Director

Outgoing Committee Members

Ryo Sakamoto (MOECO) Director

Atsushi Tsurumi (JX) Director



Recent Events

- 11 December 2020—The 112th Chapter Meeting was held online with a presentation of “Prospect Evaluation With Geochemical Survey on Sea Floor Surface, Application Offshore Libya” by Takeo Aoyama (JX Nippon Oil & Gas Exploration Corporation)
- 23 March 2021—The 113th Chapter Meeting held online featured “Tubing Inspection Using a Multi Finger Caliper Tool by Slickline Operation” by Masato Nakadai, Masahiro Maruta (Geophysical Surveying Co. Ltd.), Tanetomo Izumi, and Hikaru Kusanagi (Japan Petroleum Exploration Co. Ltd.). “Quantifying the Mineralogy of a Volcanic Reservoir Rock by Integrated Petrological Analysis Including Thin Section, XRF, XRD, RockEval, and SEM+EDS With Mineral Mapping System” by Takeaki Otani, Tetsuya Yamamoto, Masahiko Yagi (Japan Petroleum Exploration Co. Ltd.), and Tatsuya Hattori (Japan Oil, Gas and Metals National Corporation) was also presented.

Upcoming Events

30 September and 1, 7, and 8 October 2021—The 26th Formation Evaluation Symposium of Japan, Virtual Meeting will be held. **The call for abstracts is open until May 17, 2021:** (<http://jfes-spwla.org/>)

The event will include:

- A prerecorded video presentation
- Live Q & A and a Special Session: Integrated Evaluation. Invited Talks include:
- “Core, Log, and Seismic Data Integration for 3D Modeling of a Methane Hydrate Project” by Dr. Machiko Tamaki (Japan Oil Engineering)
- “Key Elements in the Full Iteration Process With a Multidiscipline Team for the Successful Subsurface Evaluation” by Mr. Ryuichi Uchimura (JX Nippon Oil & Gas Exploration)
- A third talk is TBA

In this year’s Special Session “Integrated Evaluation,” JFES will provide petrophysicists, geoscientists, and engineers with an opportunity to share their expertise in applying integrated approaches. We expect the symposium to be a platform for the interaction of different disciplines, which might give the injection of different types of solutions. SPWLA Japan Chapter encourages students to participate and present. The Best Student Award will be presented to the outstanding presentation. The student awarded would be nominated for the SPWLA Student Paper Contest in the international SPWLA 2022 Symposium.

The 26th Formation Evaluation Symposium of Japan
Virtual Meeting
30th September, 1st /7th /8th October
13:00-17:00 Japan Standard Time (GMT+9:00) Each Day
Pre-recorded video presentation and Live Q & A
Special Session: Integrated Evaluation

Keynote Speech: Ms. Katerina Yared (SPWLA President/SM Energy)
Invited Talk:

1. *Dr. Machiko Tamaki (Japan Oil Engineering)*
Core, log and seismic data integration for 3D modelling of a methane hydrate project
2. *Mr. Ryuichi Uchimura (JX Nippon Oil & Gas Exploration)*
Key elements in the full iteration process with multi-discipline team for the successful subsurface evaluation
3. *TBA*

LONDON PETROPHYSICAL SOCIETY (LPS)

General News

LPS members have been invited to engage and participate in the Imperial College London survey to support identifying the skillset needed in today’s broader geo-energy industry that will shape the geoscience-related courses of the future. LPS Student University Bursaries, Grants, and Awards for Young Professionals application deadlines have been extended to the end of May to provide enhanced support across student and young professional members.

Recent Events

11 March 2021—The LPS held the first one-day seminar of the year themed around the Energy Transition. With a broad and substantial number of quality abstracts received, the seminar was expanded across two days. From the talks given, there seems little doubt that petrophysics will be

key in many of the technologies currently being considered for the future of energy and a good opportunity to learn on a very diverse range of topics. The second day of the seminar will be held on June 17.

20 April 2021—The April evening lecture on the determination of water saturation in unconventional shale reservoirs was presented by Ali Tinni (Mewbourne School of Petroleum & Geological Engineering University of Oklahoma) and followed by the LPS Iain Hillier Student Grant award winner Mohamed Garum (University of Leeds) presenting his results on microstructural properties and fluid flow of gas shale.

Upcoming Events

11 May 2021—The members are looking forward to the May evening lecture on “Formation Chlorine Measurement from Spectroscopy Enables Water Salinity Interpretation” by Jeffrey Miles (Schlumberger), detailing a new, direct quantitative measurement of formation chlorine from nuclear spectroscopy, which enables continuous logs of apparent water salinity or water volume within a limited radial depth.

MALAYSIA CHAPTER

(Formation Evaluation Society of Malaysia, FESM)

General News

FESM, a local chapter of Formation Evaluation Society of Malaysia, is based in Kuala Lumpur. Technical meetings are held on the fourth week of each month. For meeting information, please visit our chapter website at www.fesmkl.com.

Recent Events

4 March 2021—FESM hosted the first Virtual Series Technical meeting for 2021 with the topic of “The Benefits and Dangers of Using Artificial Intelligence in Petrophysics” by Steve Cuddy, an SPWLA Distinguished Speaker for the current 2020–2021 season. He started the meeting by explaining the meaning of Artificial Intelligence (AI) and describing three generations of AI. During the meeting, various case studies were presented that involved AI in order to derive saturation equation determination, NMR pattern recognition, shear velocity prediction, and permeability prediction. He outlined a few advantages of using AI in petrophysical analysis, including that AI doesn’t require prior knowledge of the petrophysical response equations, is self-calibrating, and requires very little user intervention as there are no parameters to pick or crossplots to make. The meeting was concluded

with AI makes petrophysical analysis easy, and AI can be extremely dangerous. He recommended program development should include a risk assessment.

21 April 2021—FESM hosted a second Virtual Series Technical meeting for 2021 with the topic of “Sampling While Drilling—Past, Present, Future” by Nikhil Prakash Hardikar, an independent consultant. He covered the evolution of this technology and provided recommendations on the present technology capability to enhance future applications. He also shared the lessons learned and best practices to the attendees to make it more acceptable and help realize the value.

OKLAHOMA CITY CHAPTER

General News

The Oklahoma City Chapter will continue to hold virtual meetings on the second Tuesday of the month through May 2021, after which we will evaluate if we continue with virtual events or return to in-person meetings.

Recent Events

9 March 2021—Luis Quintero (Halliburton) presented “Reservoir Pressure in Tight Gas Formations From a Pressurized Core System.”

13 April 2021—Alberto Cesar Ortiz (NZA Solutions) presented “What Have We Learned From Petrophysical Evaluation of the Vaca Muerta Formation During the Last 7 Years of Unconventional Shale Play and Development?”

Upcoming Events

11 May 2021—Stephanie Perry (Geomark Research) will present “Linking Geology, Petrophysics, and Geochemistry in Subsurface Application Through an Innovative Rock and Fluid Integrated Workflow.”

PERMIAN BASIN CHAPTER

General News

Our meetings will continue to be virtual through the GoToMeeting platform. We are looking forward to monthly in-person meetings soon. Stay tuned for details.

We appreciate everyone who took the time to provide us feedback through our survey.

We are also taking nominations for leadership positions on the board. We will have two to three positions available for the 2021–2022 term. The term is June 2021–May 2022. Please send an email to permianbasin@spwla.org if you are interested in self-nomination.

Recent Events

Past Monthly Topics

Date	Speaker	Title
26 January 2021	Luis Quintero	“Reservoir Pressure in Tight Gas Formations From a Pressurized Core System”
23 February 2021	Jeffrey Miles	“Formation Chlorine Measurement From Spectroscopy Enables Water Salinity Interpretation: Theory, Modeling, and Applications”
23 March 2021	Ali Tinni	“Electrical Properties of Shales”
27 April 2021	Alberto Ortiz	“Petrophysical Evaluation of the Vaca Muerta Formation in the Last 7 Years of Unconventional Shale Play Development (YPF)”

Upcoming Events

Monthly Meetings

Date	Speaker	Title
25 May 2021	Nikita Seleznev	“Determining Water-Filled Porosity of Tight Oil Reservoirs With a New Interpretation Method for Dielectric Dispersion Measurements”
22 June 2021	Mayank Malik	“Maximizing Value From Mudlogs: Integrated Approach to Determine Net Pay”
24 August 2021	Matthew J. Drouillard	“Unconventional Geothermal: Viability and Suitability for Repurposing Aging Petroleum Fields”

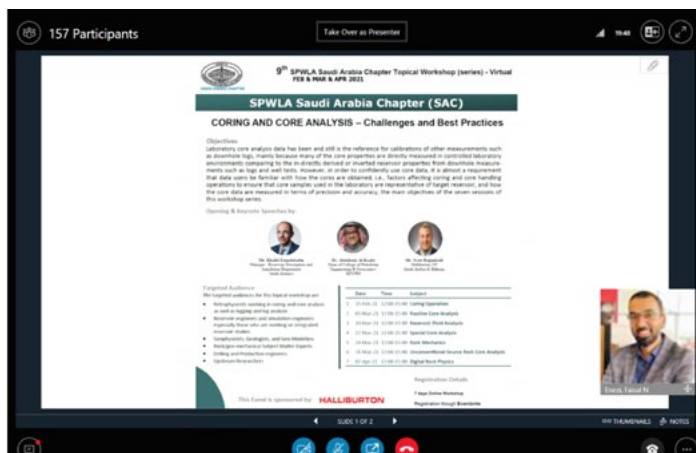
SAUDI ARABIA CHAPTER**Recent Events**

25 February 2021—The SPWLA Saudi Arabia Chapter (SAC) began 2021 with its 9th Topical Workshop Series on “Coring and Core Analysis,” a seven-session event conducted virtually from February through April 2021. As laboratory core analysis data have been and still are the reference for calibrations of other measurements, such as downhole logs, it is almost a requirement that data users be familiar with how the cores are obtained, i.e., factors affecting coring and core handling operations, to ensure that core samples used in the laboratory are representative of target reservoir, and how the core data are measured in terms of precision and accuracy. The main objective of this workshop is to discuss challenges and best practices of coring and core analysis, specifically:

1. The first session focused on the importance of coring operation with objective-driven coring programming and core handling before testing.
2. The second session addressed issues and data qualities of routine core analysis, including cleaning, drying, and saturation testing, as well as porosity and permeability measurements.
3. The third session highlighted the importance of reservoir fluid analysis from sampling to laboratory analysis of oil and water.

4. The fourth session was on special core analysis of rock multiphase properties, such as capillary pressure, wettability, electrical properties, NMR, and relative permeability.
5. The fifth session discussed the rock mechanical properties measured in the laboratory as well as downhole and their applications, such as in borehole stability evaluation, fracturing job design, and sanding prediction.
6. Unconventional source rock analysis was the theme addressed in session six, with a focus on kerogen characterization, but measurements of the extremely low porosity and permeability were also covered.
7. The last session was on the still-emerging digital rock physics technologies, with its strength and challenges in operational applications extensively discussed.

With great contributions from 35 subject matter expert speakers from across the globe, the SPWLA SAC organizing team invested hundreds of hours in planning, preparing, and delivering this workshop series, which attracted a total of 1,000 local, regional, as well as international attendance. It was truly a record-setting event valuable for students and young and senior professionals alike.



A glimpse of the SPWLA SAC 9th Workshop.

TULSA CHAPTER

General News

The Tulsa Chapter is making plans to resume in-person meetings or a hybrid of in-person/streaming for the upcoming 2021–2022 season. James Howard and Pat Ryan will remain as chapter officers for 2021–2022.

Recent Events

11 March 2021—Nikita Seleznev presented his 2020–2021 Distinguished Lecture on “Determining Water-Filled Porosity of Tight Oil Reservoirs With a New Interpretation Method for Dielectric Dispersion Measurements.” This talk was part of the Tulsa Chapter’s year-long interest in the petrophysics of tight oil reservoirs that dominate current activity in the mid-Continent. This talk drew an online audience outside of the chapter’s normal attendees. Their questions showed a lot of interest in how new tool technology led to the development of improved interpretation models for water saturation.

8 April 2021—Julie Kowan (Baker Hughes) presented her 2020–2021 Distinguished Lecture on “Weak Bedding Planes in the Marcellus Shale.” Her work on the characterization of bedding planes and how to work around their challenges are of interest to the unconventional reservoir community in the mid-Continent, though her presentation highlighted the challenges of extrapolating Marcellus results to other shale-like reservoirs.

Upcoming Events

May Social Event—The chapter plans to hold a combined social event and technical discussion during the week of the Annual Meeting (May 17–20) at a suitable outdoor venue. The technical portion of the evening will focus on identifying presentations from the Annual Meeting that would interest

our local community for the upcoming year’s monthly meetings. Details for the get-together will be sent out shortly before the event.

SPWLA UIS STUDENT CHAPTER (Colombia)

Board of Directors

President

Dana Marcela Ramirez Niño
(danamarcelaramirez@gmail.com)

Vice-President

Luis Alberto Chinomes
(luisalberto191296@gmail.com)

Fiscal

Angela Stefany Tarazona Robles
(angelstefany196@gmail.com)

Secretary

Diego Alberto Rangel Niño
(diegorangeln97@gmail.com)

Treasurer

Tanya Mercedes Garavito Luque
(tanyagal0197@gmail.com)

Memberships

Cristian Ferney Aceros Florez
(crisfer970319@gmail.com)



SPWLA UIS Student Chapter

COLOMBIA



Social Networks:
SPWLAUIS
Instagram / YouTube / LinkedIn / Facebook



SPWLA UIS Student Chapter:
presidencia.spwlaui@gmail.com
spwlauichapter@gmail.com

Recent Events

“SPWLA TALKS” Live Transmissions on the SPWLA UIS YouTube Channel

<https://www.youtube.com/c/SPWLAUIS>



24–26 February 2021—The Colombian Student Chapter SPWLA UIS hosted a virtual event using the Zoom platform entitled “Cycle of Conferences on Geomechanics: Fundamentals and Applications in Hydraulic Fracturing.” These conferences focused on Geomechanics from Fundamentals to Its Applications in Both Conventional and Unconventional Reservoirs.

24 February 2021—Session 1 “Conference: Fundamentals of Geomechanics” was presented by Reinel Corzo Rueda, Msc (geomechanical engineer, Ecopetrol).

26 February 2021—Session 3 “Conference: Geomechanical Aspect of Hydraulic Fracturing in Unconventional Reservoirs” was presented by José Gildardo Osorio, PhD (geomechanical engineer, PlusPetrol Uruguay).

25 February 2021—Session 2 “Conference: Geomechanical Aspect of Hydraulic Fracturing in Conventional Reservoirs” was presented by Cesar Fabian Lopez (geomechanical engineer, Ecopetrol).

16 March 2021—The Colombian Student Chapter SPWLA UIS hosted an online talk using the YouTube platform entitled “Signs of Prospectivity in Oil Wells (Focus: Wellsite)” by José Quevedo (geologist engineer, PDVSA). This talk explained the interpretation of drilling parameters, lithological and fluid samples, and well logs for prospectivity signals in oil wells.



The last week of April 2021—The Colombian Student Chapter SPWLA UIS will organize a virtual webinar entitled “How to Interpret the Cement Bond Log” by Raul Villamizar (petroleum engineer and professor, Universidad Industrial de Santander).



SPWLA UIS/ Social Networks

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

Instagram: <https://www.instagram.com/spwlauis/?hl=es-la>

YouTube: <https://www.youtube.com/c/SPWLAUIS>

Facebook: <https://es-la.facebook.com/SPWLAUIS/>

TEXAS TECH STUDENT CHAPTER

SPWLA is an international organization that has many chapters. All chapters, including the one on the TTU campus, work together to provide the latest educational advancements in petrophysics and formation evaluation. During this academic year (2020–2021), SPWLA conducted a number of virtual events. Some of these events included:

- A research topic, “Conclusive Proof of Weak Bedding

in the Marcellus Shale and Proposed Mitigation Strategies”

- Short Course on “Using Pressure Data in Unconventional Reservoirs”
- A presentation on “Formation Evaluation of Unconventional Reservoirs”



Posters used to promote Texas Tech Student Chapter events

Student Paper Contest

In addition to virtual events, our students plan to compete on an international level in the annual SPWLA Student Paper Contest. The students who will compete this year are:

- Mr. Sajjad Esmailpour
- Mr. Nelson Tatsipie
- Mr. Nitin Kulkarni

Officers for Next Year (2021–2022)

Elections were completed to determine next year’s SPWLA officers.

Below are your next year’s officers for this organization:

President

Sunita Pathak (sunita.pathak@ttu.edu)

Vice President

Diego Lopez (diego.lopez@ttu.edu)

Treasurer

Janett Lopez (janett.lopez@ttu.edu)

Secretary

Ritwik Mukerjee (ritmukhe@ttu.edu)

Membership Chair

Chanda Shrestha (cshresth@ttu.edu)

SORC Advisor

Alejandro Gallegos (alejandro.gallegos@ttu.edu)

UFRJ SPWLA STUDENT CHAPTER

General News

The UFRJ Chapter has 13 active members organized below:

Board Members**President**

Rodrigo Gentil Azambuja
(rodrigo.gentil.azambuja@gmail.com)

Vice President

Amanda Mendes Bezerra (mendesamanda@ufrj.br)

Treasurer

Sofia D'Orsi (sgdorsi@gmail.com)

Secretary

Maria Eduarda Verbicario (duda.verbicario@gmail.com)

Finance

Bruno Valle (bruno@geologia.ufrj.br)
Teresa Mourão (teresamouraoo@gmail.com)

Marketing Members

Caio Guedes (caiobittencourt@gmail.com) (coordinator)
Gabriel Ferraz (gabrielerraz036@gmail.com)
Shirlene Barros (shirlenebarros1@hotmail.com)
Iago da Costa (iago.cjaques@gmail.com)

Logistics Members

Vinicius Jorge (vinicius.tj@gmail.com) (coordinator)
Sarah Aleixo (sarahaleixo@gmail.com)
Isabelle Freitas (belleafreitas@gmail.com)

Recent News

17 March 2021—Our chapter promoted a webinar named “Petrophysical Evaluation of an Oil Well” with Lucas Blanes de Abreu (Petrobras). It was a great success. We had more than 130 subscribers, and during the webinar, there was an average of 60 consecutive people watching. We are keeping in contact with the speaker to have another event in the future. We also created a YouTube channel to share our webinars for viewers who would like to watch it again or those who missed the live event. We already uploaded two webinars to this new channel; our last webinar about petrophysical evaluation is one of them. The other is a successful webinar about the first steps of your career. As usual, our chapter got together

for two meetings to keep the team updated and organize future events and ideas. We also had two other meetings with three different chapters from the Federal University of Rio de Janeiro to organize an online event together that will possibly be about the importance of geoethics in the exploratory context.

April 2021—We also held a webinar at the end of April where the speaker discussed amazing information about Antarctica.



Post sharing our new YouTube channel on Instagram, LinkedIn, and Facebook.

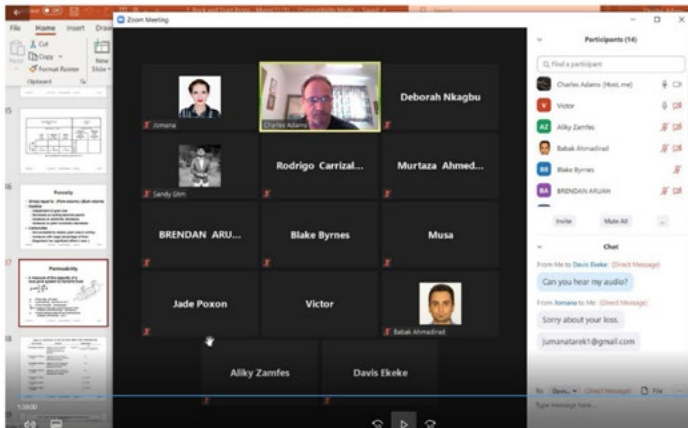
Upcoming Events

We are getting our ideas off the drawing board about the online event together with the other three UFRJ chapters, aiming to emphasize the importance of geoethics in the exploratory context, so this event will most likely come out very soon. Adding to that, our team has been trying to organize a course with some specialists to teach basic but important concepts in petrophysics and well logging so that both old and new members stay updated on these topics. Finally, we will keep sharing interesting happenings and some well-logging and petrophysics concepts through our social media posts. We recognize the current importance of being active on social media nowadays.

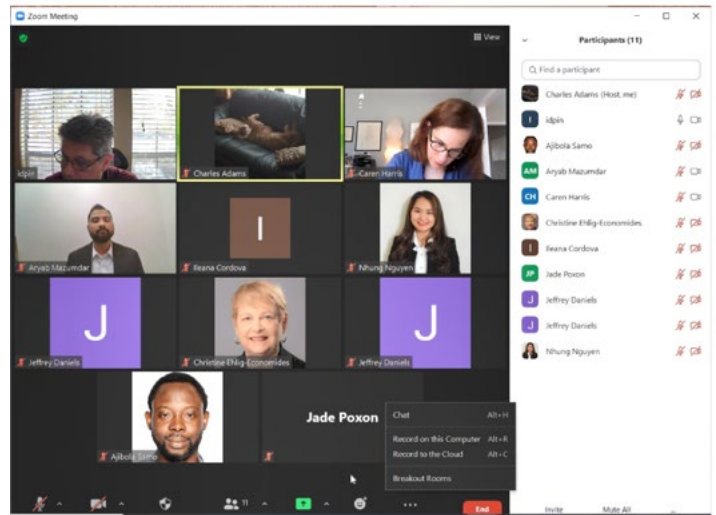
UH STUDENT CHAPTER

Recent Events

12 March 2021—A 90-minute midterm help session was conducted for Professor Mike Myers’ Master’s Well-Logging class. Topics included Archie’s equation, Tornado Charts, permeability indicator logs, zoning and squaring logs, R_w from SP logs, and Darcy’s equation.

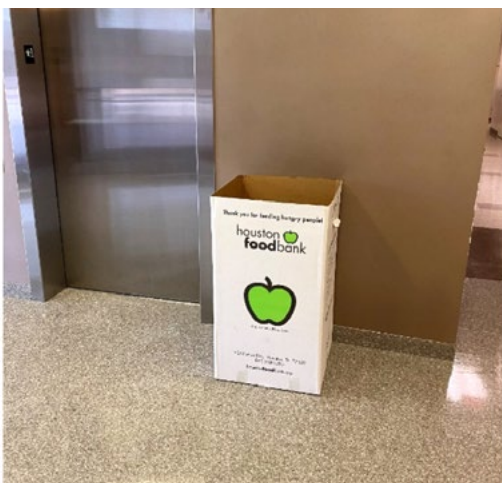


6 March 2021—The SPWLA UH Chapter hosted a remote Student Paper Contest resulting in three categorical winners submitted for the international competition. Pictured below is a screenshot of the Master’s category competition.



SPWLA UH Chapter Techlog training videos, previously recorded on October 31 and November 14, 2020, were reviewed and edited to provide modular training inputs to Professor Myers’ Master’s Well-Logging curriculum. This was a collaboration between the SPWLA UH Chapter and several of Professor Myers’ graduate students.

As part of our community outreach, Houston Food Bank boxes were placed at the ERP and main campus to help Houston’s most vulnerable and needy, who were especially affected during the COVID-19 pandemic.



****UH Oil and Gas Career Fair 2021 was canceled** due to a lack of funding for the necessary contracted software platform. A lessons learned list is being generated by all five student petroleum organizations to raise the funds needed for next year should we have to do it remotely. Hopefully, that won’t be the case, and we’ll do it in person as we did last year.

UNIVERSITAS PERTAMINA STUDENT CHAPTER

General News

SPWLA Pertamina University Student Chapter is one of three student chapters in Indonesia. We fall under the Indonesian Chapter of SPWLA and do some activities together. Our committee consists of undergraduate students from petroleum engineering, geological engineering, and geophysical engineering majors.

April–May 2021 is the end of our current board, which will be replaced by a new committee. Our organizational structure is as follows:

- President** Teddy Ivan Sudjana
- Vice President** Ade Eno Ermansyah
- Secretary** Intan Umull Magfira Sary
Indah Kurniasari



Treasurer	Rahayu Sundari Salsabila Putri Rahmayani Yusrina Alfiani Haqi
Quality Control	Muhammad Azhar Hussein Erica Martha Arinauli Ridho Akbar Szafdarian
Public Relations	Kathlyn Kalvari Pasmeputra Nadya A Ali Assegaff Ulrike Johanna
Events	Marsil Irvan Defri Nesya Yunita Hanum Tri Mulyani Vaschalis Gessong Sumomba Trisha Amanda Beryll
Media & Publication	Taufiq Ar-Rahman Mahmudin Regina Ruby Buyang Rica Anjelina Siregar Syailendra Maha Fijar Sanjaya Putra Fariqshan Meinandi
Professionalism	Rizki Fadhilah Ramadhan Gadis Wahyu Ramadhani YUSRIL DWI IHZA MAHENDRA Muhammad Abdul Hafizh Nicolas Silaen
Education & Training	Erwin Fernanda Viko Efrian Julian Tino Serina Andiani Pongtuluran Firman Cahya Putra Adistia

During the past term, there are several events that we have carried out. To find out more details, please visit our [Instagram](#) and [LinkedIn](#) accounts.

Recent Events

3 October–6 December 2020—The National PetroWell Event 2020 is the largest event initiated by the SPWLA Pertamina University Student Chapter, with the Event Committee of the SPWLA Universitas Pertamina Student Chapter as the organizer and assisted by students from the faculty of Exploration and Production Technology. This activity was held in 2019 under the name SPWLA Annual Forum 2019, but due to the addition of competition activities, the 2020 SPWLA Annual Forum was renamed National PetroWell Event 2020. National PetroWell Event 2020 (NPW 2020) has two events in it: namely, the SPWLA Annual Forum,

which is a large national seminar that brings in professional speakers in the field of petrophysics and well logging to discuss challenges in oil and gas exploration in Indonesia and the world in the future and, secondly, the PetroWell Study Case Competition (PSCC) where participants in the competition analyze and complete case studies from data such as petrophysics and also well-logging data where it is hoped that the results can be used for exploration, especially in Indonesia. Twenty-six teams participated from 15 universities in Indonesia and one from Malaysia.

6 December 2020—The SPWLA Annual Forum entitled “Conventional vs. Unconventional Gas for Indonesia’s Future” discussed the comparison and development of the conventional and unconventional oil and gas system in Indonesia and challenges in the future, especially for Indonesia with speakers Mr. Jeres Rorym Cherdasa (lecturer and researcher, Universitas Pertamina), Mr. Budi (senior geologist), Mr. Arya Disiyona (manager of G&G for oil development, SKK Migas), Mr. Muhammad Nur Ali Akbar (petroleum engineer, Mol Hungary), and Mr. Chandra Daud Tiranda (general manager, Mandala Energy dan dilaksanakan pada). The event had 150 participants from 17 universities and seven companies.

SPWLA ANNUAL FORUM
"Conventional vs Unconventional Oil and Gas for Indonesia's Future"

SESSION 1
Conventional Oil and Gas

SPEAKERS

- JERES RORYM CHERDASA
Lecturer and Researcher at Universitas Pertamina
- BUDI PERMANA
Senior Geologist

MODERATOR

- AINISA SENAR PALUPI
Simulation Engineer in Charge at NISK

SESSION 2
Unconventional Oil and Gas

SPEAKERS

- ARYA DISIYONA
Manager of G&G for Oil& Gas Development at SKK Migas
- MUHAMMAD NUR ALI AKBAR
Petroleum Engineer at MOL Hungary
- CHANDRA DAUD TIRANDA
General Manager at Mandala Energy

MODERATOR

- DIKHA ARI PRATIKA
Petroleum Engineer at Laksana

FREE ENTRY
FREE E-CERTIFICATE
+ DOORPRIZE

REGISTRATION:
https://dit.ly/SAF-NPW2020

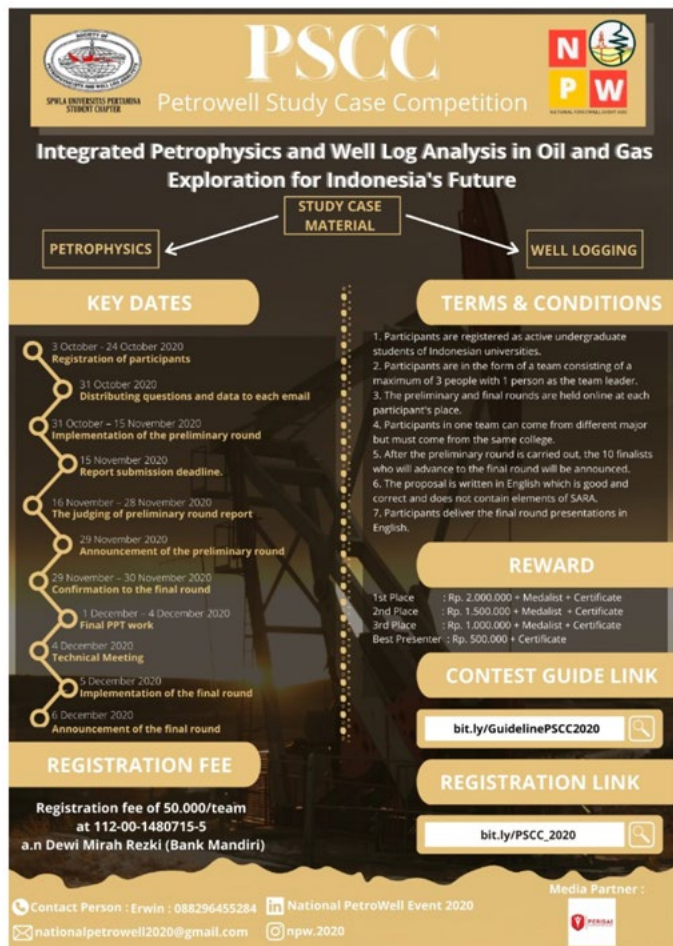
Sunday, 6th December 2020
SESSION 1 : 09.45 - 12.30 WIB
SESSION 2 : 12.45 - 16.30 WIB

CONTACT PERSON :
085799508751 (RAHMAD MURDANI)

MEDIA PARTNER :
PERISAI

Zoom

Instagram: npw-2020
Facebook: National PetroWell Event 2020
Email: NationalPetroWell2020@gmail.com



PSCC
Petrowell Study Case Competition

Integrated Petrophysics and Well Log Analysis in Oil and Gas Exploration for Indonesia's Future

STUDY CASE MATERIAL

PETROPHYSICS | WELL LOGGING

KEY DATES

- 3 October - 24 October 2020: Registration of participants
- 31 October 2020: Distributing questions and data to each email
- 31 October - 15 November 2020: Implementation of the preliminary round
- 15 November 2020: Report submission deadline.
- 16 November - 28 November 2020: The judging of preliminary round report
- 29 November 2020: Announcement of the preliminary round
- 29 November - 30 November 2020: Confirmation to the final round
- 1 December - 4 December 2020: Final PPT work
- 4 December 2020: Technical Meeting
- 5 December 2020: Implementation of the final round
- 6 December 2020: Announcement of the final round

TERMS & CONDITIONS

- Participants are registered as active undergraduate students of Indonesian universities.
- Participants are in the form of a team consisting of a maximum of 3 people with 1 person as the team leader.
- The preliminary and final rounds are held online at each participant's place.
- Participants in one team can come from different major but must come from the same college.
- After the preliminary round is carried out, the 10 finalists who will advance to the final round will be announced.
- The proposal is written in English which is good and correct and does not contain elements of SARA.
- Participants deliver the final round presentations in English.

REWARD

1st Place : Rp. 2.000.000 + Medalist + Certificate
 2nd Place : Rp. 1.500.000 + Medalist + Certificate
 3rd Place : Rp. 1.000.000 + Medalist + Certificate
 Best Presenter : Rp. 500.000 + Certificate

CONTEST GUIDE LINK
bit.ly/GuidelinePSSC2020

REGISTRATION LINK
bit.ly/PSSC_2020

REGISTRATION FEE
 Registration fee of 50.000/team at 112-00-1480715-5 a.n Dewi Mirah Rezki (Bank Mandiri)

Contact Person : Erwin : 088296455284 | National PetroWell Event 2020
 nationalpetrowell2020@gmail.com | npw.2020

Media Partner : Pertamina

The GR has an open donation format, where the raised funds are used to help local people affected by disasters, especially the COVID-19 pandemic and other natural disasters.

15 August 2020—During GR Vol.1, a seminar was held entitled “Working Conditions, Tools, and Technologies,” which discussed working conditions, petrophysical tools, and technology in the oil and gas industry and the challenges for students and preparations for students to see firsthand their application in the industry with the invited practitioner Mr. Ongky Ari Prayoga (petrophysicist, Lemigas). This popular event was attended by 94 people from 12 universities and one company.



GETTING RICH DISCUSSION VOL. 1

Petrophysics : Working Condition, Tools and Technologies

15 August
 Saturday 13.00- end
 Via ZOOM

Ongky Ari Prayoga from LEMIGAS

OPEN DONATION
 Rek BCA : 5050130527
 A.N : Trisha Amanda Beryll

FREE E-CERTIFICATE

Contact Person
 Nesyia +62 821-1454-5280
 Amanda +62 812-4036-0028

Registration Link
<https://bit.ly/GRDiscussionVol1>

@spwla.upsc | SPWLA Universitas Pertamina SC | wwn8847r | SPWLA UP SC

20 October 2020—In GR Vol.3, the seminar was entitled “Webinar Carbonate Reservoir Characterization and Modeling,” which discussed carbonate reservoirs, their characterization, and developments in modeling the reservoir so that students could understand what is happening in the industrial world. Presentations were made by Mr. Jeres Rorym Cherdosa and practitioner Mr. Agus Izudin Latif (geologist, Qatar Petroleum). GR Vol.3 was attended by 84 people from 14 universities and two companies.



The order of the presentations

1. TEAM NUSANTARA
2. TEAM BISA TEAM
3. TEAM GLAUCONITE
4. TEAM PAWZER
5. TEAM AMETHYST
6. TEAM AMANDA
7. TEAM PETROCAMP4.0
8. TEAM RUGOS
9. TEAM WHO DARES WINS
10. TEAM DE FERROLO

Getting Rich Discussion (GR) is one of the SPWLA UPSC work programs under the Event Committee. It is a national seminar that features professional speakers in their fields.

GETTING RICH DISCUSSION VOL.03
 "Carbonate Reservoir Characterization and Modelling"

SPEAKER
 Jeres Rorym Cherdasa
 Lecturer and Researcher at Universitas Pertamina

SPEAKER
 Agus Izudin Latief
 Geologist at Qatar Petroleum

MODERATOR
 Reifandi Redhiza
 Drilling Engineer Intern at PT Rigis Energi Indonesia

October, 3rd 2020
 01.00-4.10 p.m WIB
 At

Registration Link
<http://bit.ly/RegistGRDisc3>

Contact Person
 Hanum : 089624439674

Open Donation for COVID-19
 087781325127 (Kathlyn Kalvari)

SPWLA.upsc | SPWLA Universitas Pertamina SC | wwn8847r | SPWLA UP SC

27 February 2021—In GR Vol.4, the seminar was entitled “Development of Digitalization in Drilling Sector” and discussed the development of digitalization in general, followed by a more in-depth discussion of digitization in the field of oil and gas drilling. The presenters were Bp. Bonang Firmansyah Jusri (senior project engineer, 2021–now) and Bp. Jerry Tobing (energy practitioner, 2003–now). GR Vol.4 had 102 participants from 15 universities and five companies.

Development of Digitalization in Drilling Sector

Speakers:
 Bonang Firmansyah Jusri
 Agus Izudin Latief

Moderator:
 Kamil De Mormes

WEBINAR
 Date : Saturday, February 27th 2021
 Time : 12.30 PM - END
 Platforms : Zoom Call Meeting

REGISTER
 You can register yourself through the link below
bit.ly/RegistGR04

Media Partner
Enerka

CARBONATE ROCKS – CLASSIFICATION
 CARBONATE COMPONENTS AND CLASSIFICATION

Diagram labels: Limestone, Crystallinity, Grains, Organic Frame, Frame Fragments, Skeletal Grains, Non-skeletal Grains.

Zoom Meeting Grid with participants: Taufiq Arrahman, Nuzul Nurrahman, and others.

Digitization? Digitalization?

Digitization refers to creating digital representations of physical objects.
 Digitalization refers to enabling/transferring business process by leveraging digital technologies and digitized data.

Data/Information Storage and Access

Cloud Computing

20 September 2020—GRISTA is a national seminar activity that combines departmental events and professional departments in collaboration with Enerka. The topic covered was “Drilling & Well Logging in Geothermal Exploration,” which discussed the challenges of drilling in geothermal environments and the application of well logging in geothermal fields. Presenters were Mr. Iqbal Sudirman (wireline country sales manager, Baker Hughes) and Mr. Daniel Wilhelmus Adityatama (drilling engineer, PT Rigsis Energi Indonesia). There were 126 participants from 13 universities and five companies.



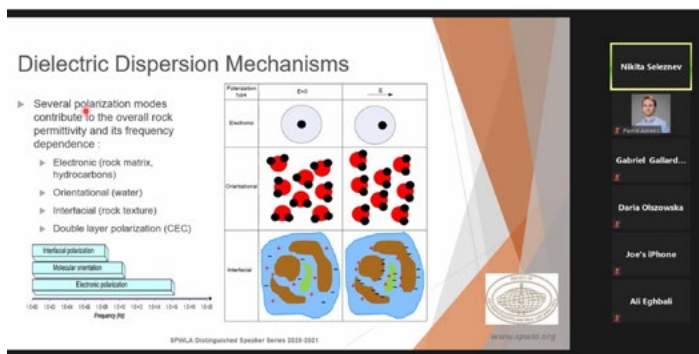
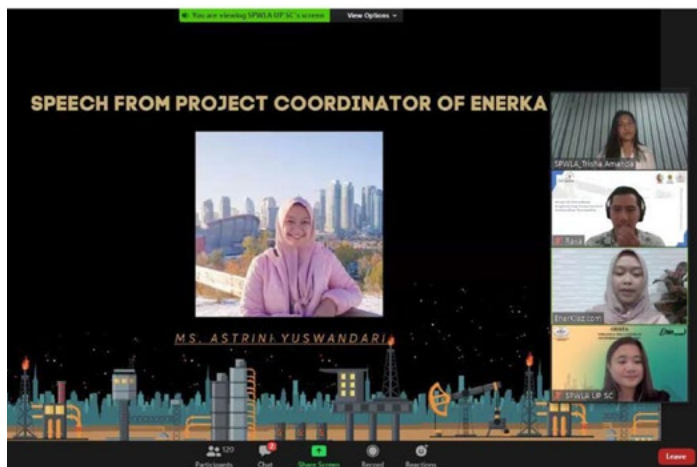
THE UNIVERSITY OF TEXAS AT AUSTIN STUDENT CHAPTER

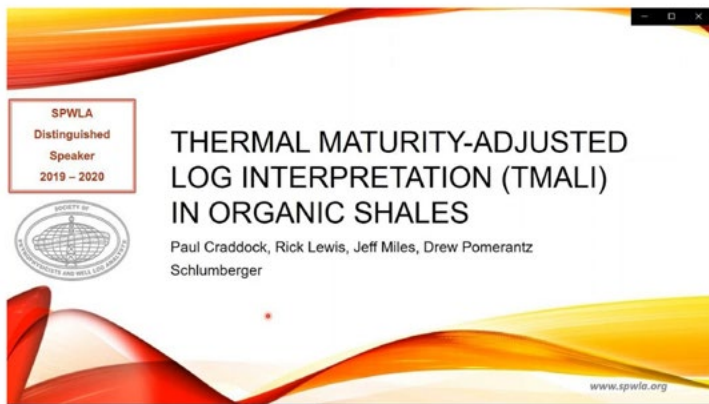
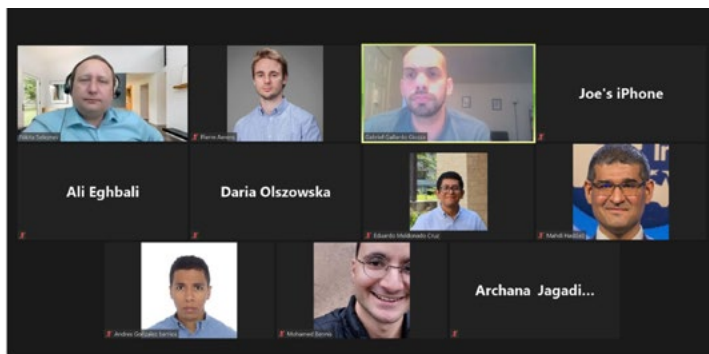
General News

The UT Austin Student Chapter hopes everyone in our community stays safe and healthy during these challenging times. We are in the second half of the 2021 spring semester. Since the start of the semester, we have hosted three technical seminars and the Student Paper Competition. We are observing similar attendance throughout the entire 2020–2021 academic year. We have implemented post-seminar polls to see where we can improve. Despite the challenges, we continue planning events for the academic year 2020–2021. We have confirmed one more speaker for the spring semester.

Recent Events

- 25 February 2021—We hosted our fourth technical seminar of the 2020–2021 academic year. Dr. Nikita Seleznev (2020–2021 SPWLA Distinguished Speaker) presented “Determining Water-Filled Porosity of Tight Oil Reservoirs With a New Interpretation Method for Dielectric Dispersion Measurements.” We would like to thank Dr. Seleznev for his presentation.
- 12 March 2021—We hosted the local SPWLA Student Paper Contest. We would like to thank our participants Ben Zhong, Eduardo Maldonado Cruz, Claudia Banks, and Ricardo Lara. We also want to thank our judges Dr. Carlos Torres-Verdin, Dr. Zoya Heidari, and Dr. Jorge Estrada.
- 25 March 2021—We hosted our fifth technical seminar of the 2020–2021 academic year. Our presenter was Dr. Paul Craddock (2020–2021 SPWLA Global Distinguished Speaker) with a talk about “Thermal Maturity-Adjusted Log Interpretation (TMALI) in Organic Shales.” We would like to thank Dr. Craddock and Schlumberger-Doll Research.





Upcoming Events

We plan to host one more seminar for the 2021 spring semester. Our next technical seminar entitled “Formation Chlorine Measurement From Spectroscopy Enables Salinity Interpretation” will be presented by 2020–2021 SPWLA Distinguished Speaker Dr. Jeffrey Miles. We look forward to his presentation.

Welcome New Members: February 21, 2021 – April 19, 2021

Afgan, Sher, University of the Punjab, Kharian, Punjab, Pakistan

Ahmed, Noman, University of the Punjab, Rawalpindi, WahCantt, Pakistan

Akhtar, Irza, University of the Punjab, Lahore, Pakistan

Al-Atallah, Nawaf, KFUPM, Dammam, Eastern Region, Saudi Arabia

Alahmad, Yahya, Coventry University, London, United Kingdom

Ali, Usman, University of the Punjab, Rawalpindi, Punjab, Pakistan

Ali Haider, Maha, University of the Punjab, Lahore, Pakistan

Bai, Jianping, Chong Qing University of Science and Technology, Chongqing, China

Bian, Huiyuan, Xi'an University of Science and Technology, Xi'an, China

Blanco Echeverria, Yon, Schlumberger, Voluntari, Ilfov, Romania

Blue, Daniel, Duncan Blue Consulting, Houston, TX, United States

Borkop, Cathrine, Galp, Murches, Alcabideche, Portugal

Cai, Hanpeng, University of Electronic Science and Technology of China, Chengdu, China

Cai, Ming, Yangtze University, Wuhan, China

Cao, Zheng, Chong Qing University of Science and Technology, Chongqing, China

Carrizo Paez, Nicolas, YPF, Neuquen, Argentina

Chalaturnyk, Richard, University of Alberta, Edmonton, AB, Canada

Chen, Hao, Institute of Acoustics, Chinese Academy of Sciences, Beijing, China

Chen, Meng, University of Electronic Science and Technology of China, Chengdu, Sichuan, China

Cheng, Chao, SWPU, Chengdu, China

Cheng, Wei, Hohai University, Nanjing City, Jiangning, China

Cui, Zhiwen, Jilin University, Changchun, China

Desroches, Jean, Rocks Expert, Saint Maime, Paca, France

Diaz, Gean, Universidad Nacional De Ingenieria, Lima, Peru

Dong, Xu, Northeast Petroleum University, Daqing, China

Elegbede, Adegboyega, SASOL Petroleum UK, Grays, Essex, United Kingdom

Eslava Herrera, Juan, CEDCO, Bogotá, Colombia

Faizan Saleem, Rana, University of the Punjab, Lahore, Pakistan

Fang, Sinan, Yangtze University, Wuhan, China

Feng, Zhou, CPL, Beijing, China

Fernandes, Susana, Galp, Lisboa, Portugal

Gao, Peng, University of Electronic Science and Technology of China, Chengdu, China

Ge, Xinmin, China University of Petroleum (EastChina), Qingdao, China

Guan, Wei, Harbin Institute of Technology, Harbin, Heilongjiang, Peoples Republic of China

Guntoro, John, University of Aberdeen, Aberdeen, United Kingdom

Guo, Chaohua, CUG, Wuhan, China

Haeussler, Andre, Baker Hughes, Celle, Lower Saxony, Germany

Han, Jianhui, CDUT, Chengdu, China

Han, Yujiao, Sinopec Research Institute of Petroleum Engineering, Beijing, China

Harris, Christopher, Imperial College London, Den Haag, Netherlands

He, Jiahuan, Petrochina Southwest Oil & Gasfield Company, Chengdu, China

He, Jianhua, Chengdu University of Technology, Chengdu, China

He, Xiao, Institute of Acoustics, Chinese Academy of Sciences, Beijing, China

He, Yunlan, CUMTB, Beijing, China

Hu, Guangmin, University of Electronic Science and Technology of China, Chengdu, China

Hu, Haitao, CPL, Beijing, China

Huang, Zhaohui, Chong Qing University of Science and Technology, Chongqing, China

Jahani, Nazanin, NORCE Norwegian Research Centre, Bergen, Norway

Jantapang, Mongkon, PTTEP, Nonthaburi, Thailand

Jin, Ziqi, Northeast Petroleum University, Daqing, China

Khoshbakht, Farhad, MPC Kinetic, Wilson, WA, Australia

Kongslie, Marit, OREC, Hundvåg, Norway

Kumar, Pranav, ADNOC ONSHORE, Abu Dhabi, United Arab Emirates

Lai, Fuqiang, Chong Qing University of Science and Technology, Chongqing, China

Larberg, Arden, Quantum Energy Partners, Houston, TX, United States

Lefranc, Marie, Schlumberger, Cambridge, MA, United States

Li, Chao, Institute of Acoustics, Chinese Academy of Sciences, Beijing, China

Li, Fengbo, Sinopec Research Institute of Petroleum Engineering, Beijing, China

Li, Jie, Gowell International LLC, Houston, TX, United States

Li, Meng, Xi'an Shiyou University, Xi'an, China

Li, Shengqing, China University of Petroleum, Qingdao, China

Li, Wei, SWPU, Chengdu, China

Li, Xiaogang, Chong Qing University of Science and Technology, Chongqing, China

Li, Xin, Sinopec Research Institute of Petroleum Engineering, Beijing, China

Li, Xinhui, Xi'an University of Science and Technology, Xi'an, China

Li, Zhen, Chengdu University of Technology, Chengdu, China

Liu, Bo, Northeast Petroleum University, Daqing, Heilongjiang, China

Liu, Hongqi, SWPU, Chengdu, China

Liu, Huabing, Beijing Limecho Technology Co., Ltd, Beijing, China

Liu, Junfeng, Yangtze University, Wuhan, China

Liu, Shiqiong, SWPU, Chengdu, China

Liu, Tangyan, Tongji University, Shanghai, China

Liu, Xiangjun, SWPU, Chengdu, China

Liu, Ying, Chong Qing University of Science and Technology, Chongqing, China

Welcome New Members: February 21, 2021 – April 19, 2021

Lopez Peze, Guillermo, Pan American Energy, Buenos Aires, Argentina

Lu, Cai, University of Electronic Science and Technology of China, Chengdu, China

Martinuzzi, Vincent, Geneva Petroleum Consultants International, Veyrier, Geneva, Switzerland

Men, Baiyong, CUPB, Beijing, China

Meng, Jianghui, Yangtze University, Wuhan, Caidian, China

Meza Ventura, Kevin, Universidad Nacional De Ingeniería, Lima, Peru

Mohamed, Tarek, University of Texas at Austin, Austin, TX, United States

Moreira, Pablo, Geologix Limited, Rio De Janeiro, Brazil

Ni, Weining, Sinopec Research Institute of Petroleum Engineering, Beijing, China

Ochoa, Jhoan, National University of Engineering, Lima, Peru

Ozza, Tsania, RH Petrogas, Jakarta, Indonesia

Paul, Suman, Presidency University, Bengaluru, India

Peng, Wang, University of Electronic Science and Technology of China, Chengdu, China

Pico Benitez, Diana, Universidad Industrial De Santander, Girón, Santander, Colombia

Porter, John, Bakersfield, CA, United States

Pothana, Prasad, University of North Dakota, Grand Forks, ND, United States

Pullarp, Mesinee, Chatichak, Bangkok, Thailand

Puri, Arjun, Baker Hughes, Zirakpur, India

Qian, Feng, University of Electronic Science and Technology of China, Chengdu, China

Quelali, Yesica, YPFB, Santa Cruz, Bolivia

Rathore, Pal Washa, University of the Punjab, Lahore, Pakistan

Reffell, Omar, Core Laboratories, Cypress, TX, United States

Rogers, Jason, Halliburton Energy Services, Cypress, TX, United States

Rolfsvåg, Trond, Hydrophilic AS, Tananger, Rogaland, Norway

Sang, Qin, SWPU, Chengdu, China

Shahzad, Shan, University of the Punjab, Lahore, Pakistan

Shen, Junjun, Yangtze University, Wuhan, Hubei Province, China

Shi, Xiaozhang, YiBin University, Yibin City, Sichuan Province, China

Silva, Betty, Stratum Reservoir, Houston, TX, United States

Song, Hongwei, Yangtze University, Wuhan, China

Song, Hongxi, Sinopec Research Institute of Petroleum Engineering, Beijing, China

Spalburg, Mirano, NIEUW-VENNEP, Netherlands

Su, Yuanda, China University of Petroleum, Qingdao, China

Sun, Haitao, China University of Petroleum, Beijing, China

Sun, Huafeng, China Geological Survey, Beijing, China

Sun, Hui, University of Electronic Science and Technology of China, Chengdu, China

Taiwo, Peace, Total, Lagos, Nigeria

Tang, Jun, Yangtze University, Wuhan, China

Tang, Yong, SWPU, Chengdu, China

Tang, Zhijuan, Petrochina Southwest Oil & Gasfield Company, Chengdu, China

Teymouri, Mehdi, SPWLA UT Austin Chapter, Austin, TX, United States

Toth, Jozsef, Independent, Szolnok, Hungary

Valiakhetov, Rustem, Naftogaz, Atyrau, Kazakhstan

Vega Espinoza, Joan, Universidad Nacional De Ingeniería, Lima, Los Olivos, Peru

Wang, Chenchen, Yangtze University, Wuhan, Hubei Province, China

Wang, Haitao, Chong Qing University of Science and Technology, Chongqing, China

Wang, Jun, HIT, Harbin, China

Wang, Yang, University of Houston, Houston, TX, United States

Wei, Chen, Yangtze University, Wuhan City, Hubei Province, China

Wei, Zhoutuo, China University of Petroleum (EastChina), Qingdao, Huangdao, China

Wu, Chunfang, Hohai University, Nanjing City, Jiangning, China

Wu, Feng, SWPU, Chengdu, China

Wu, Hongliang, CPL, Beijing, China

Xiong, Jian, SWPU, Chengdu, China

Xu, Hongrui, Chengdu University of Technology, Chengdu, China

Xu, Shaohua, Chong Qing University of Science and Technology, Chongqing, China

Xu, Song, China University of Petroleum, Qingdao, China

Xu, Tianji, University of Electronic Science and Technology of China, Chengdu, China

Xu, Wei, Yangtze University, Wuhan, China

Xu, Zhengjian, Chong Qing University of Science and Technology, Chongqing, China

Yan, Jianping, SWPU, Chengdu, China

Yang, Shubo, Sinopec Research Institute of Petroleum Engineering, Beijing, China

Yang, Yuyong, Chengdu University of Technology, Chengdu, China

Yao, Xingmiao, University of Electronic Science and Technology of China, Chengdu, Sichuan, China

Yu, Hongyan, NWU, Xi'an, China

Yu, Renjie, Sinopec Research Institute of Petroleum Engineering, Beijing, China

Yu, Xiaohe, University of Texas at Dallas, Richardson, TX, United States

Yuan, Rui, Yangtze University, Wuhan, China

Zeng, Fuqiang, China University of Geosciences, Wuhan, Hubei, China

Zhang, Chong, Yangtze University, Wuhan, China

Zhang, Gong, Yangtze University, Wuhan, China

Zhang, Hui, CAGS, Beijing, China

Zhang, Kai, China University of Petroleum, Qingdao, China

Zhang, Lei, Chong Qing University of Science and Technology, Chongqing, China

Zhang, Lei, CNPC Well Logging Corporation, Xi'an, Xi'an, China

Welcome New Members: February 21, 2021 – April 19, 2021

Zhang, Qiong, UESTC, Chengdu, China
Zhang, Quanying, Yangtze University, Wuhan, Caidian, China
Zhang, Xuejuan, Chong Qing University of Science and Technology, Chongqing, China
Zhao, Bin, Yangtze University, Wuhan, Hubei, China
Zhao, Dan, Petrochina Southwest Oil & Gasfield Company, Chengdu, China
Zhao, Jinzhou, SWPU, Chengdu, China
Zhao, Jun, SWPU, Chengdu, China
Zhao, Xiaoming, SWPU, Chengdu, China
Zhao, Xiaoqing, Northeast Petroleum University, Daqing, China
Zhao, Yanwei, CNPC, Beijing, China
Zheng, Lingli, SWPU, Chengdu, China
Zhou, Jun, University of Electronic Science and Technology of China, Chengdu, China
Zhou, Keming, Petrochina Southwest Oil & Gasfield Company, Chengdu, China
Zhou, Yang, Chengdu University of Technology, Chengdu, China
Zhu, Linqi, Chinese Academy of Sciences, Sanya, China
Zhu, Zhangxiong, Chong Qing University of Science and Technology, Chongqing, China
Zhuang, Chunxi, China University of Petroleum, Qingdao, China
Zong, Jingjing, University of Electronic Science and Technology, Chengdu, China
Zou, Guangui, CUMTB, Beijing, China
Zou, Jie, Chengdu University of Technology, Chengdu, China
Zuo, Yinghui, Chengdu University of Technology, Chengdu, Sichuan, China

Crossword Puzzle - Answers

