

**SPWLA 63rd Annual Symposium
June 11-15, 2022– Stavanger, Norway**

MONDAY – June 13th

- 8:00 **Opening Remarks** - Chairman - Mathias Horstmann, Schlumberger
8:20 **Keynote Speaker** - Ms. Kristin Fejerskov Kragseth, CEO of Petoro
9:00 **Introduction of Technical Sessions** – Vice President of Technology - Carlos Torres-Verdin
9:20 **Break (45 mins)**

Session 1 (Energy Hall 1)

**SPECIAL ORGANIZED SESSION: SURFACE LOGGING TECHNOLOGY IN THE ERA OF
DIGITALIZATION AND NEW ENERGIES**

Chairperson: *Tao Yang (Equinor)*

Co-Chairpersons: *Ilaria De Santo (Schlumberger) and Priscila Caldas (Halliburton)*

Sponsored by: **Lundin Energy**

10:05 **Introduction to the Session (5 minutes)**

10:10 **SPWLA-2022-0006 Decoding Nonproductive & Asphaltene Rich Intervals in Conventional Clastic Reservoirs While Drilling**

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

10:30 **SPWLA-2022-0007 Unlock Large Potentials of Standard Mud Gas for Real-Time Fluid Typing**

Tao Yang, Knut Uleberg, Alexandra Cely, Gulnar Yerkinzyzy, Sandrine Donnadieu, and Vegard Thom Kristiansen, Equinor ASA

10:50 **SPWLA-2022-0008 Key Role of Regearing Mud Gas Logging for Natural H₂ Exploration**

Dariusz Strąpoć, Mahdi Ammar, Nick Abolins, and Aleksandar Gligorijevic, Schlumberger

11:10 **SPWLA-2022-0009 Real-Time Fluid Identification From Integrating Advanced Mud Gas and Petrophysical Logs**

Margarete Kopal, Gulnar Yerkinzyzy, Marianne Therese Nygård, Alexandra Cely, Frode Ungar, Sandrine Donnadieu, and Tao Yang, Equinor ASA, Norway

11:30 **SPWLA-2022-0010 Mud-Gas Data-Based Qualitative to Semi-Quantitative Near-Realtime Petrophysical Analysis Contributes Crucial Information for Critical Decisions in Realtime Reservoir Navigation**

Nicklas Ritzmann and Svenja Erdmann, Baker Hughes

Session 2 (Energy Hall 2)

FORMATION EVALUATION OF CONVENTIONAL RESERVOIRS I: CASE STUDIES

Chairpersons: *Tom Bradley (Baker Hughes)*

Co-Chairperson: *Nils Andre Aarseth (AkerBP)*

Sponsored by: **AkerBP**

10:05 *Introduction to the Session (5 minutes)*

10:10 **SPWLA-2022-0058 A New Approach to Model Saturation Below Free Water Level, A Case Study From a Giant Reservoir in the Middle East**

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

10:30 **SPWLA-2022-0111 Vendor-Independent Stochastic Inversion Models of Azimuthal Resistivity LWD Data, Case Studies From the Norwegian Continental Shelf**

Danil Nemuschenko, Alexandra Zaputlyeva, Mikhail Sviridov, and Igor Kuvaev, ROGII Inc.

10:50 **SPWLA-2022-0061 Improving Reservoir Exposure in Thin Heterogeneous Carbonera Formation With the New Multilayer Mapping-While-Drilling Technology: A Case Study**

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

11:10 **SPWLA-2022-0019 Improving the Calculation of Petrophysical Properties in Vugular Carbonates Using Logs and Rock Samples: A Case Study in a Brazilian Pre-salt Well**

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

11:30 **SPWLA-2022-0119 Ultra-Deep 3D Electromagnetic Inversion for Anisotropy, a Guide to Understanding Complex Fluid Boundaries in a Turbidite Reservoir**

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

11:50 – 1:00 ***LUNCH (Annual Business Meeting and Luncheon)***

Session 3 (Energy Hall 1)

SPECIAL ORGANIZED SESSION: DISTRIBUTED FIBER OPTICS FOR FORMATION EVALUATION

Chairperson: *Isabelle Pellegrini (Ziebel)*

Co-Chairperson: *Garth Naldrett (Silixa)*

Sponsored by: **Schlumberger**

1:00 ***Introduction to the Session (5 minutes)***

1:05 **SPWLA-2022-0011 Comparison of Raman, Brillouin, and Rayleigh Distributed Temperature Measurements in High-Rate Wells**

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

1:25 **SPWLA-2022-0012 Full-Waveform Inversion of Fiber-Optic VSP Data From Deviated Wells**

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

1:45 **SPWLA-2022-0013 Joint Well Integrity Survey via a Hybrid Fiber-Optic DAS and DTS Sensing Cable, Multi-Arm Finger Calliper, and Magnetic Thickness Tools**

Erick Jimenez, Veronique Mahue, Peter Dawson, Odam Ebokpo, Silixa Ltd; Cosmin Costin, Prospectiuni S.A.; Hendrik Rohler, Felicia Cristian, Costin Bunda, Petre Maxim, OMV Petrom

2:05 ***Break (5 minutes)***

2:10 **SPWLA-2022-0014 Locating Microseismic Events and Determining Spatial Uncertainty Using 1C DAS Fiber Optic Strain Measurements or a Combination of 1C (DAS) and 3C (Geophones)**

Joël Le Calvez, Takashi Mizuno, Colin Wilson, Pierre Bettinelli, and Nicholas Fundytus, Schlumberger

2:30 **SPWLA-2022-0015 Multiphase Flow Rate Profiling With Uncertainty Through Distributed Temperature Sensing and Pulsed Neutron Oxygen Activation Modeling in Complex Wells**

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

2:50 **SPWLA-2022-0016 Signal Processing and Machine Learning for Effective Integration of Distributed Fiber Optic Sensing Data in Production Petrophysics**

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

Session 4 (Energy Hall 2)

DIELECTRIC MEASUREMENTS FOR IMPROVED FORMATION EVALUATION

Chairperson: *Christopher Skelt (Independent Consultant)*

Co-Chairperson: *David Maggs (Schlumberger)*

Sponsored by: **Logtek/Petroware**

1:00 ***Introduction to the Session (5 minutes)***

1:05 **SPWLA-2022-0022 Dielectric Inversion of LWD Propagation-Resistivity Tools for Formation Evaluation**
Barbara I. Anderson, Frank Shray, James Hemingway, Eric Decoster, Peter R. Swinburne, and Scott J. Jacobsen, NoHiddenPay, LLC

1:25 **SPWLA-2022-0002 A New Approach to Estimate Archie Parameters m and n Independently From Dielectric Measurements**
Salah Al-Ofi, Baker Hughes; Shouxiang Ma, Saudi Aramco; Hasan Kesserwan and Guodong Jin, Baker Hughes

1:45 **SPWLA-2022-0117 Simultaneous Assessment of Water Saturation and Water Salinity From the Joint Multi-Frequency Interpretation of Real and Imaginary Parts of Dielectric Permittivity Measurements**
Zulkuf Azizoglu and Zoya Heidari, The University of Texas at Austin; Leonardo Goncalves, Lucas Abreu Blanes de Oliveira, Moacyr Silva do Nascimento Neto, and Rodolfo Araujo Victor, Petrobras

2:05 ***Break (5 minutes)***

2:10 **SPWLA-2022-0003 Context and Distribution Matrixes – One Path to Consistent and Efficient Handling of Uncertainty in Formation Evaluation**
Kjetil Westeng and Yngve Bolstad Johansen, Aker BP

2:30 **SPWLA-2022-0004 Deep Salinity-Independent Water Saturation From Low-Frequency-Dielectric Rock Properties**
Scott J. Jacobsen, NoHiddenPay LLC; Keith Bartenhagen, EOG Resources; Barbara I. Anderson, Frank Shray, James Hemingway, Eric Decoster, and Peter R. Swinburne, NoHiddenPay, LLC

2:50 **SPWLA-2022-0122 Successful Identification of Bypassed Pay Zones and Wet Sands, in a Mature Oil Field, Using Multi-Frequency Dielectric Logging and Advanced Radial Inversion Methods: A Case Study From Colombia**
David Alfonso Serrano, Doris Patricia Ortiz, Tito Jose Acosta, Heliodoro Canarete, and Daniel Ricardo Cifuentes, Ecopetrol S.A.; Amer Hanif, Fei Le, Elton Frost Jr., Milton Mendez, and Luis Laguna; Baker Hughes

3:10 ***Break (25 mins)***

Session 5 (2nd Floor)

POSTER SESSION 1 (Session Time 3:40 – 4:05)

Chairpersons: *Lori Hathon (University of Houston)*

Co-Chairpersons: *Michael T. Myers (University of Houston)*

Sponsored by: *Logtek/Petroware*

3:35 **Introduction to Poster Session No. 1 (5 minutes)**

3:40 **SPWLA-2022-0023 Focusing UDAR Inversion for Navigation in Quasi-Layered Formations**

Danil Safin, Yuriy Antonov, and Arvi Cheryauka, Baker Hughes

3:40 **SPWLA-2022-0024 Mapping Injection Water Slumping and Reservoir Boundaries Using Real-Time ANN 2D Inversion of Extra Deep Azimuthal LWD Resistivity Measurements**

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

3:40 **SPWLA-2022-0025 Development of Comprehensive and Efficient DTS Interpretation Method for Fracture Diagnosis**

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

3:40 **SPWLA-2022-0026 Downhole Detection and Geological Prediction of Halite Cement**

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

3:40 **SPWLA-2022-0027 Assessment of Water Saturation in Carbonate Formations Honoring Complex Pore Structure: A New Insight Into Physics-Based Calibration**

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

3:40 **SPWLA-2022-0028 Formation Permittivity and Conductivity Simulation From Petrophysical Volumetric Analysis**

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

3:40 **SPWLA-2022-0029 Heavy End Analysis by Ultrahigh Resolution Mass Spectrometry in Oils and Tar in Two Adjacent Reservoirs**

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

3:40 **SPWLA-2022-0030 Assessment of True Formation Resistivity and Water Saturation in Deeply Invaded Tight-Gas Sandstones Based on the Combined Numerical Simulation of Mud-Filtrate Invasion and Resistivity Logs**

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

3:40 **SPWLA-2022-0031 Extended Fractional Flow Theory for Steady State Relative Permeability Experiments With Capillary End Effects – Transient Solutions and Time Scales**

Pål Østebø Andersen, University of Stavanger

- 3:40 **SPWLA-2022-0080** **Spatial Sensitivity Study Essential to Geosteering Interpretation**
Jun Zhu, Yong Die, Yuanshi Tian, Yongyang Song, Shansen Yang, and Ting Yang, China National Logging Corporation; Yanjun Chen and John Zhou, Maxwell Dynamics Inc.
- 3:40 **SPWLA-2022-0033** **Sourceless LWD Borehole Acoustics: Field Testing the Concept**
Alexei Bolshakov, Kristoffer Walker, Andee Marksamer, Lorelea Samano, and Andrew Reynolds, Chevron U.S.A. Inc.

Session 6 (Energy Hall 1)

FORMATION EVALUATION OF UNCONVENTIONAL RESERVOIRS

Chairperson: *Javier L. Miranda (DeGolyer and MacNaughton)*

Co-Chairperson: *Irada Yusufova (Equinor)*

Sponsored by: **Baker Hughes**

- 4:10 *Introduction to the Session (5 minutes)*
- 4:15 **SPWLA-2022-0086** **Integration Of Time-Lapse Geochemistry to Enhance Subsurface Characterization at Hydraulic Fracture Test Site II**
Adam Turner, Catherine Donohue, and Alex Zumberge, GeoMark Research LTD.; Kanay Jerath and Daniel Rivas, Occidental Petroleum Corporation
- 4:35 **SPWLA-2022-0085** **Integrated Petrophysical Evaluation of Unconventional Formations, in the Delaware Basin, With a Customized NMR Acquisition**
Mohammad Azeem Chohan, Rex Sy, and Milton Mendez, Baker Hughes; Stephanie Perry, GeoMark Research; Christopher Savage, Point Energy Partners
- 4:55 **SPWLA-2022-0084** **Enhanced Assessment of Water Saturation in Organic-Rich Mudrocks Incorporating the Vertical Heterogeneity Through Resistivity Image Logs**
Sabyasachi Dash and Zoya Heidari, The University of Texas at Austin
- 5:15 **SPWLA-2022-0083** **A Multidisciplinary Approach to Unconventional Petrophysical Reservoir Integrated Saturation Measurements**
Omar Reffell, Z. Harry Xie, and Humberto Carvajal-Ortiz, Core Laboratories LP
- 5:35 **SPWLA-2022-0088** **Effects of Near-Wellbore Supercharging and Hydro-Mechanical Coupling on Pressure Response for Formation Testing While Drilling**
Nian Peng, Tianshou Ma, Ping Chen, and Yu Qiao, State Key Laboratory of Oil and Gas Reservoir Geology and Exploitation, Southwest Petroleum University

Session 7 (Energy Hall 2)

NEW BOREHOLE MEASUREMENT TECHNOLOGY

Chairperson: *Marvin Rourke (GOWell)*

Co-Chairperson: *Vanessa Mendoza Barron (Shell)*

Sponsored by: **Halliburton**

4:10 ***Introduction to the Session (5 minutes)***

4:15 **SPWLA-2022-0040 Cased Hole Logging: The Development and Field Results of a New Drillpipe-Conveyed Casing Inspection and Cement Mapping Tool**

Andrew Hawthorn, Roger Steinsiek, and Shaela Rahman, Baker Hughes; Michael Andrew and Marcel Ngueguim, Equinor

4:35 **SPWLA-2022-0124 A Multi-Physics While-Drilling Tool Integrates Continuous Survey, Gamma Ray Image, Caliper Image, and More**

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

4:55 **SPWLA-2022-0123 Technological Innovations for Hydraulic Fracturing Method for Stress Measurements With Wireline Formation Testers**

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

5:15 **SPWLA-2022-0041 Conceptual Through Casing Resistivity Tool and Its Prototype Results**

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

5:35 **SPWLA-2022-0094 A Novel Interpretation Model for Cased Hole Density Measurement**

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

5:55 ***End of 1st Day - Adjourn***

TUESDAY – June 14th

Session 8 (Energy Hall 1)

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

Chairpersons: *Monica Vik Constable (Equinor)*

Co-Chairpersons: *Michael Rabinovich (BP)*

Sponsored by: Equinor

8:00 *Introduction to the Session (5 minutes)*

8:05 **SPWLA-2022-0044** **The Impact of Ultra Deep Azimuthal Resistivity Technology on ENI Geosteering Workflow Evolution**

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

8:25 **SPWLA-2022-0045** **Past, Present, and Future Applications of Ultra-Deep Directional Resistivity Measurements: A Case History From the Norwegian Continental Shelf**

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

8:45 **SPWLA-2022-0046** **UDAR: Past, Present, and Future. An Operator's Experience and Perspective on the Challenges and Opportunities in Applications With Ultra-Deep Resistivity Tools**

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

9:05 **SPWLA-2022-0047** **What Next After a Decade With Significant Advances in the Application of Deep Directional Measurements?**

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

9:25 **SPWLA-2022-0048** **The Journey of Reservoir Mapping While Drilling in Kuwait – What Was Learned, and What Is Needed for the Future**

Nasser Faisal Al-Khalifa, Deepak Joshi, Mohammed Farouk Hassan, and Asheshwar Tiwary, Kuwait Oil Company; Ihsan T. Pasaribu, Mahmoud Siam, Chandan J. Keot, Schlumberger

9:45 *Break (25 minutes)*

Session 9 (Energy Hall 1)

UDAR (ULTRA-DEEP AZIMUTHAL RESISTIVITY) TECHNOLOGY II

Chairperson: *Jean-Michel Denichou (Schlumberger)*

Co-Chairperson: *Arthur Walmsley (Halliburton)*

Sponsored by: **AkerBP**

- 10:10 SPWLA-2022-0049 **A New Generation of LWD Geosteering Electromagnetic Resistivity Tool Providing Multi-Layered Bed Boundary Detection, Anisotropy Determination, and Azimuthal Resistivity Measurements for Accurate Well Placement and Formation Evaluation**
Hsu-Hsiang (Mark) Wu, Alan Cull, Li Pan, Clint Lozinsky, Matthew Griffing, Yijing Fan, Alban Duriez, and Michael Bittar, Halliburton
- 10:30 SPWLA-2022-0050 **An Advanced Ultrahigh-Definition Directional Electromagnetic Propagation Logging Tool for Mapping While Drilling and Multilayered Formation Evaluation**
Hui Xie, Keli Sun, Ettore Mirto, Joe Gremillion, Sarwa Tan, Kent Harms, Jianguo Liu, and Yao Feng, Schlumberger
- 10:50 SPWLA-2022-0051 **Precise Localization of Offset Wells Crossed With Deep Directional Resistivity Measurements**
Michael Thiel, Haifeng Wang, Yong-Hua Chen, Mikhail Zaslavsky, Lin Liang, and Jean-Michel Denichou, Schlumberger; Henning Hoeyland, Brian Gallager, and Nguyen Xuan Phong, Jadestone Energy
- 11:10 SPWLA-2022-0052 **Real-Time 3D Anisotropy Analysis Enables Lithology Identification at Distance**
Ayman Elkhamry, Saudi Aramco; Ahmed Taher, Eduard Bikchandaev, and Mohamed Fouda, Halliburton

Session 10 (Energy Hall 2)

FORMATION EVALUATION FOR CCUS, ENERGY TRANSITION, AND COMPLEX CARBONATES

Chairperson: *Don Clarke (ExxonMobil)*

Co-Chairperson: *Solveig Riisøen (Hydrophilic)*

Sponsored by: **Hydrophilic**

- 8:00 *Introduction to the Session (5 minutes)*
- 8:05 SPWLA-2022-0090 **CCUS in Mature Fields: How Core-to-Log Data-Driven Analytics Enhances Mechanistic Models for the Purpose of Reservoir and Caprock Mineralogical Characterization**
Marco Pirrone, Federica Di Maggio, Dario Reolon, Massimiliano Borghi, and Maurizio Mele, Eni S.p.A.
- 8:25 SPWLA-2022-0091 **Characterization of Pulsed Neutron Responses to Monitor CCUS Projects**
Luis F. Quintero, Weijun Guo, and Robert Gales, Halliburton
- 8:45 SPWLA-2022-0053 **Enabling Technologies for Dynamic Reservoir Evaluation and Extended Pressure Transient Testing for the Low Carbon Transition**
Richard Jackson, Adriaan Gisolf, Francois Dubost, Chen Tao, Nataliya Mayzenberg, Ashers Partouche, Hadrien Dumont, and Hua Yu, Schlumberger
- 9:05 SPWLA-2022-0059 **A Step Change in Lower Shuaiba Reservoir Facies Interpretation Triggers New Discoveries**

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

9:45 **Break (25 minutes)**

Session 11 (Energy Hall 2)

FORMATION EVALUATION UNDER COMPLEX ROCK AND FLUID CONDITIONS

Chairperson: **Matthew Guy Reppert (Neptune Energy)**

Co-Chairperson: **Hendrik Rohler (OMV)**

Sponsored by: **Schlumberger**

10:10 **SPWLA-2022-0109 Naturally Fractured Carbonate Reservoir Characterization: A Case Study of a Mature High-Pour Point Oil Field in Hungary**

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

10:30 **SPWLA-2022-0108 Extracting More Value From Basic Cased Hole Services – Deriving Confident Formation Slowness Measurements From Simple Cement Evaluation Services**

Tom Bradley, Baker Hughes and Brice Fortier, Equinor A.S.A.

10:50 **SPWLA-2022-0060 Exploring the Downhole Waterways: Identification of the Sneaky Path of Water Through the Well Completion**

Giuseppe Galli, Marco Pirrone, Nicola Pirola, and Luca Parodi, Eni S.p.A.; Maximiliano Guiducci and Maciej Kozlowski, Halliburton

11:10 **SPWLA-2022-0110 Shale Stability Modeling in Horizontal Section Using Synthetic Compressional and Shear Slowness: A Case Study From Duva, North Sea**

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

11:30 **LUNCH (Awards Presentation Luncheon)**

Session 12 (Energy Hall 1)

SPECIAL ORGANIZED SESSION: NUCLEAR MAGNETIC RESONANCE OF CUTTINGS: MEASUREMENTS AND THEIR INTERPRETATION

Chairperson: *Adam Haecker (Battelle Memorial Institute)*

Co-Chairperson: *Lalitha Venkataramanan (Schlumberger)*

Sponsored by: **Schlumberger**

12:40 *Introduction to the Session (5 minutes)*

12:45 **SPWLA-2022-0062 Validation of Porosity of NMR Cuttings**

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

1:05 **SPWLA-2022-0063 Corrections and Extensions to the GRI Technique: Dual Imbibition, NMR, and SEM Image Analysis**

Clara Palencia, Lori Hathon, and Michael Myers, University of Houston

1:25 **SPWLA-2022-0064 Evaluating the Effectiveness of Rock Cleaning**

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

1:45 **SPWLA-2022-0065 Unconventional Drill Cuttings Analysis Using 23 MHZ 2-D NMR T1-T2 Mapping Techniques**

Z. Harry Xie and Omar Reffell, Core Laboratories LP

2:05 **SPWLA-2022-0066 An Optimized NMR-Based Workflow for Accurate Porosity and Density Measurement of Drill Cuttings**

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

Session 13 (Energy Hall 2)

Automated Methods of Formation Evaluation I

Chairperson: *Sarah Magdalena Birkeland (Equinor)*

Co-Chairperson: *Harry Xie (CoreLab)*

Sponsored by: **Equinor**

12:40 *Introduction to the Session (5 minutes)*

12:45 **SPWLA-2022-0021 Permeability Predictions From Dielectric Dispersion Logs Using Supervised Machine Learning: A Johan Sverdrup Field Example**

Jan Henrik Norbistrath, Equinor

1:05 **SPWLA-2022-0067 A Comparative Study for Machine-Learning-Based Methods for Log Prediction**

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

1:25 **SPWLA-2022-0018 Data-Driven Algorithms for Image-Based Rock Classification and Formation Evaluation in Formations With Rapid Spatial Variation in Rock Fabric**

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

1:45 **SPWLA-2022-0068** **Automatic Badlog Detection – A Key to Successful Digitalization in Subsurface**
Kjetil Westeng, Aker BP; Flávia Dias Casagrande and Saghar Asadi, Inmeta; Peder Aursand, Nils André Aarseth, Tanya Kontsedal, and Håvard Kvåle Simonsen, Aker BP

2:05 **SPWLA-2022-0069** **Class-Based Machine Learning for Intelligent Reservoir Characterization Over the Life Cycle of a Field in the North Sea**
Subhadeep Sarkar, Mathias Horstmann and Vikas Jain, Schlumberger; Odd Senneseth and Renee Aleixo, Neptune Energy

2:25 **Break (25 minutes)**

Session 14 (2nd Floor)

POSTER SESSION 2 (Session Time 2:55 – 3:20)

Chairperson: *Sergey Alyaev (NORCE)*

Co-Chairpersons: *Nazanin Jahani (NORCE)*

Sponsored by: **Stratum Reservoir**

2:50 **Introduction to the Poster Session (5 minutes)**

2:55 **SPWLA-2022-0072** **Quantifying Interfacial Interactions Between Minerals and Reservoir/Fracturing Fluids**
Isa Silveira de Araujo and Zoya Heidari, The University of Texas at Austin

2:55 **SPWLA-2022-0073** **Quantifying the Impacts of Rock Components and Their Spatial Distribution on Estimates of Hydrocarbon Reserves in Organic-Rich Mudrocks**
Sabyasachi Dash and Zoya Heidari, The University of Texas at Austin

2:55 **SPWLA-2022-0074** **Bridging Scales of Fracture Characterization Through Conventional Log Measurement.**
Amar Benaida and Nadjib Cherif, Sonatrach; Yasmina Bouzida, Gulzira Z. Zhunussova, Jeremy Riou, Tim Salter, and Eduardo A. Caeneuve, Baker Hughes

2:55 **SPWLA-2022-0075** **A New Uranium Imaging Technique Based on Four-Detector LWD Natural Gamma Ray Spectrometry Logging Apparatus**
Zhiyuan Liu, Feng Zhang, Qixuan Liang, and Jilin Fan, China University of Petroleum – East China; Zhen Yang, SINOPEC Matrix Corporation

2:55 **SPWLA-2022-0076** **Defining Geologic Structure Encountered in Horizontal Well and Its Impact on Petrophysical Evaluation**
Bo Su, China National Logging Corporation; Huafeng Ni and Zhongyuan Shi, CNPC Chuanqing Drilling Engineering Company Ltd.; Kecai Guo, Mingyu Lu, Yongdi Zhang, Haikun Ding, China National Logging Corporation; John Zhou, Maxwell Dynamics, Inc.

2:55 **SPWLA-2022-0077** **A Monitoring CO₂ Method by the Dual Cross Section Pulsed Neutron Logging Technology in Heavy Oil Reservoirs**
Jilin Fan, Feng Zhang, Lili Tian, Guiping Xiao, Hui Zhang, and Qunwei Fang, China University of Petroleum-East China

2:55 **SPWLA-2022-0078** **A Novel Gamma-Thermal Neutron Evaluating Gas Saturation Method Using Pulsed Neutron Logging Tool With Dual-CLYC**

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

- 2:55 **SPWLA-2022-0079** **An Efficient and Effective Algorithm for Mapping Reservoir Boundaries**
Peng Chen, Jun Wang, Jiaqi You, and Shijia Chen, China National Logging Corporation;
Shanjun Li and John Zhou, Maxwell Dynamics, Inc.
- 2:55 **SPWLA-2022-0081** **Transient Electromagnetic Response of Electrode Excitation and Geometric Factors of Desired Signal**
Xiaolin Zhu, Jiacheng Liu, and Jianguo Shen, Tianjin University; Yongjin Shen, Beijing
Huahui GEOEXPLORA Technology Co.Ltd.
- 2:55 **SPWLA-2022-0082** **Machine Learning for Determining Remaining Oil Saturation Based On C/O Spectral Logging in Multilayer String Cased Well**
Fei Qiu, Feng Zhang, Zhiyuan Liu, Guiping Xiao, and Qunwei Fang, China University Of
Petroleum – East China

Session 15 (Energy Hall 1)

FORMATION EVALUATION OF CONVENTIONAL RESERVOIRS II: NEW INTERPRETATION METHODS

Chairperson: *Marco Pirrone (ENI)*

Co-Chairperson: *Lars Johan Fjell (Logtek)*

Sponsored by: *Logtek/Petroware*

- 3:25 *Introduction to the Session (5 minutes)*
- 3:30 **SPWLA-2022-0001** **Generalizing the Geometrical Factor Theory**
David Kennedy, QED-Petrophysics LLC
- 3:50 **SPWLA-2022-0037** **Linking Acoustic, Electrical, and Hydraulic Tortuosity to Predict Permeability and Formation Factor**
Vimal Saxena, RockLog Consultancy
- 4:10 **SPWLA-2022-0034** **Integrated Analysis of NMR and Electrical Resistivity Measurements for Enhanced Assessment of Throat-Size Distribution, Permeability, and Capillary Pressure in Carbonate Formations: Well-Log-Based Application**
Howard August, Zulkuf Azizoglu, and Zoya Heidari, The University of Texas at Austin;
Leonardo Goncalves, Lucas Abreu Blanes de Oliveira, Moacyr Silva do Nascimento Neto,
and Rodolfo Araujo Victor, Petrobras
- 4:30 *Break (5 minutes)*
- 4:35 **SPWLA-2022-0035** **Integrating the Thomas-Stieber Analysis With a Staged Differential Effective Medium Model for Saturation Interpretation of Thin-Bedded Shaly Sands**
Andres Villarroel, Michael Myers, and Lori Hathon, University of Houston
- 4:55 **SPWLA-2022-0116** **Quantifying the Effects of Heavy Minerals on Thermal Neutron Porosity in Permo-Carboniferous Sandstone**
Olusegun Akinyose and Tariq Alshaikhmubarak, Saudi Aramco; Marie Van Steene and
Laurent Mosse, Schlumberger

- 5:15 **SPWLA-2022-0020** **New Development in Pulsed Neutron Technologies to Enhance Faster Data Recovery and Reduce Operation Logging Time for Three-Phase Saturation Analysis**
Roberto Nardiello, David Chace, Ian McGlynn, Pius Akagbosu, Salim Ouadah, and Vijay Ramaswamy, Baker Hughes Nigeria; Emmanuel Toumelin, Ajibola Oduwole, Matthew E. Ogofa, and Oyie Maureen Ekeng, Chevron Nigeria Limited

Session 16 (Energy Hall 2)

AUTOMATED METHODS OF FORMATION EVALUATION II

Chairperson: *Sanaz Javid (Lundin)*

Co-Chairperson: *John Zhou (MaxWell Dynamics)*

Sponsored by: **Lundin Energy**

- 3:25 *Introduction to the Session (5 minutes)*
- 3:30 **SPWLA-2022-0038** **ML-Based Deconvolution Method Provides High Resolution Fast Inversion of Induction Log Data**
Teruhiko Hagiwara, Aramco Americas
- 3:50 **SPWLA-2022-0103** **Estimation of Matrix Properties From Geochemical Spectroscopy Logs Using Machine Learning**
Vasileios-Marios Gkortsas, Paul Craddock and Jeffrey Miles, Schlumberger-Doll Research; Harish Datir and Lalitha Venkataramanan, Schlumberger
- 4:10 **SPWLA-2022-0056** **Joint Inversion and Unsupervised Learning Applied to NMR Data Processing That Eliminates the Need for Regularization**
Naveen Krishnaraj, Neaqtech; Michael Myers, University of Houston; Alon Arad, Automated Analytics,
Lori Hathon, University of Houston; Xinmin Ge, China University of Petroleum
- 4:30 *Break (5 minutes)*
- 4:35 **SPWLA-2022-0125** **Impact of Missing Data on Petrophysical Regression-Based Machine Learning Model Performance**
Andrew McDonald, Lloyd's Register
- 4:55 **SPWLA-2022-0127** **Permeability Prediction With Integration of Log and Core Data of a South Tanzania Gas Field Using Artificial Intelligence Techniques**
Patrick Kabwe, Tanzania Petroleum Development Corporation
- 5:15 **SPWLA-2022-0107** **A Novel Automated Machine-Learning Model for Lithofacies Recognition**
Jianhua Gao, Qiong Zhang, Yating Hu, Huilin Wu and Zaoyi Kang, University of Electronic Science and Technology of China
- 5:35** *End of 2nd Day – Adjourn*

WEDNESDAY – June 15th

Session 17 (Energy Hall 1)

SPECIAL ORGANIZED SESSION: RECENT ADVANCES IN BOREHOLE IMAGE TECHNOLOGY AND INTERPRETATION

Chairperson: *Christian Ramboisek (Nimbec Geoscience)*

Co-chair: *Peter Barrett (Halliburton)*

Sponsored by: **AkerBP**

8:00 ***Introduction to the Session (5 minutes)***

8:05 **SPWLA-2022-0095 BHI Logs and ML Automated Pre-Salt Carbonate: Texture Recognition and Petrophysical Properties Propagation Using Image Log, Core Images and Porosity-Permeability From Plugs**
Barbara Quediman, Enrique Estrada, Radompon Sungkorn and Jonas Toelke, Halliburton

8:25 **SPWLA-2022-0096 Comprehending Complex Clastics: Consistent Real-Time Geological Borehole Imaging Independent of Drilling Fluid and Telemetry Limitations**
Mathias Horstmann, Chandramani Shrivastava, and Adrian A., Rishav Goswami and Koushik Sikdar, Schlumberger; Beate Aas Bakke, Odd Aasheim, Terje Kollien, and Øyvind Stirø, Lundin Energy

8:45 **SPWLA-2022-0097 Automated Corrosion Analysis With Prior Domain Knowledge-Informed Neural Networks**
Salma Benslimane, Josselin Kherroubi, Kamaljeet Singh, Jean-Luc Le Calvez, Thomas Berard, and Mikhail Lemarenko, Schlumberger

9:05 **SPWLA-2022-0098 Best Image: Deep Learning for Saliency Estimation Using Expert Rankings**
Pontus Loviken, Nadege Bize-Forest, Daniel Quesada, Fatma Mahfoudh, and Josselin Kherroubi, Schlumberger

9:25 **SPWLA-2022-0099 Fracture Characterization Combining Borehole Acoustic Reflection Imaging and Geomechanical Analyses**
Xiao-Ming Tang, China University of Petroleum (East); Pei-Chun Wang, CNOOC; Shengqing Li, China University of Petroleum (East); Lei Xiong, CNOOC; Hanlin Zhang, China University of Petroleum (East)

9:45 ***Break (25 minutes)***

10:10 **SPWLA-2022-0100 Defining Formation Complexity and Anisotropy With Logging-While-Drilling Dual Ultrasonic Images**
Naoki Sakiyama, Matthew Blyth, Hiroaki Yamamoto, Mizuki Sagara, Sarwa Tan, Chandramani Shrivastava, Evgeniya Deger, and Hiroshi Nakajima, Schlumberger; Andrew Barry, Continental Resources; Mark G. Kittridge, Occidental

10:30 **SPWLA-2022-0101 Bridging the Gap Between Geologists and Drillers: LWD Ultrasonic Imaging Goes That Extra Mile**
Nadege Bize-Forest, Arnaud Jarrot, Emmanuel Legendre, Daniel Quesada, Isabelle Le Nir, Chandramani Shrivastava, and Thilo M. Brill, Schlumberger

10:50 **SPWLA-2022-0102 Use of Impedivity and Permittivity-Dominated Images to Identify and Characterize Fractures in Altered Basement Rocks – A Case Study From the Norwegian North Sea**

Sayyid Ahmad, Peter Barrett, Ahmed Fouda, Baris Guner, Venkat Jambunathan, and Eric Van Beest, Halliburton; István Nagy-Korodi and Botond Kemény, MOL; Jon Haugestaul, Three60 Energy; Ádám Spitzmüller, Independent Consultant

11:10 **SPWLA-2022-0106** **Embedding Artificial Intelligence on LWD Images for Automated Drilling Optimization**
Ana Escobar, Josselin Kherroubi, Daniel Quesada, Nadege Bize-Forest, Chandramani Shrivastava, Mathieu Tarrus and Exequiel Padin, Schlumberger

Session 18 (Energy Hall 2)

SPECIALIZED BOREHOLE MEASUREMENT AND INTERPRETATION TECHNIQUES I

Chairperson: *Robert Gales (Halliburton)*

Co-Chairperson: *Stefano Pruno (Stratum Reservoir)*

Sponsored by: **Stratum Reservoir**

8:00 ***Introduction to the Session (5 minutes)***

8:05 **SPWLA-2022-0039** **An Innovative and Reliable Method of Estimating Rock Strength From Drilling Data Acquired Downhole**

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

8:25 **SPWLA-2022-0120** **Solving the Challenge of Acquiring Low UCS Cores for Quantitative Digital Rock Physics**

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

8:45 **SPWLA-2022-0121** **Successful Cap Rock Stress Testing With a Wireline Straddle Packer Tool Configured With an Innovative Controlled Pressure Bleedoff Design**

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

9:05 **SPWLA-2022-0089** **Subsurface Electromagnetic Frac & Flowback Response to Natural and Induced Fracture Networks**

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

9:25 **SPWLA-2022-0042** **Connectivity Assessment of Heavily Compartmentalized Reservoirs: A New Workflow Introducing Areal Downhole Fluid Analysis and Data Integration**

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

9:45 ***Break (25 minutes)***

Session 19 (Energy Hall 2)

SPECIALIZED BOREHOLE MEASUREMENT AND INTERPRETATION TECHNIQUES II

Chairperson: *Julian Hulea (Shell)*

Co-Chairperson: *Giuseppe Galli (ENI)*

Sponsored by: Baker Hughes

- 10:10 SPWLA-2022-0043 **Deep-Directional Resistivity Ranging for Near-Parallel Cased Well in Scenarios Either Vertical or Horizontal to Formation Layers**
Yong-Hua Chen, Saad Omar, Lin Liang, and Diogo Salim, Schlumberger
- 10:30 SPWLA-2022-0005 **Quantification of Adsorption of Water on Clay Surfaces and Electrical Double Layer Properties Using Molecular Simulations**
Isa Silveira de Araujo and Zoya Heidari, The University of Texas at Austin
- 10:50 SPWLA-2022-0017 **A New Method of Integrating Rockphysics and Geomechanics for Simulating Deformable and Permeable Behavior of Tight Carbonate for Optimised Reservoir Development**
Umesh Prasad, Amer Hanif, and Pranjali K. Bhatt, Baker Hughes; Hayat Abdi Ibrahim Jibar, Karem Alejandra Khan, and Andi Ahmad Salahuddin, ADNOC Onshore
- 11:10 SPWLA-2022-0104 **Multi-Scale and Multi-Physics Quantitative Workflow for Integrated and Image-Assisted Rock Classification in Complex Carbonate Formations**
Andres Gonzalez and Zoya Heidari, The University of Texas at Austin

11:30 LUNCH (Leadership Luncheon- Invitation Only)

Session 20 (Energy Hall 1)

SPECIALIZED BOREHOLE MEASUREMENT AND INTERPRETATION TECHNIQUES III

Chairperson: *Marie Van Steene (Schlumberger)*

Co-Chairpersons: *Luis Quintero (Halliburton)*

Sponsored by: Halliburton

- 12:40 SPWLA-2022-0036 **Laboratory Investigation and Numerical Simulation of SP Suppression in Hydrocarbon-Bearing Rocks**
Joshua Bautista-Anguiano, Independent Consultant and Carlos Torres-Verdín, The University of Texas at Austin
- 1:00 SPWLA-2022-0054 **Flow Dependent Relative Permeability Scaling for Steady-State Two-Phase Flow in Porous Media: Laboratory Validation on a Microfluidic Network**
Marios Valavanides, University of West Attica; Nikolaos Karadimitriou and Holger Steeb, University of Stuttgart
- 1:20 SPWLA-2022-0055 **Integrated Approach to Leak Detection Using High-Definition Electromagnetic Technology, Production Logging, and Ultrasonic Logs – A Case Study**
Adesoji Adedamola, Diptaroop Chakraborty, and Ariel Sedlacek, Halliburton; Tshisola Tambwe, Neil Hay, Salomao Dode, Abel Cruz, Jose Rodrigues, Jose Nzau, Adriano Cunha, Olivio Mavuba, and Domingos Andrade, Sonangol

- 1:40 **SPWLA-2022-0057** **New Iterative Resistivity Modelling Workflow Reduces Uncertainty in the Assessment of Water Saturation in Deeply-Invaded Reservoirs**
German Merletti, Michael Rabinovich, Salim Al Hajri, William Dawson, BP; Russell Farmer, ADNOC; Joaquin Ambia and Carlos Torres-Verdín, The University of Texas at Austin
- 2:00 **SPWLA-2022-0092** **Utilization of Digitalized Numerical Model Derived From Advanced Mud Gas Data for Low Cost Fluid Phase Identification, Derisking Drilling and Effective Completion Plan in Depleted Reservoir**
Philip Shane Gerard Buckle, Abdul Faiz Haji Abdullah, and Nurhafizah Zaini, Brunei Shell Petroleum; Ivan Fornasier, Aleksandar Gligorijevic, Andrea Di Daniel, Gokarna Khanal, and Sridhar Vignaraja, Schlumberger
- 2:20 **Break (25 minutes)**

Session 21 (Energy Hall 2)

AUTOMATED METHODS OF FORMATION EVALUATION III

Chairpersons: **Shelby Plitzuweit (OXY)**

Co-Chairpersons: **Tegwyn Perkins (Lloyd's Register)**

Sponsored by: **Lundin Energy**

- 12:40 **SPWLA-2022-0129** **Unsupervised Facies Pattern Recognition of Brazilian Pre-Salt Carbonates Borehole Images**
Laura Lima Angelo dos Santos, Nadege Bize-Forest, Giovanna de Fraga Carneiro, Adna Grazielly Paz de Vasconcelos, and Patrick Pereira Machado, Schlumberger
- 1:00 **SPWLA-2022-0128** **Using Digital Rock Physics to Evaluate Novel Percussion Core Quality**
Dmitry Lakshtanov, Yuliana Zapata, Dave Saucier, Jennie Cook, Robin Eve, Mark Lancaster, Nathan Lane, Glen Gettemy, BP; Kevan Sincock and Elizabeth Liu, Independent Consultants, Rosemarie Geetan, Bifrost Energy; Ian Draper and Tim Gill, Baker Hughes
- 1:20 **SPWLA-2022-0032** **Machine Learning Assisted Prediction of Permeability of Tight Sandstones From Mercury Injection Capillary Pressure Tests**
Jassem Abbasi, University of Stavanger; Jiuyu Zhao, China University of Petroleum; Sameer Ahmed, University of Stavanger; Jianchao Cai, China University of Petroleum; Pål Østebø Andersen, University of Stavanger; Liang Jiao, China University of Geosciences
- 1:40 **SPWLA-2022-0126** **Norwegian Released Wells Project: Study Design, Material Preparation, Measurements, and Data Analysis**
Odd Kolbjørnsen, Lundin Energy and University of Oslo; Erik Hammer, Lundin Energy; Stefano Pruno, Stratum Reservoir; Peter Wellsbury, Rockwash Geodata; Malgorzata Kusak, The Norwegian Oil and Gas Association
- 2:00 **SPWLA-2022-0105** **Sonic Data Classification Using Supervised Machine-Learning Approach**
Ting Lei, Schlumberger; Daniel Al Choboq, Artefact; Josselin Kherroubi, Lin Liang and Romain Prioul, Schlumberger
- 2:20 **Break (25 minutes)**

Session 22 (Energy Hall 1)

SPECIAL ORGANIZED SESSION: DEEP LEARNING WITH HIGH-DIMENSIONAL PETROPHYSICAL DATA

Chairperson: *Lalitha Venkataramanan (Schlumberger)*

Co-Chairpersons: *Songhua Chen (Halliburton)*

Sponsored by: **Halliburton**

2:45 *Introduction to the Session (5 minutes)*

- 2:50 **SPWLA-2022-0112 Sequential Multi-Realization Probabilistic Interpretation of Well Logs and Geological Prediction by a Deep-Learning Method**
Sergey Alyaev, Adrian Ambrus, and Nazanin Jahani, NORCE Norwegian Research Centre;
Ahmed H. Elsheikh, Heriot-Watt University
- 3:10 **SPWLA-2022-0113 Use of Symbolic Regression for Developing Petrophysical Interpretation Models**
Songhua Chen, Wei Shao, and Huiwen Sheng, Halliburton; Hyung Kwak, Saudi Aramco
- 3:30 **SPWLA-2022-0114 Multi-Level Reservoir Identification with Logs Based on Machine Learning**
Gang Luo, Lizhi Xiao, Guangzhi Liao, Sihui Luo, and Rongbo Shao, China University of Petroleum; Jun Zhou and Guojun Li, PetroChina Logging Co., Ltd.; Shengluan Hou and Jiewen Wu, Huawei Cloud Computing Technologies Co. Ltd
- 3:50 **SPWLA-2022-0115 Automatic Fracture Segmentation and Detection From Image Logging Using Mask R-CNN**
Yubo Liu, Guangzhi Liao, Lizhi Xiao, Zhen Liang, Jiawei Zhang, Xinyu Zhang, Zhe Zhang, China University of Petroleum; Jun Zhou and Guojun Li, PetroChina Logging Co.

Session 23 (Energy Hall 2)

AUTOMATED METHODS OF FORMATION EVALUATION IV

Chairperson: *Chandramani Shrivastava (Schlumberger)*

Co-Chairperson: *Nazanin Jahani (NORCE)*

Sponsored by: **Baker Hughes**

2:45 *Introduction to the Session (5 minutes)*

- 2:50 **SPWLA-2022-0071 Uncertainty in Automated Well Log Correlation Using Stochastic Dynamic Time Warping**
Mustafa A. Al Ibrahim, Saudi Aramco
- 3:10 **SPWLA-2022-0070 Deep Learning for Multiwell Automatic Correction**
Vanessa Simoes, Hiren Maniar, Aria Abubakar and Tao Zhao, Schlumberger
- 3:30 **SPWLA-2022-0087 A Quantitatively Determining Gas Saturation Method Using Pulsed-Neutron Element Logging in Tight Gas Reservoirs**
Feng Zhang, Hui Zhang, Fei Qiu, and Qian Chen, School of Geosciences, China University of Petroleum – East China

3:50 **SPWLA-2022-0093** **A Well Cementation Evaluation Method by the Azimuthal Gamma Combination With the Acoustic Logging in Horizontal Well**

Jilin Fan, Feng Zhang, Xuelian Chen, Haochen Song, Luyu Zhong, Qian Chen, Meiling Zhang, China University of Petroleum-East China; Yuexiang Dai, China National Logging Corporation Xinjiang Branch

4:10 ***Closing Remarks***

4:30 ***End of 63rd Annual Symposium***