Webinar Presentation/Schedule:

Day 1 - MONDAY - JUNE 17th Time – 10:00 am – 12:00 pm CST

Session 1 – FORMATION EVALUATION OF CONVENTIONAL RESERVOIRS I *Sponsored by Shell*

This session will cover case histories, new technologies and studies in clastics as well as carbonates. New rock classification techniques are introduced and the effect of texture on log response is discussed.

10:00 **A**	**INTEGRATED MULTI-PHYSICS WORKFLOW FOR AUTOMATIC ROCK CLASSIFICATION AND FORMATION EVALUATION USING MULTI-SCALE IMAGE ANALYSIS AND CONVENTIONAL WELL LOGS;** Andres Gonzalez, Lawrence Kanyan and Zoya Heidari, The University of Texas at Austin; Olivier Lopez, Equinor
10:20 **B**	**A NEW APPARATUS FOR COUPLED LOW-FIELD NMR AND ULTRASONIC MEASUREMENTS IN ROCKS AT RESERVOIR CONDITIONS;** Paul R. J. Connolly, University of Western Australia, Joël Sarout and Jérémie Dautriat, CSIRO Energy; Eric F. May and Michael L. Johns, University of Western Australia
10:40 **C**	**DIGITAL ROCK TECHNOLOGY FOR ACCELERATED RCA AND SCAL: APPLICATION ENVELOPE AND REQUIRED CORRECTIONS;** Nishank Saxena, Amie Hows, Ronny Hofmann, Omer Alpak, Justin Freeman, Matthias Appel and Jesse Dietderich, Shell
11:00 **D**	**DEVELOPMENT OF A RESERVOIR ROCK DIELECTRIC DATABASE;** Matthew Josh, Michael B. Clennell and Lionel Esteban, CSIRO Energy; Matthew Hopkins, University of Western Australia
11:20 **E**	**THE SENSITIVITY OF DIELECTRIC SIGNALS TO CATION EXCHANGE CAPACITY IN SHALY SAND FORMATIONS AND ITS DEPENDENCE ON SALINITY, POROSITY, AND TORTUOSITY;** Chang-Yu Hou, Denise E. Freed and Jeffrey Little, Schlumberger
11:40 **F**	**HETEROGENEITY IN THE PETROPHYSICAL PROPERTIES OF CARBONATE RESERVOIRS IN TAL BLOCK;** Umar Farooq, Jawwad Ahmed and Saqib Ali, MOL Pakistan; Farrukh Siddiqi, Syed Asad Ali Kazmi and Kashif Mushir, Weatherford
12:00	**End of 1st Day Webinar**

Day 2 - TUESDAY - JUNE 18th Time – 8:00 am – 12:00 pm

Session 5 – MACHINE LEARNING (AM-1 TOWN CENTER SOUTH)

Reservoir characterization methods that use core or other database inputs and outputs to train model-independent mapping functions for predicting reservoir properties from well logging data (supervised learning) or methods that use pattern recognition or clustering algorithms for quality control of data and/or extraction of useful reservoir information (unsupervised learning).

8:00 **BB**	**A DEEP-LEARNING APPROACH FOR BOREHOLE IMAGE INTERPRETATION;** Kinjal Dhar Gupta, Valentina Vallega, Hiren Maniar, Philippe Marza, Hui Xie, Koji Ito and Aria Abubakar, Schlumberger
8:20 **CC**	**ROLE OF MACHINE LEARNING IN BUILDING MODELS FOR GAS SATURATION PREDICTION;** Yagna Deepika Oruganti, Peng Yuan, Feyzi Inanc, Yavuz Kadioglu, David Chace, Baker Hughes, A GE Company
8:40 **DD**	**QUANTITATIVE INTERPRETATION OF OIL-BASE MUD MICRORESISTIVITY IMAGER VIA ARTIFICIAL NEURAL NETWORKS;** Zikri Bayraktar, Dzevat Omeragic and Yong-Hua Chen, Schlumberger-Doll Research
9:00 **EE**	**ENHANCED RESERVOIR GEOSTEERING AND GEOMAPPING FROM REFINED MODELS OF ULTRA-DEEP LWD RESISTIVITY INVERSIONS USING MACHINE-LEARNING ALGORITHMS;** Hsu-Hsiang (Mark) Wu, Li Pan, Jin Ma, Weixin Dong, Yijing Fan, Clint Lozinsky and Michael Bittar, Halliburton

9:20 **FF** **A MULTI-SCALE PATH FOR THE CHARACTERIZATION OF HETEROGENEOUS KARST CARBONATES: HOW LOG-TO-SEISMIC MACHINE LEARNING CAN OPTIMIZE HYDROCARBON PRODUCTION;** Francesco Bigoni, Marco Pirrone, Fabio Pinelli, Gianluca Trombin and Fabio Vinci, Eni S.p.A.

9:40- 10:40 **Break – Offline for E-Posters on-site (Webinar will be paused)**

Session 8 – FORMATION EVALUATION OF CONVENTIONAL RESERVOIRS III (AM-2 TOWN CENTER SOUTH) *Sponsored by AkerBP*

This session will cover case histories, new and improved technologies in clastics as well as carbonates. Fluid properties and their effect on log response will be presented.

10:40 **XX** **DIVERSE FLUID GRADIENTS ASSOCIATED WITH BIODEGRADATION OF CRUDE OIL;** Oliver C. Mullins, Schlumberger, Yngve Bolstad Johansen and Joachim Rinna, AkerBP, John Mayer, Kosmos, Steve Kenyon-Roberts, Premier, Li Chen, Julia C. Forsythe, Vladislav Achourov, Richard Jackson, Soraya S. Betancourt, Julian Y. Zuo and Jesus A. Canas, Schlumberger

11:00 **YY** **WETTABILITY ASSESSMENT IN COMPLEX FORMATIONS USING NMR MEASUREMENTS: WORKFLOW DEVELOPMENT AND EXPERIMENTAL CORE-SCALE VERIFICIATION;** Chelsea Newgord, Saurabh Tandon and Zoya Heidari, The University of Texas at Austin

11:20 **ZZ** **COMBINING LOGGING-WHILE-DRILLING (LWD) RESISTIVITY AND CAPTURE SIGMA (Σ) TO IDENTIFY AND EVALUATE WATER FLOOD ENCROACHMENT - CASE STUDY OF A FIELD WITH MULTI-LAYERED, COMPLEX RESERVOIRS;** Doug Murray and Nadileiny Silva, Schlumberger; Miguel Ascanio, Cabinda Gulf Oil Company Ltd.

11:40 **AAA** **FAST FORWARD MODELING OF BOREHOLE NUCLEAR MAGNETIC RESONANCE MEASUREMENTS IN VERTICAL WELLS;** Mohammad Albusairi and Carlos Torres-Verdín, University of Texas at Austin

12:00 pm **End of 2nd Day Webinar**

Day 3 - WEDNESDAY – JUNE 19TH Time – 8:00 am – 12:00 pm

Session 15 – MACHINE LEARNING II

Reservoir characterization methods that use core or other database inputs and outputs to train model-independent mapping functions for predicting reservoir properties from well logging data (supervised learning) or methods that use pattern recognition or clustering algorithms for quality control of data and/or extraction of useful reservoir information (unsupervised learning).

8:00 **HHHH** **DOMAIN TRANSFER ANALYSIS – A ROBUST NEW METHOD FOR PETROPHYSICAL ANALYSIS;** Ravi Arkalgud, Helio Flare Limited; Andrew McDonald and Derek Crombie, Lloyd's Register

8:20 **IIII** **USING A PHYSICS-DRIVEN DEEP NEURAL NETWORK TO SOLVE INVERSE PROBLEMS FOR LWD AZIMUTHAL RESISTIVITY MEASUREMENTS;** Yuchen Jin, Xuqing Wu and Jiefu Chen, University of Houston, Yueqin Huang, Cyentech Consulting LLC

8:40 **JJJJ** **AUTOMATED RESISTIVITY INVERSION AND FORMATION GEOMETRY DETERMINATION IN HIGH-ANGLE AND HORIZONTAL WELLS USING DEEP LEARNING TECHNIQUES;** Hu Li, Maxwell Dynamics Inc., Gang Liu, Shansen Yang, Ying Guo, He Huang, Mingzong Dai, Yuanshi Tian, CNPC Logging

9:00 **KKKK** **ESTIMATION OF DYNAMIC PETROPHYSICAL PROPERTIES FROM MULTIPLE WELL LOGS USING MACHINE LEARNING AND UNSUPERVISED ROCK CLASSIFICATION;** Mohamed Bennis and Carlos Torres-Verdín, The University of Texas at Austin

9:20 **LLLL** **ARTIFICIAL INTELLIGENCE APPLIED TO NMR LOGGING FOR ROCK AND FLUID TYPING IN HEAVY OILS;** Pedro A. Romero Rojas, Alexandrina Cristea and Paul Pavlakos, Weatherford, Okan Ergündüz, Tayfun Keçecioğlu and Server Fatih Alpay, ARAR

9:45-10:40 **Break – Offline for E-Posters on-site (Webinar will be paused)**

Session 17 – CASE STUDIES

Case studies and the results of new techniques and models will be compared with actual results.

10:45 **XXXX** **UNCERTAINTY ANALYSIS IN FORMATION EVALUATION: RATIONALE, METHODS AND EXAMPLES;** Philippe Gaillot, Jerome Lewandowski and Roza Nursaidova, ExxonMobil

11:05 **YYYY** **LWD RESISTIVITY ANOMALIES IN OVERBURDEN SECTIONS PROVIDE CRITICAL INFORMATION ON DRILLING SAFETY AND BOREHOLE STABILITY: GULF OF MEXICO CASE STUDIES;** Michael Rabinovich, John Bergeron, Gerardo Cedillo, Maryam Mousavi, Wilson Pineda, Eric Soza, BP; Jeffry Hamman, BP Retired; Fei Le, Hans-Martin Maurer, Baker Hughes a GE Company; Ettore Mirto, Keli Sun, Schlumberger

11:25 **ZZZZ** **ESTIMATION OF THOMSEN'S EPSILON AND DELTA IN A SINGLE CORE USING ULTRASONIC PHASE AND GROUP VELOCITY MEASUREMENTS;** Gabriel Gallardo-Giozza, D. Nicolás Espinoza and Carlos Torres-Verdín, The University of Texas at Austin; Elsa Maalouf, American University of Beirut

11:45 **AAAAA** **IMAGING, HIGH RESISTIVITY CARBONATE RESERVOIR DELINEATION AND WELL PLACEMENT – APPLICATION OF A NEW HTHP RESISTIVITY IMAGING WHILE DRILLING TOOL IN CHINA;** Anzong Li, Chuanwei Li, Sijia Chen, Jun Zhu, Gang Chen, Zunbo Geng, China Petroleum Logging Co.Ltd; Qiming Li, Oliden Technology

12:05 **End of 3rd Day Webinar**