

Below is a list of presentations that will be presented in Houston. Oral sessions are listed first (by day, topic, and time) followed by the poster sessions (by date, topic, and time). Subject to change.

Monday, 29 August 2022

BG 1 Advances in Borehole Acoustics and Geomechanics 1

Session Chairs: Robert Vines and Kristoffer Walker

Location: 342D

Synopsis: Advances in borehole acoustics and geomechanics theory, processing methods, and interpretation workflows.

8:00 AM.....Monopole slow formation shear head wave Green's function in a LWD borehole acoustic configuration Tim Geerits*, Baker Hughes/TU Bergakademie Freiberg; Stefan Schimschal and Anna Swiatek, Baker Hughes (INT. AUD.: 5)

Speaker: Tim Geerits

8:25 AM.....Automated interpretation and quality control of logging-while-drilling quadrupole sonic dispersion in anisotropic formations Lin Liang*, Ting Lei, Matthew Blyth, and Michiko Hamada, Schlumberger (INT. AUD.: 3)

Speaker: Lin Liang

8:50 AM.....Hydraulic fracture width determination using integration of Stoneley wave "pressure testing" with electrical borehole scans in FORGE Geothermal project Brian E. Hornby*, Hornby Geophysical Services, LLC (INT. AUD.: 3)

Speaker: Brian Hornby

9:15 AM.....Imaging near wellbore fractures by using Stoneley wave Xuekai Sun, Jun Zhou, Chunhao Yu, and Xiugang Ma, China National Logging Corporation; Chris Ayadiuno, Saudi Aramco; and Jufeng Zhou, China National Logging Corporation (INT. AUD.: 4)

Speaker: Xuekai Sun

Monday, 29 August 2022

CEMS 1 Characterization of Conventional Carbonates 1

Session Chairs: Jean Hsieh and Cecilia Lopez-Gamundi

Location: 362A

Synopsis: This session provides an overview of carbonate studies from modern settings, ancient outcrops, and in the subsurface.

8:00 AM.....**Evolution of a modern ooid sand island (South Joulter Cay, Great Bahama Bank) and implications for subsurface studies** Paul (Mitch) Harris*, University of Miami; Juan Carlos Laya, Texas A&M University; and Miles Frazer, Chevron Technical Center (INT. AUD.: 3)

Speaker: Paul (Mitch) Harris

8:25 AM.....**3D morphometry of the Late Jurassic stromatoporoid/coral facies and their subsurface static connectivity implication: An insight from the Hanifa reservoir outcrop analog, Saudi Arabia** Ahmad Ramdani*, King Abdullah University of Science and Technology; Pankaj Khanna, Indian Institute of Technology – Gandhinagar; Sander de Jong, Baker Hughes; Gaurav Gairola and Volker Vahrenkamp, King Abdullah University of Science and Technology (INT. AUD.: 3)

Speaker: Ahmad Ramdani

8:50 AM.....**Pennsylvanian and early Permian outcrops of the Keeler/Darwin Basin, east-central California: Analogs for deepwater Permian Basin stratigraphy** Buddy J. Price*, The University of Texas at Austin, and Devon Energy; Xavier Janson and Charles Kerans, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Buddy Price

9:15 AM.....**Karst and dolomitization controlling Miocene carbonate reservoir quality: Case study of carbonate oil discovery, East Java Basin, Indonesia** Nuryoko Haribowo*, Iko Sagala, and Nadia Nurul, Medco Energi Sampang Pty Ltd.; Peter Gutteridge, Cambridge Carbonate Ltd.; and Mirzam Abdurrachman, Institut Teknologi Bandung (INT. AUD.: 2)

Speaker: Nuryoko Haribowo

Monday, 29 August 2022

DAS 1 Low-Frequency Distributed Acoustic Sensing for Fracture Monitoring

Session Chairs: Andres Chavarria and Zhishuai Zhang

Location: 351A

Synopsis: Hydraulic fracture monitoring using cross-well strain measurements from low-frequency DAS signal.

8:00 AM.....**Hydraulic fracture-hit detection system using low-frequency DAS**

data Xiaoyu Zhu and Ge Jin, Colorado School of Mines; Richard Hammack, National Energy Technology Laboratory (INT. AUD.: 3)

Speaker: Xiaoyu Zhu

8:25 AM.....**Effectiveness of dip-in DAS observations for low-frequency strain and microseismic analysis: The CanDiD experiment** David W. Eaton*, Yuanyuan Ma, Chaoyi Wang, and Kelly MacDougall, University of Calgary (INT. AUD.: 3)

Speaker: David Eaton

8:50 AM.....**Numerical modeling of low frequency distributed acoustic sensing signals for mixed-mode fracture activation** Chaoyi Wang*, David W. Eaton, and Yuanyuan Ma, University of Calgary (INT. AUD.: 3)

Speaker: Chaoyi Wang

9:15 AM.....**Low-frequency DAS interpretation upon multi-crew zipper fracturing configuration** Yanrui Ning*, Joe Mjehovich, Xiaoyu Zhu, and Ge Jin, Colorado School of Mines (INT. AUD.: 3)

Speaker: Yanrui Ning

Monday, 29 August 2022

GBMPS 1 Seal Capacity and Seal Risk

Session Chairs: Rajesh Goteti and Allegra Hosford Scheirer

Location: 370A

Synopsis: Accurate estimation of seal capacity and seal risk are critical aspects of a petroleum systems analysis. This session addresses various aspects of seal assessment including novel integrated fluid-aware prospect assessment workflows, interaction between fluid PVT behavior and seal integrity, empirical constraints on seal efficacy, and the impact of basin model uncertainties on fluid saturations.

8:00 AM.....**Application of petroleum systems analysis to resource assessments** Lukasz Krawczynski*, Santos; and Martin Neumaier, ArianeLogix (INT. AUD.: 3)

Speaker: Lukasz Krawczynski

8:25 AM.....**Relating shale thickness to seal potential** Justin Palmer*, Chevron Gulf of Mexico Exploration (INT. AUD.: 3)

Speaker: Justin Palmer

8:50 AM.....**Using multidimensional scaling to estimate the impact of shale volume, fault seal, and fluid migration methods on 3D petroleum saturation,**

Norwegian Viking Graben Anatoly Aseev*, Tapan Mukerji, and Allegra Hosford Scheirer, Stanford University (INT. AUD.: 4)

Speaker: Anatoly Aseev

9:15 AM.....**The competition of oil and gas for trap space and seal capacity** Martin Neumaier*, ArianeLogix, and Jan de Jager, JdJ Geological Consultancy; Ben Kurtenbach, ArianeLogiX (INT. AUD.: 4)

Speaker: Jan De Jager

Monday, 29 August 2022

HPG 1 History of Petroleum Geoscience

Session Chairs: William DeMis and Ali Sloan

Location: General Assembly A

Synopsis: Promoting the historic people and plays that have led to a revolutionary petroleum industry today.

8:00 AM.....**Mission Canyon Play of North Dakota: Shell's early pioneering work** William D. DeMis, Rochelle Court, LLC (INT. AUD.: 1)

Speaker: William DeMis

8:25 AM.....**4D seismic — An early history and a personal journey** David H. Johnston, Differential Seismic LLC (formerly ExxonMobil) (INT. AUD.: 2)

Speaker: David Johnston

8:50 AM.....**Peter Odell revisited: The life and times of a petroleum economist and implications for the 21st century energy industries** Rasoul Sorkhabi*, University of Utah (INT. AUD.: 3)

Speaker: Rasoul Sorkhabi

9:15 AM.....**Texas oil booms photography of the 1920s and 30s: Ralph Doubleday and Jack Nolan** Jeff Spencer, Sentinel Petroleum LLC (INT. AUD.: 1)

Speaker: Jeff Spencer

Monday, 29 August 2022

INT 1 International Basins: Exploration and Prospecting 1

Session Chairs: Hamad Alghenaim and Bradley Wallet

Location: 361A

Synopsis: New exploration and exploitation opportunities in three different

continents.

8:00 AM.....Integrating an exploration OBN into a full-scale prospect maturation workflow: Gulf of Mexico Lower Tertiary Scott Yurman and Marcus Cahoj, BHP Petroleum (INT. AUD.: 2)

Speaker: Scott Yurman

8:25 AM.....An integrated approach to develop a self-sourcing, self-sealing stratigraphic prospect for the Hanifa Formation, offshore Bahrain Bleddyn Davies*, Thibault Le Canu, and Michael Harrison, CGG; Ghada Almoulani and Suresh Thampi, Tatweer Petroleum (INT. AUD.: 4)

Speaker: Bleddyn Davies

8:50 AM.....Reinvigorating exploration in the Nile Delta and East Mediterranean, Egypt Gebril Saleh*, Amr Talaat, Karim Ali, Ramy Eid, Sugandha Tewari, Hosny Diab, Mohamed Radwan, and Mohamed Helal, Egypt Upstream Gateway (INT. AUD.: 2)

Speaker: Ahmed Hussein

9:15 AM.....Structure of the Tokai segment from the integrated high-resolution seismic imaging: A case study from the eastern Nankai Trough Andrzej Górszczyk*, Université Grenoble Alpes and Polish Academy of Sciences; Rafael Almeida, Yachay Tech University; Romain Brossier and Ludovic Métivier, Université Grenoble Alpes (INT. AUD.: 3)

Speaker: Andrzej Górszczyk

Monday, 29 August 2022

MLDA 1 Novel Applications 1

Session Chairs: Vikram Jayaram and Weichang Li

Location: 362B

Synopsis: Novel emergent applications in geoscience.

8:00 AM.....Geoscientific reasoning via graph neural networks Grant Seastream*, ExxonMobil Technical Computing Company; and Huseyin Denli, ExxonMobil Research & Engineering Company (INT. AUD.: 3)

Speaker: Grant Seastream

8:25 AM.....The application of a new machine learning paradigm based on pre-training and fine-tuning, StorSeismic, on field seismic data Randy Harsuko* and Tariq Alkhalifah, King Abdullah University of Science and Technology (INT. AUD.: 4)

Speaker: Randy Harsuko

8:50 AM.....**This thin section doesn't exist: On the generation of synthetic petrographic datasets** Ivan Ferreira and Luis Ochoa; Universidad Nacional de Colombia; Ardiansyah Koeshidayatullah, King Fahd University of Petroleum and Minerals (INT. AUD.: 3)

Speaker: Ardiansyah Koeshidayatullah

9:15 AM.....**Deep learning-based raster digitization engine** Atul Laxman Katole*, Purnaprajna Mangsuli, Omkar Gune, Mohd Saood Shakeel, Abhiman Neelakanteswara, and Aria Abubakar, Schlumberger (INT. AUD.: 3)

Speaker: Atul Katole

Monday, 29 August 2022

NEF 1 Critical Mineral Resources: Shales and Brines

Session Chairs: Franek Hasiuk and Abbas Seyedolali

Location: General Assembly C

Synopsis: These talks will address a variety of critical minerals associated with metalliferous sedimentary rock deposits and brine resources.

8:00 AM.....**Using gadolinium and titanium well logs to prospect for critical mineral enrichment in the black shales of the Cherokee Forest City Basin** Zach Grosch*, Franek Hasiuk, and Stephan Oborny, Kansas Geological Survey (INT. AUD.: 3)

Speaker: Zachary Grosch

8:25 AM.....**An effective multiphysics toolkit for Lithium prospecting: From geophysics to the static reservoir model in Pozuelos salt flat, Argentina** Ana Curcio*, Proingeo SA; Eliana Chanampa, Litica Resources; Luis Cabanillas, Consultant; and Ricardo Piethe, Litica Resources (INT. AUD.: 3)

Speaker: Ana Curcio

8:50 AM.....**Pliocene Lake Livada and the discovery of a valuable super-brine complex in Railroad Valley, Nevada** Vincent Ramirez* and Karen Loomis, 3PL Operating Inc. (INT. AUD.: 3)

Speaker: Vincent Ramirez

9:15 AM.....**Organic-rich black shale geochemistry and their association with lead-zinc ores: Mid-continent United States** Noah S. Morris* and Adriana Potra, University of Arkansas; John R. Samuelsen, Arkansas Archeological Survey and

University of Arkansas (INT. AUD.: 2)

Speaker: Noah Morris

Monday, 29 August 2022

SILIC 1 Deepwater Sedimentary Systems: Science and Discovery 1

Session Chairs: Jonathan Rotzien and Adriano Viana

Location: 372A

Synopsis: Deepwater systems combine diverse processes to produce a range of fans, drifts, and other exotic environments, some of which are world-class arenas for energy resources.

8:00 AM.....Identifying mass transport deposits using image logs and core in Bone Spring and Wolfcamp Formations, Delaware Basin: Implications for mapping, facies distribution, reservoir properties, and unraveling subsurface chaos Joshua J.

O'Brien*, Jarret M. Borell, and Chris Bowie, Devon Energy Corporation; Erik P. Kvale, Syzygy Geosciences LLC (INT. AUD.: 2)

Speaker: Joshua O'Brien

8:25 AM.....Character of mass failures driven by contourite collapse: Examples from offshore Newfoundland, Canada Lindsey Henry* and Christina Hamilton, BP (INT. AUD.: 3)

Speaker: Lindsey Henry

8:50 AM.....Laboratory experiments on the depositional styles of deep-water, low-gradient distributary turbidity systems Juan J. Fedele*, Nathan Lentsch, and Casey Meirovitz, ExxonMobil Upstream (INT. AUD.: 3)

Speaker: Juan Fedele

9:15 AM.....Quantitative evaluation of deepwater fan hierarchy: Insights from full physics based forward stratigraphic models Ali Downard*, Fabien Laugier, Sarah Wright, and Tao Sun, Chevron Technology Center (INT. AUD.: 3)

Speaker: Ali Downard

Monday, 29 August 2022

SPET 1 Applications and Advances in Integrated Workflows

Session Chairs: Yaxun Tang and Zeyu Zhao

Location: 360A

Synopsis: Session with focus on modeling building and integrated workflow including some inversion application.

8:00 AM.....**Tengiz field fault shadows mitigation with combined joint FWI-tomography, Q-tomography, and least-square migration** Tianjiang Li, King Sim Lee, Bin Gong, and Kai Yang, In-Depth Geophysical; Kai Zhang, Chevron Technical Center (CTC); Assem Bibolova, and Zhanibek Katrenov, Tengizchevroil (TCO) (INT. AUD.: 3)
Speaker: Tianjiang Li

8:25 AM.....**Velocity model building and imaging driven by FWI with dual azimuth data in a complex salt environment: Brazil case study** Xu Li*, Christine Gans, Young Ho Cha, Diwi Snyder, Gopal Palacharla, Vijay Gottumukkula, Yaofeng He, Hongchuan Sun, Tetyana Vdovina, Xueyi Jia, Valeriy Brytik, and Inmaculada Dura-Gomez, ExxonMobil (INT. AUD.: 3)
Speaker: Xu Li

8:50 AM.....**Seismic reflectivity inversion via a regularized deep image prior** Hongling Chen, University of Alberta, Xi'an Jiaotong University, and National Engineering Research Center of Offshore Oil and Gas Exploration; Mauricio D. Sacchi, University of Alberta; Jinghuai Gao, Xi'an Jiaotong University and National Engineering Research Center of Offshore Oil and Gas Exploration (INT. AUD.: 3)
Speaker: Hongling Chen

9:15 AM.....**Premigration attenuation analysis and mapping to image domain by weighted migrations** Yonghe Sun*, Chunling Wu, Mark Fan, and Zhemin Tan, Chevron (INT. AUD.: 4)
Speaker: Yonghe Sun

Monday, 29 August 2022

SS 1 Latest Advancement in Machine Learning for Geoscience - Part 1

Session Chairs: Haibin Di and Tao Lin

Location: General Assembly B

Synopsis: A collection of latest advancement in machine learning for geoscientific applications.

8:00 AM.....**Integration of deep neural networks into seismic workflows for low-carbon energy** Biondo Biondi*, Joseph Jennings, Min Jun Park, Stuart Farris, and Bob Clapp, Stanford University (INT. AUD.: 3)

Speaker: Biondo Biondi

8:25 AM.....**Deep learning to predict subsurface properties from injected CO2 plume bodies using time-lapse seismic shot gathers** Son Phan*, Wenyi Hu, and Aria Abubakar, Schlumberger (INT. AUD.: 4)

Speaker: Son Phan

8:50 AM.....**Machine learning inversions incorporating geologic information through variational autoencoder and physics-based neural network** Yaoguo Li*, Taqi Alyousuf, and Andy McAliley, Colorado School of Mines (INT. AUD.: 3)

Speaker: Yaoguo Li

9:15 AM.....**Deep learning in salt interpretation from R&D to deployment: Challenges and lessons learned** Pandu Devarakota, Shell Global Solutions; Apurva Gala, Shell International Exploration and Production Company; Zhenggang Li, University of Houston; Engin Alkan, Yihua Cai, and John Kimbro, Shell International Exploration and Production Company; Dean Knott and Jeff Moore, Shell Global Solutions; Gislain Madiba, Shell International Exploration and Production Company (INT. AUD.: 5)

Speaker: Pandu Devarakota

Monday, 29 August 2022

SS 2 Career-Advancing Near-Surface Geophysics: From Rock Core to Watershed Scales: Recognizing the Achievements of Rosemary Knight - Part 1

Session Chairs: Sina Saneiyani and Lee Slater

Location: 342E

Synopsis: Invited presentations from four former students covering a range of near-surface geophysics methods and applications.

8:00 AM.....**Knowledge into action — Thirty-five years of moving from science to solutions** Rosemary Knight, Stanford University (INT. AUD.: 3)

Speaker: Rosemary Knight

8:25 AM.....**On the importance of rock physics for near-surface geophysics: Focus on NMR** Kristina Keating*, Rutgers University (INT. AUD.: 2)

Speaker: Kristina Keating

8:50 AM.....**To flow through an image: Advances in the use of ground-penetrating radar in hydrology inspired by the vision and work of Rosemary Knight** Stephen Moysey, East Carolina University (INT. AUD.: 2)

Speaker: Stephen Moysey

9:15 AM.....**Embracing a decision aware mindset to leverage the geoscience digital revolution** Adam Pidlisecky, University of Calgary (INT. AUD.: 1)

Speaker: Adam Pidlisecky

Monday, 29 August 2022

UNCON 1 Basin and Play-Scale Characterization 1

Session Chairs: Justin Birdwell and Shane Prochnow

Location: 371A

Synopsis: This session focuses on play-based and regional-scale characterization of unconventional shales and tight reservoirs.

8:00 AM.....**Identification and preliminary evaluation of source rocks within the Mississippian Madison Group: Williston Basin, North America** Timothy O.

Nesheim*, North Dakota Geological Survey; Stephen H. Nordeng and Chioma J. Onwumelu, University of North Dakota (INT. AUD.: 3)

Speaker: Timothy Nesheim

8:25 AM.....**Application of migration modeling to unconventional reservoirs: An example from the Montney Formation northeastern British Columbia** Victoria

Chevrot*, Nicholas B. Harris, Stephany Hernandez Medina, and Noga Vaisblat, University of Alberta (INT. AUD.: 3)

Speaker: Victoria Chevrot

8:50 AM.....**Influence of bentonite layers on the quality of prospective Silurian-Ordovician shale formations in the Baltic Basin, Poland** Radomir Pachytel*, Polish

Geological Institute - National Research Institute. (INT. AUD.: 3)

Speaker: Radomir Pachytel

9:15 AM.....**Regional variability of Caney Shale elemental composition, mineralogy, and petrophysical properties: Ardmore Basin, Oklahoma** Brittany V.

Stroud*, Abbas Seyedolali, and Matthew J. Pranter, University of Oklahoma (INT. AUD.: 2)

Speaker: Brittany Stroud

Monday, 29 August 2022

BG 2 Advances in Borehole Acoustics and Geomechanics 2

Session Chairs: Alexei Bolshakov and Francis Elisabeth

Location: 342D

Synopsis: Advances in borehole acoustics and geomechanics theory, processing methods, and interpretation workflows.

10:20 AM.....Borehole tube wave generation by an incident P-wave at a fluid-filled fracture Abdullah Alsawidan*, Aramco (INT. AUD.: 3)

Speaker: Abdullah Alsawidan

10:45 AM.....Building integrated seismic and geomechanical models for the Brazilian pre-salt reservoirs development Talles Barsanti Meneguim*, Thelson Luiz Pinheiro de Almeida, Renata dos Santos Giacomel, Viviane Kotani Shimizu, Antonio M. Nabuco Tartarini, and Alexandre Rodrigo Maul, Petrobras S.A; Raquel Quadros Velloso, Pontifical Catholic University (INT. AUD.: 5)

Speaker: Alexandre Maul

11:10 AM.....Data processing workflow for reflections from cement-formation interface in ultrasonic pitch-catch measurement in cased hole Shaopeng Shi and Hua Wang, University of Electronic Science and Technology of China; Meng Li, Xi'an Shiyou University; and Aihua Tao, China Oilfield Services Limited (INT. AUD.: 3)

Speaker: Hua Wang

11:35 AM.....Interpreting microseismic stimulation monitoring data: Hydraulic Fracturing Test Site 1, Reagan County, Texas Iris Haihong Wang*, Ecopetrol Permian; and Robert R. Stewart, University of Houston (INT. AUD.: 3)

Speaker: Iris Wang

Monday, 29 August 2022

CEMS 2 Modern Microscale Methods for Carbonate Characterization

Session Chairs: Franek Hasiuk and Didi Ooi

Location: 362A

Synopsis: This session covers modern technologies applied to carbonate reservoir characterization at the microscale. Includes geochemical, imaging, and machine-learning/AI techniques.

10:20 AM.....Imaging oil recovery from mixed-wet microporous carbonates Ahmed Hassan, Ksenia Kaprielova, Ahmed Saad, Maxim Yutkin, and Tadeusz Patzek*, King Abdullah University of Science and Technology (INT. AUD.: 2)

Speaker: Tadeusz Patzek

10:45 AM.....**Interpretation of deep neural networks for carbonate thin section classification** Lukas Mosser* and George Ghon, Earth Science Analytics AS; and Gregor Baechle, Benerco LLC (INT. AUD.: 3)

Speaker: Gregor Baechle

11:10 AM.....**Using deep learning for automatic detection and segmentation of carbonate microtextures** Claire Birnie* and Viswasanthi Chandra, KAUST (INT. AUD.: 3)

Speaker: Viswasanthi Chandra

11:35 AM.....**SIMS analysis shows wide range in calcite microcrystal $d^{18}\text{O}$ with implications for diagenetic studies and chemostratigraphy** Franek J. Hasiuk* and Chanse J. Rinderknecht, Kansas Geological Survey (INT. AUD.: 3)

Speaker: Franek Hasiuk

Monday, 29 August 2022

DAS 2 Seismic Processing

Session Chairs: Vladimir Kazei and Ali Tura

Location: 351A

Synopsis: Advanced processing methods for DAS-based seismic denoising and imaging.

10:20 AM.....**Noise analysis and ML denoising of DAS VSP data acquired from ESP lifted wells** Ge Zhan*, Yao Zhao, Cheng Cheng, and Josef Heim, TGS; Weihong Fei, Mike Craven, Scott Baker, and Gilles Hennenfent, Chevron (INT. AUD.: 2)

Speaker: Ge Zhan

10:45 AM.....**Fracture imaging using DAS-recorded microseismic reflections** Yuanyuan Ma*, David W. Eaton, and Chaoyi Wang, University of Calgary (INT. AUD.: 3)

Speaker: Yuanyuan Ma

11:10 AM.....**DAS noise attenuation using wavelet stack** Zhou Yu*, Zhaojun Liu, Ge Zhan, Peng Cheng, and Bin Wang, TGS; Weihong Fei, Chevron (INT. AUD.: 3)

Speaker: Zhou Yu

11:35 AM.....**Joint OBN and 3-D DAS-VSP data acquisition and processing in East China Sea** G. Yu*, BGP, CNPC, and Optical Science and Technology (Chengdu) Ltd.; G. M. He, Z. L. Cao, and H. B. Liu, BGP, CNPC; J. J. Li, Shanghai Petroleum and Natural

Gas Co., Ltd.; Y. Z. Chen, J. J. Wu, and J. G. Li, BGP, CNPC, and Optical Science and Technology (Chengdu) Ltd.; X. M. Wang, Optical Science and Technology (Chengdu) Ltd. (INT. AUD.: 2)

Speaker: Xi Wang

Monday, 29 August 2022

GBMPS 2 Geochemical Reservoir Characterization 1

Session Chairs: Mei Mei and Constantin Sandu

Location: 370A

Synopsis: This session presents novel geochemical characterization workflows to constrain the thermal maturity of sulfur-rich source rocks and associated fluids, integrated reservoir geochemistry applications in a conventional fields, and novel basin-scale modeling workflows for assessing biogenic gas potential.

10:20 AM.....**Gas geochemical characteristics and thermal maturity of the Type-IIS source rock** Wael Z. Alalawi*, Mohammad A. Alrowaie, and Salman M. AlQathami, Saudi Aramco (INT. AUD.: 3)

Speaker: Wael Alalawi

10:45 AM.....**Determining maturity and maximum burial temperatures of Type II-S oils using light hydrocarbon and polycyclic aromatic hydrocarbon isomer relationships** Poorna Srinivasan* and David Jacobi, Aramco Americas; Ibrahim Atwah, Harald Karg, and Abdulhameed Azzouni, Saudi Aramco (INT. AUD.: 3)

Speaker: Poorna Srinivasan

11:10 AM.....**Biogenic gas generation adapted to petroleum system modeling: Comparison of two workflows and sensitivity analysis, application to giant biogenic gas fields in the Levant basin** Matthieu Dubille, Alcide Thebault, and Felipe Medellin*, Beicip-Franlab (INT. AUD.: 3)

Speaker: Alcide Thebault

11:35 AM.....**Reservoir geochemistry on compositional grading settings — A molecular approach** Daniel Silva Dubois*, Petrobras; and João Graciano Mendonça Filho, Laboratório de Palinofácies e Fácies Orgânica (LAFO) – UFRJ (INT. AUD.: 4)

Speaker: Daniel Dubois

Monday, 29 August 2022

INT 2 Structural Impact on Exploration and Production 1

Session Chairs: Craig Schneider and Adamu Suleiman

Location: 361A

Synopsis: The effect of faults and fractures on production and geological interpretations.

10:20 AM.....**Seismic fault proximity to production** Jesse Lomask*, Toby Burrough, and Allison Gilmore, S&P Global; Michael Pyrcz, The University of Texas at Austin (INT. AUD.: 6)

Speaker: Jesse Lomask

10:45 AM.....**Structural characteristic comparisons and deformation controlling factors of intra-craton strike-slip faults in the three major basins in central and western China** Yongtao Liu, Xukui Feng, Guizhong Wang, Shuanghe Dai, Yijun Zhou, Haishan Sun, Xu Li, Xiangwen Li, Xiaohui Zhao, Binhua Guo, and Yu Zhao, BGP, CNPC (INT. AUD.: 6)

Speaker: Bo Wang

11:10 AM.....**Crustal architecture and structural variability of offshore Colombia: Observations from recently reprocessed seismic data** Kyle Reuber* and Antara Goswami, ION Geophysical; Chuck Campbell, ACCEL Services (INT. AUD.: 3)

Speaker: Kyle Reuber

11:35 AM.....**Early Cretaceous deepwater rifts of the Camamu-Almada Basin of northeastern Brazil and their implications for the distribution of deepwater source and reservoir rocks** James "J.D." McConnell Jr.* and Paul Mann, University of Houston (INT. AUD.: 3)

Speaker: James McConnell

Monday, 29 August 2022

MLDA 2 Velocity Model Building and Full-Waveform Inversion 1

Session Chairs: Pandu Devarakota and Wenyi Hu

Location: 362B

Synopsis: Use of neural networks to enhance velocity model building and full-waveform inversion.

10:20 AM.....**Estimate near-surface velocity with reversals using deep learning and full-waveform inversion** Yong Ma*, Aramco Americas; Xu Ji, Saudi Aramco;

Weiguang He, Aramco Asia; and Tong Fei, Saudi Aramco (INT. AUD.: 3)

Speaker: Yong Ma

10:45 AM.....**3D velocity model building based upon hybrid neural**

network Herurisa Rusmanugroho*, Junxiao Li, and M. Daniel Davis Muhammed, PETRONAS; Jian Sun, Ocean University of China (INT. AUD.: 1)

Speaker: Herurisa Rusmanugroho

11:10 AM.....**Multilayer perceptron and Bayesian neural network based implicit**

elastic full-waveform inversion Tianze Zhang, University of Calgary; Jian Sun, Ocean University of China; Daniel O. Trad and Kristopher A. Innanen, University of Calgary (INT. AUD.: 3)

Speaker: Tianze Zhang

11:35 AM.....**Kronecker neural networks for the win: Overcoming spectral bias for**

PINN-based wavefield computation Umair bin Waheed, King Fahd University of Petroleum and Minerals (INT. AUD.: 2)

Speaker: Umair bin Waheed

Monday, 29 August 2022

SILIC 2 Shallow Marine Sedimentary Systems: The Link between the Land and the Deep Sea 1

Session Chairs: Yuqian Gan and Keyu Liu

Location: 372A

Synopsis: Shallow marine sedimentary processes and their deposits from conventional and unconventional standpoints. Advances in knowledge, facies models and forward stratigraphic modeling.

10:20 AM.....**Estuarine facies but no estuary: Sandstone body geometries in**

transgressive coastal settings Gary Nichols*, RPS Energy; Duncan Witts, CGG Satellite Mapping; and Marie Marsden, University of Birmingham (INT. AUD.: 3)

Speaker: Gary Nichols

10:45 AM.....**Identification of facies and their importance in interpretations of**

depositional environments and associated hydrocarbon play elements in fine-grained rocks: Examples from the Greenhorn Formation, Colorado Jason A. Flaum*, Justin E. Birdwell, and Katherine L. French, United States Geological Survey (INT. AUD.: 4)

Speaker: Jason Flaum

11:10 AM.....**Deltas in the stratigraphic record: Catching up with the marine geologists on understanding compound delta clinoforms** Cornel Olariu* and Ronald J. Steel, The University of Texas at Austin; Yang Peng, The University of Texas at Austin and China University of Petroleum; Valentina M. Rossi, The University of Texas at Austin and National Research Council of Italy; Ariana Osman, University of the West Indies; Fernando M. Rey and Jana Abdullatif, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Cornel Olariu

11:35 AM.....**The Bohai Bay Basin: A super basin in eastern China** Yingchang Cao*, Guanghui Yuan, Xu Jinjun, and Liu Jingdong, China University of Petroleum (INT. AUD.: 4)

Speaker: Guanghui Yuan

Monday, 29 August 2022

SPET 2 Advances in Processing

Session Chairs: Robert Clapp and Haiyang Wang

Location: 360A

Synopsis: Session with focus on denoising, deblending, demultiple methods, and novel acquisition.

10:20 AM.....**Echo phone for direct attenuation indication** Lu Liu, Aramco Asia; Tong Fei, Fuhao Qin, and Yi Luo, Saudi Aramco (INT. AUD.: 3)

Speaker: Lu Liu

10:45 AM.....**Seismic speckle as multiplicative noise explaining land reflections distorted by near-surface scattering** Andrey Bakulin, Saudi Aramco; Dmitry Neklyudov, Institute of Petroleum Geology and Geophysics; Ilya Silvestrov, Saudi Aramco (INT. AUD.: 1)

Speaker: Andrey Bakulin

11:10 AM.....**Sub- L_1 norm regularized inversion deblending in local 3D FK domain for ocean-bottom node data** Jun Sun, Zhaojun Liu, Manhong Guo, Graeme Stock, and Bin Wang, TGS (INT. AUD.: 3)

Speaker: Jun Sun

11:35 AM.....**Large-scale Marchenko imaging with distance-aware matrix reordering, tile low-rank compression, and mixed-precision computations** Matteo Ravasi*, Yuxi Hong, Hatem Ltaief, and David Keyes, KAUST; David Vargas, Utrecht

University (INT. AUD.: 3)

Speaker: Matteo Ravasi

Monday, 29 August 2022

SS 3 Latest Advancement in Machine Learning for Geoscience - Part 2

Session Chairs: Haibin Di and Tao Lin

Location: General Assembly B

Synopsis: A collection of the latest advancements in machine learning for geoscientific applications.

10:20 AM.....**Generative modeling for inverse problems** Rami Nammour,
TotalEnergies Research and Technology (INT. AUD.: 2)

Speaker: Rami Nammour

10:45 AM.....**Efficient physics-informed Bayesian inversion of VSP and hydrofrac data** Tian Qiao, George Turkiyah, and Gerard T. Schuster*, King Abdullah University of Science and Technology (KAUST) (INT. AUD.: 3)

Speaker: Gerard Schuster

11:10 AM.....**Solving seismic inverse problems by an unsupervised hybrid machine learning approach** Mrinal K. Sen*, and Arnab Dhara, University of Texas at Austin (INT. AUD.: 2)

Speaker: Mrinal Sen

11:35 AM.....**Seismic dataset-specific machine learning framework based on pre-training and fine-tuning** Tariq Alkhalifah* and Randy Harsuko, King Abdullah University of Science and Technology (INT. AUD.: 2)

Speaker: Tariq Alkhalifah

Monday, 29 August 2022

SS 4 Career-Advancing Near-Surface Geophysics: From Rock Core to Watershed Scales: Recognizing the Achievements of Rosemary Knight - Part 2

Session Chairs: Sina Saneiyan and Lee Slater

Location: 342E

Synopsis: Invited presentations from four former students covering a range of near-surface geophysics methods and applications.

10:20 AM.....**Applying the airborne electromagnetic method to address challenges at local and statewide scales** Ian Gottschalk*, Ramboll Water (INT. AUD.: 2)

Speaker: Ian Gottschalk

10:45 AM.....**Integration of hydrologic remote sensing data to estimate changes in groundwater storage across multiple spatial scales** Aakash Ahamed*, Rosemary Knight, and Sarfaraz Alam, Stanford University (INT. AUD.: 2)

Speaker: Aakash Ahamed

11:10 AM.....**Advancing water resource assessment with InSAR data and subsidence models** Ryan Smith*, Missouri University of Science and Technology (INT. AUD.: 3)

Speaker: Ryan Smith

11:35 AM.....**Knowledge into action: Advancing the use of geophysical methods for groundwater science and management in collaboration with local partners** Meredith Goebel*, Stanford University; Adam Pidlisecky, University of Calgary; Karissa Pepin and Seogi Kang, Stanford University (INT. AUD.: 2)

Speaker: Meredith Goebel

Monday, 29 August 2022

UNCON 2 Shale and Tight Reservoir Characterization 1

Session Chairs: Mohammad Mohanna and Robert Nail

Location: 371A

Synopsis: This session focuses on integrated characterization of shales and tight sand reservoirs for development purposes.

10:20 AM.....**Integrated 3D seismic and petrophysical workflow to predict elastic and geomechanical properties in the Wolfcamp Formation: A case study from the Midland Basin, Texas** Reinaldo Sabbagh and Shuvajit Bhattacharya*, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Shuvajit Bhattacharya

10:45 AM.....**Reservoir quality prediction in Tight rocks: Examples from the Permian Wolfcamp and 3rd Bone Spring Intervals** Ryan D. Wilson, Julymar Morantes, Fabien Laugier, Dave Forand, and Russell Zhao, Chevron (INT. AUD.: 4)

Speaker: Ryan Wilson

11:10 AM.....**Application of static-dynamic modeling for tight gas reservoir: A case of H reservoir in Early Cretaceous, Indus Basin** Chen Yang*, Junxian Chai, Jianlin Li,

Qihai Nie, Jianfang Yang, Wenwen Yu, Bo Wang, Guibin Dong, and Yingxiao Wang,
BGP Inc. CNPC; Changsheng Zhao, RIPED, CNPC (INT. AUD.: 5)

Speaker: Chen Xin

11:35 AM.....**Modelling simple and multiple bi-wing geometric behavior of fractures propagating from notches of radial wellbore** Justin Jordan Pidho*,

Yuanfang Cheng*, and Chuanliang Yan*, China University of Petroleum (INT. AUD.: 4)

Speaker: Justin Pidho

Monday, 29 August 2022

BG 3 Advances in Borehole Geophysics and Geomechanics 1

Session Chairs: Ahmed Alawi and Hanming Wang

Location: 342D

Synopsis: Advances in borehole geophysics and geomechanics theory, processing methods, and interpretation workflows.

1:20 PM.....**A power-law fault model for Bayesian network geosteering in complex geology** Hugh Winkler*, Factor Technology (INT. AUD.: 3)

Speaker: Hugh Winkler

1:45 PM.....**Resolution of InSAR data inversion and its application to identify shallow hazards** Zhishuai Zhang*, Kurt Nihei, Andrey Shabelansky, and Dimitri Bevc, Chevron Technical Center; Joe Stefani, Formerly Chevron Technical Center; William Milliken and Gwyn Mali, Chevron North America Exploration and Production Company (INT. AUD.: 1)

Speaker: Zhishuai Zhang

2:10 PM.....**ML-based deconvolution method for high resolution fast inversion of induction log data in deviated wells** Teruhiko Hagiwara*, Terry R&D (INT. AUD.: 3)

Speaker: Teruhiko Hagiwara

2:35 PM.....**Active gamma-ray well logging pattern localization with reinforcement learning** Yuan Zi, Lei Fan, Xuqing Wu, Jiefu Chen, Shirui Wang, and Zhu Han, University of Houston (INT. AUD.: 2)

Speaker: Yuan Zi

Monday, 29 August 2022

CEMS 3 South Atlantic Margin and Analogs 1

Session Chairs: William Morgan and Maria Mutti

Location: 362A

Synopsis: This session explores carbonate systems in presalt/lacustrine settings with case studies and analogs.

1:20 PM.....**Mind-blowing lacustrine carbonates — Reservoir potential, complexities and uncertainties in the Pre-Salt play, Brazil** M Danni Ramlan*, Gundogan Coskun, Tuan Syazana Tuan Ab Rashid, M Farizanuddin Jaapar, Amiruddin Jamil, Hasnor Farhana Hasnan, and Trisakti Kurniawan, PETRONAS (INT. AUD.: 2)
Speaker: M Danni Ramlan

1:45 PM.....**Reservoir characterization and associated uncertainties of a pre-salt carbonate field, Brazil offshore** Jaydip Guha, Hannah Wood, Martijn Blaauw, Caroline Scott, Cody Stewart, Lina Xu, Wenceslau P Gouveia, Edward Follows, Runer Avila, Andrew Barnett, and Josephine Wheeler, Shell Exploration and Production Company (INT. AUD.: 4)
Speaker: Jaydip Guha

2:10 PM.....**Seismic identification of carbonate reservoir sweet spots using unsupervised clustering algorithms: A case study from Pre-Salt Mero Field at Santos Basin, offshore Brazil** Marcus Vinicius Rodrigues Maas*, Petroleo Brasileiro S.A. (Petrobras), and The University of Oklahoma; Heather Bedle, The University of Oklahoma; and Marcilio Castro de Matos, SISMO (INT. AUD.: 3)
Speaker: Marcus Maas

2:35 PM.....**Exploring hypotheses about mixed carbonate-siliciclastic successions in lacustrine settings: A case study from the Yacoraite Formation (Tres Cruces sub-basin, Argentina)** Michele Vallati, Sara Tomás*, and Gerd Winterleitner, Universität Potsdam, Institut für Geowissenschaften; Claudia Galli, Universidad Nacional de Salta, and CONICET (INECOA, UNJu); and Maria Mutti, Universität Potsdam, Institut für Geowissenschaften (INT. AUD.: 4)
Speaker: Michele Vallati

Monday, 29 August 2022

GBMPS 3 Geochemical Reservoir Characterization 2

Session Chairs: Irene Arango and Norelis Rodriguez

Location: 370A

Synopsis: The session is comprised of papers covering diverse applications of

geochemistry and petrophysics to characterize fluid distribution in conventional carbonate rocks, rapid geochemical baselining for production allocation in unconventional, reservoir fluid property estimation, and constraints on H₂S distribution in deep carbonates. In addition, a review of higher diamondoid applications in petroleum and other industries is also discussed.

1:20 PM.....Validating cuttings samples as an alternative to core samples in baseline geochemical vertical profiles for production allocation in unconventional reservoirs Drew Scherer*, Alan Yu, and Mauro Becker, Texas A&M University; Changrui Gong and Daniel Xia, Apache Corporation (INT. AUD.: 3)

Speaker: Drew Scherer

1:45 PM.....The impact of oil composition on fluid distribution in a reservoir pore network Maram AlSaif, Mustafa Hakimuddin, Khaled Arouri, and Ibrahim Atwah, EXPEC ARC–Dhahran (INT. AUD.: 3)

Speaker: Maram AlSaif

2:10 PM.....Assessing the extent of thermochemical sulfate reduction in deep carbonate formations: Implication for predicting high H₂S distribution Mohammad A. Alrowaie, Ranya A. Algeer, Feng H. Lu, and Salman M. Al Qathami, Saudi Aramco (INT. AUD.: 5)

Speaker: Mohammad Alrowaie

2:35 PM.....Application of higher diamondoids within and outside of the petroleum industry J.E. Dahl*, Stanford Institute for Materials and Energy Science; J.M. Moldowan, Biomarker Technology Int.; and R.M.K. Carlson, Stanford Institute for Materials and Energy Science (INT. AUD.: 1)

Speaker: Mike Moldowan

Monday, 29 August 2022

INT 3 Quantitative Structural Interpretation Methods

Session Chairs: Huyen Bui and Dallas Dunlap

Location: 361A

Synopsis: Utilizing advance technologies to predict and interpret faults and fractures.

1:20 PM.....Fault surface extraction based on computational topology Cheng Zhou*, University of Electronic Science and Technology of China; Cun Yang, PetroChina Hangzhou Research Institute of Geology; Ruoshui Zhou, University of

Electronic Science and Technology of China; Xingmiao Yao and Guangmin Hu,
University of Electronic Science and Technology of China (INT. AUD.: 3)

Speaker: Cheng Zhou

1:45 PM.....**Automated fault surfaces extraction from 3D fault imaging
volume** Nam Nguyen* and Alejandro Jaramillo, Halliburton Landmark (INT. AUD.: 2)

Speaker: Nam Nguyen

2:10 PM.....**Fracture reservoir prediction method based on AVO disturbance
variance** Xiao Guangrui*, Li Yao, Zhang Yuru, and Xu Dekui, CNOOC (China National
Offshore Oil Corporation) Ltd. (INT. AUD.: 3)

Speaker: Guangrui Xiao

2:35 PM.....**Middle to small scale fracture detection in fault-controlled Karstic
reservoirs** Xiping Sun*, Xuan Li, Xin Zhang, Guangcheng Xu, Yongcai Yu, and Ming
Zhang, Research Institute of Petroleum Exploration and Development, PetroChina
(INT. AUD.: 3)

Speaker: Sun Xiping

Monday, 29 August 2022

MLDA 3 Seismic Processing 1

Session Chairs: Chengbo Li and Madhav Vyas

Location: 362B

Synopsis: Signal enhancement and super-resolution methods.

1:20 PM.....**Accelerated deep learning-based estimation of wavefront dips and
curvatures and their application to 3D prestack data enhancement** Kirill Gadylishin,
IPGG SB RAS, Novosibirsk State University; Ilya Silvestrov and Andrey Bakulin*, EXPEC
Advanced Research Center, Saudi Aramco (INT. AUD.: 2)

Speaker: Andrey Bakulin

1:45 PM.....**Seismic Image-to-image translation using a conditional GAN with
Bayesian inference** Xiaolei Song*, Muhong Zhou, Petr Jilek, Rodney Johnston, Sean
Cardinez, and Kareem Vincent, BP (INT. AUD.: 1)

Speaker: Xiaolei Song

2:10 PM.....**Efficient seismic image super-resolution** Adnan Hamida, King Fahd
University of Petroleum and Minerals; Motaz Alfarraj, King Fahd University of
Petroleum and Minerals and SDAIA-KFUPM Joint Research Center for Artificial
Intelligence; Abdullatif A. Al-Shuhail, King Fahd University of Petroleum and

Minerals; Salam A. Zummo, King Fahd University of Petroleum and Minerals and Center for Communications and Sensing (INT. AUD.: 3)

Speaker: Adnan Hamida

2:35 PM.....**Deep learning to maximize the value of fast-track 4D seismic processing** Arnab Dhara* and Haron Abdel-Raziq*, Shell Global Solutions (US) Inc.; Denis Kiyashchenko and Asiya Kudarova, Shell International Exploration and Production Inc.; Janaki Vamaraju, Shell Global Solutions (US) Inc.; Albena Mateeva, Shell International Exploration and Production Inc.; Pandu Devarakota, Shell Global Solutions (US) Inc.; Kanglin Wang, Shell International Exploration and Production Inc.; Jorge Lopez, Shell Brasil Petróleo (INT. AUD.: 3)

Speaker: Janaki Vamaraju

Monday, 29 August 2022

SILIC 3 Integrated Reservoir Characterization: From Grains to Giant Fields

Session Chairs: Lisa Goggin and Anshuman Pradhan

Location: 372A

Synopsis: Characterization of reservoirs at grain-to-grain scale to the utilization of outcrop analogs to inform about the subsurface, with focus on petrographic and sedimentologic controls and application of technology.

1:20 PM.....**Can incomplete chlorite grain coats preserve porosity in deep-water sandstones?** Ann Maria Elisabeth Marchand* and Jonathan Crouch, BP (INT. AUD.: 3)

Speaker: Ann Maria Marchand

1:45 PM.....**Clay composition and diagenesis in organic-rich shale: A case study of Duvernay Formation, West Canadian Sedimentary Basin** Hui Li, Nina Zeyen, Nicholas B. Harris, and Sasha Wilson, University of Alberta (INT. AUD.: 3)

Speaker: Hui Li

2:10 PM.....**Outcrop analysis and 3-D modeling for predicting subsurface facies distributions and architecture of the Nanushuk Formation on the North Slope of Alaska with python statistical analysis contributing to a new depositional model** Sarah Naone* and Samuel M. Hudson, Brigham Young University (INT. AUD.: 3)

Speaker: Sarah Naone

2:35 PM.....**Petrographic approach for reservoir characterization of a deep-water sandstone in a giant gas-condensate field, Browse Basin, Western**

Australia Kazuyuki Yamamoto*, Guilherme Coelho, Toby Jones, Peter Miklavs, Shuji Yamamoto, Takashi Yamatani, Ryoichi Matsui, Keiji Ichizawa, and Kenya Ono, INPEX Corporation (INT. AUD.: 3)

Speaker: Kazuyuki Yamamoto

Monday, 29 August 2022

SPET 3 Application of Signal Processing and Compressive Sensing

Session Chairs: Inma Dura-Gomez and Paul Williamson

Location: 360A

Synopsis: Session with focus on applications of compressed sensing and denoising approaches.

1:20 PM.....**Compressive sensing framework using the linear radon transform for 3D ultrasonic data reconstruction in a pinch-out reservoir model** Pedro C. de Assis*, Romulo B. da Silva, Irineu A. Lima Neto, Alan C. Galante, Alexandre L. Campi, and Alessandro R. de Oliveira, FACC Foundation; Roseane M. Missagia and Marco A. R. Ceia, North Fluminense State University (UENF), and INCT-Geofísica (INT. AUD.: 3)
Speaker: Pedro de Assis

1:45 PM.....**Multichannel compressive sensing for seismic data reconstruction using joint sparsity** Iga Pawelec, Michael Wakin, and Paul Sava, Colorado School of Mines (INT. AUD.: 3)
Speaker: Iga Pawelec

2:10 PM.....**Regularization by robust denoising for iterative simultaneous source separation** Breno Bahia and Mauricio D. Sacchi, University of Alberta (INT. AUD.: 3)
Speaker: Breno Bahia

2:35 PM.....**S-transform based processing of noisy surface wave record for recovering high-resolution spectrum** Sayan Mukherjee*, Mrinal Bhaumik, and Tarun Naskar, Indian Institute of Technology (INT. AUD.: 3)
Speaker: Sayan Mukherjee

Monday, 29 August 2022

UNCON 3 Applied Geophysics, Geomechanics, and Petrophysics for Shale and Tight Reservoirs 1

Session Chairs: Sochi Iwuoha and Yaser Zayer

Location: 371A

Synopsis: This session focuses on applied studies in geophysics, geomechanics, and petrophysics for unconventional.

1:20 PM.....**Petrophysical challenges with mudrocks in the Permian Basin: New concepts and workflows** Shuvajit Bhattacharya*, Ray Eastwood, and Brian Casey, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Shuvajit Bhattacharya

1:45 PM.....**High resolution petrophysical and geomechanical characterization for subsurface stress prediction in the Permian Basin** Emmanuel Oyewole, ExxonMobil Upstream Oil & Gas Company; and Brian Crawford, ExxonMobil Technology and Engineering Company (INT. AUD.: 2)

Speaker: Emmanuel Oyewole

2:10 PM.....**Stress characterization of reservoirs and non-reservoirs layers and its impact on hydraulic fracturing** Elisabeth Francis and Jaime Alfredo Rabines Menendez, Saudi Aramco (INT. AUD.: 3)

Speaker: Francis Elisabeth

2:35 PM.....**Permian glacial paleo-valley identification and characterization using geometrical attributes and 2D forward modelling** Leticia Itzel Flores-Sanchez*, Michael LeStrat, and Robert H Richards, Saudi Aramco (INT. AUD.: 3)

Speaker: Michael Le Strat

Monday, 29 August 2022

DAS 3 Innovative Applications

Session Chairs: Ivan Lim Chen Ning and Aleksei Titov

Location: 351A

Synopsis: Recent development on data acquisition and interpretation methods.

3:40 PM.....**Moment tensor inversion of perforation shots using distributed acoustic sensing** Milad Bader*, Robert G. Clapp, and Biondo Biondi, Stanford University (INT. AUD.: 3)

Speaker: Milad Bader

4:05 PM.....**Real-time downhole monitoring using DAS: Leak-induced vibrations** Aurélien Cherubini*, Simon Richard, Gaëtan Calbris, Camille Jestin, and Vincent Lanticq, FEBUS Optics (INT. AUD.: 4)

Speaker: Aurélien Cherubini

4:30 PM.....**Monitoring tunneling construction using distributed acoustic sensing** Gang Fang, Yun Zhou Tan, Enhedelilai Nilot, and Yanlong Niu, Sustainability Geophysics Project, National University of Singapore; Yunyue Elita Li, Sustainability Geophysics Project, Purdue University; Arthur Cheng, Sustainability Geophysics Project, CUHK (INT. AUD.: 3)

Speaker: Gang Fang

4:55 PM.....**Acquisition trial of deep smart DAS uphole: Evaluating high-productivity drilling with dual rotary and fiber cable deployment** Andrey Bakulin and Ezzedeen Alfataierge*, Saudi Aramco; Richard Berquist, Geoservices; and Francois Hermal, ARGAS (INT. AUD.: 3)

Speaker: Ezzedeen Alfataierge

Monday, 29 August 2022

FWI 1 Methods 2

Session Chairs: Anatoly Baumstein and Chao Wang

Location: 360A

Synopsis: Novel techniques for full-waveform inversion.

3:40 PM.....**FWI by utilizing the diversity of local minima** Madhav Vyas and John Etgen, BP (INT. AUD.: 3)

Speaker: Madhav Vyas

4:05 PM.....**Localized wavefield inversion (LWI): An adaptation of multi-block ADMM for localized FWI** H. S. Aghamiry*, Geoazur-CNRS-IRD-UNS-OCA; A. Gholami, University of Tehran; S. Operto, Geoazur-CNRS-IRD-UNS-OCA; A. Malcolm, University of Newfoundland (INT. AUD.: 3)

Speaker: Hossein Aghamiry

4:30 PM.....**An efficient L-BFGS-based approach to estimate the uncertainty of full-waveform inversions** Yongbo Zhai*, Xin Cheng, Robert Bloor, Denes Vigh, and Zhen Xu, Schlumberger (INT. AUD.: 3)

Speaker: Yongbo Zhai

4:55 PM.....**On the connection between WRI and FWI: Analysis of the nonlinear term in the Hessian matrix** A. Gholami*, University of Tehran; H. S. Aghamiry and S. Operto, Geoazur-CNRS-IRD-UNS-OCA (INT. AUD.: 3)

Speaker: Hossein Aghamiry

Monday, 29 August 2022

GBMPS 4 Petroleum System Modeling in Diverse Settings

Session Chairs: Allegra Hosford Scheirer and Kenneth Petersen

Location: 370A

Synopsis: This session showcases regional case studies of integrated petroleum systems analyses from diverse settings such as rift basins, foreland basins, and in basins affected by inversion tectonics. They demonstrate how integrated analyses was used to reduce risk associated with aspects of a petroleum system (source, generation, accumulation, and composition) in each setting.

3:40 PM.....Top down, integrated petroleum system analysis for ILX exploration considerations in the North Viking Graben, North Sea Michael Cheng*, Consulting Geologist; and Zhiyong He, ZetaWare, Inc. (INT. AUD.: 3)

Speaker: Michael Cheng

4:05 PM.....Petroleum systems development of the Bornu Basin, onshore NE Nigeria Adamu A. Suleiman*, Abdullahi D. Bomai, Muktar Zanna, and Alex N. Tarka, Frontier Exploration Services Division (FES) NNPC Total House (INT. AUD.: 3)

Speaker: Adamu Suleiman

4:30 PM.....Differential hydrocarbon accumulation and enrichment in the northern Kuqa foreland basin, western China Xinzhuo Wei*, Jianliang Liu, Xiujuan Ding, and Keyu Liu, China University of Petroleum (East China) (INT. AUD.: 3)

Speaker: Xinzhuo Wei

4:55 PM.....Tracks and trails: Continued evidence of Trinidadian regional cretaceous source rock at Royston-1 Catherine Donohue*, GeoMark Research; Xavier Moonan, Touchstone Exploration; Alex Zumberge and Graham Spence, GeoMark Research (INT. AUD.: 3)

Speaker: Catherine Donohue

Monday, 29 August 2022

INT 4 Seismic Attributes Applications to Geological Interpretations 1

Session Chairs: Sumit Verma and Rui Zhang

Location: 361A

Synopsis: A focus on applying seismic attributes to improve the interpretation of

geological features and reservoir characterization.

3:40 PM.....**Benefits of semi-automatic seismic interpretation workflow for fast-paced decision-making environments: A U.S. onshore case study** Alfredo

Fernandez*, Jake Marson, Vianney Savajol, and Christi Gell, Eliis Inc. (INT. AUD.: 1)

Speaker: Alfredo Fernandez

4:05 PM.....**Seismic geomorphology reveals the depositional environment to enhance reservoir prediction at various scales. Case studies from exploration to development projects in Argentina.** Teresa Santana*, Daniel Sanchez, and Alejandra

Feinstein, YPF S.A. (INT. AUD.: 3)

Speaker: Teresa Santana

4:30 PM.....**Application of multidirectional phase attribute method in fault identification of magmatic rock overburden area** Zhiqiang Zhang, Jinghan Wang, Zhongqiao Zhang, and Xijia Sun, Tianjin Branch of CNOOC Ltd. (INT. AUD.: 4)

Speaker: Zhiqiang Zhang

4:55 PM.....**Volumetric curvatures of subsurface geological features** Zvi Koren*, Anne-Laure Tertois, and Igor Ravve, Emerson (INT. AUD.: 3)

Speaker: Zvi Koren

Monday, 29 August 2022

MLDA 4 Seismic Processing 2

Session Chairs: Mehdi Aharchaou and Alejandro Valenciano

Location: 362B

Synopsis: Deep learning for seismic processing and accelerated velocity model building.

3:40 PM.....**SaltCrawler: AI solution for accelerating velocity model building** Engin Alkan and Yihua Cai, Shell International Exploration and Production Company; Pandu Devarakota, Shell Global Solutions US Inc.; Apurva Gala and John Kimbro, Shell International Exploration and Production Company; Dean Knott, Shell Global Solutions US Inc.; Gislain Madiba, Shell International Exploration and Production Company; Jeff Moore, Shell Global Solutions US Inc. (INT. AUD.: 3)

Speaker: Yihua Cai

4:05 PM.....**Deep-learning application of salt geometry detection in deep water Brazil** Ruichao Ye* and Anatoly Baumstein, ExxonMobil Upstream Research

Company; Kirk A. Wagenvelt, ExxonMobil Upstream Business Development Company; and Erik R. Neumann, formerly at ExxonMobil Upstream Research Company (INT. AUD.: 3)

Speaker: Ruichao Ye

4:30 PM.....**Seismic data interpolation via frequency-constrained 3D inception**

Unet Yen Sun* and Paul Williamson, TotalEnergies E&P Research & Technology USA (INT. AUD.: 3)

Speaker: Yen Sun

4:55 PM.....**Machine learning-based residual moveout picking** Farhad Bazargani* and Wenjun Zhang, Shell International Exploration and Production; Anu Chandran, Shell India Markets Pvt. Ltd.; Zaifeng Liu and Harry Rynja, Shell International Exploration and Production (INT. AUD.: 3)

Speaker: Farhad Bazargani

Monday, 29 August 2022

SILIC 4 Paleoenvironments and Source to Sink: Integrating the Past and Present to Inform the Future

Session Chairs: M Danni Ramlan and Eugene Szymanski

Location: 372A

Synopsis: High-tech integrated and multidisciplinary source-to-sink, provenance, paleoclimate, and paleoenvironmental research is critical to understand Earth's past and present to plan for future scenarios.

3:40 PM.....**Facies and architectural variability of slope channels in medium-sized, supply-dominant clinoforms, Mid-Jurassic Neuquén Basin, Argentina** Yuqian (Philomena) Gan, Ron Steel, Cornel Olariu, and Flavio de Almeida Jr., The University of Texas at Austin (INT. AUD.: 3)

Speaker: Yuqian Gan

4:05 PM.....**Detrital zircon provenance study of siliciclastic strata in western and central Cuba: Implications for Caribbean tectonics** Ascanio-Pellon, P.*, Stockli, D. F., Ruiz Arriaga, D. and Stockli, L. D., Jackson School of Geoscience (INT. AUD.: 3)

Speaker: Patricia Ascanio-Pellon

4:30 PM.....**The CTBE on steroids: Documentation of a thick succession of the CTBE (OAE2) in a research borehole near Dallas, Texas — Insights into hiatal breaks, cycle correlations, and calculated sedimentation rates within mudstone-prone**

successions A.D. Donovan*, R. Bryant, M. C. Pope, M. McCreary, L.S. Dangtran, L.N. Evans, and A. Pramudito, Texas A&M University (INT. AUD.: 3)

Speaker: Arthur Donovan

4:55 PM.....**Neogene to recent evolution of deep-water sediment dispersal systems in the southern Gulf of Mexico Basin** Zachary Sickmann* and John Snedden, University of Texas Institute for Geophysics (INT. AUD.: 2)

Speaker: Zachary Sickmann

Monday, 29 August 2022

SM 1 Scale Considerations and the Reservoir

Session Chairs: Beth Rees and Zedong Wu

Location: 342D

Synopsis: These abstracts discuss the role of scale and resolution in seismic modeling with focus on the reservoir.

3:40 PM.....**Fast anisotropic viscoelastic modeling and application in quantitative seismic reservoir characterization** Sirui Tan, Sunwoong Lee, John E Anderson, Haiyang Wang, Olivier Burtz, Partha Routh, Rongrong Lu, and Yang Yu, ExxonMobil Upstream (INT. AUD.: 3)

Speaker: Haiyang Wang

4:05 PM.....**Upscaling acoustic wave equation using renormalization group theory** Ajay Malkoti, Tata Institute of Fundamental Research and CSIR-National Geophysical Research Institute; Shravan M. Hanasoge, Tata Institute of Fundamental Research; and Rene Edouard Plessix, Shell Global Solutions International (INT. AUD.: 1)

Speaker: Ajay Malkoti

4:30 PM.....**A case study of generating synthetic seismic from simulation to validate reservoir models** Dhananjay Kumar*, Jing Zhang, Robert Chrisman, Nayyer Islam, and Matt Le Good, BP (INT. AUD.: 3)

Speaker: Dhananjay Kumar

4:55 PM.....**Seismic response analysis of thin coals** Yijun Xi* and Xingyao Yin, China University of Petroleum (East China) (INT. AUD.: 1)

Speaker: Yijun Xi

Monday, 29 August 2022

SS 5 Petroleum Reserves and Resources Evaluation and Management

Session Chairs: Dan Maguire and Richard Xu

Location: 362A

Synopsis: To go over past roads, current status, and possible futures of petroleum reserves/resources evaluation and management, from geoscience, engineering, economics, and governmental requirements perspectives.

3:40 PM.....The role of geophysicists in oil and gas resource and reserves assessments and the Petroleum Resources Management System (PRMS) Dan Maguire*, Antrim Energy Consulting, LLC; J. P. Blangy, BHP; and Chuandong (Richard) Xu, NexGeo Resources (INT. AUD.: 3)

Speaker: Dan Maguire

4:05 PM.....Integrating geoscience and engineering approaches to improve our reserves estimates Creties Jenkins, Rose and Associates, LLP (INT. AUD.: 4)

Speaker: Creties Jenkins

4:30 PM.....The value and usage of geophysical methods in the estimation of resources and reserves J. P. Blangy*, BHP; and Dan Maguire, Antrim Energy Consulting, LLC (INT. AUD.: 2)

Speaker: J. P. Blangy

4:55 PM.....Contributions of different components to the Net Present Value (NPV) of Haynesville Wells Hamed Tabatabaie, Hassan Eltorie, Raoul LeBlanc, Cesar Velasquez, and Camilo Rodriguez, S&P Global (INT. AUD.: 4)

Speaker: Imre Kugler

Monday, 29 August 2022

UNCON 4 Innovative Solutions and Data Science Applications in Unconventional Resource Evaluation

Session Chairs: Ahmed AlFataierge and Ademide Mabadeje

Location: 371A

Synopsis: This session focuses on multidisciplinary techniques including the application data science within unconventional.

3:40 PM.....Machine learning applications for frac-hit identification: A field data use case Xiongjun Wu* and Guoxiang Liu, U.S. Department of Energy, NETL and NETL

Support Contractor; Vyacheslav Romanov, U.S. Department of Energy, NETL (INT. AUD.: 3)

Speaker: Xiongjun Wu

4:05 PM.....**Deep learning cross-basin identification of TOC-rich zones in shale formations** Adewale Amosu and Yuefeng Sun, Texas A&M University (INT. AUD.: 5)

Speaker: Adewale Amosu

4:30 PM.....**Seismic lineaments characterization using independent component analysis** Abdulmohsen AlAli, Yazeed Altowairqi, Constantinos Tsingas, and Ali AlSultan, Saudi Aramco (INT. AUD.: 5)

Speaker: Abdulmohsen Alali

4:55 PM.....**3D visualization of integrated geologic and geophysical subsurface data using opensource programming: A case study using data from the MSEEL project** Brian Panetta*, Tim Carr, and Ebrahim Fathi, West Virginia University (INT. AUD.: 3)

Speaker: Brian Panetta

Tuesday, 30 August 2022

EMRS 1 CSEM Technology and Application

Session Chairs: Shenghui Li and Brent Wheelock

Location: 362A

Synopsis: This session showcases recent advance and various application of controlled-source electromagnetics.

8:00 AM.....**What's the problem with CSEM?** Antony Price*, TotalEnergies, France (INT. AUD.: 2)

Speaker: Antony Price

8:25 AM.....**Advanced analysis of helicopter-borne microTEM data for seismic base of sand corrections** Ersan Turkoglu, Daniele Colombo, and Ernesto Sandoval-Curiel, Saudi Aramco (INT. AUD.: 3)

Speaker: Ersan Turkoglu

8:50 AM.....**CSEM fluid monitoring methodology using real data examples** K. Strack, KMS Technologies; D. C. Adams and C. Barajas-Olalde, University of North Dakota; S. Davydycheva, KMS Technologies; R.J. Klapperich, University of North Dakota; Y. Martinez, KMS Technologies; K. MacLennan, University of North Dakota; A.Y. Paembonan, KMS Technologies and Sumatera Institute of Technology; W.D.

Peck, University of North Dakota; M. Smirnov, KMS Technologies and Lulea Technical University (INT. AUD.: 2)

Speaker: Kurt Strack

9:15 AM.....**New design of marine controlled-source electromagnetic transmitter using supercapacitors** Tanvir Alam Shifat, Xiaolei Tu, Yue Cao, and Adam Schultz, National Energy Technology Laboratory and Oregon State University (INT. AUD.: 3)

Speaker: Tanvir Alam Shifat

Tuesday, 30 August 2022

FWI 2 Methods 4

Session Chairs: Taqi Alyousuf and Xin Cheng

Location: 360A

Synopsis: Novel techniques for full-waveform inversion.

8:00 AM.....**Mitigating cycle skipping in FWI through preconditioned multi-dimensional optimal transport** James McLeman*, Tim Burgess, Tom Rayment, and Victor Chua, DUG Technology (INT. AUD.: 3)

Speaker: James McLeman

8:25 AM.....**A practical implementation of data-space Hessian in the time-domain formulation of source extended full-waveform inversion** G. Guo* and S. Operto, Geoazur-CNRS-IRD-UNS-OCA; A. Gholami, University of Tehran; and H. S. Aghamiry, Geoazur-CNRS-IRD-UNS-OCA (INT. AUD.: 3)

Speaker: Gaoshan Guo

8:50 AM.....**Phase-encoded waveform inversion for multiples** Yike Liu*, Bin He, Chinese Academy of Sciences; Xiao-Bi Xie, University of California at Santa Cruz; and Yingcai Zheng, University of Houston (INT. AUD.: 3)

Speaker: Yike Liu

9:15 AM.....**Velocity estimation via model order reduction** Alexander V. Mamonov*, University of Houston; Liliana Borcea, University of Michigan; Josselin Garnier, Ecole Polytechnique; and Jörn Zimmerling, University of Michigan (INT. AUD.: 4)

Speaker: Alexander Mamonov

Tuesday, 30 August 2022

INT 5 Advanced Seismic Interpretation and Characterization 1

Session Chairs: Jesse Lomask and Sumit Verma

Location: 361A

Synopsis: Advanced techniques in different basins geared toward accurate lithology prediction and fluid indicators.

8:00 AM.....High resolution sequence stratigraphy of the Mexican Gulf of Mexico based on interpretation of well and seismic data Cian O'Reilly* and Elisabeth Royce-Rogers, TGS (INT. AUD.: 5)

Speaker: Cian O'Reilly

8:25 AM.....A new fluid indicator for Neogene hydrocarbon detection based on amplitude variation versus thickness Xie Xiang*, Qiao Zhu, Wang Yichuan, and Liu Gongli, CNOOC Tianjin Ltd. (INT. AUD.: 3)

Speaker: Xiang Xie

8:50 AM.....Lithologic targets prediction technique and its application for Silurian marine clastic rock in Tarim Basin, NW China Chen Xiangfei*, Zhou Chenggang, Liu Huan, Tian Jun, Tang Yunfeng, Huang Chiqiang, Wang Yueming, and Bai Xue, BGP, CNPC (INT. AUD.: 4)

Speaker: Chen Xin

9:15 AM.....Application of accurate sedimentology interpretation method based on cost function in reservoir characterization Huihuang Tan*, Xinyi Duan, Xiaojie Zhang, and Wei Gao, CNOOC(China National Offshore Oil Corporation) Ltd. (INT. AUD.: 3)

Speaker: Huihuang Tan

Tuesday, 30 August 2022

MLDA 5 Seismic Interpretation 2

Session Chairs: Anatoly Baumstein and Fan Jiang

Location: 362B

Synopsis: Advancements in seismic facies classification using machine learning.

8:00 AM.....Automated active learning for seismic facies classification Haibin Di*, Leigh Truelove, and Aria Abubakar, Schlumberger (INT. AUD.: 2)

Speaker: Haibin Di

8:25 AM.....Volumetric supervised contrastive learning for seismic semantic

segmentation Kiran Kokilepersaud, Mohit Prabhushankar, and Ghassan AlRegib, Georgia Institute of Technology (INT. AUD.: 3)

Speaker: Kiran Kokilepersaud

8:50 AM.....**Feature selection for seismic facies classification of a fluvial reservoir: Pushing the limits of spectral decomposition beyond the routine red-green-blue color blend** Ismailalwali Babikir*, Mohamed Elsaadany, Maman Hermana, and Abdul Halim Abdul Latiff, Universiti Teknologi PETRONAS; Muhammad Sajid, PETRONAS; and Carrie Laudon, Geophysical Insights (INT. AUD.: 3)

Speaker: Carrie Laudon

9:15 AM.....**Deep adversarial multi-view clustering network for unsupervised seismic facies analysis** Hanpeng Cai*, Xiuyi Zou, and Zhao Yuting, University of Electronic Science and Technology of China (UESTC); Zhang Sheng and Wang Tengyu, Tarim Oilfield Company, PetroChina. (INT. AUD.: 4)

Speaker: Hanpeng Cai

Tuesday, 30 August 2022

NEF 2 Advancements in Gas Hydrates Research

Session Chairs: Peter Flemings and Alexey Portnov

Location: General Assembly B

Synopsis: New petrophysical evaluation tools and exploration approaches relevant to gas hydrate resources will be presented.

8:00 AM.....**The magnetic layer in Powder River and Denver-Julesburg basins: A new crustal temperature constraint for estimating thermal properties in sedimentary basins** Dale E. Bird*, Bird Geophysical; William E. Cathey, Earthfield Technology, LLC; Naila Dowla, Consultant (INT. AUD.: 3)

Speaker: Dale Bird

8:25 AM.....**Thermodynamic and kinetic promoters/inhibitors for renucleation of methane clathrates: Halogenation in the presence of salts combined with injected carbon dioxide** Kason B. Malone*, Russell LaRell Nielson, and Matibur Zamadar, Stephen F. Austin State University (INT. AUD.: 4)

Speaker: Kason Malone

8:50 AM.....**Two statistical attributes for evaluating attenuation response due to gas hydrates** Emily Jackson*, Heather Bedle, and Thang Ha, The University of Oklahoma (INT. AUD.: 3)

Speaker: Emily Jackson

9:15 AM.....**Rapid Sedimentation reduces the thermal gradient, increases pore pressure, and dramatically deepens the base of the gas hydrate stability zone in rapidly formed sedimentary basins** Alexey Portnov*, Peter B. Flemings, and Kevin Meazell, University of Texas Institute for Geophysics; Michael Hudec and Dallas Dunlap, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Alexey Portnov

Tuesday, 30 August 2022

SGS 1 Hydrocarbon Exploration and Reservoir Characterization: Insight from the Middle East

Session Chairs: Ahmed Hakami and Harald Karg

Location: 370A

Synopsis: This session will provide insight on hydrocarbon exploration and reservoir characterization in the Middle East. This will cover both conventional and unconventional examples.

8:00 AM.....**Characterizing the subsurface for more sustainable hydrocarbon exploitation in the Middle East** Mike Simmons*, Andrew Davies, Chris Gravestock, Joseph Jennings, and Lawrie Cowliff, Halliburton (INT. AUD.: 3)

Speaker: Mike Simmons

8:25 AM.....**Molecular tracers and PVT data combined better constrain fluid systems for exploration, reservoir characterization, and reservoir management** Khaled R. Arouri, Saudi Aramco (INT. AUD.: 6)

Speaker: Khaled Arouri

8:50 AM.....**A regional in-situ stress prediction framework for the Arabian tectonic plate using 3D process-based geomechanical modeling** Rajesh Goteti, Aramco Americas; and Yaser Alzayer, Saudi Aramco (INT. AUD.: 4)

Speaker: Rajesh Goteti

9:15 AM.....**Integrated approach for de-risking an unconventional tight sand play** Fahad Alkhunaini*, Mohammad Mohanna, Francis Elisabeth, Jana Alfaraj, Heba Alsoqair, and Omar Jahdali; Saudi Aramco (INT. AUD.: 4)

Speaker: Fahad Alkhunaini

Tuesday, 30 August 2022

SM 2 Improved Accuracy and Robustness

Session Chairs: Elizabeth L'heureux and Alexey Stovas

Location: 342D

Synopsis: These abstracts are focused on improving the accuracy and robustness of seismic modeling. They do that for specific scenarios like anisotropy and topography.

8:00 AM.....**A stable TTI acoustic wave equation** Linbin Zhang and Edose Ohen,
Seismic PPS (INT. AUD.: 3)

Speaker: Linbin Zhang

8:25 AM.....**Building high-resolution models and synthetic seismic data to evaluate interpretation scenarios** Tiago Santos Cabral*, Rodrigo Lopes Fernandes, Daina Popic Bendoraitis, Josair Estrela Gonçalves Junior, and Luiz Alberto Santos, Petrobras (INT. AUD.: 3)

Speaker: Tiago Cabral

8:50 AM.....**Removing the discretization errors for the fractional spatial derivatives based constant-Q viscoelastic wave equation modeling** Hongyu Zhou, Jing Wang, and Yang Liu, China University of Petroleum (Beijing) (INT. AUD.: 3)

Speaker: Hongyu Zhou

9:15 AM.....**An immersed absorbing boundary condition for scalar wavefield modeling under topography** KeJi Chen*, Hanming Chen, and Hui Zhou, China University of Petroleum (Beijing) (INT. AUD.: 4)

Speaker: KeJi Chen

Tuesday, 30 August 2022

STGM 1 Fractures, Faults, and Fluids 1

Session Chairs: Adam Cawood and Cristina Ruse

Location: 372A

Synopsis: Studies focused on the development of fault and fracture networks, and the influence of these networks on subsurface fluid flow, seismic hazard, and induced seismicity.

8:00 AM.....**Structural characterization and rupture hazard assessment of faults in the Midland Basin, West Texas** Elizabeth Horne*, Peter Hennings, Katie Smye, Amanda Calle, Dino Huang, and Alexandros Savvaidis, The University of Texas at

Austin (INT. AUD.: 3)

Speaker: Elizabeth Horne

8:25 AM.....**Examples of fault steps controlling event migration in seismic**

swarms Vincent Roche*, University of Alberta and University College Dublin; Mirko van der Baan, University of Alberta; and John Walsh, University College Dublin (INT. AUD.: 3)

Speaker: Vincent Roche

8:50 AM.....**Deformation bands as fluid pathways in outcrops of Lajas Formation tight-gas sandstone, Neuquén Basin, Argentina**

Estibalitz Ukar*, The University of Texas at Austin; Ramiro G. Lopez, YPF; Julia F.W. Gale, The University of Texas at Austin; Lucia Ciancio, YPF; Sara Elliott, The University of Texas at Austin (INT. AUD.: 2)

Speaker: Estibalitz Ukar

9:15 AM.....**Coupling diagenesis and mechanics for more realistic simulation of natural fracture pattern development** Byungtark Lee*, Jon E. Olson, and Stephen E. Laubach, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Byungtark Lee

Tuesday, 30 August 2022

TL 1 Advances and Case Studies

Session Chairs: Kurang Mehta and Shauna Oppert

Location: 342E

Synopsis: This session highlights the latest case studies focused on enhancing 4D data quality and getting more value out of time-lapse seismic. Applications include but are not limited to downhole seismic, machine learning, and land 4D analysis.

8:00 AM.....**Multi-scenario based deep learning workflow for high resolution seismic inversion on Brazil pre-salt 4D** Yang Xue*, Shell International Exploration and Production; Dan Clarke, Shell Global Solutions UK; Kanglin Wang, Shell International Exploration and Production (INT. AUD.: 3)

Speaker: Yang Xue

8:25 AM.....**Quantitative time-lapse analysis of 4D DAS VSP time shifts to monitor stimulated rock volume in unconventional reservoirs** Yesser Haj Nasser*, Seismic Geo-Engineering Solutions, LLC (INT. AUD.: 6)

Speaker: Yesser Haj Nasser

8:50 AM.....**A data-driven approach for reservoir connectivity analysis using PRM**

surveys Boshara M. Arshin Sukar* and Colin MacBeth, Heriot-Watt University (INT. AUD.: 3)

Speaker: Boshara Merghani Arshin Sukar

9:15 AM.....**Water column corrections: Joint water velocity inversion for 4D marine surveys** Didier Lecerf*, Mathieu Lange, Andrew Oates, and Jyoti Kumar, PGS (INT. AUD.: 3)

Speaker: Jyoti Kumar

Tuesday, 30 August 2022

UNCON 5 Pore-Scale Techniques and Laboratory Studies for Characterizing Mudrocks

Session Chairs: Ibrahim Atwah and Lyn Canter

Location: 371A

Synopsis: This session focuses on the analysis of shales and tight reservoirs using laboratory instrumentations and techniques.

8:00 AM.....**An innovative laboratory-testing protocol to investigate oil production due to primary depletion and huff-n-puff miscible gas injection from an ultra-tight reservoir rock sample** Le Van Si*, Mahdi Khishvand, Keerti Sharma, and Mohammad Piri, University of Wyoming; Morteza Akbarabadi, Piri Technologies; Nagi Nagarajan, Hess Corporation (INT. AUD.: 4)

Speaker: Van Si Le

8:25 AM.....**Integrated core flooding-NMR-imbibition experiments for oil recovery studies from lacustrine shales** Binyu Ma* and Shengyu Yang, China University of Petroleum (East China); Qinhong Hu and Tao Zhang, The University of Texas at Arlington; Xiugang Pu and Wenzhong Han, China National Petroleum Corporation (INT. AUD.: 3)

Speaker: Binyu Ma

8:50 AM.....**Stable isotope systematics of Marcellus Formation gases during laboratory degassing and production** Christopher D. Laughrey, Stratum Reservoir (INT. AUD.: 3)

Speaker: Christopher Laughrey

9:15 AM.....**Production allocation of Midland Basin Wolfcamp and Spraberry oils using LTHP mobilized oil from wet cuttings as end members** Jennifer Adams*, Tim Ruble, Bruno Leroux, and Matt Flannery, Stratum Reservoir; Erik Hiemstra, Birch

Resources (INT. AUD.: 3)

Speaker: Jennifer Adams

Tuesday, 30 August 2022

VSP 1 Advanced Applications of Borehole Seismic Technologies

Session Chairs: Joel Le Calvez and Ali Tura

Location: 351A

Synopsis: This session will focus on advanced applications of borehole seismic technologies.

8:00 AM.....**Examining the significance of the converted-modes beneath an ultra-high-velocity caprock: Physical modeling and a Gulf of Mexico salt proximity VSP survey** Jingjing Zong, University of Electronic Science and Technology of China; Yukai Wo, Southwest Petroleum University; Jizhong Yang, Tongji University; and Nikolay Dyaur, Schmidt Institute of Physics of the Earth (INT. AUD.: 2)

Speaker: Jingjing Zong

8:25 AM.....**Imaging and fold comparison of mirror reverse time migration vs. interferometric imaging for VSP data** Liwei Cheng*, James Simmons, and Ali Tura, Colorado School of Mines (INT. AUD.: 2)

Speaker: Liwei Cheng

8:50 AM.....**Advanced VSP modeling for efficient data acquisition in deepwater subsalt well** Manish Lal Khaitan* and Rafael Guerra, Schlumberger; Francesco Miranda and Emmanuel Spadavecchia, ENI SpA (INT. AUD.: 3)

Speaker: Ali Sayed

9:15 AM.....**Enhancing conventional VSP data to broadband and its quantitative improvement on lookahead inversion** Hussain Almarzooq, Saudi Aramco (INT. AUD.: 3)

Speaker: Hussain Marzooq

Tuesday, 30 August 2022

AVOSI 1 Methods 2

Session Chairs: Kyle Spikes and Rui Zhang

Location: 342D

Synopsis: Enhancement of AVO analysis and seismic inversion methods.

10:20 AM.....**Got noisy impedance? Try this** Jingfeng Zhang, Reetam Biswas, Dhananjay Kumar, Matt Walker, Pedro Paramo, Kevin Wolf, Anar Yusifov, Sophia Gerth, and Jeffrey Winterbourne, BP; Qiang Liu and Xingchao Liu, University of Texas at Austin; York Zheng, formerly BP, and currently Google; and Ryan Warnick, formerly BP, and currently Microsoft (INT. AUD.: 3)

Speaker: Jingfeng Zhang

10:45 AM.....**Seismic inversion with dictionary learning using unsupervised machine learning** Debajeet Barman*, Baylor University; and Mrinal K. Sen, University of Texas at Austin (INT. AUD.: 1)

Speaker: Debajeet Barman

11:10 AM.....**Seismic super resolution method for enhancing stratigraphic interpretation** Chengbo Li*, Qingrong Zhu, and Baishali Roy, ConocoPhillips (INT. AUD.: 4)

Speaker: Chengbo Li

11:35 AM.....**Modeling-based amplitude recovery (MBAR)** Yonghe Sun*, Zhemin Tan, Jeff Nealon, James Davenport, Mark Fan, Yuli Zhang, and Brian Church, Chevron (INT. AUD.: 4)

Speaker: Yonghe Sun

Tuesday, 30 August 2022

EMRS 2 Integrated Interpretation

Session Chairs: Antony Price and Kurt Strack

Location: 362A

Synopsis: This session showcases integrated interpretation of electromagnetic data with other measurements.

10:20 AM.....**Integrated 3D inversion of magnetotelluric and HeliTEM data collected in the geothermal area of Japan** Alexander Gribenko*, Leif Cox, Michael Jorgensen, and Michael S. Zhdanov, University of Utah and TechnoImaging; Masami Ikeya and Yusuke Usui, Idemitsu Kosan Co., Ltd. (INT. AUD.: 3)

Speaker: Alexander Gribenko

10:45 AM.....**Characterization of deep volcanic reservoirs using TFEM, well and seismic data in the LH area** Xiaodong Suo, Weibin Dong*, Yuezheng Li, Yanling Shi, and Zhanjun Yang, BGP, CNPC (INT. AUD.: 3)

Speaker: Gang Yu

11:10 AM.....**Ocean-bottom multiphysics for reservoir monitoring — increasing the value of information** Paulo T. L. Menezes*, Jorlivan L. Correa, Everton N. Menor, and Sergio M. Ferreira, Petrobras-EXP-PE/AB; Andrea Zerilli and Tiziano Labruzzo, ZLemlink Ltda. (INT. AUD.: 3)

Speaker: Paulo Menezes

11:35 AM.....**The temperature structure of the upper mantle based on magnetotelluric data beneath the western Qaidam Basin, northern Tibet, China** Lishui Zhou*, Letian Zhang, and Sheng Jin, China University of Geosciences (Beijing) (INT. AUD.: 2)

Speaker: Lishui Zhou

Tuesday, 30 August 2022

FWI 3 Applications 1

Session Chairs: Fuchun Gao and Partha Routh

Location: 360A

Synopsis: Applications of full-waveform inversion to field datasets.

10:20 AM.....**Improving subsalt images using reflection FWI on WAZ data: Examples from the Gulf of Mexico** Maksym Kryvohuz*, Yihua Cai, Sebastian Ramirez, Robert Schelstrate, and Gislain Madiba, Shell International Exploration and Production Company (INT. AUD.: 3)

Speaker: Maksym Kryvohuz

10:45 AM.....**Cascaded full-waveform inversions to resolve Mesozoic structures in shallow-water Gulf of Mexico with limited-offset data** Wei Kang*, Christoph Koeninger, Miguel Acosta Perez, Josue Jurado Ramirez, Imran Nagir, and Denes Vigh, Schlumberger; Silvino Dominguez Garcia, Alfredo Vazquez Cantu, Luis Arturo Vega, and Marco Antonio Mayorga, PEMEX (INT. AUD.: 3)

Speaker: Wei Kang

11:10 AM.....**Retrieving high-resolution acoustic impedance using full-waveform inversion in pre-salt reservoir setting, offshore Brazil** Akshat Abhishek and Alok K. Soni, Shell India Market Pvt. Ltd.; Rene-Edouard Plessix and Martijn Blaauw, Shell Global Solutions International; Jaydip Guha, Shell Global Solutions (UK); and Gautam Kumar, Shell India Market Pvt. Ltd. (INT. AUD.: 3)

Speaker: Adriano Gomes dos Santos

11:35 AM.....**Pushing the boundary of WAZ streamer data for subsalt imaging: A case study in deepwater Mexico Campeche** Yi Chen*, Kendra Pyke, Juan Wang, Jasmeen Moubarak, Earl Manning, and Jessica Kopp, Shell; Rongzhang Chen, Chang Chen, Ravi Kumar, Minshen Wang, and Sabaresan Mothi, CGG (INT. AUD.: 3)
Speaker: Yi Chen

Tuesday, 30 August 2022

GM 1 Inversion Insights

Session Chairs: Andrea Darrh and Xiaolong Wei

Location: 371A

Synopsis: Tools for understanding and simplifying inversion of potential field data.

10:20 AM.....**Trans-dimensional Bayesian gravity inversion and uncertainty analysis for salt reconstruction** Xiaolong Wei and Jiajia Sun, University of Houston; Mrinal K. Sen, University of Texas at Austin (INT. AUD.: 3)
Speaker: Xiaolong Wei

10:45 AM.....**Joint inversion of gravity and magnetic data using indicator functions** Ke Wang* and Dikun Yang, Southern University of Science and Technology (INT. AUD.: 4)
Speaker: Ke Wang

11:10 AM.....**The generation of equivalent sources by 3D skeletonization of the migration density field** James Brewster*, Bell Geospace Inc. (INT. AUD.: 3)
Speaker: James Brewster

11:35 AM.....**3D inversion of QMAGT airborne magnetic gradiometry data for susceptibility and magnetization vector models of the Thompson Nickel Belt in Manitoba, Canada** Michael Jorgensen*, and Michael S. Zhdanov, University of Utah; Brian Parsons, Vale Canada LTD (INT. AUD.: 3)
Speaker: Michael Jorgensen

Tuesday, 30 August 2022

INT 6 Advanced Seismic Interpretation and Characterization 2

Session Chairs: Gokay Bozkurt and Adamu Suleiman

Location: 361A

Synopsis: Advanced techniques in different basins geared toward accurate lithology

prediction and fluid indicators.

10:20 AM.....**Genesis and regularity of bright spots in Guantao Formation and its significance for oil and gas indication** Jinhui Zhang *, Zhijun Zhang, Hongtao Shen, and Hongbo Ding, China National Offshore Oil Corporation (CNOOC) Ltd. (INT. AUD.: 4)

Speaker: Jinhui Zhang

10:45 AM.....**“Pair beads” seismic anomalies: The cave features important to but missed in carbonate studies** Fangjian Xue, FJX Resources (INT. AUD.: 3)

Speaker: Fangjian Xue

11:10 AM.....**Enhancing geological features delineation by combining a relative geological time model with the matching pursuit spectral decomposition** Fabien Cubizolle*, Benjamin Durot, and Lory Evano, Eliis (INT. AUD.: 3)

Speaker: Fabien Cubizolle

11:35 AM.....**Structural subdivision of channel sand bodies based on frequency division coherence and attribute fusion** Qian Yu*, Jianli Wang, Huajing Chen, Heng Zhang, and Lien Bian, CNOOC Ltd. (INT. AUD.: 3)

Speaker: Qian Yu

Tuesday, 30 August 2022

MLDA 6 Seismic Interpretation 3

Session Chairs: Adam Halpert and Long Jin

Location: 362B

Synopsis: Advancements in training data synthesis and enhanced seismic fault identification using deep learning.

10:20 AM.....**Realistic synthetic data generation using neural style transfer: Application to automatic fault interpretation** Min Jun Park*, Joseph Jennings, Bob Clapp, and Biondo Biondi, Stanford University (INT. AUD.: 3)

Speaker: Min Jun Park

10:45 AM.....**Training data versus deep learning architectures in the seismic fault attribute computation** Bo Zhang*, Yitao Pu, The University of Alabama; Zhaohui Xu, China University of Petroleum (Beijing); Naihao Liu, and Shizhen Li, Xi'an Jiaotong University; Fangyu Li, Beijing University of Technology (INT. AUD.: 5)

Speaker: Bo Zhang

11:10 AM.....**Seismic data augmentation for automatic faults picking using deep learning** Nam Pham and Sergey Fomel, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Nam Pham

11:35 AM.....**Implementation of frequency-dependent fault identification by convolutional neural networks with uncertainty analysis** Fan Jiang*, Alejandro Jaramillo, Steve Angelovich, Phill Norlund, and Julianna Toms, Halliburton Landmark (INT. AUD.: 4)

Speaker: Fan Jiang

Tuesday, 30 August 2022

SGS 2 Digital Transformation in Seismic Imaging: Insight from the Middle East

Session Chairs: Aria Abubakar and Aiman Bakhorji

Location: 370A

Synopsis: The session will show-case the latest innovative seismic imaging advancements from the Middle East. The talks will showcase novel artificial intelligence techniques for subsurface characterization unlocking the potential of IR4 and HPC advancements.

10:20 AM.....**GeoMind: An intelligent earth model building tool** Saleh Al Saleh*, Ewenet Gashawbeza, Mustafa Marzooq, Hussam Banaja, Husain Al Shakhs, and Jianwu Jiao, Saudi Aramco (INT. AUD.: 2)

Speaker: Saleh Al Saleh

10:45 AM.....**Deep Earth: Leveraging neural networks for seismic exploration objectives** Tariq Alkhalifah, Claire Birnie, Randy Harsuko, Hanchen Wang, and Oleg Ovcharenko, KAUST (INT. AUD.: 2)

Speaker: Tariq Alkhalifah

11:10 AM.....**Innovative disorder seismic attribute for reservoir characterization** Qiang Fu and Saleh Al-Dossary*, Saudi Aramco (INT. AUD.: 3)

Speaker: Saleh Al-Dossary

11:35 AM.....**HPC advances and impacts to exploration and reservoir development** Khaled Al Dulaijan* and Mohammed Alajaji, Saudi Aramco (INT. AUD.: 2)

Speaker: Khaled Al Dulaijan

Tuesday, 30 August 2022

STGM 2 Tectonics and Structural Style

Session Chairs: Mohammed Alsaleh and Marie Etchebes

Location: 372A

Synopsis: Regional-scale studies focused on the tectonic evolution and stratigraphic development of various basins and settings worldwide.

10:20 AM.....Paleogene Yucatan back-arc basin in the northern Caribbean: Ridge and fracture zone geometry in oceanic crust, depth-to-Moho, and Cenozoic sedimentary fill Juan Pablo Ramos* and Paul Mann, University of Houston (INT. AUD.: 3)

Speaker: Juan Pablo Ramos

10:45 AM.....Regional variations in basement dip of the Santos, Campos and Espirito Santo Basins, offshore Brazil and its control on structural style in the overlying detached salt and sedimentation Sharon Cornelius*, Paul Mann, and Sumit Mukherjee, University of Houston (INT. AUD.: 3)

Speaker: Sharon Cornelius

11:10 AM.....Crustal structure and tectonic evolution of the Newfoundland Ridge, Fogo Basin, and southern Newfoundland transform margin Adam J. Cawood and David A. Ferrill, Southwest Research Institute; David Norris, Oil and Gas Corporation of Newfoundland and Labrador; Nina P. Bowness, Elliott J. Glass, Kevin J. Smart, and Alan P. Morris, Southwest Research Institute; Erin Gillis, Oil and Gas Corporation of Newfoundland and Labrador (INT. AUD.: 3)

Speaker: Adam Cawood

11:35 AM.....Variations in shortening style as a function of mechanical stratigraphy inferred from 3D seismic reflection data, northern Paradox Basin, UT Brook Runyon* and Amanda N. Hughes, University of Arizona; Dave F. List, David List Consulting; Eugene Szymanski, Michael D. Vanden Berg, and Elliot Jagniecki, Utah Geological Survey (INT. AUD.: 2)

Speaker: Brook Runyon

Tuesday, 30 August 2022

TL 2 Quantitative Analysis and Inversion

Session Chairs: Marcela Ortin and Lin (Jennifer) Zhang

Location: 342E

Synopsis: This session highlights advancements in quantitative analysis and seismic/full-waveform inversion toward time-lapse seismic. The focus is on the use of more sophisticated seismic algorithms toward a better monitoring and prediction.

10:20 AM.....**4D image velocity scan to improve the 4D quantitative interpretation** Mohamed Hatab* and Colin MacBeth, Heriot-Watt University (INT. AUD.: 4)

Speaker: Mohamed Hatab

10:45 AM.....**Robust joint inversion and segmentation of 4D seismic data** Juan Romero*, Matteo Ravasi, and Nick Luiken, King Abdullah University of Science and Technology (KAUST) (INT. AUD.: 3)

Speaker: Juan Romero

11:10 AM.....**Predicting the time-evolution of CO2 saturation through a combination of rock physics and full waveform inversion** Qi Hu, University of Calgary; Dario Grana, University of Wyoming; and Kristopher A. Innanen, University of Calgary (INT. AUD.: 3)

Speaker: Qi Hu

11:35 AM.....**Direct monitoring of fluid saturation using time-lapse full-waveform inversion** Amir Mardan and Bernard Giroux, INRS-ETE; Gabriel Fabien-Ouellet, Polytechnique Montréal; and Mohammad Reza Saberi, GeoSoftware (INT. AUD.: 5)

Speaker: Gabriel Fabien-Ouellet

Tuesday, 30 August 2022

AVOSI 2 Methods 3

Session Chairs: Son Phan and Nimisha Vedanti

Location: 342D

Synopsis: Enhancement of AVO analysis and seismic inversion methods.

1:20 PM.....**Wide-angle AVO-inversion using constant p-traces: AVP-inversion** Dennis Cooke, ZDAC Geophysical (INT. AUD.: 4)

Speaker: Dennis Cooke

1:45 PM.....**Joint inversion of AVO and time-shift for geomechanical strain evaluation in a UKCS field** Samarth Bachkheti* and Colin MacBeth, Heriot-Watt

University (INT. AUD.: 3)

Speaker: Samarth Bachkheti

2:10 PM.....**Direct probabilistic inversion for facies with different elastic depth trends** Ask Jakobsen, Qeye (INT. AUD.: 3)

Speaker: Ask Jakobsen

2:35 PM.....**Wave-equation based amplitude vs. offset inversion in long time windows, with time-variant wavelets** A. Gisolf* and P.R. Haffinger, Delft Inversion (INT. AUD.: 3)

Speaker: Dries Gisolf

Tuesday, 30 August 2022

EMRS 3 Machine Learning and Inversion

Session Chairs: Jiefu Chen and Nestor Cuevas

Location: 362A

Synopsis: This session showcases advance on electromagnetic modeling and data processing including deep learning.

1:20 PM.....**3D real-time imaging for electromagnetic fracturing monitoring based on deep learning** Zhigang Wang and Yao Lu*, BGP, CNPC; Ying Hu, Yinchu Li, Ke Wang, and Dikun Yang, Southern University of Science and Technology (INT. AUD.: 3)

Speaker: Gang Yu

1:45 PM.....**A deep learning based surrogate and uncertainty quantification for fast electromagnetic modeling in complex formations** Yuchen Jin*, Chaoxian Qi, and Li Yan, University of Houston; Yueqin Huang, Cyentech Consulting LLC; Xuqing Wu and Jiefu Chen, University of Houston (INT. AUD.: 3)

Speaker: Jiefu Chen

2:10 PM.....**Reliability estimation of the prediction results by 1D deep learning ATEM inversion using maximum depth of investigation** Hyeonwoo Kang*, Minkyu Bang, Soon Jee Seol, and Joongmoo Byun, University, South Korea (INT. AUD.: 3)

Speaker: Hyeonwoo Kang

2:35 PM.....**Simulation and inversion of deep-towed marine electrical resistivity survey data** Dikun Yang* and Yuchao Zhang, Southern University of Science and Technology (INT. AUD.: 3)

Speaker: Dikun Yang

Tuesday, 30 August 2022

FWI 4 Applications 2

Session Chairs: Debanjan Datta and Hongchuan Sun

Location: 360A

Synopsis: Applications of full-waveform inversion to field datasets.

1:20 PM.....**Turning high resolution FWI model into pseudo-reflectivity: A case study using sparse OBN** Bing Bai, Yao Yu, Ruoyu Gu, Shenghong Tai, and Denes Vigh, Schlumberger (INT. AUD.: 3)

Speaker: Bing Bai

1:45 PM.....**High-resolution FWI of converted-wave data — A case study from the Edvard Grieg field** Per Eivind Dhelie*, Vidar Danielsen, Jon Andre Haugen, Emilie Davenne, and Knut Richard Straith, Lundin Energy Norway; Alireza Roodaki, Manuel Peiro, Alexis Fotsoh, Wenlei Gao, Nabil Masmoudi, and Andrew Ratcliffe, CGG (INT. AUD.: 4)

Speaker: Per Eivind Dhelie

2:10 PM.....**Assessing FWI imaging's potential to tackle illumination issues and internal multiples in the Brazilian pre-salt** Cyril Dolymnyj, Filipe Rodrigues, Amanda Porto, Leandro Galves, and Asdrubal Ovalles, CGG (INT. AUD.: 3)

Speaker: Leandro Victalino Galves

2:35 PM.....**3-D acoustic-elastic full-waveform inversion and migration of marine VSP data from Norway** Zhaolun Liu*, Princeton University; Jürgen Hoffmann, DNO ASA; Frederik J. Simons, and Jeroen Tromp, Princeton University (INT. AUD.: 2)

Speaker: Zhaolun Liu

Tuesday, 30 August 2022

GM 2 Nonstandard Applications in Potential Fields

Session Chairs: Colton Kohnke and Antony Price

Location: 371A

Synopsis: Out of the mainstream ideas and techniques worth understanding.

1:20 PM.....**Irregular acquisition design to maximize information: From cross-lines to ergodic sampling** Mengli Zhang* and Yaoguo Li, Colorado School of Mines (INT. AUD.: 3)

Speaker: Mengli Zhang

1:45 PM.....**Automated metallic pipeline detection using magnetic data and convolutional neural networks** Brett Bernstein*, Yaoguo Li, and Richard Hammack, Colorado School of Mines and U.S. Department of Energy (INT. AUD.: 3)

Speaker: Brett Bernstein

2:10 PM.....**Triangular impulse tests for stratified gravity inversion** Guibao Liu* and Hua-Wei Zhou, University of Houston (INT. AUD.: 4)

Speaker: Guibao Liu

2:35 PM.....**3D joint Gramian inversion of airborne gravity gradiometry and magnetotelluric data for geothermal resource exploration** Michael S. Zhdanov, Michael Jorgensen*, and Alexander Gribenko, University of Utah and TechnoImaging; Masami Ikeya and Yusuke Usui, Idemitsu Kosan Co., Ltd. (INT. AUD.: 3)

Speaker: Michael Jorgensen

Tuesday, 30 August 2022

INT 7 Machine Learning Applications to Seismic Interpretation 1

Session Chairs: Ayodeji Babalola and Jie Qi

Location: 361A

Synopsis: Advanced technologies in applying deep and machine-learning algorithms to automate seismic interpretation processes.

1:20 PM.....**Sparse time-frequency representation based on Unet with domain adaptation** Yuxin Zhang, Naihao Liu*, Yang Yang, Zhiguo Wang, and Jinghuai Gao, Xi'an Jiaotong University; Xiudi Jiang, Research Institute of China National Offshore Oil Corporation (CNOOC) (INT. AUD.: 3)

Speaker: Yuxin Zhang

1:45 PM.....**Quantifying uncertainty in unsupervised machine learning methods for seismic facies using outcrop-derived 3D models and synthetic seismic data** Karelia La Marca* and Heather Bedle, University of Oklahoma; Lisa Stright, Colorado State University; Rafael Pires de Lima, Geological Survey of Brazil; Kurt J. Marfurt, University of Oklahoma (INT. AUD.: 3)

Speaker: Karelia La Marca

2:10 PM.....**Interactive 3D fault prediction using a weighted 2D-CNN and multi-directional 3D-CNN** Jesse Lomask* and Samuel Chambers, S&P Global (INT. AUD.: 6)

Speaker: Jesse Lomask

2:35 PM.....**Seismic sparse time-frequency representation via GAN-based unsupervised learning** Youbo Lei, Yang Yang, Naihao Liu*, Shengtao Wei, and Jinghuai Gao, Xi'an Jiaotong University; Xiudi Jiang, Research Institute of China National Offshore Oil Corporation (CNOOC) (INT. AUD.: 3)

Speaker: Youbo Lei

Tuesday, 30 August 2022

MLDA 7 Uncertainty Quantification 1

Session Chairs: Bradley Wallet and Tao Zhao

Location: 362B

Synopsis: Uncertainty quantification for machine learning-based seismic interpretation and inversion.

1:20 PM.....**Using mixture density networks for uncertainty and prediction in seismic reservoir characterization** Cornelius Rosenbaum and Ryan Warnick, Numerical Algorithms Group; Anar Yusifov, Reetam Biswas, and Atish Roy, BP (INT. AUD.: 2)

Speaker: Reetam Biswas

1:45 PM.....**Physics-directed unsupervised machine learning: Quantifying uncertainty in seismic inversion** Sagar Singh, Shell Global Solutions (US), Inc and Colorado School of Mines; Yu Zhang and David Thanoon, Shell International Exploration and Production Inc; Pandu Devarakota, Shell Global Solutions (US), Inc; Long Jin, Shell Exploration and Production Company; Ilya Tsvankin, Colorado School of Mines (INT. AUD.: 3)

Speaker: Sagar Singh

2:10 PM.....**Subsurface uncertainty quantification with deep geologic priors: A variational Bayesian framework** Ashutosh Tewari*, Brent Wheelock, and Jacob Clark, ExxonMobil Research & Engineering Company; Dallas Foster, Matthew Li, and Youssef Marzouk, Massachusetts Institute of Technology (INT. AUD.: 3)

Speaker: Brent Wheelock

2:35 PM.....**Reliable uncertainty estimation for seismic interpretation with prediction switches** Ryan Benkert, Mohit Prabhushankar, and Ghassan AlRegib, Georgia Institute of Technology (INT. AUD.: 4)

Speaker: Ryan Benkert

Tuesday, 30 August 2022

SGS 3 New Advancements in Seismic Imaging: Insight from the Middle East

Session Chairs: Saleh Al Saleh and Tariq Alkhalifah

Location: 370A

Synopsis: The session will showcase the latest innovative seismic imaging advancements from the Middle East. Unique examples of successful implementation of FWI and wave equation methods and their implications for exploration and reservoir characterization.

1:20 PM.....**A shallow velocity model building using full-waveform inversion on 3D onshore dataset** Young Seo Kim*, Saudi Aramco; Jewoo Yoo, Delft Global Research Center, Aramco Europe; Tong Fei and Ali Almomin, Saudi Aramco (INT. AUD.: 4)
Speaker: Ali Almomin

1:45 PM.....**Land surface-related multiple attenuation based on wave-equation deconvolution** Gordon Poole*, Brandon Li, Mattia Miorali, Keith Mills, and John Tickle, CGG (INT. AUD.: 2)
Speaker: Gordon Poole

2:10 PM.....**Elastic FWI application to a land data set in the Middle East** Anna Sedova*, Olivier Leblanc, Thibaut Allemand, Gilles Lambaré, Stéphane Pellerin, and Daniela Donno, CGG (INT. AUD.: 3)
Speaker: Anna Sedova

2:35 PM.....**New numerical schemes for time-domain seismic wave modeling in viscoelastic media** Bing Zhou, Moosoo Won, and Chao Jin, Khalifa University of Science and Technology (INT. AUD.: 3)
Speaker: Bing Zhou

Tuesday, 30 August 2022

SS 6 Recent Advances and the Road Ahead: Hot Topics in Space, Infrastructure, and Exploration Geophysics - Part 1

Session Chairs: Sergio Chávez-Pérez and Stephan Gelinsky

Location: General Assembly A

Synopsis: Traditional session that opens the technical program with hot topics. All speakers are invited, and the selected topics aim at being innovative and

enlightening.

1:20 PM.....**Characterization of underground structures on Earth and on Mars using ambient seismic vibrations** Manuel Hobiger*, Federal Institute for Geosciences and Natural Resources (BGR) (INT. AUD.: 2)

Speaker: Manuel Hobiger

1:45 PM.....**Applied geophysical research for sustainable societies** Yunyue Elita Li, Purdue University; and Arthur Cheng, The Chinese University of Hong Kong (INT. AUD.: 1)

Speaker: Yunyue Li

2:10 PM.....**The role of geophysics in offshore geotechnical site characterizations in the energy transition era: From oil & gas to renewables** Jinbo Chen, Shuang Hu, Marianne Vissinga, Yi Shen, and Stephan Gelinsky, Shell International Exploration and Production Inc. (INT. AUD.: 3)

Speaker: Jinbo Chen

2:35 PM.....**DAS: The survival toolkit for geophysicists in the wilderness of unconvensionals** Ge Jin*, Colorado School of Mines (INT. AUD.: 3)

Speaker: Ge Jin

Tuesday, 30 August 2022

SS 7 Geoscientists without Borders: Applied Geoscience for Humanitarian Need

Session Chairs: Cengiz Esmer soy and Robert Merrill

Location: 342E

Synopsis: The GWB program continues to identify and fund humanitarian projects around the world. We will review status and take a closer look at four projects.

1:20 PM.....**Geoscientists without Borders (GWB) — Applied geoscience for humanitarian need** Cengiz Esmer soy*, Consultant; and Robert Merrill, Catheart Energy, Inc. (INT. AUD.: 1)

Speaker: Cengiz Esmer soy

1:45 PM.....**NepalEEW: Testing the feasibility of an earthquake early warning system in Nepal** Vaclav M. Kuna, Institute of Geophysics of the Czech Academy of Sciences (INT. AUD.: 2)

Speaker: Vaclav Kuna

2:10 PM.....**Groundwater resources in Sinai's basement terrains: Optimal recharge**

and extraction locations Muhamed Elshalkany, Texas A&M University and Suez Canal University; Mohamed Ahmed*, Texas A&M University; Abdou Abouelmagd, Suez Canal University (INT. AUD.: 3)

Speaker: Mohamed Ahmed

2:35 PM.....**Probing deeper: On delineating basement features to investigate**

fractured aquifers in a rural community Hendratta Ali, Fort Hays State University;

Manika Prasad*, Colorado School of Mines; Ahmed Ismail, Oklahoma State

University; Njilah Isaac Konfor and Yene Atangana, University of Yaoundé 1; Joseph-

Quentin, Fort Hays State University; Oluseun Adetola Sanuade, Oklahoma State

University; Henry M. D. Agbogun, Fort Hays State University; Mbida Yem, University

of Yaoundé 1; Alice Magha, University of Bamenda (INT. AUD.: 1)

Speaker: Manika Prasad

Tuesday, 30 August 2022

STGM 3 Structural Interpretation and Modeling

Session Chairs: Seth Buseti and Estibalitz Ukar

Location: 372A

Synopsis: Modeling, machine learning, and computer vision approaches for understanding deformation processes and predicting fault and fracture occurrence.

1:20 PM.....**Multi-fault 2D forward models in extensional rift systems of**

deepwater Brazil: A useful tool for predicting reservoir, source, and

maturity Shamik Bose*, Brian J. Darby, and Michael A. Sullivan, ExxonMobil

Upstream Business Development (INT. AUD.: 3)

Speaker: Shamik Bose

1:45 PM.....**AI-assisted structural interpretation of complex faulting and salt across**

the shelf and slope of the Camamu sub-basin, northeastern Brazil Sean Romito,

University of Houston and ConocoPhillips; Ana Krueger*, University of Houston and

Bluware; and Paul Mann, University of Houston (INT. AUD.: 3)

Speaker: Ana Krueger

2:10 PM.....**Efficiency improvements in structural geology modelling through the**

implementation of computational visual workflows Fiona McLean, Cathal Reilly, and

Jacob Shearer, Petroleum Experts Ltd. (INT. AUD.: 3)

Speaker: Fiona McLean

2:35 PM.....**Lithological implications on transfer zones using experimental**

models Pierre Karam* and Brett M. Carpenter, University of Oklahoma (INT. AUD.: 5)
Speaker: Pierre Karam

Tuesday, 30 August 2022

AVOSI 3 Applications 2

Session Chairs: Subhashis Mallick and Yang Xue

Location: 342D

Synopsis: Enhancement of AVO analysis and seismic inversion methods.

3:40 PM.....**Multidisciplinary seismic amplitude analysis in a frontier exploration area** Lei Zhang*, Ivan Salazar, Janet Ravelo, Ricardo Castrejon, and Raul Ysaccis, Schlumberger Digital & Integration; Edgar Ramon Hernandez Reyes and Armando Heras Sanjuanico, Pemex (INT. AUD.: 4)

Speaker: Lei Zhang

4:05 PM.....**Application of combined inversion of lithofacies and impedance based on rock physical constraints in sandstone characterization in Liaodong bay of Lvda area** Xun Liu*, Wei Gao, Huihuang Tan, and Yu He, Tianjin Branch of CNOOC Ltd. (INT. AUD.: 3)

Speaker: Xun Liu

4:30 PM.....**Rock-physics modelling for interpreting thin-bed effects on inverted elastic properties** Carl Reine, Sound QI Solutions Ltd. (INT. AUD.: 3)

Speaker: Carl Reine

4:55 PM.....**Machine learning and seismic attributes for prospect identification and risking: An example from offshore Australia** Mohammed Farfour and Douglas Foster, University of Texas at Austin (INT. AUD.: 3)

Speaker: Mohammed Farfour

Tuesday, 30 August 2022

FWI 5 Applications 3

Session Chairs: Ramesh Neelamani and Xin Wang

Location: 360A

Synopsis: Applications of full-waveform inversion to field datasets.

3:40 PM.....**Time-lapse crosswell seismic monitoring of CO2 injection at the**

Nagaoka CCS site using elastic full-waveform inversion Rie Nakata, University of Tokyo, LBNL; Nori Nakata, MIT, LBNL; Aaron Girard, Colorado School of Mines; Masaru Ichikawa and Ayato Kato, JOGMEC; David Lumley, University of Texas at Dallas; and Zique Xue, RITE (INT. AUD.: 3)

Speaker: Ayato Kato

4:05 PM.....**Revisiting the Brazilian Equatorial Margin with FWI and its impact on interpretation in an exploratory frontier** Diego Costa*, Edmarley Ramos, Giuseppe Loconte, Filipe Rodrigues, and Olivier Brachet, CGG (INT. AUD.: 3)

Speaker: Diego Costa

4:30 PM.....**Unlocking the potential of WAZ data for subsalt imaging using FWI: A case study in the Perdido area** Vivek Vandrasi*, Zhihua Su, Shouting Huang, Yogesh Agnihotri, and Sabaresan Mothi, CGG (INT. AUD.: 3)

Speaker: Vivek Vandrasi

4:55 PM.....**High-frequency FWI velocity model building for hydrocarbon delineation** Lianping Zhang, Souvik Sengupta and Chirag Parekh*, Schlumberger; Robert Elliott-Lockhart, Woodside Energy (INT. AUD.: 3)

Speaker: Chirag Parekh

Tuesday, 30 August 2022

INT 8 Machine Learning Applications to Seismic Interpretation 2

Session Chairs: Vikram Jayarama and Jie Qi

Location: 361A

Synopsis: Advanced technologies in applying deep and machine learning algorithms to automate seismic interpretation processes.

3:40 PM.....**Unsupervised machine learning for seismic facies classification applied in presalt carbonate reservoirs of the Búzios Field, Brazil** Débora Ribeiro Barretto*, Pedro Henrique Cunha de Macedo, and Wagner Moreira Lupinacci, Universidade Federal Fluminense; Raísa Carvalho Silva, Emerson (INT. AUD.: 3)

Speaker: Débora Barretto

4:05 PM.....**Facies-induced bias in machine learning-enhanced seismic lithology (inversion)** Hongliu Zeng*, The University of Texas at Austin; Bo Zhang, The University of Alabama; and Mariana Olariu, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Hongliu Zeng

4:30 PM.....**Insights using machine learning in predicting faults and horizons: A case study onshore Texas** Dan Ferdinand Fernandez, Mustafa Karer, Richard Hearn, Ryan King, Sunil Manikani, and Gavin Menzel-Jones, Schlumberger (INT. AUD.: 3)

Speaker: Dan Fernandez

4:55 PM.....**Machine learning-driven rock classification to optimize completion and hydraulic fracturing design in the Tuscaloosa Marine Shale** Jamal Ahmadov and Cristina Mariana Ruse*, University of Louisiana at Lafayette (INT. AUD.: 3)

Speaker: Cristina Ruse

Tuesday, 30 August 2022

MG 1 New Methods and Case Histories

Session Chairs: Glenn Chubak and Jiajia Sun

Location: 362A

Synopsis: New advances in data acquisition, integration and interpretation methods, as well as applications to field studies.

3:40 PM.....**High-resolution passive surface wave tomography using natural and anthropogenic noise sources in a mineral exploration context** Daniela Teodor*, Univ. Grenoble Alpes; Charles Beard, Univ. Grenoble Alpes and Sisprobe; Laura Pinzon – Rincon, Univ. Grenoble Alpes; Aurélien Mordret and François Lavoué, Univ. Grenoble Alpes and Sisprobe; Sophie Beaupretre and Dan Hollis, Sisprobe; John McBride, Generation PGM Inc.; Pierre Boué and Florent Brenguier, Univ. Grenoble Alpes (INT. AUD.: 3)

Speaker: Daniela Teodor

4:05 PM.....**Uranium exploration in the Athabasca Basin using low-noise airborne gravity gradient data** Darren Burrows*, Xcalibur Multiphysics; and James Sykes, Baseload Energy Corp. (INT. AUD.: 3)

Speaker: Darren Burrows

4:30 PM.....**ZTEM natural field EM and magnetic survey results over the Berg porphyry copper project, Huckleberry district, British Columbia** Jean M. Legault* and Hormoz Jahandari, Geotech Ltd.; Shane Ebert, Surge Copper Corp. (INT. AUD.: 3)

Speaker: Jean Legault

4:55 PM.....**Fault identification in SE Limerick basin (Ireland) using a multi geophysical data integration and unsupervised machine learning approach** Prithwijit Chakraborti*, University College Dublin (UCD); Aline Melo and

Eoin Dunlevy, University College Dublin (UCD) and Science Foundation Ireland (SFI)
Research Centre in Applied Geosciences (iCrag) (INT. AUD.: 3)
Speaker: Jiajia Sun

Tuesday, 30 August 2022

MLDA 8 Uncertainty Quantification 2

Session Chairs: Yunyue Li and Konstantin Osypov

Location: 362B

Synopsis: Multiscenario modeling and uncertainty quantification in seismic imaging.

3:40 PM.....**Simulating seismic data using generative adversarial networks** Bradley C. Wallet, Aramco Americas; Eyad Aljishi and Hussain Alfayez, Saudi Aramco (INT. AUD.: 3)

Speaker: Bradley Wallet

4:05 PM.....**Seismic imaging uncertainty using deep learning predicted Green's functions** Han Liu*, Anar Yusifov, Muhong Zhou, and Linda Hodgson, BP (INT. AUD.: 3)

Speaker: Han Liu

4:30 PM.....**Velocity continuation with Fourier neural operators for accelerated uncertainty quantification** Ali Siahkoobi, Mathias Louboutin, and Felix J. Herrmann, Georgia Institute of Technology (INT. AUD.: 2)

Speaker: Ali Siahkoobi

4:55 PM.....**Joint physics-based and data-driven time-lapse seismic inversion: Mitigating data scarcity** Yanhua Liu*, Colorado School of Mines; Shihang Feng, Los Alamos National Laboratory; Ilya Tsvankin, Colorado School of Mines; David Alumbaugh, Lawrence Berkeley National Laboratory; and Youzuo Lin, Los Alamos National Laboratory (INT. AUD.: 3)

Speaker: Yanhua Liu

Tuesday, 30 August 2022

SPMNR 1 OBN and Case Studies

Session Chairs: Junru Jiao and Juefu Wang

Location: 371A

Synopsis: Case studies with sparse OBN and interbed-multiple attenuation.

3:40 PM.....**Deconvolution of upgoing and downgoing wavefields: A data example from the NOAKA OBN experiment** Tim Seher*, Hassan Masoomzadeh, Yong Ren, Simon Baldock, and Bin Wang, TGS (INT. AUD.: 2)

Speaker: Tim Seher

4:05 PM.....**Overcoming signal processing challenges on a deep-water sparse OBN survey: A case study from the Gulf of Mexico** Matthew Salgadoe*, Nigel Seymour, Hongyan Li, and Di Chen, Schlumberger (INT. AUD.: 3)

Speaker: Matthew Salgadoe

4:30 PM.....**Amplitude inversion of OBS direct arrivals for seabed elastic properties** James Gaiser*, Gaiser Geophysical Consulting; Moacyr de Souza Bazerra and James Simmons, Colorado School of Mines (INT. AUD.: 3)

Speaker: James Gaiser

4:55 PM.....**Pseudo S-wave splitting effects associated with poor receiver coupling on ocean bottom multi component data** Moacyr de Souza Bezerra* and James Simmons, Colorado School of Mines; James Gaiser, Gaiser Geophysical Consulting (INT. AUD.: 3)

Speaker: Moacyr Bezerra

Tuesday, 30 August 2022

SS 10 New Instrumentation

Session Chairs: Lee Slater and Cathy Truffert

Location: 370A

Synopsis: Novel instrumentation and applications will be presented.

3:40 PM.....**Recent advances in quantum gravity sensors** C. Janvier, V. Menoret, and B. Desruelle*, iXblue; S. Merlet, F. Pereira dos Santos, and A. Landragin, Sorbonne Université (INT. AUD.: 2)

Speaker: Maxime Arnal

4:05 PM.....**The development of novel density sensors using GEANT4: A particle physics simulation toolkit** Camille Hébert* and J. Christian Dupuis, Université Laval (INT. AUD.: 2)

Speaker: Camille Hebert

4:30 PM.....**Open hardware: Geophysical instrumentation for collaborations in a changing world** Arnaud Mercier* and J. Christian Dupuis, Université Laval; Bernard

Giroux, Institut national de la recherche scientifique (INRS) (INT. AUD.: 1)

Speaker: Arnaud Mercier

4:55 PM.....**3D IP using a distributed array system** Chris Nind*, Catherine Phaneuf, Nadine Veillette, and Pam Coles, Abitibi Geophysics Inc. (INT. AUD.: 1)

Speaker: Chris Nind

Tuesday, 30 August 2022

SS 8 Recent Advances and the Road Ahead: Hot Topics in Space, Infrastructure, and Exploration Geophysics - Part 2

Session Chairs: Sergio Chávez-Pérez and Stephan Gelinsky

Location: General Assembly A

Synopsis: Traditional session that opens the technical program with hot topics. All speakers are invited, and the selected topics aim at being innovative and enlightening.

3:40 PM.....**The many faces of rock physics** Ludmila Adam*, University of Auckland (INT. AUD.: 2)

Speaker: Ludmila Adam

4:05 PM.....**Wave-equation based seismic AVO inversion: A pragmatic approach to use the full elastic wave-field for exploration and production** Peter Haffinger, Dries Gisolf, Panos Doulgeris, and Hansel Gonzalez, Delft Inversion (INT. AUD.: 3)

Speaker: Peter Haffinger

4:30 PM.....**From exploration to diagnosis: Can geophysicists revolutionize healthcare?** Chuck Peng* and Maurice Nessim, Cloudstream Medical Imaging, Inc. (INT. AUD.: 2)

Speaker: Chuck Peng

4:55 PM.....**Exploring to discover — Thoughts on our exploration geophysics ‘road ahead’** Sergio Chávez-Pérez, Instituto Mexicano del Petróleo; and Stephan Gelinsky*, Shell International E&P (INT. AUD.: 4)

Speaker: Stephan Gelinsky

Tuesday, 30 August 2022

SS 9 Electromagnetic and Gravity Methods in Carbon Capture and Storage Monitoring

Session Chairs: Neda Bundalo and Yaoguo Li

Location: 342E

Synopsis: The session focuses on instrumentation, field data acquisition, and integrated interpretation approaches using gravity and electromagnetic methods for long-term CCS/CCUS monitoring and real-time decision making.

3:40 PM.....**MEMS-based gravity imaging for CO₂ storage monitoring** Ashwin A. Seshia, University of Cambridge and Silicon Microgravity Limited; and Francis Neill, Silicon Microgravity Limited (INT. AUD.: 2)

Speaker: Ashwin Seshia

4:05 PM.....**Borehole gravity for CCS** Chris Nind* and Nacim Foudilbey, Abitibi Geophysics Inc. (INT. AUD.: 3)

Speaker: Chris Nind

4:30 PM.....**ERT and Crosswell EM Imaging of CO₂: Examples from a shallow injection experiment at the Carbon Management Canada CaMI FRS in Southeast Alberta, Canada** David Alumbaugh*, Michael Wilt, Edward Nichols, and Evan Um, Lawrence Berkeley National Laboratory; Marie Macquet and Donald C. Lawton, Carbon Management Canada (CMC); Dennis Rippe, Formerly GFZ German Research Centre for Geosciences; Kerry Key, Columbia University; David Myer, Myer Consulting. (INT. AUD.: 2)

Speaker: David Alumbaugh

4:55 PM.....**Machine learning inversion of time-lapse three-axis borehole gravity data for CO₂ monitoring** Taqi Alyousuf*, Yaoguo Li, and Richard Krahenbuhl, Colorado School of Mines (INT. AUD.: 6)

Speaker: Taqi Alyousuf

Tuesday, 30 August 2022

STGM 4 Fractures, Faults, and Fluids 2

Session Chairs: Aubry DeReuil and Yaser Zayer

Location: 372A

Synopsis: Improved workflows for reducing subsurface uncertainty and mitigating induced seismicity. The influence of structural evolution on basin prospectivity.

3:40 PM.....**Characterization and modeling of fault zone fracture swarms and image log fracture interpretations** Abdullah Alhasan* and Yahya Qahtani, Saudi

Aramco (INT. AUD.: 3)

Speaker: Hamad Alghenaim

4:05 PM.....**Integrated geology, geophysics, and geomechanics study reduces the hydraulic fracturing stimulation risks in a tight sandstone** Ahmed Alawi*, Francis Elisabeth, Sultan Sayghe, Mohammed Mohanna, and Baqer Albensaad, Saudi Aramco (INT. AUD.: 5)

Speaker: Ahmed Alawi

4:30 PM.....**Thrust-dominated shortening and diapirism in the southern Perdido 'Foldbelt', NW Gulf of Mexico** Mark G. Rowan*, Rowan Consulting, Inc.; Ali Hamade, Shazia Viceer-Holmes, Safiq Masnan, and Anglia Sweet, PC Carigali Mexico Operations (INT. AUD.: 2)

Speaker: Mark Rowan

4:55 PM.....**WITHDRAWN: New understanding of structural evolution of Bodong low uplift and influence on oil and gas reservoirs** Yunpeng Ren*, Ying Huang, Gaiwei Wang, and Zhonghang Zuo, China National Offshore Oil Corporation (CNOOC) Ltd. (INT. AUD.: 5)

Speaker: YunPeng Ren

Wednesday, 31 August 2022

ACQ 1 Marine Acquisition 1

Session Chairs: Andrew Brenders and Sergio Grion

Location: 361A

Synopsis: Novel marine acquisition geometry.

8:00 AM.....**A simulation-free seismic survey design by maximizing the spectral gap** Yijun Zhang, Mathias Louboutin, Ali Siahkoohi, and Ziyi Yin, Georgia Institute of Technology; Rajiv Kumar, Schlumberger; and Felix J. Herrmann, Georgia Institute of Technology (INT. AUD.: 3)

Speaker: Yijun Zhang

8:25 AM.....**Acquisition geometry design based on full-wavefield migration** Billy A. Revelo Obando* and Gerrit Blacquièrre, Delft University of Technology (INT. AUD.: 3)

Speaker: Billy Revelo Obando

8:50 AM.....**Evaluating the impact from dual-azimuth, wide-azimuth towed streamer and ocean bottom node acquisitions for Brazil pre-salt exploration: A finite difference modeling study** Lei Zhuo*, Jeff Bergeron, Jake Deeds, Robert

Brandt, and Dirk Erickson, Chevron U.S.A. Inc. (INT. AUD.: 3)

Speaker: Lei Zhuo

9:15 AM.....**A novel marine survey configuration for the Sarawak Basin: Combining a wide-tow triple source with a non-uniform streamer spread** Martin Widmaier*,

Carine Roalkvam, Okwudili Orji, and Ashish Misra, PGS (INT. AUD.: 3)

Speaker: Martin Widmaier

Wednesday, 31 August 2022

ANI 1 Applications

Session Chairs: Venkatesh Anantharamu and Jennifer Lewis

Location: 372A

Synopsis: New advances in applications of anisotropy.

8:00 AM.....**S1P and S2P separation and shear wave splitting correction for SVP data** Yuan Yuan Yue*, Zhongping Qian, Hongmei Nie, Pengyuan Sun, Zhiwen Deng, and Jianfeng Li, BGP, CNPC (INT. AUD.: 3)

Speaker: Zhengzheng Zhou

8:25 AM.....**Anisotropy template for transversely isotropic rocks** Gama Firdaus, Arkhat Kalbekov, Jyoti Behura, and Manika Prasad, Colorado School of Mines (INT. AUD.: 3)

Speaker: Gama Firdaus

8:50 AM.....**Estimation of anisotropic parameters from semblance picking using dynamic programming** Hong Liang*, and Houzhu (James) Zhang, Aramco Americas; Dongliang Zhang, Hongwei Liu, and Xu Ji, Saudi Aramco (INT. AUD.: 2)

Speaker: Hong Liang

9:15 AM.....**Anisotropy parameters for fractured shales** Leon Thomsen* and Colin Sayers, University of Houston (INT. AUD.: 3)

Speaker: Leon Thomsen

Wednesday, 31 August 2022

CO2 1 Case Studies for Carbon Capture and Storage

Session Chairs: Matt Flannery and Scott Singleton

Location: General Assembly C

Synopsis: Success stories, workflows applied, and lessons learned for CO2

sequestration and storage site characterization.

8:00 AM.....**Challenges for commercial-scale CCS in the saline aquifer: A case study — Wyoming CarbonSAFE DF project, Powder River Basin, Wyoming** Zunsheng Jiao*, Matthew Johnson, Fred McLaughlin, Tao Bai, Ying Yu, and Yuri Ganshin, University of Wyoming (INT. AUD.: 5)

Speaker: Zunsheng Jiao

8:25 AM.....**Integrated workflow for characterization of CO₂ subsurface storage sites** Noémie Pernin, Cyrille Reiser, and Eric Mueller, PGS (INT. AUD.: 3)

Speaker: Noemie Pernin

8:50 AM.....**CO₂ injectivity and storage potential of the Arbuckle Group using supervised machine learning and seismic-constrained reservoir modeling and simulation, Wellington Field, Kansas** Abidin B. Caf, David Lubo-Robles, Matthew J. Pranter, Heather Bedle, Kurt J. Marfurt, and Zulfiquar A. Reza, University of Oklahoma (INT. AUD.: 3)

Speaker: Abidin Caf

9:15 AM.....**Earth modeling applied to carbon capture and storage at LaBarge field, Wyoming** Patricia Montoya* and Mark Hoefner, ExxonMobil Upstream Oil and Gas (INT. AUD.: 3)

Speaker: Patricia Montoya

Wednesday, 31 August 2022

FWI 6 Applications 5

Session Chairs: Jiefu Chen and Adriano Gomes dos Santos

Location: 360A

Synopsis: Applications of full-waveform inversion to field datasets.

8:00 AM.....**Full-waveform inversion and FWI imaging for land data** James Sheng, Cristina Reta-Tang*, and Faqi Liu, TGS; Alfredo Vázquez Cantú and Alejandro Cabrales Vargas, Pemex (INT. AUD.: 2)

Speaker: Cristina Reta-Tang

8:25 AM.....**FWI for the complex Walker Ridge salt province using streamer data** Dorothy Ren*, Xin He, Siyun Xu, Fei Gao, Feng Lin, and Jiawei Mei, CGG (INT. AUD.: 3)

Speaker: Dorothy Ren

8:50 AM.....**Simultaneous inversion of velocity and reflectivity for enhanced seismic imaging** Yang Yang*, Sriram Arasanipalai, Nizar Chemingui, and Neil Paddy, PGS; Nicholas Montevecchi and David McCallum, Oil and Gas Corporation of Newfoundland and Labrador (OilCo) (INT. AUD.: 3)

Speaker: Yang Yang

9:15 AM.....**High-resolution seismic imaging of shallow karstified carbonate overburden offshore Indonesia** Xiaobo Li*, Yonghe Guo, Yi Xie, and Barry Hung, CGG; Ilham Panggeleng, M.R. Husni Sahidu, and Sarah Putri, BP (INT. AUD.: 3)

Speaker: Xiaobo Li

Wednesday, 31 August 2022

MLDA 9 Inversion and Property Estimation 1

Session Chairs: Haibin Di and Rami Nammour

Location: 362B

Synopsis: Machine learning for seismic inversion using limited training data and physics-informed models.

8:00 AM.....**Source location using physics-informed neural networks with hard constraints** Xinquan Huang* and Tariq Alkhalifah, King Abdullah University of Science and Technology (INT. AUD.: 3)

Speaker: Xinquan Huang

8:25 AM.....**Semi-automated prestack seismic inversion workflow using temporal convolutional networks** Hussain Alfayez, Robert Smith, Ayman Suleiman, and Nasher AlBinHasan, Saudi Aramco (INT. AUD.: 3)

Speaker: Abdulmohsen Alali

8:50 AM.....**Extremely weak supervision inversion of multi-physical properties** Shihang Feng, Peng Jin, and Xitong Zhang, Los Alamos National Laboratory, USA; Yinpeng Chen, Microsoft Research, USA; David Alumbaugh and Michael Commer, Lawrence Berkeley National Laboratory, USA; Youzuo Lin, Los Alamos National Laboratory, USA (INT. AUD.: 3)

Speaker: Shihang Feng

9:15 AM.....**Source rock evaluation from rock to seismic: Integrated machine learning based workflow** Andrea Carvalho Damasceno*, André Leonardo Korenchandler, Atilas Meneses da Silva, Eric da Silva Praxedes, Maria Anna Abreu de Almeida dos Reis, and Vitor Gorne Silva, Petróleo Brasileiro S.A. (INT. AUD.: 2)

Speaker: Andrea Damasceno

Wednesday, 31 August 2022

RC 1 Methods 1

Session Chairs: Miguel Bosch and Carla Carvajal

Location: 370A

Synopsis: New methods oriented to integrated reservoir description.

8:00 AM.....**Machine learning-based anisotropy characterization of Wolfcamp shales in the Midland Basin** Jaewook Lee and David E Lumley, The University of Texas at Dallas (INT. AUD.: 3)

Speaker: Jaewook Lee

8:25 AM.....**NATS on WATS seismic imaging, rock property modeling and interpretation using machine-learning techniques to inform reservoir quality and deliverability in the Gulf of Mexico** Peter Lanzarone*, Shenghui Li, and Kang Fu, BP; Kenny Gullette, formerly BP; Jeff Thompson, WesternGeco; and Gabriel Ritter, BP (INT. AUD.: 3)

Speaker: Peter Lanzarone

8:50 AM.....**Broadband reconstruction of seismic signal with generative recurrent adversarial network** Zhijun Zhang*, China National Offshore Oil Corporation (CNOOC) Ltd.; Wei Song, China University of Petroleum-Beijing; and Wei Wang, China National Offshore Oil Corporation (CNOOC) Ltd. (INT. AUD.: 4)

Speaker: Wei Wang

9:15 AM.....**Facies based inversion through integrating elastic full-waveform inversion and high frequency imaging data** David Tang*, Valeriy Brytik, Olivier Burtz, Young Ho Cha, Partha Routh, and Ratnanabha Sain, ExxonMobil Upstream Research Company; Jay Barr, Dez Chu, Michael Gutierrez, Jeffrey Sitgreaves, and Jacob Utle, ExxonMobil Upstream Business Development Company; Guy Medema and Alison Scribner, ExxonMobil Upstream Integrated Solutions Company (INT. AUD.: 3)

Speaker: David Tang

Wednesday, 31 August 2022

SPMNR 2 Interbed-Multiples Attenuation

Session Chairs: Adam Searle and Zhou Yu

Location: 371A

Synopsis: Development and applications of interbed-multiple attenuation.

8:00 AM.....**Towards understanding the impact of the evanescent elastodynamic mode coupling in Marchenko equation based de-multiple methods** Marcin Dukalski* and Christian Reinicke, Aramco Delft Global Research Center; Kees Wapenaar, Delft University of Technology (INT. AUD.: 3)

Speaker: Marcin Dukalski

8:25 AM.....**Generalized internal multiple elimination** Dongliang Zhang, Constantinos Tsingas, and Mohammed S. Almubarak, Saudi Aramco (INT. AUD.: 3)

Speaker: Abdulmohsen Alali

8:50 AM.....**Physics-based preconditioned multi-dimensional deconvolution in the time domain** David Vargas* and Ivan Vasconcelos, Utrecht University; Matteo Ravasi and Nick Luiken, KAUST (INT. AUD.: 3)

Speaker: David Vargas

9:15 AM.....**Asymmetric apertures for 3D SRME: Practical aspects and opportunities** Zhimei Yan*, Massimiliano Vassallo, and Scott Slaton, Schlumberger (INT. AUD.: 3)

Speaker: Zhimei Yan

Wednesday, 31 August 2022

SS 11 SEG/AGU Hydrogeophysics

Session Chairs: Kennedy Doro and Laurie Whitesell

Location: 342E

Synopsis: Geophysical methods applied to hydrologic issues.

8:00 AM.....**Quantifying infiltration in a simulated rainfall event using geophysical measurements and an ATS-based flow model** Moses B. Adebayo*, University of Toledo; Peishi Jang and Xingyuan Chen, Pacific Northwest National Laboratory; Anya M. Hopple, Pacific Northwest National Laboratory and Smithsonian Environmental Research Center; Patrick J. Megonigal, Smithsonian Environmental Research Center; Pin Shuai, Pacific Northwest National Laboratory; Kennedy O. Doro, University of Toledo (INT. AUD.: 3)

Speaker: Moses Adebayo

8:25 AM.....**Time-lapse inversion of airborne electromagnetic data for monitoring**

saltwater intrusion in the Salinas Valley of California, USA Seogi Kang* and Rosemary Knight, Stanford University (INT. AUD.: 3)

Speaker: Seogi Kang

8:50 AM.....**Spectral hydrology: Resolution and uncertainty in multi-frequency oscillatory hydraulic tomography** Jeremy R. Patterson* and Michael Cardiff, University of Wisconsin (INT. AUD.: 3)

Speaker: Jeremy Patterson

9:15 AM.....**Accuracy of Archie's law for clayey soils with high swelling capacity** Sina Saneiyan* University of Oklahoma; Ethan Siegenthaler, Daniel Gimenez, and Lee Slater, Rutgers University (INT. AUD.: 4)

Speaker: Sina Saneiyan

Wednesday, 31 August 2022

SUS 1 Geoscience for Environmental and Sustainable Energy Development

Session Chairs: Chukwuemeka Akaolisa and Elvira Gomez

Location: 342D

Synopsis: The geosciences continue to play a pivotal role in ensuring the development of environmentally safe and sustainable energy, while balancing their impacts versus strategic needs.

8:00 AM.....**Creating a geosciences sustainability atlas** Maria Angela Capello*, Red Tree Consulting LLC; Emer Caslin iCrag; Iain Stewart, UNESCO; Denise Cox, Storm Energy; Ludivine Wouters, Latitude5; Anna Shaughnessy, SEG; Miriam Winsten, Mangrum Hill Associates; Estella Atekwana, UC Davis; Heather Handley, Macquarie University; Vimal Singh, Delhi University; Ted Bakamjian, Formerly SEG; and Kombada Mhopjeni, Dehli University (INT. AUD.: 1)

Speaker: Maria Angela Capello

8:25 AM.....**Storage and recovery of hydrogen in non-salt bearing strata for flexible-fuel power generation** Donna Caraway Willette* and Richard Dessenberger, Illinois State Geological Survey (INT. AUD.: 3)

Speaker: Donna Willette

8:50 AM.....**The role of the geophysicist in supporting the economically viable and sustainable hydrocarbon business — Part 2** Dan Maguire*, Antrim Energy Consulting, LLC; and Maria Angela Capello, Red Tree Consulting, LLC (INT. AUD.: 3)

Speaker: Dan Maguire

9:15 AM.....**Response of barrier islands during sea-level rise: Perspective on mitigating disasters in the making** Naresh Kumar*, Growth Oil and Gas (INT. AUD.: 3)

Speaker: Naresh Kumar

Wednesday, 31 August 2022

SVE 1 New Solutions and Applications

Session Chairs: Odette Caroline Aquino de Aragao and Jaime Ramos-Martinez

Location: 362A

Synopsis: New approaches for estimating velocity models are proposed, comprising the microtremor method, neural networks, and deep learning techniques.

8:00 AM.....**An automatic velocity picking method based on object detection** Ce Bian*, Weifeng Geng, Ping Yang, Pengyuan Sun, Guiren Xue, and Haikun Lin, BGP, CNPC (INT. AUD.: 4)

Speaker: Han Yin

8:25 AM.....**Deep learning seismic full-waveform inversion and transient EM joint inversion for near surface velocity modeling** Daniele Colombo*, Ernesto Sandoval-Curiel, and Ersan Turkoglu, Saudi Aramco; Weichang Li, Aramco Americas (INT. AUD.: 4)

Speaker: Daniele Colombo

8:50 AM.....**RNN-based seismic velocity model building: Improving generalization using hybrid training data** Hani Alzahrani and Jeffrey Shragge, Colorado School of Mines (INT. AUD.: 3)

Speaker: Hani Alzahrani

9:15 AM.....**Development of offshore microtremor array exploration** Yoshikazu Matsubara*, Mikihiro Imai, and Akeshi Hiraide, OYO corporation (INT. AUD.: 3)

Speaker: Yoshikazu Matsubara

Wednesday, 31 August 2022

ACQ 2 Marine Acquisition 2

Session Chairs: Per Eivind Dhelie and Derek Unger

Location: 361A

Synopsis: Novel methods for improving marine acquisition.

10:20 AM.....**Efficient acquisition and imaging of high-resolution seismic data with the continuous wavefields method** Tilman Klüver* and Torben Høy, PGS (INT. AUD.: 3)

Speaker: Tilman Kluever

10:45 AM.....**Enhancing low frequencies in airgun arrays, analysis of various field tests** Susanne Rentsch, Edward Hager, Lauren Wing, and Sebastian Holland, Shearwater Geoservices (INT. AUD.: 3)

Speaker: Susanne Rentsch

11:10 AM.....**Joint designature of data with a diversity of sources** Shuki Ronen*, Thibaut Allemand, Stéphane Laroche, and Philippe Herrmann, Sercel; Hamish Macintyre, Maksym Kryvohuz, and Guido Baetan Shell (INT. AUD.: 3)

Speaker: Shuki Ronen

11:35 AM.....**Interpolated fast and computational-efficient multidimensional singular spectrum analysis (I-FMSSA) for compressive simultaneous-source data processing** Rongzhi Lin*, Yi Guo, Fernanda Carozzi, and Mauricio D. Sacchi, University of Alberta (INT. AUD.: 3)

Speaker: Rongzhi Lin

Wednesday, 31 August 2022

FWI 7 Elastic 2

Session Chairs: James McLeman and Hongyu Sun

Location: 360A

Synopsis: Methods and applications of elastic full-waveform inversion.

10:20 AM.....**Elastic full-waveform inversion using OBN data acquisition** Denes Vigh*, James Xu, Xin Cheng, and Bing Bai Schlumberger (INT. AUD.: 3)

Speaker: Denes Vigh

10:45 AM.....**Combined elastic FWI of accelerometer and DAS VSP data from a CO2 sequestration test site in Newell County, Alberta** Matthew Eaid, Scott Keating, and Kristopher Innanen, University of Calgary (INT. AUD.: 3)

Speaker: Matthew Eaid

11:10 AM.....**Elastic full-wavefield inversion for pre-salt carbonate reservoir characterization in off-shore Brazil** Young Ho Cha*, Partha Routh, Olivier Burtz, Valeriy Brytik, and Ratnanabha Sain, ExxonMobil Upstream Research Company;

Jeffrey Sitgreaves, Jay Barr, Dez Chu, and Michael Passarello, ExxonMobil Upstream Business Development Company (INT. AUD.: 2)

Speaker: YoungHo Cha

11:35 AM.....**Mitigating elastic effects of acoustic full-waveform inversion with deep learning and application to field data** Dimitri Voytan*, UT Institute for Geophysics and Shell Exploration and Production Company; Adriano Gomes and Debanjan Datta, Shell Exploration and Production Company; René-Édouard Plessix, Shell Global Solutions International; Anu Chandran, Shell India Markets Private Limited; and Ken Matson, Shell Exploration and Production Company (INT. AUD.: 4)

Speaker: Dimitri Voytan

Wednesday, 31 August 2022

IPS 1 Passive Seismic Processing

Session Chairs: Gustavo Carstens and David Eaton

Location: 342E

Synopsis: This session will feature novel methods for processing microseismic data, including machine learning.

10:20 AM.....**A “sliding box” automatic relocation method based on geometric-mean reverse-time migration** Tong Bai, Zhendong Zhang, Malcolm C. A. White, and Hongrui Qiu, Massachusetts Institute of Technology; Paul Williamson, TotalEnergies; Nori Nakata, Massachusetts Institute of Technology and Lawrence Berkeley National Laboratory (INT. AUD.: 3)

Speaker: Tong Bai

10:45 AM.....**Joint velocity and event location inversion workflow in microseismic reservoir monitoring** Takashi Mizuno*, Joel Le Calvez, Manish Lal Khaitan, Giulia Barisione, Irina-Tulia Stoia, Prakash Ranjan, Stefano Clerico, Xinyuan Li, and Zheyuan Huang, Schlumberger (INT. AUD.: 3)

Speaker: Takashi Mizuno

11:10 AM.....**Real-time hydraulic fracturing monitoring using deep learning clustering of microseismic data** Chenglong Duan, Lianjie Huang, and Michael Gross, Los Alamos National Laboratory; Michael Fehler, Massachusetts Institute of Technology; and David Lumley, University of Texas at Dallas (INT. AUD.: 3)

Speaker: Chenglong Duan

11:35 AM.....**Automation of passive seismic processing via machine learning and**

physics-informed methods Ivan Lim Chen Ning*, Laura Swafford, Mike Craven, Kevin Davies, Evan Earnest, and Dean Thornton, Chevron Technical Center (INT. AUD.: 2)
Speaker: Ivan Lim Chen Ning

Wednesday, 31 August 2022

MLDA 10 Inversion and Property Estimation 2

Session Chairs: Vladimir Kazei and Xiaolei Song

Location: 362B

Synopsis: Machine learning for subsurface property estimation and reservoir modeling.

10:20 AM.....**An integrated workflow for deep learning-accelerated seismic modeling of the Groningen gas field, the Netherlands** Haibin Di*, Vanessa Simoes, Zhun Li, Cen Li, Anisha Kaul, and Aria Abubakar, Schlumberger (INT. AUD.: 2)
Speaker: Haibin Di

10:45 AM.....**Validating machine learning-based seismic property prediction through self-supervised seismic reconstruction** Tao Zhao*, Haibin Di, and Aria Abubakar, Schlumberger (INT. AUD.: 3)
Speaker: Tao Zhao

11:10 AM.....**Refining our understanding of the subsurface geology using deep learning techniques** Salma Alsinan*, Philippe Nivlet, and Hamad Alghenaim, Saudi Aramco (INT. AUD.: 2)
Speaker: Salma Alsinan

11:35 AM.....**Combining machine learning and geostatistics for scenario models of the Handil Oilfield** Aditya Suardiputra, Julfree Slanturi, and Andar Trianto, PT Pertamina Hulu Mahakam; Colin Daly and Joko Sosiawan Trikukuh*, Schlumberger (INT. AUD.: 3)
Speaker: Joko Sosiawan Trikukuh

Wednesday, 31 August 2022

NS 1 Imaging and Inversion

Session Chairs: Julian Ivanov and Chester Weiss

Location: 342D

Synopsis: Focus of this session will be on inversion and tomography to improve

imaging for various methods.

10:20 AM.....**3D inversion and visualization of DC data acquired at dense borehole locations** Diego Domenzain*, Lichao Liu, Anders Kristian Kuhl, and Anders Vest Christiansen, Aarhus University; Iván Yélamos Vela, Ejlskov A/S (INT. AUD.: 4)
Speaker: Diego Domenzain

10:45 AM.....**3D density imaging of cosmic-ray muography with adjustable angular resolutions** Chenyan Wu*, Dikun Yang, Zhongchang Chen, Ke Wang, and Tao Chen, Southern University of Science and Technology (INT. AUD.: 3)
Speaker: Chenyan Wu

11:10 AM.....**ADMM-based full-waveform inversion of ground penetrating radar data** A. Jalali*, University of Tehran; H. S. Aghamiry, Geoazur-CNRS-IRD-UNS-OCA; and A. Gholami, University of Tehran (INT. AUD.: 3)
Speaker: Hossein Aghamiry

11:35 AM.....**Traveltime tomography and efficient physics-informed Bayesian inversion** Tian Qiao, George Turkiyah, and Gerard T. Schuster*, King Abdullah University of Science and Technology (KAUST) (INT. AUD.: 3)
Speaker: Gerard Schuster

Wednesday, 31 August 2022

RC 2 Methods 2

Session Chairs: Pedro Alvarez and Carla Carvajal

Location: 370A

Synopsis: New methods oriented to reservoir description.

10:20 AM.....**Integration of SIP and MIP methods for pore-size distribution in carbonate rocks** Neha Panwar*, Ravi Sharma, Shruti Malik, and Ashish Dhiman Indian Institute of Technology; Andre Revil, University Savoie Mont- Blanc; Santosh Kumar Behera, CSIR-Central Institute of Mining and Fuel Research; Surendra Khanna, Oil and Natural Gas Corporation (INT. AUD.: 3)
Speaker: Ravi Sharma

10:45 AM.....**Reservoir models selection based on volumetric and connectivity metrics** Peng Li* and Dario Grana, University of Wyoming; Leonardo Azevedo, Instituto Superior Técnico (INT. AUD.: 3)
Speaker: Peng Li

11:10 AM.....**Finding the reservoir in an intensely scattered wavefield: A case study from the Central Sichuan Basin, China** John Coffin*, Mengmeng Zhang, Panos Doulgeris, Peter Haffinger, and Angie Kelsay, Delft Inversion; Jinsong Li, PetroChina RIPPED (INT. AUD.: 3)

Speaker: John Coffin

11:35 AM.....**Reservoir characterization using multi-seed stochastic inversion** Vincent Thomas, Nicolas Desgoutte, and Nathalie Lucet*, Beicip-Franlab (INT. AUD.: 4)

Speaker: Alcide Thebault

Wednesday, 31 August 2022

SPMI 1 Imaging Case History

Session Chairs: Steve Knapp and Madhav Vyas

Location: 372A

Synopsis: Practical aspects of advanced imaging methodologies and case history.

10:20 AM.....**Improved subsalt imaging in Brazil Campos basin — Cascaded application of hybrid interbed demultiple, P- and S-salt velocity joint migration, and subsalt converted wave suppression** Riaz Alai*, PETRONAS Carigali Sdn. Bhd.; Faqi Liu, Darrell Armentrout, David Brookes, Terry Johnson, and Milos Cvetkovic, TGS; Gundogan Coskun, Shah Sulaiman, Kien Kok Lee, Afiq Mokhtar, Christopher Lee Slind, Hafizan Wahab, Wan Ching Low, and Ali Andrea B. Hashim, PETRONAS Carigali Sdn. Bhd. (INT. AUD.: 3)

Speaker: Riaz Alai

10:45 AM.....**Integrating legacy data with new towed-streamer acquisition tuned for imaging objectives: A Campos Basin case study** Jon Burren* and Derek Unger, PGS (INT. AUD.: 3)

Speaker: Jon Burren

11:10 AM.....**A recipe for practical iterative LSRTM with synthetic and real data examples from Brazil** Valeriy Brytik*, Gopal Palacharla, Rishi Bansal, Diwi Snyder, Xu Li, Young Ho Cha, Partha Routh, Inma Dura-Gomez, Dmitriy Pavlov, and Carey Marcinkovich, ExxonMobil (INT. AUD.: 6)

Speaker: Valeriy Brytik

11:35 AM.....**Reverse-time migration of mobile marine vibrator data** Khalid Almuteri*, Paul Sava, and Jeffrey Shragge, Colorado School of Mines (INT. AUD.: 3)

Speaker: Khalid Almuteri

Wednesday, 31 August 2022

SPMNR 3 Regularization and Deblending

Session Chairs: Roberto Pereira and Yaxun Tang

Location: 371A

Synopsis: Regularization and deblending with machine learning.

10:20 AM.....**Operator chains and seismic data decomposition** Sergey Fomel, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Sergey Fomel

10:45 AM.....**Least-squares non-stationary triangle smoothing** Reem F. Alomar* and Sergey Fomel, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Reem Alomar

11:10 AM.....**Deblendable land acquisition** Amarjeet Kumar*, Joe Fuller, Tom Rayment, Mason Phillips, Dave Monk, Chris Ansorger, and Stuart Schmitt, DUG Technology (INT. AUD.: 3)

Speaker: Amarjeet Kumar

11:35 AM.....**Geometric mode decomposition method for diffraction separation** Peng Lin, Suping Peng, Yang Xiang, Chuangjian Li, and Xiaoqin Cui, China University of Mining & Technology (Beijing) (INT. AUD.: 1)

Speaker: Peng Lin

Wednesday, 31 August 2022

SVE 2 Model Constraints and Uncertainty

Session Chairs: Carlos Calderon and Nizar Chemingui

Location: 362A

Synopsis: Discussion of different approaches for tomographic estimation of velocity models using reflection and refraction data while imposing geologic constraints and making assessments on depth uncertainty.

10:20 AM.....**Constrained tomography for improved pre-salt elastic full-waveform inversion** Yaofeng He*, Xu Li, Young Ho Cha, Partha Routh, Inma Dura-Gomez, and Carey Marcinkovich, ExxonMobil (INT. AUD.: 3)

Speaker: Yaofeng He

10:45 AM.....**A stochastic modeling method of seismic velocity and anisotropy parameters in VTI medium using travel time detectability criterion** Andrey H.

Shabelansky, Huafeng Liu, Cory J. Hoelting, Min Yang, and Jinsong Chen, Chevron U.S.A. Inc. (INT. AUD.: 3)

Speaker: Andrey Shabelansky

11:10 AM.....**A depth uncertainty estimation system with pre-stack seismic data** Huafeng Liu*, Andrey H. Shabelansky, Jinsong Chen, Min Yang, Cory J. Hoelting, and Ying Tan, Chevron U.S.A., Inc. (INT. AUD.: 3)

Speaker: Huafeng Liu

11:35 AM.....**Anisotropic full-azimuth velocity model building using Joint reflection-refraction tomography** Matan Shustak*, Itai Sharabi, Orly Kletenik-Edelman, Elive Menyoli, Ike Imala, Ronit Levy and Zvi Koren, Emerson (INT. AUD.: 3)

Speaker: Matan Shustak

Wednesday, 31 August 2022

ACQ 3 Improving Land Seismic Data

Session Chairs: David Monk and Amine Ourabah

Location: 361A

Synopsis: New concepts with land seismic acquisition.

1:20 PM.....**Closing the loop between acquisition and processing: Data-driven volumetric SNR estimation vs acquisition design predictions** Andrey Bakulin, Ilya Silvestrov, and Pierre Leger, Saudi Aramco (INT. AUD.: 1)

Speaker: Andrey Bakulin

1:45 PM.....**Harmonic distortion discussion on seismic vibrators at low frequencies** Zhouhong Wei*, INOVA Geophysical; Wang Rong, BGP, CNPC; Liang Fuhe and Jason Criss, INOVA Geophysical (INT. AUD.: 2)

Speaker: Zhouhong Wei

2:10 PM.....**A case study of cavity excitation method for seismic acquisition in the limestone outcrop area of eastern Sichuan, China** Xiaoyang Wang*, Min Li, Xiaobin Zhang, Shuqin Li, Zhichao Yang, Longjiang Jing, Zhen Yang and Yanfa He, BGP, CNPC; Xiaohong Zhao, Mingyi Li and Hao Zhang, Southwest O&G Company, PetroChina (INT. AUD.: 3)

Speaker: Dong Wang

2:35 PM.....**A way to estimate the vibroseis high production acquisition efficiency** Lu Jiaotong*, Zhang Qinghuai, and Meng Xiangshun, SINOPEC Geophysical Corporation (INT. AUD.: 3)
Speaker: Jiaotong Lu

Wednesday, 31 August 2022

CO2 2 Monitoring Using Seismic Methods 2

Session Chairs: Camelia Knapp and Kurang Mehta

Location: General Assembly C

Synopsis: Seismic algorithms, measurements, and various types of data for CO2 sequestration and plume body migration monitoring.

1:20 PM.....**Seismic monitoring using compact phased arrays: CO2 sequestration monitoring** Jian Zhang*, Elige B. Grant, Paul A. Nyffenegger, Mark A. Tinker, and Kevin D. Hutchenson, Quantum Technology Sciences, Inc. (Quantum); Don C. Lawton, Carbon Management Canada (INT. AUD.: 4)
Speaker: Jian Zhang

1:45 PM.....**Learned coupled inversion for carbon sequestration monitoring and forecasting with Fourier neural operators** Ziyi Yin*, Ali Siahkoohi, Mathias Louboutin, and Felix J. Herrmann, Georgia Institute of Technology (INT. AUD.: 3)
Speaker: Ziyi Yin

2:10 PM.....**Stepsize sharing in time-lapse full-waveform inversion** Xin Fu* and Kristopher A. Innanen, University of Calgary (INT. AUD.: 3)
Speaker: Xin Fu

2:35 PM.....**Monitoring of CO2 plume movement using time-lapse distributed acoustic sensing (DAS) data** Tuhin Bhakta*, Norwegian Research Centre AS (NORCE); Bob Paap and Vincent Vandeweyer, TNO; Trond Mannseth, Norwegian Research Centre AS (NORCE) (INT. AUD.: 2)
Speaker: Tuhin Bhakta

Wednesday, 31 August 2022

FWI 8 Methods and Applications 1

Session Chairs: Carlos Perez Solano and Yi Shen

Location: 360A

Synopsis: Methods and applications of full-waveform inversion.

1:20 PM.....**Acoustic waveform inversion with the Lippmann-Schwinger equation constraint** Rahul Sarkar and Biondo Biondi, Stanford University (INT. AUD.: 4)

Speaker: Rahul Sarkar

1:45 PM.....**Velocity model building with a time shift objective function: Gulf of Mexico examples** Yi Yang, Ken Matson, and Tadas Krupovnickas, Shell International Exploration & Production Inc.; Mark Huiskes, Rene-Edouard Plessix, and Sijmen Gerritsen, Shell Global Solutions International B.V. (INT. AUD.: 3)

Speaker: Yi Yang

2:10 PM.....**Towards more accurate reservoir imaging using FWI: An OBN case study at Trion** Zhen Wang*, Sen Mei, and Zhuocheng Yang, CGG; Joakim Blanch, Ezequiel Genova, and Juan-Mauricio Florez-Nino, BHP; Humberto Salazar-Soto and Alfredo Vazquez-Cantu, PEMEX (INT. AUD.: 3)

Speaker: Zhen Wang

2:35 PM.....**Improving the image below complex overburden geology with FWI and Q-tomography: A case study at Etame license area, offshore Gabon** Richard Huang*, Chong Chung, Benjamin Cole, Ivan Berranger, and Ika Novianti, ION; Paul Ware, Vaalco Energy (INT. AUD.: 3)

Speaker: Richard Huang

Wednesday, 31 August 2022

INTD 1 A Better Understanding of the Subsurface through Integrated Data

Session Chairs: Brooke Hills and Mengli Zhang

Location: 351A

Synopsis: In this session, we focus on the applications of various methodologies to use data in creative ways to better understand the subsurface.

1:20 PM.....**Geostatistical reservoir modeling using computational stratigraphy models on non-Cartesian grids** Lewis Li*, Tao Sun, and Julio De La Colina, Chevron Technical Center (INT. AUD.: 3)

Speaker: Lewis Li

1:45 PM.....**Intelligent static and dynamic reservoir model building based on knowledge networks** Miguel Bosch, Info Geosciences Technology and Services (INT. AUD.: 1)

Speaker: Miguel Bosch

2:10 PM.....**Efficient interdisciplinary workflow for predrill seismic pore pressure prediction** Josue Fonseca*, Stanford University; Anshuman Pradhan, California Institute of Technology; and Tapan Mukerji, Stanford University (INT. AUD.: 3)

Speaker: Josue Sa da Fonseca

2:35 PM.....**Joint 3D inversion of gravity and magnetic data using deep learning neural networks** Nanyu Wei* and Dikun Yang, Southern University of Science and Technology; Zhigang Wang and Yao Lu, BGP Inc., CNPC (INT. AUD.: 3)

Speaker: Nanyu Wei

Wednesday, 31 August 2022

IPS 2 Theory and Geomechanics

Session Chairs: David Eaton and Shawn Maxwell

Location: 342E

Synopsis: This session will feature geomechanical simulation with focus on stress and source characteristics.

1:20 PM.....**Tensile radiation from slip in a medium with rough fractures** Scott Leaney and Chris Chapman, SLRDC (INT. AUD.: 6)

Speaker: Scott Leaney

1:45 PM.....**Stress rotations and compounding pore-pressures from multiple well injections** Jonathan P. McKenna*, Christine Remington, and Michael S. Blaz, MicroSeismic, Inc. (INT. AUD.: 3)

Speaker: Jonathan McKenna

2:10 PM.....**Rapid geomechanical analysis of injection-related earthquakes** Lei Jin* and William Curry, ExxonMobil Upstream Research Company; Mark Zoback, Stanford University; Stefan Hussenöder, XTO Energy; Alexandros Savvaidis, J.P. Nicot, and Peter Hennings, The University of Texas at Austin; Peeyush Bhargava, ExxonMobil Upstream Research Company (INT. AUD.: 3)

Speaker: Lei Jin

2:35 PM.....**Linking geomechanical simulation of induced seismicity to surface seismic observations: Simulated finite fault rupture to moment tensor inversion** Jingming Ruan*, La Ode Marzujriban Masfara, and Ranajit Ghose, Delft University of Technology; Wim Mulder, Shell Global Solutions International BV (INT. AUD.: 3)

Speaker: Jingming Ruan

Wednesday, 31 August 2022

MLDA 11 Statistical Analysis

Session Chairs: Marie Etchebes and Andrew Silver

Location: 362B

Synopsis: Statistical analysis and explainability of neural networks.

1:20 PM.....**Insight from keywords co-occurrence in SEG annual meetings: A bibliometric study** Changcheng Liu, SK Earthon Co., Ltd. China; and Srichand Prajapati, Resermine Inc. USA (INT. AUD.: 2)

Speaker: Yuqian Gan

1:45 PM.....**Integration of multiscale attributes using a semi supervised machine learning algorithm** Salma Alsinan*, Philippe Nivlet, Yazeed Altowairqi, and Harald Karg, Saudi Aramco (INT. AUD.: 2)

Speaker: Salma Alsinan

2:10 PM.....**Validation of seismic attributes as hydrocarbon indicators** Natt Srisutthiyakorn, Katy Wei, Antoine Vial Aussavy, Ahmad Zamanian, Olga Rodina, and Stephan Gelinsky, Shell International E&P (INT. AUD.: 2)

Speaker: Natt Srisutthiyakorn

2:35 PM.....**Explainable machine learning for hydrocarbon prospect risking** Ahmad Mustafa and Ghassan AlRegib, Georgia Institute of Technology (INT. AUD.: 3)

Speaker: Ahmad Mustafa

Wednesday, 31 August 2022

NS 2 Advanced Processing and Machine Learning 2

Session Chairs: Santi Adavani and Souvik Mukherjee

Location: 342D

Synopsis: Focus of this session will be on inversion and tomography to improve imaging for various methods.

1:20 PM.....**Micro transient EM for seismic sand corrections through physics-coupled deep learning** Daniele Colombo, Ersan Turkoglu, Ernesto Sandoval-Curiel, and Javier Giraldo-Buitrago, Saudi Aramco (INT. AUD.: 3)

Speaker: Daniele Colombo

1:45 PM.....**Extrapolated surface-wave dispersion inversion** Hongyu Sun* and Laurent Demanet, Massachusetts Institute of Technology (INT. AUD.: 3)

Speaker: Hongyu Sun

2:10 PM.....**High-fidelity GPR image super-resolution via deep-supervised machine learning** Kai Gao, Carly M. Donahue, Bradley G. Henderson, and Ryan T. Modrak, Los Alamos National Laboratory (INT. AUD.: 3)

Speaker: Kai Gao

2:35 PM.....**“Behind-the-outcrop” outcrop: A creative machine learning application for ground penetrating radar data visualization as an artificial photorealistic rock volume** Ahmad Ramdani* and Andika Perbawa, King Abdullah University of Science and Technology; Ingrid Puspita, Independent researcher; Volker Vahrenkamp, King Abdullah University of Science and Technology (INT. AUD.: 3)

Speaker: Ahmad Ramdani

Wednesday, 31 August 2022

RC 3 Case Studies 1

Session Chairs: Pedro Alvarez and Jeniffer Masy

Location: 370A

Synopsis: Integrated studies with advanced reservoir characterization methods.

1:20 PM.....**Multiscale characterization of unconventional Mississippian reservoirs using a Bayesian approach for seismic-based reservoir models** J. Javier Tellez*, Colorado Mesa University; Hope Williams and Matthew J. Pranter, The University of Oklahoma (INT. AUD.: 4)

Speaker: Javier Tellez

1:45 PM.....**Comprehensive lithological description, reservoir property, and pore-pressure prediction for unconventional shale reservoirs using rock physics: Midland reservoir characterization case study** Sagnik Dasgupta*, Schlumberger (INT. AUD.: 3)

Speaker: Sagnik Dasgupta

2:10 PM.....**Reservoir properties estimation using MAZ towed multisensor streamer seismic: A Norwegian case study** Cyrille Reiser* and Roberto Ruiz, PGS (INT. AUD.: 3)

Speaker: Noemie Pernin

2:35 PM.....**Integrate “sweet spot” seismic prediction with microseismic**

monitoring to apply to lacustrine shale in Sichuan Basin of China Kai Xu*, Zhentao Sun, Shixing Wang, and Yu Wang, Sinopec Geophysical Research Institute (INT. AUD.: 3)

Speaker: Kai Xu

Wednesday, 31 August 2022

RP 1 Seismic Applications

Session Chairs: Luca Duranti and Priyanka Dutta

Location: 362A

Synopsis: This session will focus on how to apply rock physics models and use well log data to interpret seismic data.

1:20 PM.....**Rock physics-based characterization of tertiary hydrocarbon migration: Seismic de-risking of false positive DHIs related to residual gas** Mario A. Gutierrez, Shell International Exploration and Production Inc. (INT. AUD.: 3)

Speaker: Mario Gutierrez

1:45 PM.....**Building a worldwide carbonate database for rock-physics modeling** Jorge Fernandez-Concheso* and Lev Vernik, Ikon Science (INT. AUD.: 4)

Speaker: Jorge Fernandez-Concheso

2:10 PM.....**Seismic assessment of maturity and richness in carbonate source rocks** Mita Sengupta*, David Jacobi, Shannon Eichmann, and Brad Wallet, Aramco Services Company; Yazeed Altowairqi and Salma Alsinan, Saudi Aramco (INT. AUD.: 3)

Speaker: Madhumita Sengupta

2:35 PM.....**Application of thermal maturity driven elastic rock-physics model for marine Ordovician Goldwyer formation, Canning Basin** Partha Pratim Mandal*, Rob Ross, Santosh Kuppens, and Ask Jakobsen, Qeye; Joel Sarout, CSIRO (INT. AUD.: 3)

Speaker: Partha Pratim Mandal

Wednesday, 31 August 2022

SPMI 2 Least-Squares Migration and Applications

Session Chairs: Michael Cogan and Erik Neumann

Location: 372A

Synopsis: Enhancement of least-squares migration algorithms and their applications.

1:20 PM.....**Least-squares reverse time migration: Lessons learned from recent applications in challenging areas of the Santos Basin, Brazil** José Rodrigues*, Felipe Duarte, Danilo Domingos, Bruno Pereira-Dias, and Elionardo Pintas, Petrobras (INT. AUD.: 3)

Speaker: Jose Rodrigues

1:45 PM.....**Least-squares RTM with shifted total variation regularization for depth imaging of sparse short-offset seismic data** Toktam Zand*, Polish Academy of Sciences and K. N. Toosi University of Technology; Andrzej Gorszczyk, Polish Academy of Sciences and Université Grenoble Alpes; Ali Gholami, University of Tehran; Hasan Ghasemzadeh, K. N. Toosi University of Technology; Alison Malcolm, Memorial University of NL (INT. AUD.: 3)

Speaker: Toktam Zand

2:10 PM.....**Q-compensated least-squares reverse time migration by considering velocity and Q perturbations** Jinli Li, Yingming Qu, Chongpeng Huang, and Zhenchun Li, China University of Petroleum (East China) (INT. AUD.: 4)

Speaker: Yuanyuan Ma

2:35 PM.....**Least-squares reverse-time migration with angle gathers through point spread functions** Jianyong Bai and Orhan Yilmaz, Emerson (INT. AUD.: 2)

Speaker: Jianyong Bai

Wednesday, 31 August 2022

SPMNR 4 Denoising

Session Chairs: Sissy Thesien and Frederico Xavier de Melo

Location: 371A

Synopsis: Noise attenuation using machine learning.

1:20 PM.....**Seismic noise attenuation via learned and analytical basis functions** Yi Guo*, Rongzhi Lin, and Mauricio D. Sacchi, University of Alberta (INT. AUD.: 3)

Speaker: Yi Guo

1:45 PM.....**Vz denoise and P/Z matching in 3D curvelet domain** Yong Ren*, Chenhao Yang, Tim Seher, Matt Hawke, and Eddie Cho, TGS (INT. AUD.: 3)

Speaker: Tim Seher

2:10 PM.....**Aiding self-supervised coherent noise suppression by the introduction of signal segmentation using blind-spot networks** Sixiu Liu*, Claire Birnie, and Tariq Alkhalifah, KAUST; Andrey Bakulin, Saudi Aramco (INT. AUD.: 3)

Speaker: Sixiu Liu

2:35 PM.....**Effective interbed multiple attenuation with exploration-scale streamer data from Santos Basin** Xueyi (Alex) Jia, Haiyang Wang, Anatoly Baumstein, YoungHo Cha, Xu Li, Vijay Gottumukkula, Inmaculada Dura-Gomez, Erik Neunmann, and Arjun Srinivasan, ExxonMobil (INT. AUD.: 3)

Speaker: Xueyi (Alex) Jia

Wednesday, 31 August 2022

ACQ 4 Optimizing Geometry

Session Chairs: Mehmet Tanis and Mike Yates

Location: 361A

Synopsis: Improving land survey design.

3:10 PM.....**Optimal infilling of seismic stations using Fresnel zone binning analysis** Mostafa Naghizadeh*, Andrea Crook, and Shane Bossaer, OptiSeis Solutions Ltd. (INT. AUD.: 3)

Speaker: Mostafa Naghizadeh

3:35 PM.....**Poisson binomial-based random undersampling scheme for near-surface compressive sensing** Sayan Mukherjee*, and Yunyue Elita, Purdue University (INT. AUD.: 3)

Speaker: Sayan Mukherjee

4:00 PM.....**Fresnel criteria for 5D survey design: A proof of concept decimation test** Michael Hons* and Dave Simmons, 5D Integrated Inc; Sean Contenti and Yong Xu, Imperial Oil (INT. AUD.: 3)

Speaker: Michael Hons

4:25 PM.....**Staggered source acquisition to improve image's fidelity** Chunming Wang and Hongwei Guo, Research Institute of Petroleum Exploration and Development, Petrochina; Gengxin Peng, Tarim Oilfield Company, PetroChina; Ying Hu, Research Institute of Petroleum Exploration and Development, Petrochina; Junru Jiao, Bin Yang, Kun Xu, Grace Yan and Xianhuai Zhu, Forland Geophysical Services (INT. AUD.: 3)

Speaker: Chunming Wang

Wednesday, 31 August 2022

CO2 3 Resource Characterization for Carbon Capture and Storage 2

Session Chairs: Jorge Barrios and Ayse Uvwo

Location: General Assembly C

Synopsis: Geological analysis, rock physics, and model building for CO2 storage site evaluation and characterization.

3:10 PM.....The competitive adsorption of CO2 and CH4 and pore structure characterization: Implication for enhanced gas recovery and carbon

sequestration Omer Iqbal*, Universiti Teknologi PETRONAS (UTP); Eswaran Padmanabhan, Universiti Teknologi PETRONAS (UTP), and Baker Hughes; Firas A. Abdulkareem, Universiti Teknologi PETRONAS (UTP), and University of Arizona; Amanda Hughes Claudio Rabe, Baker Hughes; Mudassar Mumtaz, Universiti Teknologi PETRONAS (UTP) (INT. AUD.: 4)

Speaker: Omer Iqbal

3:35 PM.....Probabilistic risk and resource evaluation of CCS assets using PVT, fluid, and seal properties Martin Neumaier* and Ben Kurtenbach, ArianeLogiX (INT. AUD.: 2)

Speaker: Martin Neumaier

4:00 PM.....A geologic complexity ranking system for CO2 storage site selection Autumn Haagsma*, Battelle Memorial Institute, and Miami University; Neeraj Gupta, Battelle Memorial Institute; Brian Currie, Miami University (INT. AUD.: 3)

Speaker: Autumn Haagsma

4:25 PM.....Digital cuttings data: A new tool in the evaluation of subsurface CO2 storage potential Jack Cawthorne*, Rockwash Geodata (INT. AUD.: 2)

Speaker: Jack Cawthorne

Wednesday, 31 August 2022

FWI 9 Methods and Applications 2

Session Chairs: Sunwoong Lee and Lina Xu

Location: 360A

Synopsis: Methods and applications of full-waveform inversion.

3:10 PM.....Uncertainty quantification for full-waveform inversion with a mini-batch gradient based sampling method Zeyu Zhao* and Mrinal K. Sen, University of

Texas at Austin (INT. AUD.: 3)

Speaker: Zeyu Zhao

3:35 PM.....**Use of extended source inversion for estimating the noise level in seismic data** Huiyi Chen*, The University of Texas at Dallas; William W. Symes, Rice University; and Susan E. Minkoff, The University of Texas at Dallas (INT. AUD.: 3)

Speaker: Huiyi Chen

4:00 PM.....**Incorporating estimates of data covariance in elastic FWI to combat random and correlated noise** Luping Qu, Scott Keating, Kristopher A. Innanen, and Xin Fu, University of Calgary (INT. AUD.: 3)

Speaker: Luping Qu

4:25 PM.....**Elastic-AdjointNet : A physics guided deep autoencoder to overcome cross talk effects in multiparameter full-waveform inversion** Arnab Dhara* and Mrinal Sen, University of Texas at Austin (INT. AUD.: 4)

Speaker: Arnab Dhara

Wednesday, 31 August 2022

INTD 2 Leveraging Software and Infrastructure to Drive Innovation through Data

Session Chairs: Eduardo Alvarez and Altay Sansal

Location: 351A

Synopsis: In this session, our speakers focus on various applications of software and infrastructure to support the development of tools that help us better characterize the subsurface.

3:10 PM.....**Accelerating innovation with software abstractions for scalable computational geophysics** Mathias Louboutin*, Georgia Institute of Technology; Philipp Witte, Microsoft Research; Ali Siahkoobi, Georgia Institute of Technology; Gabrio Rizzuti, Utrecht University; Ziyi Yin, Rafael Orozco, and Felix J. Herrmann, Georgia Institute of Technology (INT. AUD.: 2)

Speaker: Mathias Louboutin

3:35 PM.....**Implementation of cloud-ready technology designed to address longstanding data interoperability and accessibility issues through the use of a comprehensive semi-automated seismic interpretation workflow** Marion Barré*, Stuart Walley, and Vianney Savajol, Eliis; Jie Deng and Christine Rhodes, AWS; Aurelien van Welden, Paul Endresen, Marius Storm-Olsen, and Andy James, Bluware (INT. AUD.: 3)

Speaker: Vianney Savajol

4:00 PM.....**Use of free software for integration of outcrop, subsurface, and virtual reality applications: Examples from the Permian Basin, Texas and New**

Mexico Buddy J. Price*, The University of Texas at Austin and Devon Energy; Robin Dommissie, Charles Kerans, and Xavier Janson, The University of Texas at Austin (INT. AUD.: 2)

Speaker: Buddy Price

4:25 PM.....**Bringing ML models into mainstream applications by enabling cloud platform connections**

Rafael Pinto*, Ilya Agurov, Roman Emreis, Iurii Koniaev-Gurchenko, Dmitrii Zolotukhin, Viktor Huleu, Evgeny Shulikin, Andrey Derevyanka, Pavel Shashkin, Maksim Krug, Ivan Grechikhin, and Anton Petrov, EPAM Systems; Simon Shaw, Brian Macy, Chengbo Li, Chuck Mosher, and Anand Malgi, ConocoPhillips. (INT. AUD.: 3)

Speaker: Ron Clymer

Wednesday, 31 August 2022

IPS 3 Induced Seismicity and Seismic Interferometry

Session Chairs: Gustavo Carstens and David Eaton

Location: 342E

Synopsis: This session will feature advances in methods for analysis of induced seismicity data.

3:10 PM.....**Induced seismicity hypocentral depth stability and sensitivity to Vp/Vs in the South Delaware Basin, West Texas.**

Alexandros Savvaidis*, The University of Texas at Austin; Anthony Lomax, ALomax Scientific; Robin Dommissie, Caroline Breton, Matthew Shirley, and Vincent O'Sullivan, The University of Texas at Austin (INT. AUD.: 4)

Speaker: Alexandros Savvaidis

3:35 PM.....**High-resolution seismic monitoring insights on stress and fault orientations in the Delaware Basin**

Adam M. Baig*, Aaron Booterbaugh, and Sepideh Karimi, Nanometrics (INT. AUD.: 3)

Speaker: Adam Baig

4:00 PM.....**Time-lapse monitoring of saltwater disposal in Kansas and Oklahoma using ambient noise**

Lonn Brown* and Mirko van der Baan, University of Alberta (INT. AUD.: 2)

Speaker: Lonn Brown

4:25 PM.....**Interferometry derived S-wave velocity model with geological constrains for induced seismicity monitoring** Galina Simeonova,, Dmitry Alexandrov, and Toufik Chtouki, Seismik; Petr Kolínský, Institute of Geophysics; Leo Eisner* and Tijmen Jan Moser, Seismik; Umair Waheed and Sherif Hanafy, CPG KFUPM; Barbara Cox, HydrecoGeomec (INT. AUD.: 3)

Speaker: Leo Eisner

Wednesday, 31 August 2022

MLDA 12 Borehole Applications 2

Session Chairs: Bryan Guzman and Vanessa Simoes

Location: 362B

Synopsis: Machine learning techniques for core and borehole measurements.

3:10 PM.....**A deep-learning workflow for weak reflection extraction in pitch-catch measurements in cased-hole** Qiang Wang, Hua Wang, Shaopeng Shi, University of Electronic Science and Technology of China (INT. AUD.: 3)

Speaker: Hua Wang

3:35 PM.....**Deep-learning-based downhole tool electromagnetic telemetry noise attenuation and source separation** Carlos Urdaneta* and Arnaud Jarrot, Schlumberger; Shirui Wang, Xuqing Wu, and Jiefu Chen, University of Houston (INT. AUD.: 4)

Speaker: Carlos Urdaneta

4:00 PM.....**A robust approach for shear log predictions using deep learning on big data sets from a carbonate reservoir for integrated reservoir characterization projects** Aun Al Ghaithi, Saudi Aramco (INT. AUD.: 3)

Speaker: Aun Al Ghaithi

4:25 PM.....**Comparison of unsupervised machine learning model to core-observed facies within the basinal shale Late Devonian Duvernay Formation in the Western Canada Sedimentary Basin** Elisabeth G. Rau*, Stacy Atchley, and David Yeates, Baylor University; Kathy Breen, NASA Goddard Space Flight Center and Oak Ridge Associated Universities (INT. AUD.: 2)

Speaker: Elisabeth Rau

Wednesday, 31 August 2022

NS 3 Urban and Environmental

Session Chairs: Biondo Biondi and Yunyue Li

Location: 342D

Synopsis: Application of various seismic methods to urban geophysics and environmental issues.

3:10 PM.....Improving seismic interferometry for traffic noise by wavefield

decomposition and deconvolution Weiping Cao*, Xuri Huang, Yezheng Hu, Yungui Xu, Jing Tang, and Hai Yao, Southwest Petroleum University, China (INT. AUD.: 3)

Speaker: Weiping Cao

3:35 PM.....Seismic attenuation extracted from isolated traffic signals Yumin Zhao,

National University of Singapore; Yunyue Elita Li, Purdue University; Bei Li, Wei Luo, Zhaoyin Liu, and Yuxuan Zhou, National University of Singapore (INT. AUD.: 2)

Speaker: Yunyue Li

4:00 PM.....Full phase velocity spectrum inversion of multi-mode Rayleigh

waves Yanlong Niu, National University of Singapore; Yunyue Elita Li, Purdue University; and Siau Chen Chian, National University of Singapore (INT. AUD.: 3)

Speaker: Yanlong Niu

4:25 PM.....Siting recharge basins and improving groundwater models using

multiple survey methods in Southern California Nicole Pendrigh*, Collier Geophysics, LLC; Michael Blazevic, Santa Margarita Water District; John Jansen and Kristen Marberry, Collier Geophysics, LLC (INT. AUD.: 3)

Speaker: Nicole Pendrigh

Wednesday, 31 August 2022

RC 4 Case Studies 2

Session Chairs: Esteban Diaz and Jeniffer Masy

Location: 370A

Synopsis: Integrated studies with advanced reservoir characterization methods.

3:10 PM.....Reservoir characterization of a lithium-bearing super-brine complex using seismic inversion and magnetotellurics Colton Dudley*, Timothy Putnam,

Karen Loomis, and Vincent Ramirez, 3PL Operating Inc. (INT. AUD.: 3)

Speaker: Colton Dudley

3:35 PM.....**Reducing seismic quantitative interpretation uncertainty in complex geological environments: A case study from offshore Australia** Andrea Paxton, Lianping Zhang, Abdul Kholiq, Lee Davey, Richard Bisley, Dominic Fell, and Leo Leon*, Schlumberger; James Shadlow, KUFPEC (INT. AUD.: 3)

Speaker: Leo Leon

4:00 PM.....**Comparison of conventional lithofacies estimation and litho-petro-elastic inversion (LPE) in shallow offshore Mexico** Michelle Ellis*, Charles Inyang, Carlos Alberto Montilla Nava, and Janet Ravelo Cervantes, Schlumberger; Doan Saavedra Castañeda and José Bernardo Vásquez Guerrero, Pemex (INT. AUD.: 4)

Speaker: Michelle Ellis

4:25 PM.....**Carbonate reservoir property prediction technique based on petrophysical reservoir types (PRT) identification and seismic inversion** Nie Qihai, Chen Xin, Li Jianlin, Liu Yong, Zhao Min, Qi Qunli, Xiao Dengyi, Chen Shuangting, Yan Xiaohuan, Yu Wenwen, Lv Lu, Peng Bo, Li Qiang, An Fuli, Wang Bo, Gao Xiaoli, and Yang Chen, BGP, CNPC (INT. AUD.: 5)

Speaker: Chen Xin

Wednesday, 31 August 2022

RP 2 Stress and Frequency Dependent Rock Properties

Session Chairs: Gregor Baechle and Ronny Hofmann

Location: 362A

Synopsis: This session will discuss stress, strain, and frequency-dependent properties of rocks.

3:10 PM.....**Factors linking the static and dynamic elastic stiffness of shale: An experimental study on shales** Xuan Qin*, University of Houston; Yonghao Zhang, China Petroleum Logging Co., Ltd.; and De-hua Han, University of Houston (INT. AUD.: 2)

Speaker: Xuan Qin

3:35 PM.....**Predicting pressure-dependent velocities for carbonates by linking static and dynamic elastic properties** Xuan Qin* and De-hua Han, University of Houston (INT. AUD.: 1)

Speaker: Xuan Qin

4:00 PM.....**Elastic frame moduli in a sandstone reservoir used for underground CO₂ storage** Colin M. Sayers*, University of Houston (INT. AUD.: 3)

Speaker: Colin Sayers

4:25 PM.....**Estimating elastic wave velocities, attenuation factors, and their frequency dependency by inverting ultrasonic waveforms** Michel M. Nzikou, Alexey Yurikov, Maxim Lebedev, and Boris Gurevich, Curtin University (INT. AUD.: 3)

Speaker: Boris Gurevich

Wednesday, 31 August 2022

SPMI 3 Enhancement of Imaging Algorithms

Session Chairs: Weihong Fei and Paul Williamson

Location: 372A

Synopsis: Optimization for efficiency and enhancement for quality for imaging algorithms.

3:10 PM.....**Normalized energy-norm imaging condition for elastic reverse time migration** Can Oren and Jeffrey Shragge, Colorado School of Mines (INT. AUD.: 3)

Speaker: Jeffrey Shragge

3:35 PM.....**Optimized downward continuation for the one-way wave equation in TTI media** Cosmin Macesanu* and Faqi Liu, TGS (INT. AUD.: 3)

Speaker: Cosmin Macesanu

4:00 PM.....**Q-LSRTM using viscoacoustic VTI wave equation based on the nearly constant Q model** Zhang Shan-Shan, Gu Bing-Luo *, and LI Zhen-Chun, China University of Petroleum (East China) (INT. AUD.: 4)

Speaker: Gu Bing-Luo

4:25 PM.....**Accelerated Kirchhoff depth migration on CPU-GPU heterogeneous computing systems** Yujin Liu*, Aramco Asia; Hongwei Liu, Saudi Aramco; Yi He, Aramco Asia; Fuhao Qin, Saudi Aramco; Yue Du, Aramco Asia (INT. AUD.: 2)

Speaker: Yujin Liu

Wednesday, 31 August 2022

SPMNR 5 Development and Applications

Session Chairs: Valeriy Brytik and Lei Fu

Location: 371A

Synopsis: Recent development and application in noise attenuation, interbed-multiple removal, and regularization.

3:10 PM.....**Assessing properties of internal multiples for different geologies** Paul Ras*, Geophysical Consultant; Mikhail Davydenko, Wavekoda; and Eric Verschuur, Delft University of Technology (INT. AUD.: 4)

Speaker: Paul Ras

3:35 PM.....**Recursive DIP for seismic random noise attenuation** Yun Zhang* and Benfeng Wang, Tongji University (INT. AUD.: 3)

Speaker: Yun Zhang

4:00 PM.....**Prediction and removal of internal multiples using an improved CFP approach** Zhiheng Jiang*, Yongqiang Yao, and Pengzhi Zhang, China National Offshore Oil Corporation (CNOOC) Ltd. (INT. AUD.: 5)

Speaker: Zhiheng Jiang

4:25 PM.....**Transfer learning seismic and GPR diffraction separation with a convolutional neural network** Alexander Bauer*, Jan Walda, and Dirk Gajewski, University of Hamburg (INT. AUD.: 4)

Speaker: Alexander Bauer

Wednesday, 31 August 2022

ST 1 Theoretical Developments in Imaging, Inversion, and Wave Phenomena

Session Chairs: Gokay Bozkurt and Fuchun Gao

Location: General Assembly B

Synopsis: Papers in this session cover a variety of theoretical developments involving numerical modeling of wavefield propagation, imaging, and inversion.

3:10 PM.....**Shaping regularization by fast explicit diffusion** Sergey Fomel, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Sergey Fomel

3:35 PM.....**The propagator and transfer matrix for a 3D inhomogeneous dissipative acoustic medium, expressed in Marchenko focusing functions** Kees Wapenaar, Delft University of Technology; Sjoerd de Ridder, University of Leeds; Marcin Dukalski and Christian Reinicke, Aramco Delft Global Research Center (INT. AUD.: 4)

Speaker: Kees Wapenaar

4:00 PM.....**Modeling of scattering losses using energy transport** Manuel Alejandro Jaimes Caballero* and Roel Snieder, Colorado School of Mines (INT. AUD.: 5)

Speaker: Manuel Jaimes

4:25 PM.....**Inverse scattering theory: Time-dependent perturbation theory for wave scattering in time varying media** Xingguo Huang, Jilin University; Ru-Shan Wu, University of California; Pan Zhang and Wenrui Ye, Jilin University; Morten Jakobsen, University of Bergen (INT. AUD.: 3)

Speaker: Xingguo Huang

Monday, 29 August 2022

ANI P1 Theory and Practice

Session Chairs: Venkatesh Anantharamu and Jennifer Lewis

Location: Poster Station 1

Synopsis: New insights into theoretical and practical aspects of anisotropy.

10:20 AM.....**On singularity points in elastic orthorhombic media** Alexey Stovas*, NTNU; Yu Roganov, Tesserat; and V. Roganov, Glushkov Institute (INT. AUD.: 4)

Speaker: Alexey Stovas

► Poster Station: A

10:45 AM.....**A method to extract azimuth information from narrow azimuth data and its application in fracture detection** Hongbo Ding, Dekui Xu, Xinyi Duan, and Guangrui Xiao, CNOOC (China National Offshore Oil Corporation) Ltd. (INT. AUD.: 3)

Speaker: Hongbo Ding

► Poster Station: B

11:10 AM.....**WITHDRAWN: New perturbation-based traveltime approximation for elastic VTI media** Shibo Xu*, Kyoto University; Alexey Stovas, Norwegian University of Science and Technology; and Xingguo Huang, Jilin University (INT. AUD.: 3)

Speaker: Shibo Xu

► Poster Station: C

Transferred to ANI 1: Anisotropy parameters for fractured shales

Monday, 29 August 2022

IPS P1 Processing, Analysis, and Geomechanical Simulation

Session Chairs: David Eaton and Shawn Maxwell

Location: Poster Station 2

Synopsis: Processing, analysis, and geomechanical simulation applied to induced and

passive seismic.

10:20 AM.....**Active and passive monitoring of fault reactivation under stress cycling** Milad Naderloo, Aukje Veltmeijer, and Auke Barnhoorn, Delft University of Technology (INT. AUD.: 3)

Speaker: Aukje Veltmeijer

► Poster Station: A

10:45 AM.....**Direct observation of transient fluid pressure surge and resonance in a fluid-filled fracture** Yuesu Jin*, Nikolay Dyaur, and Yingcai Zheng, University of Houston (INT. AUD.: 1)

Speaker: Yuesu Jin

► Poster Station: B

11:10 AM.....**High resolution stress maps from microseismic monitoring** Ben Witten*, Adam Baig, and Aaron Booterbaugh, Nanometrics Inc. (INT. AUD.: 3)

Speaker: Benjamin Witten

► Poster Station: C

11:35 AM.....**Microseismic imaging with three-component borehole sensors** Jakob B.U. Haldorsen, MagiQ Technologies Inc. (INT. AUD.: 4)

Speaker: Jakob Haldorsen

► Poster Station: D

Monday, 29 August 2022

NS P1 Advanced Processing and Machine Learning 1

Session Chairs: Santi Adavani and Souvik Mukherjee

Location: Poster Station 9

Synopsis: Deep and machine-learning applications are the focus of this session.

10:20 AM.....**Amplitude enhancement of far-offset refractions via machine learning** Lurun Su*, Han Wang, and Jie Zhang, University of Science and Technology of China (USTC) (INT. AUD.: 3)

Speaker: Lurun Su

► Poster Station: A

10:45 AM.....**3D surface-consistent residual statics estimation by deep learning** Han Wang* and Jie Zhang, University of Science and Technology of China

(USTC) (INT. AUD.: 4)

Speaker: Han Wang

► Poster Station: B

11:10 AM.....**Enhance near-surface velocity tomogram using land-streamer data** Sherif M. Hanafy*, King Fahd University of Minerals and Petroleum (INT. AUD.: 3)

Speaker: Sherif Hanafy

► Poster Station: C

11:35 AM.....**CMP domain near-surface velocity model building based on deep learning** Yihao Wang, PetroChina Exploration & Production Company (INT. AUD.: 3)

Speaker: Yihao Wang

► Poster Station: D

Monday, 29 August 2022

RP P1 Recent Development

Session Chairs: Arpita Bathija and Laurent Louis

Location: Poster Station 4

Synopsis: This poster session will focus on rock properties in carbonate reservoirs and unconventional.

10:20 AM.....**Modeling the effect of gas adsorption on elastic properties of unconventional shale reservoir** Jingyan Chen*, Luanxiao Zhao, Tianrui Hu, Jinwan Zhu, and Yirong Wang, Tongji University (INT. AUD.: 3)

Speaker: Jingyan Chen

► Poster Station: A

10:45 AM.....**Theoretical and experimental study of acoustic and electrical properties in tight-oil rocks: A case study** Mengqiang Pang, Hohai University and Hochschule Bochum; and Jing Ba*, Hohai University (INT. AUD.: 3)

Speaker: Mengqiang Pang

► Poster Station: B

11:10 AM.....**Impact of mineralogy on rock physics modeling: A Brazilian pre-salt case study** Rafael Amaral Cataldo, Emilson Pereira Leite, and Nathalia Helena Secol Mattos, University of Campinas (INT. AUD.: 3)

Speaker: Rafael Cataldo

► Poster Station: C

11:35 AM.....**Comparative analysis between laboratory measurement and numerical simulation to evaluate anisotropy in Coquinas from Morro do Chaves**

Fm.: A Brazilian pre-salt analog Lucas Oliveira, André Martins, Marco Ceia, Roseane Misságia, Herson Rocha, Natan Santarém, Jessica Moreira, and Irineu Lima Neto, North Fluminense State University (INT. AUD.: 3)

Speaker: André Martins

► Poster Station: D

Monday, 29 August 2022

SPET P1 Application of Data Merge and Machine Learning

Session Chairs: Valeriy Brytik and Arnab Dhara

Location: Poster Station 5

Synopsis: Session with focus on denoising, deblending, demultiple methods, and novel acquisition.

10:20 AM.....**Pwd-pinn: Slope-assisted seismic interpolation with physics-informed neural networks** Francesco Brandolin, Matteo Ravasi and Tariq Alkhalifah, Abdullah University of Science and Technology (KAUST) (INT. AUD.: 1)

Speaker: Francesco Brandolin

► Poster Station: A

10:45 AM.....**A smart merge workflow for dual azimuth images** Xu Li*, Diwi Snyder, Dez Chu, and Inmaculada Dura-Gomez, ExxonMobil (INT. AUD.: 2)

Speaker: Xu Li

► Poster Station: B

11:10 AM.....**Optimized stacking of migrated offset vector tiles for Tengiz PSDM image enhancement** Tianjiang Li, King Sim Lee, Bin Gong, and Kai Yang, In-Depth Geophysical; Kai Zhang, Chevron Technical Center (CTC); Assem Bibolova and Zhanibek Katrenov, Tengizchevroil (TCO) (INT. AUD.: 3)

Speaker: Tianjiang Li

► Poster Station: C

11:35 AM.....**Seismic data reconstruction using denoising convolutional neural network combined with regularization by denoising** Nanying Lan*, Kaiheng Sang, and Fanchang Zhang, China University of Petroleum (East China) (INT. AUD.: 3)

Speaker: Nanying Lan

► Poster Station: D

Monday, 29 August 2022

SPMI P1 Enhancement of Least-Squares Migration

Session Chairs: Li Ren and Charles Ursenbach

Location: Poster Station 8

Synopsis: Enhancement of least-squares migration algorithms and their applications.

10:20 AM.....**Deblurring migration images with point spread function filter** Cewen Liu, Tsinghua University and BGP, CNPC; Nanxun Dai, Wei Wu, Xiaofeng Wu, and Mingjie Guo, BGP, CNPC; Haohuan Fu, Tsinghua University (INT. AUD.: 3)

Speaker: Chen Jing

► Poster Station: A

10:45 AM.....**Least-squares reverse time migration of seismic source coding based on Shearlet transform** Yingkaer Nabi, Xiangbo Gong*, and Zhuo Xu, Jilin University (INT. AUD.: 4)

Speaker: Yingkaer Nabi

► Poster Station: B

11:10 AM.....**Application of least squares one-way wave migration in irregular sampling data of Bohai Bay Basin** Lv Yongchang*, Li Daoshan, Wang Yongming, Meng Jie, Feng Xukui, Hu Dan, Wu Xiaofeng, and Kong Zhaoju, BGP, CNPC (INT. AUD.: 4)

Speaker: Chen Jing

► Poster Station: C

Transferred to SPMI 2: Q-compensated least-squares reverse time migration by considering velocity and Q perturbations

Monday, 29 August 2022

SPMNR P1 Land Denoising and Statics

Session Chairs: Shihang Feng and Boming Wu

Location: Poster Station 7

Synopsis: Interbed-multiple attenuation and first-arrival residual statics.

10:20 AM.....**3D large residual static corrections based on first breaks in CMP**

gather Feng Faquan*, Deng Zhiwen, Cai Xiwei, Hu Chaojun, Huang Yuanyi, Zou Xuefeng, Du Zhongdong, Wang Haili, and Wang Mingliang, BGP, CNPC (INT. AUD.: 5)

Speaker: Pengpeng Ye

► Poster Station: A

10:45 AM.....**Marchenko based interbed multiple attenuation with exploration-scale field dataset**

Xueyi Jia, Haiyang Wang, Anatoly Baumstein, YoungHo Cha, Xu Li, Vijay Gottumukkula, Inmaculada Dura-Gomez, Erik Neumann, and Arjun Srinivasan, ExxonMobil (INT. AUD.: 3)

Speaker: Xueyi (Alex) Jia

► Poster Station: B

11:10 AM.....**WITHDRAWN: A new reverse time migration denoising method based on diffusion filtering with X-shaped denoising operator**

Chongpeng Huang*, Yingming Qu, and Zhenchun Li, China University of Petroleum (East China) (INT. AUD.: 4)

Speaker: Chongpeng Huang

► Poster Station: C

11:35 AM.....**WITHDRAWN: Research and application of seismic data regularization technology for complex surface in Western China**

Qigang-Zhou*, Weiming-Liu, and Huan-Liu, Petrochina Research Institute of Petroleum Exploration & Development (INT. AUD.: 3)

Speaker: Qigang Zhou

► Poster Station: D

Monday, 29 August 2022

STUD P1 Stratigraphy, Sedimentology, and Paleoenvironments

Session Chairs: Howard Harper and David Lankford-Bravo

Location: Poster Station 6

Synopsis: This session consists of selected abstracts of paleoenvironmental, sequence stratigraphic, sedimentologic, or stratigraphic studies.

10:20 AM.....**Paleoecologic and paleoceanographic reassessment of intrashelf**

basin formation: lithology, depositional environment, and sequence stratigraphy of the Upper Albian Maverick Basin, south Texas

Charlie Y.C. Zheng* and Charles Kerans, The University of Texas at Austin; Luis A. Buatois and M. Gabriela Mángano,

University of Saskatchewan; Robert G. Loucks, The University of Texas at Austin (INT. AUD.: 4)

Speaker: Charlie (Yu-Chen) Zheng

► Poster Station: A

10:45 AM.....**Stratigraphy and sedimentology of the Lower Permian Decie Ranch and Sullivan Peak Members of the Skinner Ranch Formation, Lenox Hills, west Texas** Conor Sullivan and Art Donovan, Texas A&M University; Morgan Sullivan, Chevron (INT. AUD.: 1)

Speaker: Conor Sullivan

► Poster Station: B

11:10 AM.....**Machine learning prediction of slope channel facies using outcrop analog data: Tres Pasos Formation, Magallanes Basin, Chile** Patrick Ronnau* and Lisa Stright, Colorado State University; Stephen M. Hubbard, University of Calgary; Brian W. Romans, Virginia Tech (INT. AUD.: 3)

Speaker: Patrick Ronnau

► Poster Station: C

11:35 AM.....**Using surface-based sequence stratigraphy to determine the stratigraphic designation and age of the Upper Cretaceous Harris Delta System in the subsurface of the east Texas Basin** Parker Johnson*, L.N. Evans, A.D. Donovan, M.C. Pope, and S. Gifford, Texas A&M University (INT. AUD.: 3)

Speaker: Parker Johnson

► Poster Station: D

Monday, 29 August 2022

SUS P1 ESG Opportunities Within the Geosciences

Session Chairs: Murray Christie and Beatriz Serrano-Suarez

Location: Poster Station 3

Synopsis: Geoscientists will play a critical role, now more than ever, in securing the future of energy while balancing the concerns around mitigating climate change.

10:20 AM.....**Attracting students to geoscience careers in energy: Analysis of opportunities and challenges** Maria Angela Capello*, Red Tree Consulting LLC; and C. Susan Howes, Subsurface Consultants & Associates, LLC (INT. AUD.: 3)

Speaker: Maria Angela Capello

► Poster Station: A

10:45 AM.....**Mitigating scope 3 emissions in oil and gas: An updated summary** Maria Angela Capello*, Red Tree Consulting LLC (INT. AUD.: 1)
Speaker: Maria Angela Capello

► Poster Station: B

11:10 AM.....**Optimizing decision-making processes in sustainability and ESG: How a digital approach transforms strategic areas of oil and gas** Maria Angela Capello*, Red Tree Consulting LLC; and Fred Aminzadeh, FACT Inc. (INT. AUD.: 2)
Speaker: Maria Angela Capello

► Poster Station: C

11:35 AM.....**Ultra-low altitude UAV aeromagnetic surveys for orphaned well identification and prioritization for remediation** Alex Nikulin*, Timothy de Smet, Nicholas Balrup, and Samir Aghaev, Binghamton University (INT. AUD.: 3)
Speaker: Alex Nikulin

► Poster Station: D

Monday, 29 August 2022

TL P1 Improvements

Session Chairs: Mitra Azizian and Priyanka Dutta

Location: Poster Station 10

Synopsis: This session includes presentations steered towards improvements in processing, analysis, and inversion of time-lapse seismic.

10:20 AM.....**Imaging the reservoir permeability from time-lapse electromagnetic data** Taqi Alyousuf* and Yaoguo Li, Colorado School of Mines (INT. AUD.: 5)
Speaker: Taqi Alyousuf

► Poster Station: A

10:45 AM.....**Time-lapse Bayesian AVO inversion applied to the Edvard Grieg field in the North Sea** Heidi Kjøsberg* and Ragnar Hauge, Norwegian Computing Center; Abel Onana Ndingwan and Odd Kolbjørnsen, Lundin Energy Norway (INT. AUD.: 4)
Speaker: Heidi Kjøsberg

► Poster Station: B

11:10 AM.....**Comparison of fluid saturation distributions using 4D seismic and Bayesian evidence** Jeremy Gallop*, Ikon Science; and Sandy Chen, Whitecap Resources (INT. AUD.: 3)

Speaker: Jeremy Gallop

► Poster Station: C

11:35 AM.....**Reservoir R factor estimation using 4D time-shifts induced by compaction at the Shearwater field — North Sea** Alejandro Jaramillo*, Heriot-Watt University; Maria Mangriotis, University of Edinburgh; and Colin MacBeth, Heriot-Watt University (INT. AUD.: 3)

Speaker: Alejandro Jaramillo

► Poster Station: D

Monday, 29 August 2022

ACQ P1 Novel Marine Acquisition

Session Chairs: Scott Baker and Johan Robertsson

Location: Poster Station 10

Synopsis: New ideas for marine acquisition.

1:20 PM.....**Characterization and simulation of transverse noise waves of a multi-sensor solid streamer** Viktor Smirnov*, Sercel and University Grenoble-Alpes, GIPSA-Lab; A. Sourice and J. Ribette, Sercel; J. Mars, University Grenoble-Alpes, GIPSA-Lab; and P. Herrmann, Sercel (INT. AUD.: 3)

Speaker: Viktor Smirnov

► Poster Station: A

1:45 PM.....**Dither scheme design and application for marine blended acquisition** Zhang Xiaoming*, Xuzhaohong, Song Jiawen, Mao Hejiang, Ma Zhu, Cao Mingqiang, Liu Zhao, Liu Jianwei, and Yan Jingjing, BGP CNPC (INT. AUD.: 5)

Speaker: Qiang Li

► Poster Station: B

2:10 PM.....**Quantitative evaluation of vibroseis excitation signal based on signal-noise separation** Fei Luo, Yang Zhu*, Tie Wei, Guowei Wei, and Lianbin Jiang, BGP CNPC (INT. AUD.: 4)

Speaker: Jan de Bruin

► Poster Station: C

2:35 PM.....**A design case study for combined streamer and OBN survey** Yue Yue*, Liu Haibo, Dong Fengshu, Chen Haolin, Luo Minxue, Xu Zhaohong, Li Yang, Xin Xiuyan, Wei Xiubo, and Liu Zhao, BGP, CNPC (INT. AUD.: 3)

Speaker: Qiang Li

► Poster Station: D

Monday, 29 August 2022

AVOSI P1 Methods 1

Session Chairs: Janaki Vamaraju and Dimitri Voytan

Location: Poster Station 4

Synopsis: Enhancement of AVO analysis and seismic inversion methods.

1:20 PM.....**South Halfway 3D: An example of a challenging onshore acquisition and subsequent processing and a unique way of performing a prestack elastic inversion on a difficult dataset** Marianne Rauch*, Doug Brost, Hassan Odhwani, and Aravind Nangarla, TGS; Adriana Gordon, Qeye Labs (INT. AUD.: 3)

Speaker: Marianne Rauch

► Poster Station: A

1:45 PM.....**High resolution pre-stack seismic inversion of reservoir parameters using an arch network** Ting Chen* and Yaojun Wang, University of Electronic Science and Technology of China; Yuan Yuan, CNPC, Exploration and Development Institution of Tarim Oilfield; Gang Yu and Guangmin Hu, University of Electronic Science and Technology of China (INT. AUD.: 3)

Speaker: Ting Chen

► Poster Station: B

2:10 PM.....**A strategy for acoustic impedance direct inversion in depth domain** Ruiqian Cai*, Chengyu Sun, and Shizhong Li, China University of Petroleum (East China) (INT. AUD.: 3)

Speaker: Ruiqian Cai

► Poster Station: C

2:35 PM.....**WITHDRAWN: Horizontal stress inversion based on azimuthal difference in P-wave reflectivity** Fubin Chen*, Zhaoyun Zong, and Xingyao Yin, China University of Petroleum (East China), Pilot National Laboratory for Marine Science and Technology (Qingdao), and Shandong Provincial Key Laboratory of Deep Oil and Gas (INT. AUD.: 3)

Speaker: Fubin Chen

► Poster Station: D

Monday, 29 August 2022

FWI P1 Methods 1

Session Chairs: Rustam Akhmadiev and Chirag Parekh

Location: Poster Station 2

Synopsis: Novel techniques for full-waveform inversion.

1:20 PM.....**Tomographic waveform inversion (TWI) applied to real seismic data** Júlio Oliva Frigério* and Biondo Biondi, Stanford University. (INT. AUD.: 4)

Speaker: Julio Frigerio

► Poster Station: A

1:45 PM.....**Integrating U-net with full-waveform inversion for an efficient salt body construction** Abdullah Alaliand and Tariq Alkhalifah, King Abdullah University of Science and Technology (INT. AUD.: 3)

Speaker: Abdullah Alali

► Poster Station: B

2:10 PM.....**Full-elastic AVA extraction using acoustic FWI** Michael Warner*, Imperial College London and S-Cube London; John Armitage, Adrian Umpleby, and Nikhil Shah, S-Cube London; Henry Debens and Fabio Mancini, Woodside Energy Ltd. (INT. AUD.: 3)

Speaker: Michael Warner

► Poster Station: C

2:35 PM.....**Improving subsalt images using FWI and FWI imaging: A streamer case study at Big Foot** Weihong Fei* Jingru Chen, Min Yang, Leah Grassi, Erik Everson, and Paul Bovet, Chevron; Marin Laomana, Equinor; Sheree Wold, Marubeni; Alex Yanjun Hao, Chi Chen, Shubin Zeng, and Zhiyuan Wei, CGG (INT. AUD.: 3)

Speaker: Weihong Fei

► Poster Station: D

Monday, 29 August 2022

INT P1 International Basins: Exploration and Prospecting 2

Session Chairs: Hamad Alghenaim and Alfredo Fernandez

Location: Poster Station 3

Synopsis: New exploration and exploitation opportunities in three different

continents.

1:20 PM.....New geological insights gained from the reprocessing, imaging, and interpretation of legacy seismic datasets — offshore Mauritania Kranthi

Garidepalli*, Elisabeth Gillbard, Simon Dean, Darren Judd, Nassim Kettouche, and Paul Bellingham, ION (INT. AUD.: 3)

Speaker: Kranthi Garidepalli

► Poster Station: A

1:45 PM.....Geophysics applied to geotechnical study in Ouro Preto, MG –

Brazil Gabriel do Nascimento Cardoso*, Maria Sílvia Carvalho Barbosa, Luís Artur Souza Oliveira, Joney Justo da Silva, Pedro Lourenço dos Reis, Henrique Rodrigues Alves de Souza, Aline Terezinha de Souza Rodrigues, Silvia Amélia de Jesus, Fernando Antônio de Oliveira, and Julia Ferreira Schiavon, Federal University of Ouro Preto (UFOP) and Society of Applied Geophysics (SGA) (INT. AUD.: 3)

Speaker: Gabriel Cardoso

► Poster Station: B

2:10 PM.....Machine learning in reservoir characterization: Coupling data resolution-enhancement with hierarchical analysis of 3D seismic attributes for seismic facies classification Papa A. Owusu* and Abdelmoneam Raef, Kansas State University (INT. AUD.: 3)

Speaker: Papa Owusu

► Poster Station: C

Transferred to INT 4: Seismic geomorphology reveals the depositional environment to enhance reservoir prediction at various scales. Case studies from exploration to development projects in Argentina.

Monday, 29 August 2022

MLDA P1 Seismic Interpretation 1

Session Chairs: David Lubo-Robles and Noah Francis Vento

Location: Poster Station 1

Synopsis: Machine learning for seismic facies, fault, and channel interpretation.

1:20 PM.....An integrated machine learning-based fault classification workflow Jie Qi* and Carolan Laudon, Geophysical Insights; Kurt Marfurt, The University of Oklahoma (INT. AUD.: 3)

Speaker: Jie Qi

► Poster Station: A

1:45 PM.....**Identifying geologic facies through seismic dataset-to-dataset transfer learning using convolutional neural networks** Joseph Stitt*, Adam Shugar, and Rachael Wang, Stanford University (INT. AUD.: 3)

Speaker: Joseph Stitt

► Poster Station: B

2:10 PM.....**Detailed petroleum system insights using deep learning: A case study from the Scarborough Gas Field, offshore Australia** Scotty Salamoff, Julian Chenin*, Benjamin Lartigue, Nguyen Phan, and Paul Endresen, Bluware Corporation (INT. AUD.: 3)

Speaker: Scotty Salamoff

► Poster Station: C

2:35 PM.....**3D CNN for channel identification in seismic volume** Haishan Li*, Wuyang Yang, Xiangyang Zhang, Xinjian Wei and Xin Xu, RIPED--NWGI, PetroChina (INT. AUD.: 5)

Speaker: Haishan Li

► Poster Station: D

Monday, 29 August 2022

NS P2 Water and Environmental Issues

Session Chairs: Richard Miller and Laurie Whitesell

Location: Poster Station 9

Synopsis: Various methods applied to hydrologic and environmental issues are the focus of this session.

1:20 PM.....**Novel forward seismic modeling using the integration of Schmidt hammer and LiDAR: Example — McKittrick Canyon Permian Reef Trail outcrop, Guadalupe National Park, Texas** Zhuobo Wang*, John Pigott, and Chenxi Xu, The University of Oklahoma (INT. AUD.: 3)

Speaker: Zhuobo Wang

► Poster Station: A

1:45 PM.....**Using hydrologic model data to inform time-lapse ERT investigations of coastal processes** Christopher Terra* and Lee Slater, Rutgers University Newark;

Ryan Frederiks, Anner Paldor, and Holly Michael, University of Delaware (INT. AUD.: 2)

Speaker: Christopher Terra

► Poster Station: B

2:10 PM.....**Bathymetric and environmental deductions from GPR mapping of MTU Lake** Elijah Ayolabi and Rotimi Akinwale, Mountain Top University (INT. AUD.: 1)

Speaker: Rotimi Akinwale

► Poster Station: C

2:35 PM.....**Detailed geophysical measurement of Vs30 for municipal building-code enforcement throughout Las Vegas Valley, Nevada, USA** Aasha Pancha, Optim and Aurecon New Zealand Ltd.; and John N. Louie*, University of Nevada (INT. AUD.: 2)

Speaker: John Louie

► Poster Station: D

Monday, 29 August 2022

SPET P2 Application of Image Enhancements

Session Chairs: Lei Fu and Chaoshun Hu

Location: Poster Station 5

Synopsis: Session with focus on image enhancement case studies.

1:20 PM.....**Seeing through the shear zone for the first time: The impact of seismic technologies on the clarity of seismic image over Bahrah field** Ali Mohamed*, Schlumberger; Adel El-Emam, Kuwait Oil Company; Nacim Brika, Schlumberger; Halis Bayri, Kuwait Oil Company; Amr Issa and Kashif Adeel, Schlumberger (INT. AUD.: 3)
Speaker: Ali Ahmed Mohamed

► Poster Station: A

1:45 PM.....**Application of poststack image enhancement with dip-guided selective stacking in southern Gulf of Mexico** Janet Ravelo-Cervantes, Ricardo Francisco Castrejon-Martinez*, Julio Cesar Hernandez-Villalobos, and Raul Ysaccis, Schlumberger; Said Hernandez-Jaramillo, and Doan Saavedra-Castaneda, PEMEX (INT. AUD.: 3)

Speaker: Ricardo Castrejon-Martinez

► Poster Station: B

2:10 PM.....**Applications of near-field hydrophone data imaging in a shallow water environment: A case study from offshore Egypt** Mahmoud El Attar, Omar Hossam, Azat Kireev, Arindam Kanrar, and Usama Fathy Abdel Kader, Schlumberger; Kai Zhang, Chevron Technical Center; Jacob Deeds and Jordan Hassler, Chevron Global Frontier Exploration and Appraisal (INT. AUD.: 3)

Speaker: Mahmoud El Attar

► Poster Station: C

2:35 PM.....**Monument Butte 3D — Reprocessing case study in Uinta Basin** Mitch Preston and Xinxiang Li, TGS; Seth Berman* and Phillip Keith, Ovintiv; Christopher Egger, Josef Heim, Nebojsa Pralica, David Brookes, and James Beck, TGS (INT. AUD.: 2)

Speaker: Xinxiang Li

► Poster Station: D

Monday, 29 August 2022

SPMI P2 Diffraction, Converted, and Prismatic Imaging

Session Chairs: Yang Luo and Aravind Nangarla

Location: Poster Station 8

Synopsis: Diffraction imaging, converted-wave imaging, and reverse-time migration of prismatic waves.

1:20 PM.....**Seismic diffractions separation and imaging based on convolutional neural network** Jiaxing Sun*, Jidong Yang, Zhenchun Li, Jianping Huang, and Jie Xu, China University of Petroleum (East China) (INT. AUD.: 5)

Speaker: Jiaxing Sun

► Poster Station: A

1:45 PM.....**Revealing the discontinuities by 3D prestack diffraction separation and imaging** Chuangjian Li, Suping Peng, Xiaoqin Cui, and Peng Lin, China University of Mining & Technology (INT. AUD.: 2)

Speaker: Chuangjian Li

► Poster Station: B

2:10 PM.....**Application of 3D converted wave processing technology in imaging of gas cloud area** Mingxing Xue*, Zhijun Zhang, Jinhui Zhang, and Zhen Ma, CNOOC (China National Offshore Oil Corporation) China Limited (INT. AUD.: 5)

Speaker: Mingxing Xue

► Poster Station: C

2:35 PM.....**WITHDRAWN: RTM method of prismatic-waves under the undulating surface: A case study of the Longmen Piedmont** Bo Ma*, Yingming Qu, Zhenchun Li, Jianggui Zhu, and Chang Liu, China University of Petroleum (East China) (INT. AUD.: 4)

Speaker: Bo Ma

► Poster Station: D

Monday, 29 August 2022

SPMNR P2 Deblending and Denoising

Session Chairs: Zhehao Li and Yongzhong Wang

Location: Poster Station 7

Synopsis: Deblending and noise attenuation using neural networks.

1:20 PM.....**Separation of simultaneous source wavefields using convolutional neural network** Zhehao Li* and Hua-Wei Zhou, University of Houston; Kang Fu, BP (INT. AUD.: 3)

Speaker: Zhehao Li

► Poster Station: A

1:45 PM.....**Boosting self-supervised blind-spot networks via transfer learning** Claire Birnie* and Tariq Alkhalifah, KAUST (INT. AUD.: 4)

Speaker: Tariq Alkhalifah

► Poster Station: B

2:10 PM.....**A self-attention enhanced encoder-decoder network for seismic data denoising** Stefan Knispel, and Jan Walda, University of Hamburg; Ruediger Zehn, TEECware GmbH; Alexander Bauer and Dirk Gajewski, University of Hamburg (INT. AUD.: 3)

Speaker: Stefan Knispel

► Poster Station: C

2:35 PM.....**WITHDRAWN: Application of deghosting method based on Green's theorem in reservoir description of Bohai Bay** Shaoxuan Li*, Jiangfeng Zheng, Lei Gao, and Zhiping Zhao, CNOOC (China National Offshore Oil Corporation) Ltd. (INT. AUD.: 5)

Speaker: Shaoxuan Li

► Poster Station: D

Monday, 29 August 2022

STUD P2 Petroleum Systems and Basin Tectonics

Session Chairs: Howard Harper and David Lankford-Bravo

Location: Poster Station 6

Synopsis: This session consists of selected abstracts of studies focusing on petroleum systems and the tectonic histories of basins.

1:20 PM.....Testing rift versus transform models for the Guyana margin using 3D gravity model compared to seismic reflection data Kenneth Shipper and Paul Mann, University of Houston (INT. AUD.: 6)

Speaker: Kenneth Shipper

► Poster Station: A

1:45 PM.....Tectonic history and hydrocarbon potential of the Moroccan rifted-passive margin Md Nahidul Hasan*, Paul Mann, and Benjamin Miller, University of Houston (INT. AUD.: 3)

Speaker: Md Nahidul Hasan

► Poster Station: B

2:10 PM.....Hydrocarbon potential of source rocks from Trinidad to Guyana: An application of ultimate expellable potential (UEP) acme modeling Daniella Easley*, University of Houston; Andrew Pepper, This Is Petroleum Systems LLC; Paul Mann, University of Houston (INT. AUD.: 1)

Speaker: Daniella Easley

► Poster Station: C

2:35 PM.....Control of deeply-buried Proterozoic basement intrusive rocks inferred from a basin-wide maps of interval-specific geothermal gradient, Delaware Basin, west Texas, and southeastern New Mexico Chesney Petkovsek*, Paul Mann, and Andrew Pepper, University of Houston (INT. AUD.: 3)

Speaker: Chesney Petkovsek

► Poster Station: D

Monday, 29 August 2022

ACQ P2 Novel Land Acquisition

Session Chairs: Michele Buia and John Naranjo

Location: Poster Station 10

Synopsis: New developments with land seismic acquisition.

3:40 PM.....**Vibrois sweep sequencing research based on convex optimization model** Zhu Xujiang*, Ni Yudong, Wang Jingfu, He Yongqing, Xu Yingpo, Wang Wei, Sun Junqing, Li Kanghu, and Wang Mingliang, BGP, CNPC (INT. AUD.: 5)

Speaker: Jie Zhao

► Poster Station: E

4:05 PM.....**High-density 3D acquisition technology and its application in dual-complex low S/N ratio area** Yongguo Wu*, BGP Inc, CNPC, and Chengdu University of Technology; Zhenhua He, Chengdu University of Technology; Di Wu, BGP Inc, CNPC, and Chengdu University of Technology; Yongsheng Wang, Qinghai Oilfield Company, PetroChina; Duorong Zhang and Xinxin Cai, BGP Inc, CNPC (INT. AUD.: 5)

Speaker: Chaoyi Wang

► Poster Station: F

4:30 PM.....**Application of LiDAR in mountainous seismic acquisition in the South of China** Gaoming Cheng*, BGP Inc., CNPC; Xing Liang, Zhejiang Oilfield Inc., CNPC; Hongxiao Ning, BGP Inc., CNPC; Liwei Jiang, Zhejiang Oilfield Inc.; Yuanyi Huang, Yifan Sun, Yulei Lu, Zhihong Bai, and Yan Zhang, BGP Inc., CNPC (INT. AUD.: 3)

Speaker: Gang Yu

► Poster Station: G

4:55 PM.....**The application of phased-array vibrator system in deep seismic exploration** Minghao Yu*, Xiangbo Gong, and Xiaojie Wan, Jilin University (INT. AUD.: 3)

Speaker: Minghao Yu

► Poster Station: H

Monday, 29 August 2022

AVOSI P2 Applications 1

Session Chairs: Gokay Bozkurt and Amit Padhi

Location: Poster Station 4

Synopsis: Enhancement of AVO analysis and seismic inversion methods.

3:40 PM.....**Equivalent reflection coefficient and AVO characteristics of the thin bed** Zhengyang Kuai*, Danping Cao, and Chao Jin, China University of Petroleum

(East China) (INT. AUD.: 4)

Speaker: Zhengyang Kuai

► Poster Station: E

4:05 PM.....**Low frequency signal guided seismic amplitude preservation optimization and its application in Paleogene reservoir prestack inversion** Xie Xiang*, Zhang Zhongqiao, Qiao Zhu, and Wang Jinghan, Bohai Oilfield Research Institute, CNOOC, Tianjin Ltd. (INT. AUD.: 4)

Speaker: Xiang Xie

► Poster Station: F

4:30 PM.....**High-order viscoelastic prestack seismic nonlinear frequency-dependent inversion method based on scattering matrix** Tianjun Lan* and Zhaoyun Zong, China University of Petroleum (East China), Pilot National Laboratory for Marine Science and Technology (Qingdao), Shandong Provincial Key Laboratory of Deep Oil and Gas (INT. AUD.: 3)

Speaker: Tianjun Lan

► Poster Station: G

4:55 PM.....**Efficient and accurate velocity building from Gramian constrained multi-physics reflection and transmission data** Jide Nosakare Ogunbo*, Seoul National University (INT. AUD.: 2)

Speaker: Jide Ogunbo

► Poster Station: H

Monday, 29 August 2022

CEMS P1 Characterization of Conventional Carbonates 2

Session Chairs: Ted Playton and Rachel Williams

Location: Poster Station 5

Synopsis: Session covering conventional carbonate characterization at multiple scales.

3:40 PM.....**Anatomy of a porous diagenetic stratigraphic trap — Little Knife Field, North Dakota** Robert F. Lindsay, Lindsay Consulting, LLC (INT. AUD.: 5)

Speaker: Robert Lindsay

► Poster Station: E

4:05 PM.....**Cavernous reservoir and large potentials in Ordovician Ellenburger**

carbonates at north Texas Fangjian Xue, FJX Resources; and Vasudhaven Sudhakar, Schlumberger (INT. AUD.: 3)

Speaker: Fangjian Xue

► Poster Station: F

4:30 PM.....**Multiscale pore system characterization utilizing electron and light microscopy; Middle/Upper Jurassic Najmah Formation, West Kuwait** Rasha Al-Morakhi, Naveen Verma, and Kim Long Nguyen, Kuwait Oil Company; Nick Nelson*, Estefania Endara, Dawn Hayes, and Harry Rowe, Premier Oilfield Group; Ryan McLin, McLin Petrographics (INT. AUD.: 3)

Speaker: Nicholas Nelson

► Poster Station: G

4:55 PM.....**WITHDRAWN: Is Al Thuraya another Mediterranean giant discovery Zohr Field? (Identification of Al Thuraya reef build-up gas prospect, Offshore Nile Delta, Eastern Mediterranean, Egypt)** Mahmoud S. El-Oribi*, Hossam Salah, and Hytham Raslan, Dana Gas Egypt Company (INT. AUD.: 4)

Speaker: Mahmoud Eloribi

► Poster Station: H

Monday, 29 August 2022

FWI P2 Methods 3

Session Chairs: Reetam Biswas and Matthew Eaid

Location: Poster Station 2

Synopsis: Novel techniques for full-waveform inversion.

3:40 PM.....**Reflection waveform inversion assisted by full-wavefield imaging** Mikhail Davydenko*, Wavekoda; and Eric Verschuur, Delft University of Technology (INT. AUD.: 3)

Speaker: Mikhail Davydenko

► Poster Station: E

4:05 PM.....**Semi-global multi-parameter FWI using public cloud HPC** Henry A. Debens*, David Knodel, Fabio Mancini, and Darryl Harris, Woodside Energy Ltd; Mike Warner and Adrian Umpleby, S-Cube (INT. AUD.: 4)

Speaker: Henry Debens

► Poster Station: F

4:30 PM.....**Next-generation resolution through multiparameter FWI imaging** Tom Rayment*, James McLeman, Karen Dancer, and Tim Burgess, DUG Technology (INT. AUD.: 2)

Speaker: Tom Rayment

► Poster Station: G

4:55 PM.....**Practical solutions for reflection-driven FWI and application to Gulf of Mexico datasets** Max Liu, René-Édouard Plessix, Yi Yang, Jeffrey VanderHurst, Na Shan, Rob Schelstrate, Colin Perkins, and Vanessa Goh, Shell U.S. (INT. AUD.: 3)

Speaker: Max Liu

► Poster Station: H

Monday, 29 August 2022

INT P2 Structural Impact on Exploration and Production 2

Session Chairs: Hamad Alghenaim and Craig Schneider

Location: Poster Station 3

Synopsis: The effect of faults and fractures on production and geological interpretations.

3:40 PM.....**Multi-scale fault and fracture characterization methods** Qi Qi Ma and Taizhong Duan, SINOPEC Exploration & Production Research Institute (INT. AUD.: 5)

Speaker: Qi Ma

► Poster Station: E

4:05 PM.....**Controls on fluid flow in the distal deepwater, offshore Niger Delta** Erieshibe Ashong*, Jonathan Redfern, and Mads Huuse, University of Manchester (INT. AUD.: 3)

Speaker: Erieshibe Ashong

► Poster Station: F

4:30 PM.....**Application of formation pressure prediction technique based on high-density three-dimensional seismic constraints in complex structural zones** Yu Baoli and Liu Keyu, China University of Petroleum (East China); Li Chao*, Chen Peng, Xu Baorong, Chen Jia, and Xiang Wenchao, BGP; Yuan Bo, Xinjiang Oilfield Company (INT. AUD.: 3)

Speaker: Xin Chen

► Poster Station: G

4:55 PM.....**WITHDRAWN: Analytic directional derivative based gradient structure-tensor-based dip to detect seismic faults** Gagandeep Singh, Rahul Mahadik, William K. Mohanty, and Aurobinda Routray, Indian Institute of Technology (INT. AUD.: 3)

Speaker: Aurobinda Routray

► Poster Station: H

Monday, 29 August 2022

MLDA P2 Borehole Applications 1

Session Chairs: Shuvajit Bhattacharya and Nam Pham

Location: Poster Station 1

Synopsis: Machine learning for drilling and lithofacies interpretation.

3:40 PM.....**LithoBot: An AutoML approach to identify lithofacies** Mayur Nawal*, Santosh Kumar, and Bharath Shekar, Indian Institute of Technology (INT. AUD.: 4)

Speaker: Ravi Sharma

► Poster Station: E

4:05 PM.....**ML-based facies classification on acoustic image logs from Brazilian pre-salt region** Nan You and Yunyue Elita Li, Purdue University; Arthur Cheng, The Chinese University of Hong Kong (INT. AUD.: 3)

Speaker: Nan You

► Poster Station: F

4:30 PM.....**The digital revolution in mudlogging: An innovative workflow for advanced analysis and classification of drill cuttings using computer vision and machine-learning** Simone Di Santo *, Tetsushi Yamada, Karim Bondabou, and Mahdi Ammar, Schlumberger (INT. AUD.: 3)

Speaker: Tetsushi Yamada

► Poster Station: G

4:55 PM.....**Increasing signal-to-noise ratio of borehole image logs using convolutional neural networks** Mustafa A. Al Ibrahim* and Mokhles M. Mezghani, Saudi Aramco (INT. AUD.: 3)

Speaker: Mustafa Al Ibrahim

► Poster Station: H

Monday, 29 August 2022

NS P3 Imaging

Session Chairs: Nadia Fantello and Steve Sloan

Location: Poster Station 9

Synopsis: Effectiveness of various imaging techniques in difficult and complex environments is the focus of this session.

3:40 PM.....**Reducing parameter coupling effect for subsoil density estimation using 3D seismic full-waveform inversion with horizontal-force source** Y. Kawasaki* and S. Minato, OYO Corporation and Delft University of Technology; R. Ghose, Delft University of Technology (INT. AUD.: 2)

Speaker: Yusuke Kawasaki

► Poster Station: E

4:05 PM.....**Statistical depth imaging through complex cluttered near-surface with path summation** Andrey Bakulin* and Ilya Silvestrov, Saudi Aramco; Maxim Protasov, Institute of Petroleum Geology and Geophysics, SB RAS (INT. AUD.: 2)

Speaker: Andrey Bakulin

► Poster Station: F

4:30 PM.....**Estimating Rayleigh surface wave from ambient noise recorded by distributed acoustic sensing (DAS) dark fiber array in the city** Rafał Czarny and Tieyuan Zhu, The Pennsylvania State University (INT. AUD.: 3)

Speaker: Rafal Czarny

► Poster Station: G

4:55 PM.....**WITHDRAWN: 9C data acquisition for near-surface imaging in a quick-clay landslide-prone site in SW Sweden** Tatiana Pertuz* and Alireza Malehmir, Uppsala University (INT. AUD.: 4)

Speaker: Nini Pertuz

► Poster Station: H

Monday, 29 August 2022

SPMI P3 Novel Imaging Methods

Session Chairs: Aravind Nangarla and Charles Ursenbach

Location: Poster Station 8

Synopsis: Elastic reverse-time migration, Marchenko imaging, and Q-compensation imaging.

3:40 PM.....**An optimal aperture crosscorrelation imaging condition for Marchenko imaging** Xiaochun Chen, Yezheng Hu, Yukai Wo, Weiping Cao, and Xuri Huang, Southwest Petroleum University (INT. AUD.: 4)

Speaker: Xiaochun Chen

► Poster Station: E

4:05 PM.....**2D isotropic and vertical transversely isotropic RTM using SEG Hess VTI Model** Richa Rastogi*, Abhishek Srivastava, Monika Gawade, Nithu Mangalath, Laxmaiah Bathula, Bhushan Mahajan, and Suhas Phadke, Centre for Development of Advanced Computing (C-DAC) (INT. AUD.: 3)

Speaker: Richa Rastogi

► Poster Station: F

4:30 PM.....**WITHDRAWN: Elastic reverse time migration without wavefield decomposition** Daiguang Li and Shengchang Chen, ZheJiang University (INT. AUD.: 4)

Speaker: Daiguang Li

► Poster Station: G

4:55 PM.....**WITHDRAWN: Q-compensation imaging of anisotropic viscous quasi-acoustic media along wavefield propagation path** Bohan Zhang* and Huazhong Wang, Tongji University (INT. AUD.: 3)

Speaker: Bohan Zhang

► Poster Station: H

Monday, 29 August 2022

SPMNR P3 Regularization and Reprocessing

Session Chairs: Shangli Ou and Wuyang Yang

Location: Poster Station 7

Synopsis: Recent development and application of signal processing.

3:40 PM.....**Robust reconstruction via orthogonal matching pursuit with Fourier operators** Ji Li and Mauricio D. Sacchi, University of Alberta (INT. AUD.: 4)

Speaker: Ji Li

► Poster Station: E

4:05 PM.....**Analysis of rank-reduction methods for filtering and interpolation** Rafael Manenti* and Mauricio D. Sacchi, University of Alberta (INT.

AUD.: 5)

Speaker: Rafael Manenti

► Poster Station: F

4:30 PM.....**Leveraging legacy data: An onshore reprocessing case study from Eastern Australia** Soliman, B., Ocampo, C.L., Garcia, O., Walz, M.A., and Goodall, A., Schlumberger; Guidry, E., Shell (INT. AUD.: 4)

Speaker: Bahaa Soliman

► Poster Station: G

4:55 PM.....**Subsalt image optimization in the Gulf of Mexico combining sparse OBN and legacy streamer data** Hongyan Li, Ruoyu Gu, Jarrod Hutson, and Di Chen, Schlumberger (INT. AUD.: 3)

Speaker: Hongyan Li

► Poster Station: H

Monday, 29 August 2022

STUD P3 Modelling and Machine Learning

Session Chairs: Howard Harper and David Lankford-Bravo

Location: Poster Station 6

Synopsis: This session consists of selected abstracts of studies that use modelling and/or machine learning to better understand phenomena.

3:40 PM.....**Seismic intelligent characterization of paleocave filling types in deeply buried carbonate reservoirs** Jiangyun Zhang, Fei Tian, Wenxiu Zhang, Wenhao Zheng, Wang Zhang, and Zhongxing Wang, Chinese Academy of Sciences (INT. AUD.: 5)

Speaker: Fei Tian

► Poster Station: E

4:05 PM.....**Hydrodynamic analysis of pipe-wall thinning due to flow accelerated corrosion** Hiroki Sekiguchi, Hitoshi Mikada, Junichi Takekawa, and Shibo Xu, Kyoto University (INT. AUD.: 1)

Speaker: Hiroki Sekiguchi

► Poster Station: F

4:30 PM.....**Surface-based modeling of 3D architectural elements controlled by near wellbore modeling** Luis Carlos Escobar Arenas*, Patrick Ronnau, and Lisa

Stright, Colorado State University; Steve Hubbard, University of Calgary; Brian Romans, Virginia Tech (INT. AUD.: 3)

Speaker: Luis Escobar Arenas

► Poster Station: G

4:55 PM.....A **"data-feature-policy" solution for multi-scale geological-geophysical intelligent reservoir characterization** Wenhao Zheng, Fei Tian*, Qingyun Di, and Jiangyun Zhang, Chinese Academy of Sciences; Hui Zhou, PetroChina; Wang Zhang and Zhongxing Wang, Chinese Academy of Sciences (INT. AUD.: 5)

Speaker: Wenhao Zheng

► Poster Station: H

Tuesday, 30 August 2022

CEMS P2 Mixed Carbonate and Siliciclastic Systems

Session Chairs: Gregor Baechle and Michele Morsilli

Location: Poster Station 5

Synopsis: This session covers topics related to mixed systems in the Permian Basin.

10:20 AM.....**Lithology variability and channel geomorphology of the mixed carbonate-siliciclastic San Andres and Grayburg interval using frequency-based seismic attributes, southwestern Midland Basin** Laura Ortiz-Sanguino*, Heather Bedle, and Matthew J. Pranter, University of Oklahoma; Sumit Verma, University of Texas Permian Basin (INT. AUD.: 2)

Speaker: Laura Ortiz Sanguino

► Poster Station: A

10:45 AM.....**Siliciclastics on a Permian evaporitic shelf: Lower Seven Rivers Formation (Guadalupian), Rocky Arroyo, New Mexico** A. A. Brown*, Consultant; and R. G. Loucks, The University of Texas at Austin (INT. AUD.: 4)

Speaker: Alton Brown

► Poster Station: B

11:10 AM.....**Facies and architectures of Early Permian slope channel systems in the Glass Mountains of the Southern Delaware Basin, West Texas** Jenelle Wempner, Michael Pope, and Arthur Donovan, Texas A&M University (INT. AUD.: 4)

Speaker: Jenelle Wempner

► Poster Station: C

11:35 AM.....**Lateral lithology heterogeneity due to autogenic processes in mixed carbonate and siliciclastic deposits of Cisco Group, the Eastern Shelf of the Permian Basin, King County, North-Central Texas** Sarp Karakaya*, The University of Texas at Austin, and Bureau of Economic Geology - State of Texas Advanced Resource Recovery (STARR) Group; Osareni C. Ogiesoba, Bureau of Economic Geology - State of Texas Advanced Resource Recovery (STARR) Group; and Cornel Olariu, The University of Texas at Austin (INT. AUD.: 2)

Speaker: Sarp Karakaya

► Poster Station: D

Tuesday, 30 August 2022

CO2 P1 Relevant Topics for Carbon Capture and Storage

Session Chairs: Shuvajit Bhattacharya and Chad Hartman

Location: Poster Station 6

Synopsis: Multiple topics for CCS including risk assessment, injection strategy, monitoring, etc.

10:20 AM.....**Risk assessment of carbon storage at potential Midwest Regional Carbon Initiative (MRCI) sites using NRAP Open-IAM component models** Stuart Skopec* and Sanjay Mawalkar, Battelle Memorial Institute; Veronika Vasylykivska, National Energy Technology Laboratory, and NETL Support Contractor; Priya Ravi Ganesh, Autumn Haagsma, and Mark Kelley, Battelle Memorial Institute (INT. AUD.: 3)

Speaker: Stuart Skopec

► Poster Station: A

10:45 AM.....**Estimating CO2 saturation maps from seismic data using deep convolutional neural networks** Zi Xian Leong* and Tieyuan Zhu, Pennsylvania State University; Alexander Y. Sun, The University of Texas at Austin (INT. AUD.: 5)

Speaker: Zi Xian Leong

► Poster Station: B

11:10 AM.....**Feasibility of FDEM monitoring at the Kemper CarbonSAFE site** Colton Kohnke* and Yaoguo Li, Colorado School of Mines; Richard W. Hammack, U.S. Department of Energy (INT. AUD.: 2)

Speaker: Colton Kohnke

► Poster Station: C

11:35 AM.....**Microseismic network design for dedicated geologic storage of carbon in the Los Angeles Basin** Zachary Printz*, Joel Le Calvez, Lili Xu, Stephanie Cook, Takashi Mizuno, and Si-Yong Lee, Schlumberger (INT. AUD.: 3)

Speaker: Zachary Printz

► Poster Station: D

Tuesday, 30 August 2022

FWI P3 Elastic 1

Session Chairs: Arnab Dhara and Shihang Feng

Location: Poster Station 2

Synopsis: Methods and applications of elastic full-waveform inversion.

10:20 AM.....**One more stride forward in Thunder Horse subsalt imaging with elastic FWI** Bunmi Elebiju*, Qingsong Li, Ken Hartman, Francis Rollins, Ye Feng, Karl Kaiser, and Werner Schinagl, BP; Chi Chen, Alex Yanjun Hao, Zhiyuan Wei, and Jiawei Mei, CGG (INT. AUD.: 5)

Speaker: Bunmi Elebiju

► Poster Station: A

10:45 AM.....**Elastic full-waveform inversion of 4C ocean-bottom seismic data: Model parameterization analysis** Jian Cao*, Romain Brossier, and Ludovic Métivier, University Grenoble Alpes (INT. AUD.: 3)

Speaker: Jian Cao

► Poster Station: B

11:10 AM.....**Simultaneous waveform inversion of seismic-while-drilling data for P-wave velocity, density, and source parameters** Jinji Li*, Scott Keating, Nasser Kazemi, Roman Shor, and Kristopher A. Innanen, University of Calgary (INT. AUD.: 3)

Speaker: Scott Keating

► Poster Station: C

11:35 AM.....**Elastic full-waveform inversion using random space shift** Yuhui Yao*, Jizhong Yang, and Yuzhu Liu, Tongji University (INT. AUD.: 3)

Speaker: Yuhui Yao

► Poster Station: D

Tuesday, 30 August 2022

INT P3 Advanced Attributes and Seismic Interpretation Methods

Session Chairs: Huyen Bui and Dallas Dunlap

Location: Poster Station 3

Synopsis: Using advanced seismic attributes and imaging technology to interpret the subsurface.

10:20 AM.....**Self-organizing mapping neural network analysis on seismic-sedimentary facies** Tianyun Wang*, BGP, CNPC; Yuan Li, Xiaoping Sun, Pei Ke, Tao Li, Hongxiao Ning, and Wei Liu, BGP, CNPC; Xiaofeng Han, Xi'an Center of China Geological Survey (INT. AUD.: 4)

Speaker: Qiang Li

► Poster Station: A

10:45 AM.....**Understanding the change in permafrost by imaging the CRREL Permafrost Tunnel, Fairbanks Alaska** Presley Greer*, Alexandra Ulinski, Shuhab D. Khan, Edgar Bering, Abraham Vega, and Rishi Chitturi, University of Houston; Santosh Panda, University of Fairbanks Alaska; Daniel Vandevort, Cold Regions Research and Engineering Laboratory (CRREL) (INT. AUD.: 3)

Speaker: Presley Greer

► Poster Station: B

11:10 AM.....**Seismic facies analysis method based on spectral clustering machine learning** Kaiheng Sang*, Nanying Lan, and Fanchang Zhang, China University of Petroleum (East China) (INT. AUD.: 4)

Speaker: Kaiheng Sang

► Poster Station: C

11:35 AM.....**WITHDRAWN: Detecting the fault and fracture systems by using 3D seismic attribute — Ant-tracking algorithm** Ibraheem Hafiz* and Ziyad Albeshier, King Abdulaziz City for Science and Technology; James Kellogg, University of South Carolina; and Essam Saeid, University of Benghazi, Libya (INT. AUD.: 3)

Speaker: Ibraheem Hafiz

► Poster Station: D

Tuesday, 30 August 2022

INTD P1 Thinking Outside the Box: Creative Use of Data across Disciplines

Session Chairs: Yaoguo Li and Shashin Sharan

Location: Poster Station 4

Synopsis: In this poster section, we showcase studies that use data in unique and innovative ways.

10:20 AM.....**Visualization of oil and gas reservoir simulation models based on large-scale unstructured mesh** Pavel Novikov*, Denis Sabitov, Nikita Bukhanov, and Marwan Charara, Aramco Innovations LLC; Michel Cancelliere, Fahad Rashed, and Abdulaziz Baiz, Saudi Aramco (INT. AUD.: 2)

Speaker: Pavel Novikov

► Poster Station: A

10:45 AM.....**The curious case of the oddball oils: A Merluza mystery in Southern Santos** William Dickson*, DIGs; Craig Schiefelbein, Geochemical Solutions International; Luiz A. P. Gamboa, Universidade Federal Fluminense, Brasil; James W. Granath, Granath Associates; and Mark E. Odegard, GrizGeo (INT. AUD.: 3)

Speaker: William Dickson

► Poster Station: B

11:10 AM.....**A flexible and versatile joint inversion framework using deep learning** Yanyan Hu*, Jiefu Chen, and Xuqing Wu, University of Houston; Yueqin Huang, Cyentech Consulting LLC (INT. AUD.: 3)

Speaker: Jiefu Chen

► Poster Station: C

11:35 AM.....**Forensic GPR anti-human landmine accurate detection by Gramian constrained joint inversion of the monostatic reflection and transmission radargrams** Jide Nosakare Ogunbo* and Changsoo Shin, Seoul National University; Sang-Wook Kim and Sang-Hyun Kim, ISUNG (INT. AUD.: 1)

Speaker: Jide Ogunbo

► Poster Station: D

Tuesday, 30 August 2022

MLDA P3 Inversion

Session Chairs: Thomas Rapstine and Sagar Singh

Location: Poster Station 1

Synopsis: Machine learning for joint, reflectivity, and full-waveform inversions.

10:20 AM.....**Deep learning decomposition for null and active space estimation for**

thin-bed reflectivity inversion Kristian Torres* and Mauricio D. Sacchi, University of Alberta (INT. AUD.: 3)

Speaker: Kristian Torres

► Poster Station: A

10:45 AM.....**Joint inversion of magnetotelluric and seismic travel time data with intelligent interpretation of geophysical models** Hongyu Zhou, Rui Guo, Maokun Li, Fan Yang, and Shenheng Xu, Tsinghua University; Zuzhi Hu and Deqiang Tao, BGP Inc. CNPC (INT. AUD.: 4)

Speaker: Hongyu Zhou

► Poster Station: B

11:10 AM.....**Machine learnings and lessons learned on improvements to Castagna's mudrock, Gardner's density, and Faust's velocity estimation** David J. Emery and Marcelo Guarido, University of Calgary; Brian Russell, University of Calgary and GeoSoftware; Daniel Trad, University of Calgary (INT. AUD.: 3)

Speaker: David Emery

► Poster Station: C

Transferred to MLDA 8: Joint physics-based and data-driven time-lapse seismic inversion: Mitigating data scarcity

Tuesday, 30 August 2022

NS P4 Data Processing and Imaging

Session Chairs: Shelby Peterie and Chester Weiss

Location: Poster Station 9

Synopsis: Data-processing and imaging techniques for varied applications and settings will be presented.

10:20 AM.....**The processing method of ERI data based on irregular topography** Wang Hao*, Huang Jianping, and Li Zhenchun, China University of Petroleum (INT. AUD.: 3)

Speaker: Wang Hao

► Poster Station: A

10:45 AM.....**Benefits of selective stacking of windowed high-resolution linear radon transform (HRLRT) images from traffic-induced passive-seismic data with the multi-channel analysis of surface waves (MASW) method in Lawrence, Kansas** Julian Ivanov*, Richard D. Miller, Dmitry Borisov, Shelby Peterie, and Anthony

M. Hoch, Kansas Geological Survey (INT. AUD.: 3)

Speaker: Julian Ivanov

► Poster Station: B

11:10 AM.....**Graph-space optimal transport-based 3D elastic FWI for near-surface seismic applications** Dmitry Borisov*, Richard D. Miller, Shelby L. Peterie, Julian Ivanov, and Anthony M. Hoch, Kansas Geological Survey; Steven D. Sloan, United States Army Engineer Research & Development Center (INT. AUD.: 3)

Speaker: Dmitry Borisov

► Poster Station: C

11:35 AM.....**WITHDRAWN: Method of seismic wave advance geological prediction in soft layer** Xingmeng Dong, The 22nd Research Institute of China Electronics Technology Group Corporation; Zhoutuo Wei*, China University of Petroleum; Yuwen Zhai and Jigen Xia, The 22nd Research Institute of China Electronics Technology Group Corporation (INT. AUD.: 3)

Speaker: Xingmeng Dong

► Poster Station: D

Tuesday, 30 August 2022

RC P1 Innovative Methods 1

Session Chairs: Francisco Bolivar and Esteban Diaz

Location: Poster Station 10

Synopsis: New approaches to reservoir characterization.

10:20 AM.....**Bayesian RockAVO: Direct petrophysical inversion with hierarchical conditional GANs** Miguel Corrales, Muhammad Izzatullah, Matteo Ravasi, and Hussein Hoteit, King Abdullah University of Science and Technology (KAUST) (INT. AUD.: 4)

Speaker: Miguel Corrales

► Poster Station: A

10:45 AM.....**Channel sand body characterization and hydrocarbon detection based on multicomponent seismic data: A case study of Shaximiao Formation in QL area** Haitao Yang* and Yao Zhao, BGP, CNPC; Benjian Zhang, Southwest Oil & Gasfield Company; Furong Wu, Le Li, Dong Wang, and Jun Xiong, BGP, CNPC (INT. AUD.: 3)

Speaker: Yang Haitao

► Poster Station: B

11:10 AM.....**Horizontal well: The key factor to improve oil recovery in Bohai**

Bay Xiaoming Chen*, Yingxian Liu, Hui Cai, Meinan Wang, and Junting Zhang, CNOOC (China National Offshore Oil Corporation) Ltd. (INT. AUD.: 3)

Speaker: Peiyao Li

► Poster Station: C

11:35 AM.....**WITHDRAWN: A new method for quantitatively characterizing the hydrocarbon migration and accumulation ability of structural ridge and its**

application Haiyi Zhang, Zhonghang Zuo, Jing Wang, Xuan Guo and Gaiwei Wang, China National Offshore Oil Corporation (CNOOC) Ltd. (INT. AUD.: 5)

Speaker: Haiyi Zhang

► Poster Station: D

Tuesday, 30 August 2022

SILIC P1 Deepwater Sedimentary Systems: Science and Discovery 2

Session Chairs: Keyu Liu and Adriano Viana

Location: Poster Station 8

Synopsis: Deepwater systems combine diverse processes to produce a range of fans, drifts, and other exotic environments, some of which are world-class arenas for energy resources.

10:20 AM.....**Hydraulic controls on turbidity channel and slope gullies lateral migration induced by contour currents** Juan J. Fedele and Nicole Bayliss, ExxonMobil

Upstream (INT. AUD.: 3)

Speaker: Juan Fedele

► Poster Station: A

10:45 AM.....**Evaluation of potential source and reservoir rocks within the**

Cretaceous section in the northern Gulf of Mexico Yasushi Nasuhara*, Masashi Hirano, Jingqian Kang, and Jonathan Evenick, INPEX CORPORATION (INT. AUD.: 3)

Speaker: Yasushi Nasuhara

► Poster Station: B

11:10 AM.....**Geochemical analysis of Pindos Basin turbidites using associated shales** Jonathon Sevy*, Sam Hudson, Berry Bickmore, Matthew Linford, and Jani

Radebaugh, Brigham Young University (INT. AUD.: 3)

Speaker: Jonathon Sevy

► Poster Station: C

11:35 AM.....**Beds created by (mostly) sediment gravity flows** Jon Rotzien*, Basin Dynamics; Marco Fongnesu, ENI; and Antoine Thieblemont, TotalEnergies (now Fugro) (INT. AUD.: 3)

Speaker: Jonathan Rotzien

► Poster Station: D

Tuesday, 30 August 2022

SPMNR P4 Demultiples and Denoising

Session Chairs: Zhehao Li and Frederico Xavier de Melo

Location: Poster Station 7

Synopsis: Recent development and application of multiple suppression and noise attenuation.

10:20 AM.....**Seismic erratic noise suppression based on Laplacian-scaled mixture prior** Haotian Xu*, Weiwei Xu, and Wenchao Chen, Xi'an Jiaotong University (INT. AUD.: 3)

Speaker: Vincenzo Lipari

► Poster Station: A

10:45 AM.....**Suppression of coherent and random noise using adaptive thresholding method in seismic-while-drilling** Yue Ma and Yujin Liu, Aramco Asia (INT. AUD.: 5)

Speaker: Yue Ma

► Poster Station: B

11:10 AM.....**WITHDRAWN: Application of improved shearlet transform algorithm in noise filtering of complex fault block oilfield in Eastern Bohai Sea** Yu Xiong, Cai Li, Yongqiang Yao, Shaoxuan Li, and Lei Gao, CNOOC (China National Offshore Oil Corporation) Ltd. (INT. AUD.: 3)

Speaker: Yu Xiong

► Poster Station: C

Transferred to SPMNR 2: Asymmetric apertures for 3D SRME: Practical aspects and opportunities

Tuesday, 30 August 2022

BG P1 Advances in Borehole Geophysics and Geomechanics 2

Session Chairs: Francis Elisabeth and Kristoffer Walker

Location: Poster Station 4

Synopsis: Advances in borehole geophysics and geomechanics theory, processing methods, and interpretation workflows.

1:20 PM.....**Shortest-path multiple well-log correlation** Hector Corzo-Pola* and Sergey Fomel, The University of Texas at Austin (INT. AUD.: 2)

Speaker: Hector Corzo-Pola

► Poster Station: A

1:45 PM.....**Quantitative analysis of DAS recorded P-wave generated by perforation shots** Peiyao Li* and Ge Jin, Colorado School of Mines (INT. AUD.: 4)

Speaker: Peiyao Li

► Poster Station: B

Transferred to BG 3: ML-based deconvolution method for high resolution fast inversion of induction log data in deviated wells

Tuesday, 30 August 2022

CEMS P3 South Atlantic Margin and Analogs 2

Session Chairs: Imelda Johnson and Cody Miller

Location: Poster Station 5

Synopsis: This poster session features presentations on presalt and lacustrine systems of the South Atlantic margin.

1:20 PM.....**Salt deposition in ultra-deep brine settings by dynamic inflow and evaporation** Alexandros Konstantinou* and Garry Karner, ExxonMobil Upstream Integrated Solutions (INT. AUD.: 2)

Speaker: Alexandros Konstantinou

► Poster Station: A

1:45 PM.....**Using the Appalachian Superbasin as an analogue to the Permo-Carboniferous succession and petroleum-systems of the Barents Sea shelf** Gustavo Martins* and Frank R. Ettensohn, University of Kentucky; Stig-Morten Knutsen, Norwegian Petroleum Directorate (INT. AUD.: 2)

Speaker: Gustavo Martins

► Poster Station: B

2:10 PM.....**Applying unsupervised multi-attribute machine learning for 3D stratigraphic facies classification in a carbonate field, offshore Brazil** Gustavo Luan Cardoso, Alexandre Kolisnyk, Edgar Bronizeski, and Elita de Abreu, Petrobras; Carolan Laudon*, Geophysical Insights (INT. AUD.: 4)

Speaker: Carolan Laudon

► Poster Station: C

2:35 PM.....**Distinguishing and interpreting salt suture zones in the Jurassic Louann Salt: Mapping geochemical data in Southern Green Canyon, Gulf of Mexico, and the presence of REEs in the Louann** Julie Bloxson*, Brian Lesh, Rodrigo Velasquez, and Melinda Shaw Faulkner, Stephen F. Austin State University; Christine Piela Cox, BP Exploration and Production; and Matthew Hoffman, Chevron North America Exploration and Production (INT. AUD.: 5)

Speaker: Julie Bloxson

► Poster Station: D

Tuesday, 30 August 2022

CO2 P2 Monitoring Using Seismic Methods 1

Session Chairs: Erkan Ay and Abidin Caf

Location: Poster Station 6

Synopsis: Seismic algorithms, measurements, and various types of data for CO2 sequestration and plume body migration monitoring.

1:20 PM.....**Comparing DAS and geophone data and imaging for monitoring CO2 sequestration** Yong Ma* and Weichang Li, Aramco Americas (INT. AUD.: 3)

Speaker: Yong Ma

► Poster Station: A

1:45 PM.....**Detection threshold of a shallow CO2 plume with VSP data from the CaMI Field Research Station** Brendan J. Kolkman-Quinn* and Donald C. Lawton, University of Calgary (INT. AUD.: 3)

Speaker: Brendan Kolkman-Quinn

► Poster Station: B

2:10 PM.....**Time-lapse attenuation variations during CO2 injection using DAS VSP**

data from the CaMI Field Research Station, Alberta, Canada Yichuan Wang* and Donald C. Lawton, University of Calgary (INT. AUD.: 6)

Speaker: Yichuan Wang

► Poster Station: C

2:35 PM.....**Synthetic time-lapse FWI analysis for designing cross well seismic survey during CO₂ injection in a depleted oil field** Toru Taira*, Takuji Mouri, Ayato Kato, Yusaku Konishi, and Takashi Akai, Japan Oil, Gas and Metals National Corporation; Shotaro Nakayama, INPEX Corporation (INT. AUD.: 3)

Speaker: Toru Taira

► Poster Station: D

Tuesday, 30 August 2022

FWI P4 Methods 5

Session Chairs: Valeriy Brytik and Jianxiong Chen

Location: Poster Station 2

Synopsis: Novel techniques for full-waveform inversion.

1:20 PM.....**Nonlinear LS-RTM based on the seismic scale separation and full-wavefield multi-parameter FWI** Øystein Korsmo*, Yang Yang, Nizar Chemingui, Andrey Pankov, and Antonio Castiello, PGS (INT. AUD.: 4)

Speaker: Øystein Korsmo

► Poster Station: A

1:45 PM.....**Robust localized adaptive waveform inversion: A new regularization for Gabor deconvolution** Peng Yong*, Romain Brossier, and Ludovic Métivier, University Grenoble Alpes (INT. AUD.: 3)

Speaker: Peng Yong

► Poster Station: B

2:10 PM.....**Practical considerations for computing the kernels of reflection-based full-waveform inversion** Houzhu (James) Zhang* and Hong Liang, Aramco Americas; Hongwei Liu, Saudi Aramco (INT. AUD.: 3)

Speaker: Houzhu Zhang

► Poster Station: C

2:35 PM.....**An application of FWI with progressive transfer learning** Shirui Wang*, University of Houston; Jinjun Liu, Advanced Geophysical Technology Inc.; Yuchen Jin,

Xuqing Wu, and Jiefu Chen, University of Houston (INT. AUD.: 3)

Speaker: Shirui Wang

► Poster Station: D

Tuesday, 30 August 2022

GBMPS P1 Petroleum System Investigation in Frontier Settings

Session Chairs: Maram AlSaif and Anatoly Aseev

Location: Poster Station 7

Synopsis: Frontier basins are characterized by limited data with large uncertainties and often conflicting interpretations of petroleum system elements. Papers in this session cover applications of integrated data analyses approaches in frontier regions to identify the exploration potential in shallow and deep-water offshore environments in Africa, South America and a general-purpose petroleum system risking framework using bottom-simulating reflectors in offshore settings.

1:20 PM.....Shallow gas expression of the petroleum system offshore western

Poland — Pomeranian Bight Quang Nguyen* and Michal Malinowski, Institute of Geophysics PAS; Regina Kramarska and Dorota Kaulbarsz, Polish Geological Institute – National Research Institute; Christian Hubscher, Institute of Geophysics, University of Hamburg (INT. AUD.: 3)

Speaker: Quang Nguyen

► Poster Station: A

1:45 PM.....Lessons learned and applications of bottom-simulating

reflectors Karyna Rodriguez* and Neil Hodgson, Searcher (INT. AUD.: 3)

Speaker: Karyna Rodriguez

► Poster Station: B

2:10 PM.....Offshore Namibia: The sleeping giant deep-water hydrocarbon frontier has awakened Marcio Rocha Mello*, Brazil Petroleum Studies (BPS) (INT. AUD.: 5)

Speaker: Marcio Mello

► Poster Station: C

2:35 PM.....Multi-client seismic data reveal new unproven plays in the northern

Argentina's shallow area Kuitai Shi*, Haibo Liu, Qiang Li, Fanwei Meng, Jiahao Liang, Shijie Zheng, Mingchi Wei, Jingwei Xu, BGP Offshore (INT. AUD.: 4)

Speaker: Qiang Li

► Poster Station: D

Tuesday, 30 August 2022

INT P4 Advanced Seismic Interpretation and Characterization 3

Session Chairs: Chen Liang and Bo Zhang

Location: Poster Station 3

Synopsis: Advanced techniques in different basins geared toward accurate lithology prediction and fluid indicators.

1:20 PM.....Research of high-precision depth interpretation method for low-amplitude offshore reservoir and its application in C oilfield, Bohai Bay

Basin Wenbin Li *, Jianli Wang, Zhenglong Zhang, and Heng Zhang, CNOOC China Limited, Tianjin Branch (INT. AUD.: 3)

Speaker: Li Wenbin

► Poster Station: A

1:45 PM.....Lithofacies prediction of shale based on broadband spectral

inversion Hongmei Luo* and Yiran Xing, University of Tulsa; Changjiang Wang, Jingtao Zhang, and Peijie Yang. Exploration and Development Research Institute of Shengli Oilfield, SINOPEC (INT. AUD.: 3)

Speaker: Yiran Xing

► Poster Station: B

2:10 PM.....Research and application of amplitude attenuation gradient

hydrocarbon detection method without the influence of thickness Wang Yichuan, Sun Xijia, Ye Zhao, and Yong Pan, Tianjin Branch of CNOOC Ltd. (INT. AUD.: 4)

Speaker: Yichuan Wang

► Poster Station: C

2:35 PM.....WITHDRAWN: Research on reservoir prediction based on compressed sensing and inversion theory Qing Zhou*, Jianli Wang, Qian Yu, and Heng Zhang, Tianjin Branch of CNOOC Ltd. (INT. AUD.: 3)

Speaker: Qing Zhou

► Poster Station: D

Tuesday, 30 August 2022

MLDA P4 Seismic Processing 3

Session Chairs: Jun Cao and Ali Siahkoohi

Location: Poster Station 1

Synopsis: Deep learning for seismic signal enhancement and data interpolation.

1:20 PM.....**Self-supervised learning for seismic swell noise removal** Yuan Zi, Shirui Wang, Pengyu Yuan, Xuqing Wu, Jiefu Chen, and Zhu Han, University of Houston (INT. AUD.: 3)

Speaker: Yuan Zi

► Poster Station: A

1:45 PM.....**Equivariant imaging for self-supervised regularly undersampled seismic data interpolation** Weiwei Xu, Xi'an Jiaotong University; Vincenzo Lipari and Paolo Bestagini, Politecnico di Milano; Wenchao Chen, Xi'an Jiaotong University; and Stefano Tubaro, Politecnico di Milano (INT. AUD.: 3)

Speaker: Vincenzo Lipari

► Poster Station: B

2:10 PM.....**Enhancing the accuracy of DBSCAN's first arrival traveltime picking using super-virtual refraction interferometry** Muhammad Awais* and Sherif M. Hanafy, King Fahd University of Minerals and Petroleum (INT. AUD.: 3)

Speaker: Muhammad Awais

► Poster Station: C

2:35 PM.....**An integrated workflow of improving the accuracy of first arrivals picking via deep learning** Yitao Pu* and Bo Zhang, The University of Alabama; Chenglin Wei, Yingyu Xu, and Hongfei Liu, Bureau of Geophysical Prospecting (INT. AUD.: 5)

Speaker: Yitao Pu

► Poster Station: D

Tuesday, 30 August 2022

RC P2 Innovative Methods 2

Session Chairs: Francisco Bolivar and Miguel Bosch

Location: Poster Station 10

Synopsis: New approaches to reservoir characterization.

1:20 PM.....**Characterization of M area tight sandy conglomerate reservoir based on seismic waveform inversion and attribute fusion** Li Yuan*, Sun Xiaoping, Zhang Wei, Li Tao, Du Jingling, Ning Hongxiao, and Liu Wei, BGP CNPC; Li Jianing, Optical

Science and Technology (Chengdu) Ltd. (INT. AUD.: 3)

Speaker: Gang Yu

► Poster Station: A

1:45 PM.....**Study on fluid discrimination method based on prestack frequency-dispersion characteristics** Li'en Bian, Jun Ming, Yuxiu Wang, and Qian Yu, China National Offshore Oil Corporation (CNOOC) Ltd. (INT. AUD.: 3)

Speaker: Lien Bian

► Poster Station: B

2:10 PM.....**Reservoir prediction using graph regularized deep learning** Kaiheng Sang*, Nanying Lan, and Fanchang Zhang, China University of Petroleum (INT. AUD.: 4)

Speaker: Kaiheng Sang

► Poster Station: C

2:35 PM.....**WITHDRAWN: A method of relative impedance holography-inversion based on reflection coefficient inversion** Jiangfeng Zheng*, Jialin Sun, Zongyu Zhen, and Shaoxuan Li, CNOOC China Limited (INT. AUD.: 5)

Speaker: Jiangfeng Zheng

► Poster Station: D

Tuesday, 30 August 2022

SILIC P2 Shallow Marine Sedimentary Systems: The Link between the Land and the Deep Sea 2

Session Chairs: Bassam Alshammari and Yuqian Gan

Location: Poster Station 8

Synopsis: Shallow marine sedimentary processes and their deposits from conventional and unconventional standpoints. Advances in knowledge, facies models and forward stratigraphic modelling.

1:20 PM.....**Architecture and variability of Lower Wilcox sand prone slope deposits, South Central Texas** Mariana I. Olariu and Hongliu Zeng, The University of Texas at Austin (INT. AUD.: 4)

Speaker: Mariana Olariu

► Poster Station: A

1:45 PM.....**Net to gross changes defining compound clinoforms in outcrop — The**

Morne L'Enfer Formation, Trinidad Ariana Osman* and Ryan Ramsook, The University of the West Indies; and Ron Steel, The University of Texas at Austin (INT. AUD.: 2)

Speaker: Ariana Osman

► Poster Station: B

2:10 PM.....**Variability in river-dominated deltaic systems: Facies models and drivers based on the Late Cretaceous Panther Tongue Sandstone, Central Utah** Clayton Jacks* and Diane Kamola, The University of Kansas (INT. AUD.: 3)

Speaker: Clayton Jacks

► Poster Station: C

2:35 PM.....**The validity and usefulness of autostratigraphic length scale in interpreting geologic sections: An examination with diffusion-based forward stratigraphic modeling** Keigo Motomiya* and Kenya Ono, INPEX Corporation; Tetsuji Muto, Nagasaki University; Naoya Wada, Schlumberger Limited (INT. AUD.: 3)

Speaker: Keigo Motomiya

► Poster Station: D

Tuesday, 30 August 2022

UNCON P1 Basin and Play-Scale Characterization 2

Session Chairs: Justin Birdwell and Shane Prochnow

Location: Poster Station 9

Synopsis: This session focuses on play-based and regional-scale characterization of unconventional shales and tight reservoirs.

1:20 PM.....**Regional sequence stratigraphy and biostratigraphic correlations of the Upper Cretaceous Austin Chalk in south and central Texas: Insights into the evolution of the San Marcos Arch** Christine Griffith*, Texas A&M University; James Pospichal, BugWare; Eric de Kaenel, Kaenel Paleo-Research; Michael Pope and Arthur Donovan, Texas A&M University (INT. AUD.: 3)

Speaker: Christine Griffith

► Poster Station: A

1:45 PM.....**Organic geochemistry and visual kerogen analysis of the Woodford Formation in the Superior #1 Richburg well, Delaware Basin** Abdulmutalib Aminu*, Mohamed K. Zobaa, and Robert Trentham, The University of Texas Permian Basin; Edwin I. Egbobawaye, Kinder Morgan Inc. (INT. AUD.: 3)

Speaker: Abdulmutalib Aminu

► Poster Station: B

2:10 PM.....**Thermal extraction combined with pyrolysis to evaluate the unconventional play potential of an organic-rich shale interval** Ibrahim Alfraih, Ibrahim Atwah, Abdullah Alraddadi, and Harald Karg, Saudi Aramco (INT. AUD.: 3)

Speaker: Ibrahim Alfraih

► Poster Station: C

2:35 PM.....**WITHDRAWN: Petrographic characterization of microporosity in the organic-rich carbonate Hanifa Formation, Jafurah Basin, Saudi Arabia** Mohamed O. Abouelresh* and Mohamed Mahmoud, King Fahd University of Petroleum and Minerals (INT. AUD.: 6)

Speaker: Mohamed Abouelresh

► Poster Station: D

Tuesday, 30 August 2022

BG P2 Advances in Borehole Geophysics and Geomechanics 3

Session Chairs: Allan Reyes and Hanming Wang

Location: Poster Station 4

Synopsis: Advances in borehole geophysics and geomechanics theory, processing methods, and interpretation workflows.

3:40 PM.....**Wave scattering by the formation velocity perturbation surrounding a fluid-filled borehole** Zhou-tuo Wei, China University of Petroleum (East China) (INT. AUD.: 3)

Speaker: Zhoutuo Wei

► Poster Station: E

4:05 PM.....**Numerical simulation study on borehole time-domain electromagnetic forward-sighted and far-sighted methods of magnetoelectric mixed mode** Zhanshan Xiao*, Haitao Hu, Kun Shao, Chunming Yao, Junjie Yan, Caihuan Yuan, and Huiying Li, China National Logging Corporation (INT. AUD.: 4)

Speaker: Zhanshan Xiao

► Poster Station: F

Transferred to BG 3: Active gamma-ray well logging pattern localization with reinforcement learning

Tuesday, 30 August 2022

CO2 P3 Resource Characterization for Carbon Capture and Storage 1

Session Chairs: Jennifer Adams and Eleine Vence

Location: Poster Station 6

Synopsis: Geological analysis, rock physics, and model building for CO2 storage site evaluation and characterization.

3:40 PM.....**Developing a representative model for offshore CO2 storage in the Gulf of Mexico continental shelf** Lars W. Koehn*, Brian W. Romans, and Ryan M. Pollyea, Virginia Polytechnic Institute and State University (INT. AUD.: 2)

Speaker: Lars Koehn

► Poster Station: E

4:05 PM.....**Characterization of Utsira Formation around the Sleipner CO2 storage site, central North Sea** Khoirrashif Pratikna* and Md Jamilur Rahman, UiO; Nazmul Haque Mondol, UiO and NGI (INT. AUD.: 2)

Speaker: Khoirrashif Pratikna

► Poster Station: F

4:30 PM.....**Decarbonizing the Appalachian Basin: Resource characterization of saline storage for CONSOL's advanced pressurized fluidized bed combustion power plant with carbon capture** Brigitte Petras*, Joel Sminchak, Randall Hunt, Glenn Larson, Amy Lang, and Neeraj Gupta, Battelle Memorial Institute (INT. AUD.: 3)

Speaker: Brigitte Petras

► Poster Station: G

4:55 PM.....**Screening assessment of the Oriskany sandstone in northern West Virginia for hosting a commercial-scale CO2 injection site** Stuart Skopec*, Autumn Haagsma, Priya Ravi Ganesh, Mark Kelley, Amber Conner, and Sanjay Mawalkar, Battelle Memorial Institute (INT. AUD.: 3)

Speaker: Stuart Skopec

► Poster Station: H

Tuesday, 30 August 2022

DAS P1 Near-Surface Applications

Session Chairs: Julia Correa and Eileen Martin

Location: Poster Station 5

Synopsis: Near-surface monitoring and applications using DAS measurements.

3:40 PM.....**Measuring seasonal velocity variations on an urban DAS array** Jihyun

Yang and Jeffrey Shragge, Colorado School of Mines (INT. AUD.: 3)

Speaker: Jihyun Yang

► Poster Station: E

4:05 PM.....**DAS dispersion image analysis for landslide monitoring** Steve Cole*,

Paul Clarkson, Martin Karrenbach, and Victor Yartsev, OptaSense (INT. AUD.: 3)

Speaker: Steve Cole

► Poster Station: F

4:30 PM.....**Evaluating HD weathering surveys and surface seismic with DAS in a**

sand dune environment Andrey Bakulin and Ezzedeem Alfataierge*, Saudi Aramco;

Roman Pevzner, Curtin University (INT. AUD.: 3)

Speaker: Ezzedeem Alfataierge

► Poster Station: G

4:55 PM.....**Detection of shallow sedimentary structure of Yigong Lake in Tibetan**

Plateau using distributed acoustic sensing Jian Zhou* and Jizhong Yang, Tongji

University; Heng Zhang, Chinese Academy of Sciences (INT. AUD.: 3)

Speaker: Jian Zhou

► Poster Station: H

Tuesday, 30 August 2022

FWI P5 Applications 4

Session Chairs: Julio Frigerio and Zeyu Zhao

Location: Poster Station 2

Synopsis: Applications of full-waveform inversion to field datasets.

3:40 PM.....**Unlocking subsurface complexity: Sparse ocean-bottom node and full-**

waveform inversion for northern Green Canyon, Gulf of Mexico Kate Glaccum*,

Denes Vigh, Yao Yu, Eray Kocel, Bing Bai, Di Chen, Hongyan Li, and Kevin Lyons,

Schlumberger (INT. AUD.: 4)

Speaker: Kate Glaccum

► Poster Station: E

4:05 PM.....**A case study using FWI to image pre-Messinian target in the East Mediterranean Sea** Jyoti Kumar*, Marcus Bell, Tamer Darwish, Mai Ahmed, Mahmoud Ahmed, and Moataz Ahmed, PGS (INT. AUD.: 3)

Speaker: Jyoti Kumar

► Poster Station: F

4:30 PM.....**Application of full-waveform inversion to ultra-high-density OBN data at Clair field** Simon Luo*, Xukai Shen, Philip Tillotson, Lindsey Smith, and Dan Davies, BP (INT. AUD.: 3)

Speaker: Simon Luo

► Poster Station: G

4:55 PM.....**Sensitivity analysis of acoustic waveform inversion to velocity anomalies in the near-surface using the Fréchet derivative** Ao Cai* and Colin A. Zelt, Rice University (INT. AUD.: 3)

Speaker: Ao Cai

► Poster Station: H

Tuesday, 30 August 2022

GBMPS P2 Techniques for Geochemical Reservoir Characterization

Session Chairs: Daniella Easley and Tongwei Zhang

Location: Poster Station 7

Synopsis: This session presents novel geochemical techniques applied to reservoir fluids (oils, formation water) to constrain oil-water contacts, aid field development, and assess relationship between paleo-sterilization and water washing. A global compilation of reservoir temperatures is also presented from large hydrocarbon fields as an empirical guide, interpreting the underlying geological factors for the occurrence of the “golden zone” and for exploration risking.

3:40 PM.....**Use of aromatic compounds in formation water as indicators for proximity to pay and oil water contacts** Mohammed Abu Alreesh*, Ibrahim Atwah, Khaled Arouri, and Khaled Mahmoud, Saudi Arabian Oil Company (INT. AUD.: 4)

Speaker: Mohammed Abu Alreesh

► Poster Station: E

4:05 PM.....**Applications of biomarkers acids and compound specific isotope analysis of biomarkers (CSIA-B): Overlooked methods to assist in oilfield development and exploration** J. M. (Mike) Moldowan, Biomarker Technologies, Inc.;

and Jeremy E. Dahl, Stanford University (INT. AUD.: 3)

Speaker: Mike Moldowan

► Poster Station: F

4:30 PM.....**The "Golden Zone" temperature distribution of petroleum examined using a global empirical database** Paul H. Nadeau, Retired; Shaoqing Sun, C&C

Reservoirs; and Stephen N. Ehrenberg*, Retired (INT. AUD.: 3)

Speaker: Stephen Ehrenberg

► Poster Station: G

4:55 PM.....**Applied method to investigate the relationship between palaeo-sterilization and water washing in Middle East inverted basins** Assad Ghazwani*, Khaled Arouri, Ammar Balilah, Ali Alabdrabalnabi, and Rainer Schmidt, Saudi Aramco (INT. AUD.: 4)

Speaker: Assad Ghazwani

► Poster Station: H

Tuesday, 30 August 2022

INT P5 Seismic Attributes Applications to Geological Interpretations 2

Session Chairs: Adamu Suleiman and Rui Zhang

Location: Poster Station 3

Synopsis: A focus on applying seismic attributes to improve the interpretation of geological features and reservoir characterization.

3:40 PM.....**A new way to enhance the resolution of surface seismic data** Qian Yu*, Qing Zhou, Jianguo Ma, Tao Yan, and Lien Bian, Tianjin Branch of CNOOC Ltd. (INT. AUD.: 3)

Speaker: Qian Yu

► Poster Station: E

4:05 PM.....**A method to identify subtle carbonate reservoirs** Shaoying Chang and Mengxiu Wang, Petrochina Hangzhou Research Institute of Geology; Kaiyuan Ji*, The University of Tulsa (INT. AUD.: 2)

Speaker: Kaiyuan Ji

► Poster Station: F

4:30 PM.....**Predicting horizons for salt body models using machine learning from neighboring seismic surveys: A case study from the northern Gulf of**

Mexico Andrew Reisdorf*, Dan Ferdinand Fernandez, Hugo Enrique Munoz Cuenca, Ryan King, David Manzano, and Gavin Menzel-Jones, Schlumberger (INT. AUD.: 3)
Speaker: Andrew Reisdorf

► Poster Station: G

4:55 PM.....**WITHDRAWN: Application of seismic spectral bluenening based on generalized S transform in high quality reservoir prediction in gas cloud**

area Pengzhi Zhang, Lei Liu, Zhiheng Jiang, and Zhenglong Zhang. China National Offshore Oil Corporation (CNOOC) Ltd. (INT. AUD.: 3)

Speaker: Pengzhi Zhang

► Poster Station: H

Tuesday, 30 August 2022

MLDA P5 Velocity Model Building and Full-Waveform Inversion 2

Session Chairs: Shihang Feng and Yanhua Liu

Location: Poster Station 1

Synopsis: Deep learning for full-waveform inversion, redatuming, and wave-propagation modeling.

3:40 PM.....**Marchenko focusing using convolutional neural networks** Mert S. R. Kiraz* and Roel Snieder, Colorado School of Mines (INT. AUD.: 3)

Speaker: Mert Sinan Recep Kiraz

► Poster Station: E

4:05 PM.....**Automated hyper-parameter optimization for deep learning framework to simulate boundary conditions for wave propagation** Harpreet Kaur*, Sergey Fomel, and Nam Pham, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Nam Pham

► Poster Station: F

4:30 PM.....**Deep learning Laplace-Fourier full-waveform inversion with virtual supershot gathers** Lei Fu*, Aramco Americas; Daniele Colombo, Saudi Aramco; Weichang Li, Aramco Americas; Ernesto Sandoval-Curiel and Ersan Turkoglu, Saudi Aramco (INT. AUD.: 3)

Speaker: Lei Fu

► Poster Station: G

4:55 PM.....**DL-fused elastic FWI: Application to marine streamer data** Pavel

Plotnitskii and Oleg Ovcharenko, King Abdullah University of Science and Technology; Vladimir Kazei, Aramco Americas; Daniel Peter and Tariq Alkhalifah, King Abdullah University of Science and Technology (INT. AUD.: 5)

Speaker: Pavel Plotnitskii

► Poster Station: H

Tuesday, 30 August 2022

SILIC P3 Integrated Reservoir Characterization: From Grains to Giant Fields and Paleoenvironments and Source to Sink: Integrating the Past and Present to Inform the Future

Session Chairs: Anshuman Pradhan and Eugene Szymanski

Location: Poster Station 8

Synopsis: Characterization of reservoirs at grain-to-grain scale to the utilization of outcrop analogs to inform about the subsurface, with focus on petrographic and sedimentologic controls and application of technology.

3:40 PM.....Insights into the presence, distribution, thickness, and duration of the CTBE, due to erosion by an Early Turonian sequence boundary across Texas A.D.

Donovan*, B. V. Miller, M. C. Pope, and A. Pramudito, Texas A&M (INT. AUD.: 3)

Speaker: Arthur Donovan

► Poster Station: E

4:05 PM.....Sediment provenance in the Sureste Basin through integration of 2D and 3D seismic data

Karyna Rodriguez* and Neil Hodgson, Searcher (INT. AUD.: 3)

Speaker: Karyna Rodriguez

► Poster Station: F

4:30 PM.....Development of multi-modal/multi-dimensional image registration tools

Mohamed Sarhan*, Lori A. Hathon, and Michael Myers, University of Houston; Alon Arad, Automated Analytics LLC (INT. AUD.: 3)

Speaker: Mohamed Sarhan

► Poster Station: G

4:55 PM.....Milankovitch paleoclimatic, tectonic, and sedimentary signals in late Permian-Early Triassic fluvial-lacustrine records, Bogda Mountains, NW

China Wentao Zhang* and Wan Yang, Missouri University of Science and Technology (INT. AUD.: 3)

Speaker: Wentao Zhang

► Poster Station: H

Tuesday, 30 August 2022

SM P1 Complex/Porous Media

Session Chairs: Harpreet Sethi and Zedong Wu

Location: Poster Station 10

Synopsis: This session is focused on complex situations in modeling and especially dealing with porous media.

3:40 PM.....Modeling frequency attenuation due to gas in sandstone and carbonate gas reservoirs Saleh Almeshari, Saudi Aramco (INT. AUD.: 3)

Speaker: Saleh Almeshari

► Poster Station: E

4:05 PM.....Poro-acoustoelasticity FD simulation of elastic wave propagation in prestressed porous media Haidi Yang* and Li-yun Fu, China University of Petroleum (East China) (INT. AUD.: 3)

Speaker: Haidi Yang

► Poster Station: F

4:30 PM.....A finite-element method to compute the seismic response in non-isothermal poroelastic media Juan E. Santos and Gabriela B. Savioli, University of Buenos Aires; José M. Carcione and Jing Ba, Hohai University (INT. AUD.: 4)

Speaker: Jing Ba

► Poster Station: G

4:55 PM.....A nodal discontinuous Galerkin method for wave propagation in coupled fluid-solid media Ruiqi Li* and Yijie Zhang, Xi'an Jiaotong University (INT. AUD.: 3)

Speaker: RuiQi Li

► Poster Station: H

Tuesday, 30 August 2022

UNCON P2 Shale and Tight Reservoir Characterization 2

Session Chairs: Mohammad Mohanna and Robert Nail

Location: Poster Station 9

Synopsis: This session focuses on integrated characterization of shales and tight sand reservoirs for development purposes.

3:40 PM.....Quantitative studies of distribution and phase of shale oils in nanoscale pore space for the Qingshankou Formation in Songliao Basin of China Longhui Bai* and Bo Liu, Northeast Petroleum University; Qinhong Hu, Qiming Wang, and Tao Zhang, The University of Texas at Arlington (INT. AUD.: 5)

Speaker: Longhui Bai

► Poster Station: E

4:05 PM.....An enhanced method for gas evaluation by pulsed neutron logging technology in tight reservoirs Bing Xie* and Jilin Fan, China University of Petroleum(East China); Feng Zhang, Chinese University of Petroleum (East China) and Pilot National Laboratory for Marine Science and Technology (INT. AUD.: 3)

Speaker: Xie Bing

► Poster Station: F

4:30 PM.....A full-scale characterization method of spatial pore network in the tight sandstone reservoir Zhuochen Zhan*, Missouri University of Science and Technology; and Xiao Li, Sinopec Geophysical Research Institute (INT. AUD.: 4)

Speaker: Zhuochen Zhan

► Poster Station: G

4:55 PM.....WITHDRAWN: Study on reservoir development characteristics and its hydrocarbon accumulation models of crystalline bedrock weathering crust in the Dongying Sag, Bohai Bay Basin, northeast China Maolin Zhu and Zhen Liu, China University of Petroleum (INT. AUD.: 6)

Speaker: Maolin Zhu

► Poster Station: H

Wednesday, 31 August 2022

DAS P2 Acquisition and Calibration

Session Chairs: Ezzedein Alfataierge and Frantisek Stanek

Location: Poster Station 5

Synopsis: DAS data acquisition and calibration with geophone measurements.

10:20 AM.....Verification of dynamic strain field measurements made with DAS during active-source vibration by quantitative comparison to geophones Peter G.

Hubbard*, University of California, Berkeley; Joseph Vantassel, University of Texas at Austin; Brady R. Cox, Utah State University; James W. Rector, University of California, Berkeley; Michael Yust, University of Texas at Austin; and Kenichi Soga, University of California, Berkeley (INT. AUD.: 5)

Speaker: Peter Hubbard

► Poster Station: A

10:45 AM.....**Estimation of helical fiber pitch angle and trace spacing from co-located DAS, accelerometer, and geophone datasets** Kevin W. Hall*, University of Calgary; Don C. Lawton, University of Calgary and Carbon Management Canada; Kristopher A. Innanen, University of Calgary (INT. AUD.: 3)

Speaker: Kevin Hall

► Poster Station: B

11:10 AM.....**Quantitative comparison of active and passive surface wave data obtained from distributed acoustic sensing (DAS) and three-component geophones** Koichi Hayashi, Geometrics/OYO Corporation; Hayato Nonaka, Kajima Corporation; Peter Hubbard, University of California Berkeley; Yasuhiro Yokota, Kensuke Date, and Kazuhiko Masumoto, Kajima Corporation; Taka'aki Taira and Kenichi Soga, University of California Berkeley (INT. AUD.: 3)

Speaker: Koichi Hayashi

► Poster Station: C

11:35 AM.....**Distributed acoustic sensing of long subsea tie-backs** Glenn A. Wilson*, Halliburton; Brian C. Seabrook ExxonMobil Upstream Research Company; Sigurd Moe, TechnipFMC; Kwang Suh, Mikko Jaaskelainen, Andreas Ellmauthaler, and Jeff Bush, Halliburton; James Dupree, TechnipFMC (INT. AUD.: 3)

Speaker: Glenn Wilson

► Poster Station: D

Wednesday, 31 August 2022

FWI P6 Applications 6

Session Chairs: Zhaolun Liu and Mehmet Tanis

Location: Poster Station 2

Synopsis: Applications of full-waveform inversion to field datasets.

10:20 AM.....**Envelope full-waveform inversion of marine seismic data** Kai Xiong* and David Lumley, University of Texas at Dallas; Wei Zhou, University of Texas at

Dallas and Université Grenoble Alpes (INT. AUD.: 3)

Speaker: Kai Xiong

► Poster Station: A

10:45 AM.....**Analysis of the impact of demigration on traveltime-based reflection full waveform inversion** Hong Liang* and Houzhu (James) Zhang, Aramco Americas; Hongwei Liu, Saudi Aramco (INT. AUD.: 3)

Speaker: Hong Liang

► Poster Station: B

11:10 AM.....**Acoustic full-waveform inversion with acoustic and elastic data using a hybrid optimization method** Zeyu Zhao* and Mrinal K. Sen, University of Texas at Austin; Mohamed Doliazal and Paul Williamson, TotalEnergies E&P (INT. AUD.: 3)

Speaker: Zeyu Zhao

► Poster Station: C

11:35 AM.....**Addressing the complex near-surface challenges in the Delaware basin through recent FWI advancements** Ali Mohamed*, Dmitry Kulakov, Daniel Suren, Wilfrid Milan, Larry Holifield, and Vasudhaven Sudhakar, Schlumberger (INT. AUD.: 3)

Speaker: Ali Ahmed Mohamed

► Poster Station: D

Wednesday, 31 August 2022

INT P6 Machine Learning Applications to Seismic Interpretation 2

Session Chairs: Ayodeji Babalola and Boming Wu

Location: Poster Station 3

Synopsis: Advanced technologies in applying deep and machine-learning algorithms to automate seismic interpretation processes.

10:20 AM.....**Seismic random noise attenuation via enhanced similarity self-supervised learning** Jiale Wang and Naihao Liu*, Xi'an Jiaotong University; Yihuai Lou, Zhejiang University; Jinghuai Gao, Xi'an Jiaotong University (INT. AUD.: 3)

Speaker: Naihao Liu

► Poster Station: A

10:45 AM.....**A step towards the automatization of predictive geological mapping** Rafael Pires de Lima*, Marcos Ferreira, and Iago Costa, Geological Survey of

Brazil (INT. AUD.: 3)

Speaker: Rafael Pires de Lima

► Poster Station: B

11:10 AM.....**Geology-geophysics-data mining solution enhances the identification of deep fault-karst carbonate reservoirs** Fei Tian, Jiangyun Zhang, Wenxiu Zhang, Wenhao Zheng, Wang Zhang, and Zhongxing Wang, Chinese Academy of Sciences, Innovation Academy for Earth Science, and University of Chinese Academy of Sciences (INT. AUD.: 5)

Speaker: Fei Tian

► Poster Station: C

Transferred to INT 7: Seismic sparse time-frequency representation via GAN-based unsupervised learning

Wednesday, 31 August 2022

MLDA P6 Novel Applications 2

Session Chairs: Atish Roy and Sam Zamanian

Location: Poster Station 1

Synopsis: A variety of unique machine-learning applications in geoscience.

10:20 AM.....**Automatic detection of SEG-Y sampling format errors using machine learning** Sahana Vinayak*, Ray Abma, and Sergey Fomel, The University of Texas at Austin (INT. AUD.: 3)

Speaker: Sahana Vinayak

► Poster Station: A

10:45 AM.....**A hybrid data-driven approach for shale gas production performance analysis via machine learning, game theory, and Pareto optimization: Weirong shale gas field, Sichuan Basin, China** Tianrui Ye*, Jin Meng, Yujie Zhou, Meng Han, and Yitian Xiao, Sinopec Petroleum Exploration and Production Research Institute; Yong Zhao, Haitao Cao, Chunyan He, and Bin Hu, Sinopec Southwest Petroleum Bureau Exploration and Production Research Institute (INT. AUD.: 3)

Speaker: Yitian Xiao

► Poster Station: B

11:10 AM.....**NLP applications in the oil and natural gas industry** Prashanth Pillai, Srikanth Ryali, Hiren Maniar, Purnaprajna Mangsuli, and Aria Abubakar, Schlumberger (INT. AUD.: 4)

Speaker: Prashanth Pillai

► Poster Station: C

11:35 AM.....**Automatic microseismic event detection in downhole DAS data through convolutional neural networks: A comparison of events during and post-stimulation of the well** Paige Given*, Fantine Huot, Ariel Lellouch, Bin Luo, Robert G. Clapp, and Biondo L. Biondi, Stanford University; Tamas Nemeth and Kurt Nihei, Chevron Technical Center (INT. AUD.: 3)

Speaker: Paige Given

► Poster Station: D

Wednesday, 31 August 2022

NEF P1 Critical Minerals, Geothermal, and CBM

Session Chairs: Justin Birdwell and Bhuvaneswari Sankaranarayanan

Location: Poster Station 4

Synopsis: This session includes presentations on a wide range of subjects including development of new potential resources and new work on established resources.

10:20 AM.....**Preliminary review of rare earth element (REE) contents of coal of the Southern Appalachian Basin** Ibrahim Okunlola* and Rona Donahoe, University of Alabama (INT. AUD.: 3)

Speaker: Ibrahim Okunlola

► Poster Station: A

10:45 AM.....**Seismic-attribute-assisted delineation of structural complexities of potential geothermal reservoirs in the SW-Netherlands** Tania Babu*, The University of Texas Permian Basin; Thang Ha, The University of Oklahoma; Vishnu Pandey, The University of Texas Permian Basin; Shuvajit Bhattacharya, The University of Texas at Austin; and Sumit Verma, The University of Texas Permian Basin (INT. AUD.: 1)

Speaker: Tania Babu

► Poster Station: B

11:10 AM.....**Prediction of coalbed methane reservoir brittleness index driven by rock physics model** Lei Yan and Yaping Huang*, China University of Mining and Technology; Yu Dai, Zijin Mining Group Company Limited (INT. AUD.: 3)

Speaker: Yaping Huang

► Poster Station: C

11:35 AM.....**Integrated subsurface characterization of a low-temperature geothermal test site, Gulf Coast, Texas** Shuvajit Bhattacharya*, Ken Wisian, and Alexandros Savvaidis, The University of Texas at Austin; Mike Eros, Sage Geosystems (INT. AUD.: 3)

Speaker: Shuvajit Bhattacharya

► Poster Station: D

Wednesday, 31 August 2022

SM P2 Innovative Concepts and Viscoelasticity

Session Chairs: Abdullah Alali and Harpreet Sethi

Location: Poster Station 10

Synopsis: This session is devoted to innovative concepts in modeling.

10:20 AM.....**Finite-difference modeling of marine vibrator sources** Khalid Almuteri*, Jeffrey Shragge, and Paul Sava, Colorado School of Mines (INT. AUD.: 2)
Speaker: Khalid Almuteri

► Poster Station: A

10:45 AM.....**The calculation of first-arrival P-wave traveltime for attenuating TTI media** Mengxiu Wang, The University of Tulsa and PetroChina Hangzhou Research Institute of Geology; Jingyi Chen, Zhengcong Zhao, and Kaiyuan Ji*, The University of Tulsa; Shaoying Chang, PetroChina Hangzhou Research Institute of Geology (INT. AUD.: 1)

Speaker: Kaiyuan Ji

► Poster Station: B

11:10 AM.....**On the absorbing boundaries to replicate semi infinite half-space in numerical seismic analyses using the finite element method** Hebert T. R.*, Bryce J. M., and Chattopadhyay A. P., Marshall University (INT. AUD.: 3)

Speaker: Tyler Hebert

► Poster Station: C

11:35 AM.....**GPU-based 3D anisotropic elastic modeling using mimetic finite differences** Harpreet Singh, Jeffrey Shragge, and Ilya Tsvankin, Colorado School of Mines; Fatmir Hoxha, NVIDIA Corporation (INT. AUD.: 3)

Speaker: Harpreet Sethi

► Poster Station: D

Wednesday, 31 August 2022

STGM P1 Structure, Tectonics, and Geomechanics

Session Chairs: Mohammad Almarhoon and Alissa Henza

Location: Poster Station 6

Synopsis: Structural characterization from the wellbore to the regional scale: improved prediction and understanding across a range of settings and basins.

10:20 AM.....**Structures of the outer trough in Atwater Valley and Lloyd Ridge, eastern Gulf of Mexico** Vernon Moore*, Sara Donnelly, Tim Grow, and Benn Hansen, Hess Corporation (INT. AUD.: 4)

Speaker: Vernon Moore

► Poster Station: A

10:45 AM.....**A novel deep learning-assisted reservoir fracture delineation with conditional generative adversarial networks** Ardiansyah Koeshidayatullah*, King Fahd University of Petroleum and Minerals; and Ivan Ferreira, Universidad Nacional de Colombia (INT. AUD.: 2)

Speaker: Ardiansyah Koeshidayatullah

► Poster Station: B

11:10 AM.....**Reducing fault and seal uncertainty through restoration and forward geomechanical modeling in a compressional regime in the Arabian Plate** Ahmed AlHawaj* and Yaser AlZayer, Saudi Aramco (INT. AUD.: 3)

Speaker: Ahmed Alhawaj

► Poster Station: C

Transferred to STGM 4: Characterization and modeling of fault zone fracture swarms and image log fracture interpretations

Wednesday, 31 August 2022

SVE P1 Model Building in Complex Geology

Session Chairs: Esteban Diaz and Xiang Li

Location: Poster Station 7

Synopsis: Solutions for VMB challenges in the presence of complex near surface and overburden. They vary from special acquisitions to new developments in tomography, together with specialized imaging workflows.

10:20 AM.....**Volume-constrain first arrival tomography based near-surface modeling and its application** Wang Naijian*, Yan Zhihui, Ma Qingpo, Wu Wei, Zu Yunfei, and Hu Yonggui, BGP, CNPC (INT. AUD.: 5)

Speaker: Dong Wang

► Poster Station: A

10:45 AM.....**First-arrival traveltime and slope tomography in tilted anisotropic media with undulant topography** Xiaole Zhou*, Chinese Academy of Sciences; Serge Sambolian, Geoazur-CNRS-IRD-UNS-OCA and Université Grenoble Alpes; Gaoshan Guo and Stephane Operto, Geoazur-CNRS-IRD-UNS-OCA; Haiqiang Lan and Ling Chen, Chinese Academy of Sciences (INT. AUD.: 3)

Speaker: Xiaole Zhou

► Poster Station: B

11:10 AM.....**Low frequency data reconstruction for full-waveform inversion** Ramzi Djebbi*, Maiza Bekara, Jaime Ramos-Martinez, and Nizar Chemingui, PGS (INT. AUD.: 3)

Speaker: Ramzi Djebbi

► Poster Station: C

11:35 AM.....**Imaging two-dimensional transition zone seismic data in geologically complex areas using a highly heterogeneous data acquisition configuration** Hussain I. Hammad* and Valmore Celis Franco, Saudi Aramco (INT. AUD.: 2)

Speaker: Hussain Hammad

► Poster Station: D

Wednesday, 31 August 2022

UNCON P3 Applied Geophysics, Geomechanics, and Petrophysics for Shale and Tight Reservoirs 2

Session Chairs: Abdulmohsen Alali and Sochi Iwuoha

Location: Poster Station 9

Synopsis: This session focuses on applied studies in geophysics, geomechanics, and petrophysics for unconventional.

10:20 AM.....**Seismic prediction technology for shale gas “double sweet spots”: A case study of the Ordovician Ulalik Formation in the western margin of the Ordos Basin, China** Yutan Dou*, Fei Li, Guanghong Du, and Mengbo Zhang, PetroChina (INT.

AUD.: 4)

Speaker: Yutan Dou

► Poster Station: A

10:45 AM.....**Using drilling data to characterize reservoirs** Kevin Wutherich*, Jason Glascock, Bill Katon, and Brian Sinosis, Drill2Frac (INT. AUD.: 3)

Speaker: Kevin Wutherich

► Poster Station: B

11:10 AM.....**Dielectric response interpretation of shale rocks with low cation exchange capacity** Jose A. Benavides Arancibia, University of Houston (INT. AUD.: 3)

Speaker: Jose Benavides Arancibia

► Poster Station: C

Transferred to UNCON 3: Permian glacial paleo-valley identification and characterization using geometrical attributes and 2D forward modelling

Wednesday, 31 August 2022

VSP P1 Practical Applications of Borehole Seismic Technologies

Session Chairs: Joel Le Calvez and Michel Verliac

Location: Poster Station 8

Synopsis: This session will focus on practical applications of borehole seismic technologies.

10:20 AM.....**The importance of viscoelastic waveform inversion in VSP: Synthetic studies** Yu Chen, Shujaat Ali, Takashi Mizuno, Pierre Bettinelli, and Joël Le Calvez, Schlumberger (INT. AUD.: 3)

Speaker: Yu Chen

► Poster Station: A

10:45 AM.....**Anisotropic properties in the sedimentary and granite rocks at the Utah FORGE geothermal site revealed by shear-wave splitting of 3-component borehole microseismic data** Yingping Li*, BlueSkyDas LLC and University of Houston; David Li and Lianjie Huang, Los Alamos National Laboratory; Yingcai Zheng, University of Houston; Philip Wannamaker and Joseph Moore, University of Utah (INT. AUD.: 2)

Speaker: Yingping Li

► Poster Station: B

11:10 AM.....**Characterizing seismic anisotropy and AVO using walkaway VSP:**

Willow oilfield, Alaska Manish Lal Khaitan*, Ali Sayed, and Shujaat Ali, Schlumberger; Trey Wagner, Jonathan Scorer, and Brett Wendt, ConocoPhillips (INT. AUD.: 3)

Speaker: Ali Sayed

► Poster Station: C

11:35 AM.....**Portable airgun tank for land VSP applications** Alejandro Martinez, Jorge Castillo, Helmut Gmach, Rafael Barcelos, Jose Sales, and Ramiro Santivanez, Schlumberger (INT. AUD.: 3)

Speaker: Alejandro Martinez

► Poster Station: D