



2019 Applied Geoscience Conference

March 5-6, 2019

Oral Presentations – Tuesday, March 5, 2019

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| 7:00 | Registration and Coffee | |
| 8:30 am - 10:30 am | Short Course- Analytics: How to Trigger Enlightenment and Avoid Hype | Andrew Silver , <i>Adret LLC</i> |
| Session 1: Automation - Reliability and Productivity Chairs: Steve Geetan and Sachin Ghorpade | | |
| 10:30 am - 11:00 am | Coffee Break, Posters | |
| 11:00 am - 11:30 am | Automated Geosteering using a Bayesian Network | Hugh Winkler , <i>Factor Technology</i> |
| 11:30 am-12:00 pm | Combined Automation of Geologic Log Correlation and Directional Drilling | Bill Chmela , <i>Helmrick & Payne Technologies</i> |
| 12:00 pm - 1:00 pm | Lunch, Posters | |
| 1:00 pm - 1:30 pm | Transforming Well Path Planning: You Can Plan the Most Productive Well and Drill it, too | David Cotrell , <i>Baker Hughes, a GE company</i> |
| 1:30 pm - 2:00 pm | Automated Log Editing Using Machine Learning | Fred Jensen , <i>CGG</i> |
| 2:00 pm - 2:30 pm | Coffee Break, Posters | |
| Session 2: Leveraging Cloud and Machine Learning to Transform How Geoscientists Work Data Chairs: Barbara Hill and Ana Ramirez | | |
| 2:30 pm - 3:00 pm | Transforming Seismic and Geoscience Data Workflows Utilizing Cloud and Machine Learning Technology | John Adamick , <i>Staurolite Consulting, LLC.</i> |
| 3:00 pm - 3:30 pm | Using Multi-Attribute Seismic Neural Analysis from Interpretation Through Reservoir Estimation – A Full-Cycle Workflow | Deborah K. Sacrey , <i>Auburn Energy</i> |
| 3:30 pm - 4:00 pm | Bootstrapping Lithology Classification | Tobias Hoeink , Marco van der Linden, Wendy Yang; <i>Baker Hughes, a GE company</i> |
| 4:00 pm - 4:30 pm | Machine-Learned Mapping of Basin-wide Salt: Old Data – New Methods | Scott Morris , Tony Dupont, John Grace; <i>Earth Science Associates</i> |
| 4:30 pm - 7:00 pm | Networking Reception | |

Poster Session

Invited Presentations from Graduate Students

Open during Coffee and Lunch Breaks



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Oral Presentations – Wednesday, March 6, 2019

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| 7:00 | Registration and Coffee | |
| | Session 3: Digital Transformation of the Geosciences – Hype or Hope Chairs: Lisa Neelen and Mark Herkommer | |
| 8:00 am - 9:00 am | Key Note How We Get From Bytes to Barrels in the Delaware Basin | David O'Brien, Anadarko |
| 9:00 am - 9:30 am | Evolution of Drilling Data and Geological Data Utilization in Drilling Optimization | Ernest Onyia, GPRESS Energy, LLC |
| 9:30 am - 10:00 am | (Artificially) Intelligent Methods to Maximize Value from Piston Core Geochemistry: An Example from Offshore Nigeria | Benjamin Kirkland, Fieldwood Energy, LLC |
| 10:00 am - 10:30 am | Coffee Break, Posters | |
| 10:30 am - 11:00 am | Spatial Seismic Waveform Analysis using Enhanced Similarity Algorithm | Daniel De Lilla, Anadarko, Olga Brusova |
| 11:00 am - 11:30 am | Generative Adversarial Networks in Seismic Data Processing | Stephen Alwon, Schlumberger |
| 11:30 am - 12:30 pm | Lunch, Posters | |
| | Session 4: Machine Learning and Data Analytics in Exploration and Production Chairs: John Adamick and Jessica Raines | |
| 12:30 pm - 1:00 pm | Identifying New Drilling Areas in Midland Basin Integrating Geological Mapping, Predictive Analytics and GIS Technology | Camilo Rodriguez, IHS Markit |
| 1:00 pm - 1:30 pm | The Use of Machine Learning to Enhance Faults and Fractures Detection in Seismic Data | Hesham Refayee, dGB Earth Sciences |
| 1:30 pm - 2:00pm | Machine Learning-Based Approach to Assistive Well Log Correlation | Seth Brazell, Anadarko |
| 2:00 pm - 2:30 pm | Coffee Break, Posters | |
| 2:30 pm - 2:45 pm | Poster Session Awards | |
| 2:45 pm - 3:15 pm | Applying Artificial Intelligence to Seismic Data for Enhanced Earth Modeling | Richard Koseluk, Quantico Energy Solutions |
| 3:15 pm - 3:45 pm | Digital Transformation and Deep Learning in E&P | Bode Omoboya, Bluware |
| 3:45 pm - 4:15 pm | Using Machine Learning for Fault Detection in Unconventional Reservoir Development | Cody Comiskey, Anadarko (AAEP) |



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Posters – March 5–6, 2019

Poster Session Chair: Mike Effler

| University | Student Name | Poster Topic |
|---------------------------------------|-----------------------------|---|
| Colorado School of Mines | Deep Joshi | Applying Petroleum Industry Heritage to Characterize Water-Ice on Moon |
| Stanford University | Anshuman Pradhan | Creating Large Volumes of Labeled Training Data for Geophysical Estimation with Machine Learning: A Bayesian Approach |
| Texas A&M University | See Yoon Lee | Hierarchical Bayesian Modeling: Application Towards Production Results in the Eagle Ford Shale of South Texas |
| Texas A&M University | Cuiting Qi | The Application of Discriminant Analysis in Well Logging Evaluation of Low Permeability Reservoirs in Block Zhuang 62-66 of Wuhaozhuang Oilfield, Jiyang Depression |
| The University of Alabama | Hao Wu | From Learning Noise to Denoise Using Deep Convolution Neural Network: An Application of Seismic Noise Attenuation |
| The University of Oklahoma | Rafael Pires de Lima | Convolutional Neural Networks: If They Can Identify an Oncoming Car, Can They Identify Lithofacies in Core |
| The University of Oklahoma | Saurabh Sinha | Statistical Controls on Induced Seismicity |
| The University of Oklahoma | Jing Zhang | Azimuthal Anisotropy Analysis Application in Unconventional Reservoir Natural Fracture Network Interpretation: Using the Barnett Shale as an Example |
| The University of Texas Permian Basin | Ashton Faulkner | Paleoenvironment and Hydrocarbon Potential of the Cretaceous Mancos Shale in Rio Arriba County, New Mexico |
| University of Calgary | Sochi Iwuoha | Leveraging Big Data for Field-Scale Reservoir Analysis: A New Well-Log and Artificial Neural Network Technique for Recognizing Natural Fracture Zones in Tight Reservoirs |
| University of Houston | Lian Jiang | Influence of Data Quality and Distribution on Facies Classification with Machine Learning |
| University of Houston | Wenyuan Zhang | Characterizing Reservoir Anomalies Through FWI and Deep Learning of Crosswell Seismic Data |

Participating Schools

Colorado School of Mines • Stanford University • Texas A&M University

The University of Alabama • The University of Oklahoma • The University of Texas Permian Basin

University of Calgary • University of Houston

Open During Coffee and Lunch Breaks