

EAGE

EUROPEAN
ASSOCIATION OF
GEOSCIENTISTS &
ENGINEERS

PES GB



First EAGE/PESGB Workshop on Machine Learning

29-30 NOVEMBER 2018 • LONDON, UNITED KINGDOM

- **Final Announcement & Programme**

WWW.EAGE.ORG

TECHNICAL COMMITTEE

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Artem Kotenev	LUKOIL
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OVERVIEW

Machine learning has been around for many years now and the E&P industry has used various algorithms and methods for a diverse set of problems. What has changed in recent years is that machine learning, artificial intelligence, digital transformations, data analytics, big data and cloud computing have become daily topics. In this workshop we would like to share real-world examples from service companies, operators, software & hardware providers and academia, as well as the lessons learned in delivering machine learning in the oil and gas sector and how it can make a difference in daily operations and in delivering project efficiencies and increased insights. Specialists from leading companies will come together to exchange insights on the latest developments and new technologies in machine learning. Case studies and interactive panel discussions will enable delegates to also benchmark against industry best practices. This workshop focuses on topics and problem solutions that have a direct impact on a cost-effective application of different types of machine learning. We invite speakers that deal with all machine learning aspects across all fields of the oil and gas industry.

PROGRAMME

Oral Presentations | Thursday 29 November 2018

CONFERENCE ROOM	
Panel Session	
12:30	Registration
13:15	Welcome, HSE & Opening
13:30	Keynote Speaker 1 - Artificial Intelligence in E&P - Perspectives on an upcoming exciting journey! - Y. LeStunff ¹ ¹ Total
14:00	Keynote Speaker 2 - Achieving Success in AI Adoption - What can we learn from other industries? - M. Roberts ¹ ¹ Tessela
14:30	Keynote Speaker 3 - S. Freeman ¹ ¹ Schlumberger
15:00	Coffee Break
15:30	Keynote Speaker 4 - Geocomputing Skills for Digital Geoscientists - M. Hall ¹ , J. Bagguley ² ¹ Agile, ² Oil & Gas Authority
16:00	Keynote Speaker 5 - Moore's Law in Geo Machine Learning - E. Larsen ¹ ¹ Earth Science Analytics
16:30	Panel Discussion
17:00	End of Day 1

Oral Presentations | Friday 30 November 2018

CONFERENCE ROOM	
08:30	Opening, HSE & Welcome
Types of Machine Learning and Deep Learning	
08:45	ML 01 - Data-Driven Signal Recognition - A Machine Learning Application For The Real-time Microseismic Monitoring - A. Shamsa ¹ , M. Paydayesh ^{1*} ¹ Schlumberger
09:10	ML 02 - Pre-Stack Seismic Inversion With Deep Learning - Y. Zheng ^{1*} , Q. Zhang ² ¹ BP, ² BP America
09:35	ML 03 - Comparative Study Of Deep Feed Forward Neural Network Application For Seismic Reservoir Characterization - T. Colwell ^{1*} , Ø. Kjøsnæs ² ¹ CGG, ² AkerBP
10:00	Round Table Discussions I
10:20	Coffee Break
Case Studies I	
10:40	ML 04 - Automatic Facies Classification And Horizon Tracking In 3D Seismic Data - A.J. Bugge ^{1*} , J.E. Lie ² , S. Clark ³ ¹ Kalkulo AS, Simula Research Laboratory, ² Lundin Norway AS, ³ UNSW Sydney
11:05	ML 05 - How Machine Learning Is Replacing Conventional Interpretation - D. Sacrey ^{1*} , R. Roden ² ¹ Auburn Energy, ² Geophysical Insights
11:30	ML 06 - Machine Learning To Support Technical Document Indexing - How To Measure The Accuracy? - H. Blondelle ^{1*} , J. Micaelli ¹ ¹ Agile Data Decisions
12:05	Round Table Discussions II
12:25	Lunch Break / Poster Session
Case Studies II	
13:30	ML 07 - Semi-Supervised Deep-Learning Applied To UK North Sea Well And Seismic Data - Y. Nishitsuji ^{1,2*} , R. Exley ³ , J. Nasser ³ ¹ Petro Summit E&P Corporation, ² TU Delft, ³ Summit Exploration and Production Limited
13:55	ML 08 - Gaussian Mixture Models For Robust Unsupervised Scanning-Electron Microscopy Image Segmentation Of North Sea Chalk - J.S. Dramsch ^{1*} , F. Amour ¹ , M. Lütthje ¹ ¹ Technical University of Denmark
14:20	ML 09 - DNN Application For Pseudo-Spectral FWI - C. Zerafa ^{1*} ¹ University of Malta
14:45	Round Table Discussions III
15:05	Coffee Break
Latest Developments	
15:25	ML 10 - Deep Learning History Matching For Real Time Production Forecasting - K. Loh ^{1*} , P. Shoeibi Omrani ¹ , R. van der Linden ¹ ¹ TNO
15:50	ML 11 - Classification And Suppression Of Blending Noise Using CNN - R. Baardman ^{1*} ¹ Aramco Overseas Company
16:15	ML 12 - Stochastic Seismic Waveform Inversion Using Generative Adversarial Networks As A Geological Prior - L. Mosser ^{1*} , O. Dubrule ¹ , M. Blunt ¹ ¹ Imperial College London
16:40	Round Table Discussions IV
17:00	Closing Remarks
17:15	End of Day 2

POSTER ROOM	
Lunch Break / Poster Session	
12:25	ML P01 - Using Machine Learning Techniques To QC Log Data Before A Study - J. Johnston ^{1*} ¹ CGG
	ML P02 - Information Theory Considerations In Patch-Based Training Of Deep Neural Networks On Seismic Time-Series - J.S. Dramsch ^{1*} , M. Lüthje ¹ ¹ Technical University of Denmark
	ML P03 - Seismic Data Interpolation With Conditional Generative Adversarial Networks (cGANs) - D. Oliveira ¹ , R. Silva Ferreira ^{1*} , R. Silva ¹ , E. Vital Brazil ¹ ¹ IBM Research
	ML P04 - Deep Learning Approach For Automatic Detection Of Oil Slicks - Z. Huang ¹ , P. Xie ^{1*} , V. Miegbielle ¹ ¹ Total
	ML P05 - Automatic Seismic First Arrival Picking With Deep-Learning - P. Xie ^{1*} , J. Boelle ¹ , C. Blais ¹ ¹ Total
	ML P06 - Analysis Of Gas Production Data Via An Intelligent Model - Application Natural Gas Production - M.A. Ahmadi ^{1*} , Z. Chen ¹ ¹ University of Calgary
	ML P07 - Implementation Of Meta Heuristic Algorithm And Pressure Match Method To Observe Aquifer Constant In Retrograde Gas Condensate Reservoirs - M.A. Ahmadi ^{1*} , Z. Chen ¹ ¹ University of Calgary
	ML P10 - Can Machines Learn To Pick First Breaks As Humans Do? - L. Yalcinoglu ^{1*} , C. Stotter ¹ ¹ HOT Engineering GmbH
	ML P11 - Streamlining Petrophysical Workflows With Machine Learning - L. MacGregor ^{1*} , N. Brown ² , A. Roubickova ² , I. Lampaki ² , J. Berrizbeitia ¹ , M. Ellis ¹ ¹ Rock Solid Images, ² EPCC, University of Edinburgh
	ML P13 - Functional Estimator For Reservoir Proxy Models Made Scalable Through A Big Data Platform - M. Piantanida ^{1*} , A. Amendola ¹ , G. Formato ¹ ¹ Eni S.p.A.
	ML P14 - An Extension For The RA Methodology - Stability Analysis - E. Vital Brazil ^{1*} , R. Silva ¹ , L. Farias ¹ ¹ IBM
	ML P15 - Prospect Changing With The New Artificial Intelligence - Is It For Real? - C. Stabell ^{1*} ¹ Decision Resources & Designs AS
	ML P16 - Building A Robust, Company-Wide Data Science Pipeline Using Programming Abstraction And Virtualization - N. Jones ^{1*} , K. Torbert ¹ ¹ California Resources Corporation
	ML P17 - An Automated Information Retrieval Platform For Unstructured Well Data Utilizing Smart Machine Learning Algorithms Within A Hybrid Cloud Container - N.M. Hernandez ¹ , P.J. Lucañas ¹ , J.C. Graciosa ¹ , C. Mamador ¹ , L. Caezar ¹ , I. Panganiban ¹ , C. Yu ¹ , K.G. Maver ^{2*} , M.G. Maver ² ¹ Iraya Energies, ² KGM geoconsulting
	ML P19 - Input Data Quality Influence On Lithoclass Predictions In Relation To Supervised Machine Learning - H.W. Bøe ^{1*} , K.B. Brandsegg ¹ , L. Marellø ¹ , A.E. Črne ¹ ¹ Exploro As

REGISTRATION

FROM 1 OCTOBER - ON-SITE	
EAGE/PESGB Member	€ 595
Non-member	€ 695
EAGE/PESGB Student Member	€ 295
Student Non-member	€ 345

All fees are in Euros (€). One Euro of your total registration fee is donated to the EAGE Green Fund.

To qualify for the reduced student registration fee: Members please note: To qualify for the member registration fee, your EAGE membership dues for 2018 must have been paid and confirmed before 1 March 2018. The processing time for membership applications or renewals is 10 working days.

- Students must be enrolled in a full time study programme at a recognized university or institute
- The registration must be accompanied by a copy of a student ID card and/or official proof of enrolment.
- Please note: Student non-members cannot be older than 34 years of age (when registering).
- The non-member fee includes EAGE or PESGB membership for 2019.
- Please note that the EAGE reserves the right to cancel the workshop due to low participation. In this case, payment will be refunded in full.

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CONTACT

The First EAGE/PESGB Workshop on Machine Learning is organized by the EAGE Europe Office and PESGB. For enquiries please contact the EAGE Europe office at +31 889955055 or email eage.events@eage.org



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