



Machine Learning on Subsurface Data - Symposium

20.09.2018 at the Valhall auditorium at NPD offices

| Time | Title | Presenter |
|----------------------|---|--|
| 8:00 - 8:10 | Welcome/setting the scene | Grete Block Vagle, AkerBP |
| 8:10 – 8:35 | An Introduction: From Traditional Machine Learning to Deep Learning | Anders Waldeland, Norsk Regnesentral |
| 8:35 – 8:55 | Machined learned well lithology prediction from a disparate well log dataset and imperfect training data | Eirik Larsen /Earth Analytics |
| 8:55 – 9:15 | Streamlining petrophysical workflows with machine learning, focused on the estimation of clay volume, determination of mineral volumes and determination of porosity and water saturation | Lucy MacGregor ¹ , Juan Berrizbeitia ¹ , Nick Brown ² , Anna Roubickova ² & Marc Sabate ² 1 – Rock Solid Images 2 – EPCC, University of Edinburgh |
| 9:15 – 9:35 | Automated fluid substitution from non-linear regression | Anders Dræge, Equinor |
| 9:35 – 9:55 | Sequential Bayesian methods for spatial on-line pore-pressure prediction from well log data | Jo Eidsvik, NTNU |
| 9:55 – 10:10 | Break | |
| 10:10 – 10:35 | Seismic facies classification away from well control - The role of augmented training data using basin modeling to improve machine learning methods in exploration. | Per Avseth (Dig Science) and Tapan Mukerji (Stanford University) |
| 10:35 – 10:55 | Automated seismic interpretation using machine learning and field interpretations | Espen B. Raknes, AkerBP Exploration |
| 10:55 – 11:15 | Using Machine Learning for Automated Seismic Facies Classification | Indy Chakrabarti /Emerson |
| 11:15 – 11:45 | Results from the first Stavanger Subsurface hackathon | Matt Hall, Agile Scientific |
| 11:45 – 12:35 | Lunch and presentation of hackathon outcomes | |
| 12:35 – 13:05 | Enabling Data Analysis at Scale (Cognite/AkerBP) and Walking the Talk on Johan Sverdrup (Equinor) | AkerBP+ Cognite/ Equinor joint talk |
| 13:05 – 13:25 | Can machines read text like Geoscientists do? | Paul H. Cleverley / Robert Gordon University Aberdeen |
| 13:25 – 13:45 | How fast is fast? Metrics of Machine Learning Enabled-Processing of High Volume Well Reports for Effective Data Search and Class Aggregation in Elastic Docs | Nina Marie Hernandez /Iraya Energies |
| 13:45 – 14:05 | Deep Learning on Cuttings Images – Computer Vision for Geoscience Interpretation | David Wade; Linn Arnesen / Equinor |
| 14:05 – 14:20 | Break | |
| 14:20 – 14:50 | New approaches to seismic interpretation using machine learning: Lightning session | Lukas Mosser Imperial College London / Aina Bugge Juell (Kalkulo AS) |
| 14:50 – 15:10 | Machine Learning in 4D Seismic Interpretation: Monitoring the Reservoir | Mike Brhlik /ConocoPhillips |
| 15:10 – 15:30 | Machine learning for uncovering patterns and making predictions in 'small to medium data' like Qemscan, petrography, core descriptions and geochemical point count data | Samuel Fielding / CGG Robertson |
| 15:30 – 15:50 | A Machine Learning Approach to Optimizing the Allocation of Steam used in ConocoPhillips Canadian Steam Assisted Gravity Drainage (SAGD) Project | Chris Olsen /ConocoPhillips |
| 15:50 – 15:55 | Wrap-up | Grete Block Vagle, AkerBP |

Organizing committee:

Peter Bormann, ConocoPhillips
 Mark Hughes, Repsol
 Alessandro Amato del Monte, Eni
 Pernille Hammernes, Equinor
 Grete Block Vagle, AkerBP
 Sølvi Amundrud, NPD
 Ellen Marie Skartveit, NPD
 Tone Helene Mydland, NPD

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