

Center for Wave Phenomena 2017 Annual Project Review Meeting

Monday, May 15, Colorado School of Mines

Student Center, Ballrooms A/B

Symposium on Machine Learning

1:00-1:45pm "Concepts of machine learning" - Antoine Guitton, Center for Wave Phenomena, Colorado School of Mines

1:45-2:30pm "Machine learning using high-D spatial data" - Anya Reading, University of Tasmania

2:30-3:15pm "Introduction to multi-attribute interpretation" - Tom Smith, Geophysical Insights

3:15-3:40pm *Break*

3:40-4:25pm "Machine learning forecasting of laboratory fault failure" - Nicholas Lubbers, Los Alamos National Laboratory

4:25-4:45pm "Statistical identification of faults using a machine learning approach" - Antoine Guitton, Center for Wave Phenomena, Colorado School of Mines

4:45-5:00pm Discussion

5:00-7:00pm *Reception - Colorado School of Mines Geology Museum*

Tuesday, May 16, The Golden Hotel

7:15am *Golden Vista Room – Breakfast*

8:00am *Clear Creek Ballroom* - Welcome - Paul Sava

8:10am "High-resolution multicomponent distributed acoustic sensing" - Ivan Lim Chen Ning

8:40am "Connecting smooth dynamic warping and the memory effect" - Aaron Prunty

9:10am "Acoustic VTI wavefield tomography of P-wave surface and VSP data" - Vladimir Li

9:40am *Break*

10:10am "Waveform inversion and time-reversal imaging in attenuative TI media" - Tong Bai

10:40am "Stacking-velocity tomography in tilted orthorhombic media" - Qifan Liu

11:10am "Analysis of diffractions in dip angle gathers for transversely isotropic media" - Yogesh Arora

11:40am "Preconditioned 3D LSRTM with matching filters" - Antoine Guitton

12:10pm *Lunch - Golden Vista Room*

1:10pm "3D acoustic least-squares reverse time migration using the energy norm" - Daniel Rocha

- 1:40pm "Local wavefield tomography" - Colton Kohnke
- 2:10pm "Elastic least squares reverse time migration: a case study" -Yuting Duan
- 2:40pm *Break*
- 3:10pm "Airborne seismic acquisition using stereo vision" - Thomas Rapstine
- 3:40pm "Making Marchenko imaging work with field data and the bumpy road to 3D" - Alex Jia
- 4:10pm "Quantitative estimation of uncertainty in seismic imaging" - Iga Pawelec
- 4:40pm "The transitions to chaos and where the advances will come from" - John Etgen, BP America

Wednesday, May 17, The Golden Hotel

- 7:45am *Golden Vista Room – Breakfast*
- 8:30am *Clear Creek Ballroom* - "Damaging and healing of earth materials as a multi-scale phenomenon" - Roel Snieder
- 9:00am "Time-dependent material properties and thermodynamics" - Jack Li
- 9:30am "Reducing interpolation artifacts using reweighted analysis inversion" - Lucas Almeida
- 10:00am "Elastic least-squares reverse time migration using the energy norm" - Daniel Rocha
- 10:30am *Break*
- 11:00am "Estimation of fracture parameters using elastic FWI" - Ilya Tsvankin
- 11:20am "Full-waveform inversion for reservoir characterization: A synthetic study" - Nishant Kamath
- 11:50am "Waveform inversion for microseismic velocity analysis and event location in VTI media" - Oscar Jarillo Michel
- 12:20pm *Lunch - Golden Vista Room*
- 1:20pm "Multicomponent imaging with DAS" - Ivan Lim Chen Ning
- 1:50pm "Autonomous GPR acquisition and diffraction imaging" - Alicia Johnson
- 2:20pm Business discussion
- 2:50pm *Break*
- 3:20pm "Land data: Making marine data from land data: Suppressing 2-D surface noise on a 1-D line" - Jon Claerbout, Stanford University
- 3:50pm "Seismic orbital laser vibrometer" - Paul Sava
- 4:20pm Adjourn