

Quantitative Reservoir Characterisation

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Some of the work will be done in teams:

Team-work will consist of Summary/Presentation of learning points **previous** day

Day1: Monday

09:00-09:30 Introduction: Biography, Program, 52 Things, **Teams (a,b,c,d)**

09:30-11:00 Geophysical Methods, Seismic Acquisition & Processing, Seismic Workflow, Seismic for QI

11:00-11:15 Refreshments

11:15-13:00 Rock Physics

13:00-14:00 Lunch

14:00-14:30 **Videos:** Gravity (3:58), Magnetics (6:09), EM (6.22), Rock Physics (26:30)

14:30-15:00 Seismic Challenges in QI

15:00-15:15 Refreshments

15:15-16:00 Seismic Resolution: Point-Spread or Resolution Functions

16:00-17:00 **Exercises:** (Resolution) seismic resolution (paper & computer)

17:00-17:30 **Team a:** Preparation Summary of day 1

Day2: Tuesday

09:00-09:30 **Team a:** Summary of day 1

09:30-10:00 Structural & Stratigraphic Interpretation, Tuning: Simmons & Backus

10:00-11:00 **Exercise:** (Tuning) Tuning Amplitudes, Tuning Wavelet (computer)

11:00-11:15 Refreshments

11:15-13:00 **Exercises:** (Resolution) seismic resolution (paper & computer), Tuning AVA (computer)

13:00-14:00 Lunch

14:00-14:30 **Videos:** EAGE Gassmann Fluid Replacement, EAGE AVO

14:30-15:30 Effective Media, Anisotropy, AVA

15:30-15:45 Refreshments

15:45-17:00 **Exercises:** (AVO) AVO Template (paper), Effective Media (paper), AVA (computer)

17:00-17:30 **Team b:** Preparation Summary of day 2

Day3: Wednesday

09:00-09:30 **Team b:** Summary of day 2

09:30-10:00 Elastic response attributes (Lambda-Mu-Rho)

09:30-11:30 **Exercises:** AVA (ΔR_{PP} , ΔR_{SS}) (computer)

10:30-11:00 Inhomogeneity & Anisotropy

11:00-11:15 Refreshments

11:15-12:00 Anisotropy models

12:00-13:00 **Exercise:** (Anisotropy) Anisotropy (computer)

13:00-14:00 Lunch

14:00-15:00 **Videos:** Isotropic Imaging_Ian Jones (60:00)

15:00-15:30 Interpretation beyond seismic resolution (SOM)

15:30-15:45 Refreshments

15:45-17:00 Presentation & Discussion Company Issues

17:00-17:30 **Team c:** Preparation Summary of day 3

Day4: Thursday

09:00-09:30 **Team c:** Summary of day 3

09:30-10:15 Spectral Decomposition, Commonly used methods & workflow, Prediction sedimentary facies

10:15-11:00 **Exercises** (Fourier Transform) DFT

11:00-11:15 Refreshments

11:15-13:00 Interpretation of Spectral deconvolution to classify sedimentary features

13:00-14:00 Lunch

14:00-14:30 **Videos:** Near-surface Velocity Ian Jones (32:00)

14:30-15:30 Presentation & Discussion Company Issues

15:30-15:45 Refreshments

15:45-16:00 Anisotropy, AVAz

16:00-17:00 **Exercises:** (Fractures) Seismic-to-Fractures (computer)

17:00-17:30 **Team d:** Preparation Summary of day 4

Day5: Friday

09:00-09:45 **Team d:** Summary of day 4

09:45-10:00 **Exercises:** (Hydrocarbon Indicators, Gassmann) Gassmann (computer)

10:00-11:00 Synthetics & Matching

11:00-11:15 Refreshments

11:15-11:45 Types of Seismic Inversion

11:45-13:00 **Exercises:** (Dimming) Dimming (paper)

13:00-14:00 Lunch

14:00-14:30 **Exercises:** Gassmann Fluid Replacement (computer)

14:30-15:00 FWI

15:00-15:15 Refreshments

15:15-16:15 Presentation & Discussion Company Issues

16:15-16:30 Course evaluation