Pre-Stack Inversion

5 days
Overview

LEVEL
Knowledge

PURPOSE
This training provides a practical understanding and know-how to perform Pre-stack Seismic Inversion on Seismic data. More common workflows will be explained and tested, as well as inversion results QC’s. Knowledge about Seismic Inversion algorithms using pre-stack data will be delivered along the training.

LEARNING OBJECTIVES
Upon completion of the course, participants will be able to:
understand the purpose of pre-stack seismic inversion,
how to prepare the data before performing pre-stack seismic inversion,
perform a seismic inversion and QC the results,
interpret the results,
supervise a seismic Inversion study.

WAYS AND MEANS
Interactive presentations, exercises and document analysis.
80% of training duration is dedicated to workshop on PC, using a seismic interpretation software tool from the industry. Real datasets will be used for the workshop.

PREREQUISITES
Degree or experience in geophysics, with basic seismic background knowledge.

Agenda

WHAT IS SEISMIC INVERSION? PRINCIPLES
SEISMIC IMPEDANCES (P & S), POISSON & LAME PARAMETERS
DATA FOR SEISMIC INVERSION
SEISMIC SPECTRUM & RESOLUTION
PRE-STACK INVERSION TYPES & ALGORITHMS
WHY, WHERE & WHEN USING PRE-STACK SEISMIC INVERSION?
WORKSHOP USING REAL DATA CASE STUDY
Data requirements, QC and preparation for seismic Inversion.
Preliminary feasibility study.
Wavelet generation.
Well-to-seismic calibration.
Initial modeling.
Inversion parameters and final inversion.
QC, validation and deliverables.
Clues for Interpretation of pre-stack inversion.

CONCLUSIONS & WRAP-UP