AVO Analysis and Seismic Inversion (5-day course conducted on PetroSkills platform)

The primary objective of this course is to gain an intuitive understanding of the kinds of seismic features that can be identified by 3D seismic attributes, the sensitivity of seismic attributes to seismic acquisition and processing, and of how 'independent' seismic attributes are coupled through geology. We will also discuss alternative workflows using seismic attributes for reservoir characterization as implemented by modern commercial software and practiced by interpretation service companies. Participant discussion centered around case studies, attribute recipes for particular objectives, reservoir workflows and seismic attribute jeopardy exercises will be the main focus of the course.

Learning Outcomes

After attending this course the participants will be able to:

- Use seismic attributes to enhance subtle faults and folds, as lithologic indicators, and to quality control the choice of processing parameters.
- Evaluate and exploit attribute expressions for different depositional environments to better characterize reservoirs by adopting appropriate workflows and multiattribute tools.
- Identify geological features highlighted by attributes, limitations to seismic processing through attributes that may result in smeared attribute images from multiazimuth and multioffset data, limits of attribute analysis on data that have been poorly images and good and bad colour display practices.

Who should attend?

- Seismic interpreters who wish to extract meaningful information from their data.
- Seismic processors who want to find out different ways to devise AVO processing workflows to be able to extract meaningful AVO attributes.
- Stratigraphers and geologists who wish to understand how lithologic information could be extracted from seismic data..
- Students of geophysics who wish to become qualified interpreters/processors.