Sedimentology & Sequence Stratigraphy

5 days

Overview

LEVEL
Proficiency

PURPOSE
This course provides a practical, comprehensive understanding of new concepts and methods applied in stratigraphy, sedimentology and sequence stratigraphy analysis.

LEARNING OBJECTIVES
Upon completion of the course, participants will be able to:
- review fundamentals of main depositional environments,
- understand and apply sequence stratigraphy concepts and methods,
- identify sequences on seismic lines, and interpret core and log data with regard to stratigraphy.

WAYS AND MEANS
Lectures, exercises, hands-on sessions on real case studies.

LEARNING ASSESSMENT
Knowledge assessment with multiple choice questions and open explanatory questions.

PREREQUISITES
The course requires a good grasp of fundamentals in stratigraphy and in sedimentology, with a first experience in seismic interpretation.

Agenda

STRATIGRAPHY - SEDIMENTOLOGY - DEPOSITIONAL ENVIRONMENTS
Review of basic concepts in stratigraphy and sedimentology.
Alluvial, fluvial, deltaic, shallow and deep marine facies models.
Facies classification and related petrophysical characteristics.

SEISMIC SEQUENCE STRATIGRAPHY AT BASIN SCALE
Historical concept of depositional sequences and system tracts.
Interpretation methodology both for clastics and carbonate facies.
Prediction of potential source rocks & reservoirs location.
Application to seismic interpretation.
State-of-art overview of sequence stratigraphy.

HIGH-RESOLUTION SEQUENCE STRATIGRAPHY AT RESERVOIR SCALE
Identification of genetic sequences.
Correlation by stacking patterns analysis.
Interpretation: exercises based on outcrop analogues and field studies.

OVERVIEW OF STRATIGRAPHIC MODELING
Interactive demo on Dionisos™ modeling software.