



**«SEISMIC INTERPRETATION.  
 INTEGRATION WITH ROCK PHYSICS DATA», 5 days**

**COURSE OBJECTIVE:**

Development of professional competencies of geophysicists and geologists in modern seismic interpretation technics, integration with results of rock physics modeling (AVO, inversion), exploration technics, risk mitigation while prospect estimation, lithostratigraphic cubes modeling, reserves estimate and velocity modeling.

**ACQUIRED ABILITIES:**

- Perform seismic data interpretation;
- Integrate attribute analysis results, AVO, inversion, fluid substitution modeling;
- Assess reservoir quality and reduce risks while prospect estimation;
- Perform velocity modeling;
- Analyze examples of seismic data interpretation, attributes application and drilling results.

**COURSE CONTENT:**

| <b>Module Name</b>  | <b>Content</b>   |
|---|--|
| Seismic interpretation overview   | Seismic data quality and parameters. Well tie and calibration.   |
| Geological and tectonic background, horizon and faults interpretation       | Faults interpretation. Horizon interpretation.   |
| Seismic Attributes  | Seismic attributes for structural interpretation. Seismic attributes for reservoir characterization. Seismic facies estimation. Fluid substitution. Amplitude analysis. Tuning effects.                          |
| Velocity modeling   | Input data. Modeling methods. Velocity model refinement. Anisotropic Velocity modeling   |
| Rock Physics  | Lithological properties and acoustic behavior.   |
| AVO analysis  | Trace amplitude. Seismic gathers modeling. Fluid substitution. AVO modeling.   |
| Seismic Inversion   | Seismic inversion. Lithological cubes. Spectral decomposition. Stochastic inversion.   |
| Prospects, Reservoir parameters predictions and reservoir characterizations | Trap types. Reservoir parameters prediction (porosity, fluid type, shaliness). Seals. Risk assessment. HC volume estimation.   |
| Case studies  | Many case studies about different types of traps, HC filling, depositional environment and drilling results. Examples of inversion data integration, AVO while reservoir quality assessment and risks reduction. |