

Integrated Reservoir Characterization and Modelling



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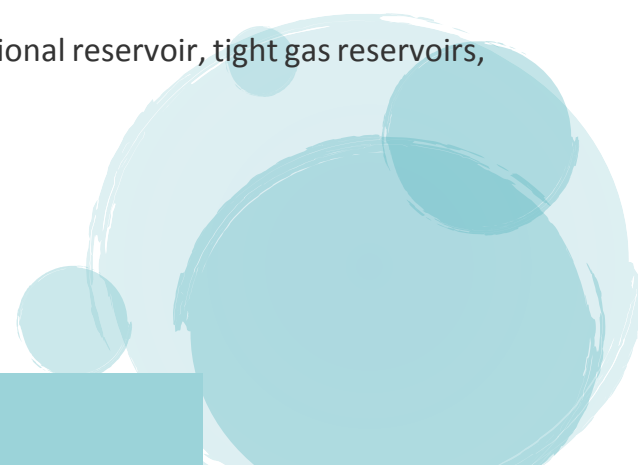


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Introduction:

A successful exploration and exploitation project requires efficient use of an integrated, multi-disciplinary team. This training course examines how such a team should be structured, what questions should be asked of each member and what tasks each should perform to deliver the answers. It addresses the different requirements of conventional plays, tight gas plays, and resources plays. Several different field examples will be used, with one public domain data set used as a common characterization theme through all modules.

Objectives:

- Differentiate the contributions of a geologist, petrophysicist, geophysicist and reservoir engineer to a reservoir characterization project
 - Establish the geological, petrophysical, geophysical and engineering data required to initiate a reservoir characterization project
 - Determine which questions need to be answered and thus what tasks performed by each member of an integrated team
 - Generate workflows for characterization of a conventional reservoir, tight gas reservoirs, and shale gas or shale oil reservoirs.
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Who should attend?

- Reservoir Engineer
- Geologist
- Petro physicist
- Geophysicist
- Petroleum Engineer
- Production Engineer
- Project Engineers
- Project Managers

Course Outline:

Day One: Geology

- Reservoir Characterization Fundamentals
- Structural Controls on Reservoir Heterogeneity and Productivity
- Integrated Workflow
- Case Study
- Exercises

Day Two: Petro physics

- Introduction to Reservoir Petro physics
- Conventional Analysis
- Forward Modeling
- Rock Physics
- Integrated Workflow
- Case Study
- Exercises

Day Three: Geophysics

- Seismic Reservoir Characterization
- From Seismic Amplitudes to Elastic Properties
- From Seismic to Reservoir Properties
- Seismic Fracture Characterization
- Integrated Workflow
- Case Studies
- Exercises

Day Four: Geomodeling

- Geomodel Construction - Matrix Properties
- Geomodel Construction - Fracture Properties
- Upscaling for Flow-Simulation
- Integrated Workflow
- Case Study
- Exercises

Day Five: Reservoir Engineering & Simulation

- Reservoir Dynamics - Main Concepts
- PVT/Fluid Properties
- Multiphase Flow
- Wellbore Flow
- Well Performance Analysis
- Dynamic Reservoir Modeling
- Model Uncertainty
- Integrated Workflow