



## Introduction to Seismic Stratigraphy: A Basin Scale Regional Exploration Workshop - ISS

### COURSE

#### About the Course

One of the most revolutionary, most effective, yet most under-utilized tools introduced into exploration this century is that of seismic stratigraphy. It is not a tool exclusive to geophysicists, nor is it a tool only for geologists. Seismic stratigraphic techniques are based upon an integration of firm, well-established geological and geophysical fundamentals. When properly applied, seismic stratigraphy provides a powerful foundation for geohistory analysis, helping describe a basin's evolution and the resulting effects upon its spatial and temporal variation in hydrocarbon potential. Seismic stratigraphy chronostratigraphically constrains both the sedimentological and fault-mechanical stratigraphy of a basin. Furthermore, it can provide a predictive model extrapolated beyond the borehole as to aspects of the quality of potential reservoirs and seals, their sedimentary environments of deposition, and in some cases, even their paragenesis.

In this rigorous workshop, participants pragmatically apply the seismic stratigraphic method to optimizing their exploration efforts by working in teams on projects selected from diverse settings around the world. Areas for the projects include borehole-constrained seismic data drawn from such regions as the Alaska North Slope, Gulf of Mexico, Red Sea, Southeast Asia, South America, and Western Africa.

#### Target Audience

Geophysicists, geologists, explorationists, and managers who are interested in an introduction or review of the theory and application of contemporary seismic stratigraphic techniques to exploration.

#### You Will Learn

Participants will learn how to:

- Apply geophysical fundamentals to uncovering the geological information embedded within seismic
- Understand the premises behind the Vail seismic sequence paradigm
- Construct and interpret chronostratigraphic charts, sea level curves, and seismic facies maps
- Interpret clastic and carbonate depositional system responses to allocyclic and autocyclic processes and the effects upon reservoir architecture and seal potential
- Systematically reconstruct a basin's geohistory which provides the critical foundation for its petroleum system analysis and effective exploration

#### Course Content

- Introduction: philosophy and history
- Geophysical fundamentals
- Breaking out operational sequences
- Introduction to fault interpretation
- Chronostratigraphy construction and interpretation
- Sea level curves, accommodation space, and cycle orders
- Vail sequence theory and sequence hierarchy
- Carbonate sequences
- Siliciclastic sequences
- Seismic facies
- Paleo-environmental analysis
- Geohistory reconstruction
- Optimizing exploration

### **Product Details**

Categories: [Upstream](#)

Disciplines: [Geophysics](#)

Levels: [Intermediate](#)

Product Type: [Course](#)

Formats Available: [In-Classroom](#)

Instructors: [PetroSkills Specialist](#)