



Petroleum Geophysics Course

This course is meant for professionals in the petroleum industry with a general geoscientific background to get up to speed with classical aspects and new developments of petroleum geophysical exploration. In three days, the course instructors will take the attendees through the basics of petroleum geophysics, seismic interpretation, case studies and new developments.

Day 1: Basic principles of seismic exploration and case studies

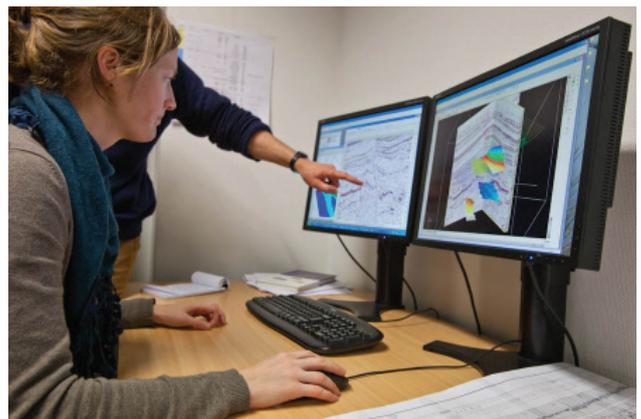
In this first part of the course, the basic principles of seismic exploration will be discussed. Seismic exploration is the main geophysical tool for the petroleum industry and new developments take place every day. The classic methods of seismic acquisition and imaging however are still the basis for modern exploration and will be presented to the attendees in clear steps. The fundamental possibilities and limitations of seismic imaging are treated and relevant case studies will enhance the understanding of the fundamental principles.

Day 2: Seismic interpretation and seismic attributes

Seismic imaging is the method of choice for petroleum reservoir characterisation. As part of reservoir model building, seismic images need to be interpreted and integrated. Seismic interpretation is a science as well as an art with strict procedures and criteria to achieve optimum results. The course instructors will demonstrate how to perform seismic interpretation to identify petroleum prospects, paying special attention to seismic attributes: alternative techniques to represent seismic data. Seismic attributes are increasingly used for extracting additional information from data to further constrain petroleum estimates.

Day 3: Next-generations seismic imaging; from inversion to envision

The majority of petroleum systems worldwide have been identified using classic methods of seismic imaging and interpretation. General technological advancement, economical competition and an increasing amount of tired petroleum fields have pushed seismic technology to improve itself. The focus of seismic imaging has shifted from classic reflection and structural methods to seismic inversion of impedance, velocity and other reservoir parameters.



The final part of this course will introduce the attendees to these next-generation techniques and show which extra dimensions of petroleum reservoirs can be resolved. At the end of the course, a summary and reconciliation of all treated methods will be given.

Course instructors: Dick Stegers, MSc