

Structural Models in Seismic Data










Designed for:

The course is as applicable to interpreters, and reservoir modellers as it is asset evaluation manager who need awareness of confidence in the output.

Duration (days)



Learning Level:

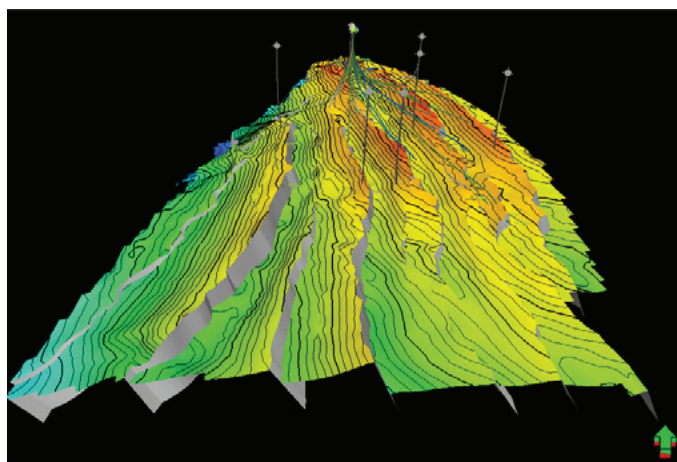
Skills   
Knowledge   
Awareness   

Why the uncertainty in your structural model really does matter.

With the advent of extensive 3D data it is all too easy to determine top reservoir horizon from well picks, autopick and generate a structure map. Once generated this is then used in the first instance to generate a prospect and then subsequently as the input into reservoir modelling. Despite being fundamental in volumetric determination and prediction of fluid migration, the uncertainty, and inaccuracy, in this structure map is often underestimated.

Recent advances of automated fault picking in part reduces the time taken to generate structure maps and corresponding fault networks, which can reduce this uncertainty, but all interpretation still needs to be QC'd and be sensible. Critically, these advances still require the interpreter to understand both fault behaviour and impact on reservoir distribution and integrity.

The central theme of this event is construction of robust structural models and develop an understanding and appreciation of the uncertainties within them and how to evaluate multiple scenarios.



Structural Models in Seismic Data continued

Course Content

The course content is organised around the following:

- Data interpretation and conditioning
- Determination of structures controlling reservoir distribution or integrity
- High confidence fault picking and initial fault model
- Application of fault statistics to fault models
- Addressing uncertainty in fault models and consideration of lower confidence, sub-seismic resolution features
- Impact of faulting on fluid migration

Course Duration:

The scope of the course is 4 days, or flexed to suit the client's requirement. The primary course will provide an overview across all tectonic settings and include both 2D and 3D data types with applicability at prospect and reservoir scales. The course can be more specifically tailored for extensional or contractional systems, and prospect generation or reservoir modelling.

Courses available from this series:

Basic Geoscience
Introduction to Geophysics
Geological Application of Well Logs
Openhole Petrophysical Interpretation
Core Description
Production Geology
Applied Production Geology
Reservoir Model Design
Fractured Reservoir Characterisation
Geology for Drilling Engineers
Reservoir Engineering
Applied Reservoir Engineering
Well Test Design & Analysis
Logging While Drilling
Basin Analysis
Geomechanics

Course Tutors



Douglas Paton PhD

Main Series tutoring: Reservoir, Open Air

Industry experience: 20 years, geoscience

Career background: Colorado School of Mines (Chevron), University of Leeds (with funding from Saudi Aramco, Shell, BP, BHP, Hess, Exxon, ConocoPhillips, ENI, Anadarko), TectonKnow

Personal: Published over 60 scientific articles and papers. Invited committee member, GCSSPEM Roberts meeting (2021). Invited member for AAPG International Research Committee (2017-present)