



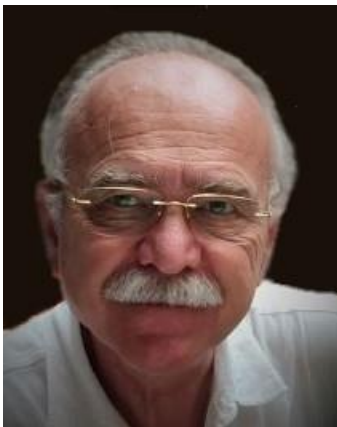
February 01-05, 2021

October 11-15, 2021

“How to risk exploration prospect seal failure” by John F. Karlo

***This workshop is conducted online with
3.5 - hr sessions over 5 days***

Seal failure has been shown in multiple look back studies to be the most common cause of dry holes, yet it is the most poorly evaluated factor in conventional exploration prospects. Seal failure is not usually a yes-no question but is much more a question of how much column a seal can retain and so proper evaluation is also a main element of estimating pre-drill prospect volume. This course will teach: what actually constitutes meaningful seal evaluation, what is a good work flow, how to best quantify seal risk and how to estimate prospect volumes given the uncertainties and limits of the evaluation methodologies.



John F. Karlo, Ph.D

John Karlo has a BA from Rutgers, an MA from Univ. Missouri and a Ph.D. in structure and tectonics from S.U.N.Y. He taught structure and geophysics at Central Michigan University before joining industry. He spent 30 years with Shell followed by 5 years with Maersk Oil and 2 years with Repsol. He has had positions in play development and prospect evaluation, regional teams, deepwater exploration, merger and acquisition and for 10 years was a senior advisor in Quality Assurance overseeing rigor in structural interpretation.

John has worked in rifts, passive margins, fold belts and turbidites in over 25 basins worldwide. Some of the high points in his career include the first regional synthesis of the Dutch North Sea tectonics, groundbreaking work on Gulf of Mexico salt tectonics and deepwater exploration leading to world class discoveries in Nigeria.

His current focus is on the complex subject of seal evaluation and the seismic expression of structural styles, subjects where he feels he can contribute to the education of the upcoming generation of geoscientists. Workshop Outline

This workshop will adjust to participants experience level and interest as much as possible. Therefore, we will ask you beforehand to provide some information why you are taking this course, what your experience level is with the subject matter and the type of work you want to apply the learned content.

This course is available for single participants as well as small groups (multi-client) and large groups (inhouse) – see below.

Workshop Outline

Session 1 Introduction and Basics

- The state of the art about seal evaluation
- Philosophy and process for risking seal
- Mechanisms of seal and seal failure
- Play based exploration and seal
- Map Integrity: Garbage in – garbage out

Session 2 Top seal

- The physics of capillary membrane seals
- Characterizing top seal properties
- Predicting trapped column height
- Seal under hard geopressures : hydrofracture
- Protected trap concept
- Structural reactivation and seals

Session 3 Fault Seal

- Fault rocks and damage zones
- When and how to evaluate Shale Smear
- Empirical studies as basis to and calibration of Shale Gouge seals
- Application of Shale Gouge Ratio, Fault plane profiles, Triangle diagrams
- SGR calibrations and hydrocarbon column
- Dynamic fault seal

COURSE LOGISTICS AND REGISTRATION

- Time:** Mon, Feb 01 – Fri, Feb 05, 2021 at 8 – 11:30 pm Central Time US (Houston) or per agreed time
Mon, Oct 11 – Fri, Oct 15, 2021 at 8 – 11:30 pm Central Time US (Houston) or per agreed time
- Venue:** ZOOM Meeting Platform. If you require a different online meeting platform, we can arrange for that.
- Included:** Manual pdf, certificates on request follow-up support
- Price:** Single participant USD 975/900*; Multi-client USD 3,250, Inhouse USD 4,250
- Register:** [Follow link to register](#)

CONTACT TerraEx Group at info@terraexgroup.com or ++ 303 319 3043

Single participant - regular price for 1 participant (public schedule)

Single participant - discount price for 1 participant unemployed, academics and > 1 course booked (public schedule)*

Multi-client price for group up to 5 participants from the same company (public or custom schedule)

Inhouse price for group up to 25 participants from the same company (custom schedule)