



## Characterization of In-situ Stresses

### MODULE

#### About the Skill Module

Probably one of the most important tasks in geomechanical characterization is finding different components of in-situ stresses as discussed in this skill module.

[See example online learning module](#)

#### Target Audience

Geoscientists, petrophysicists, completion and drilling engineers or anyone involved in unconventional reservoir development

#### You Will Learn

Participants will learn how to:

- Identify the significance of in-situ stresses in subsurface operations with examples from different subsurface operations such as drilling, hydraulic fracturing, fluid production, and waste disposal
- Identify the in-situ stress components in the Earth and verify the validity of common approaches used to simplify the in-situ stress tensor
- Describe the difference between present-day and paleo stresses and explain how natural phenomena and subsurface operations can disturb in-situ stresses
- Calculate vertical stress ( $S_v$ ) from density logs and quality control and re-build the density logs when necessary
- Explain and use different methods used for identifying horizontal stress orientation such as drilling indicators, sonic anisotropy analysis, seismology and microseismic data, natural fractures, geological indicators, lab and in-situ stress tests, etc.
- List different methods used for estimation/measurement of minimum in-situ stress ( $S_{hmin}$ ) such as well tests such as mini-frac, extended leak-off test, DFIT
- Implement poroelastic modeling for estimation of the magnitudes of minimum and maximum horizontal stress ( $S_{hmin}$ )

#### Product Details

Categories: [Upstream](#)

Disciplines: Petrophysics

Levels: Basic

Product Type: Individual Skill Module

Format: On-Demand

Duration: 4 hours (approx.)

**\$395.00**