Short Course Descriptions

Short Course 1

3D Seismic Attributes To Define Structure And Stratigraphy—A Hands-on Course

Instructor: Kurt Marfurt, Professor of Geophysics, University of Oklahoma
Location: Sarkeys Energy Center - Room 1010 Crustal Imaging Facility
Fee: $10 for students
Limit: 20 participants maximum
Includes: Lunch

Geometric attributes such as coherence and curvature are routinely used to rapidly visualize and quantify faults and folds in 3D volumes that may otherwise take weeks to manually interpret using traditional horizon and fault plane interpretation workflows. Curvature is a measure of shape and can thus be used to map carbonate buildups, collapse features, and differential compaction of thicker channels. Amplitude curvature maps more rapid lateral changes in reflectivity and often allows one to image joints and fractures that give rise to subtle amplitude lineaments. Reflector convergence quantifies the magnitude and orientation of onlap, erosional truncation, and channel fill. Spectral components are sensitive to thin bed tuning and can be used to map channels and lateral changes in thickness that fall at or near the limits of seismic resolution.

Short Course 2

Mineral Optics Refresher

Instructor: David London, Professor of Geology, University of Oklahoma
Location: Sarkeys Energy Center - Room P101
Fee: $10 for students
Limit: 14 participants maximum - restricted to graduate students, please bring textbook and notes from your optics course
Includes: Lunch

This is an opportunity to update your skills with the optical microscope, to better understand how mineral optics work, and how to use those optics to help solve petrologic problems. In this short course, I will review the use of the microscope, explain the origins of some of the more important optical properties, and review a strategy for optical study that utilizes relief, pleochroism, interference color, and uniaxial and biaxial interference figures.
Short Course 3
3-D Reservoir Modeling (using Petrel)

Instructor: Matthew Pranter, Professor of Geology & Geophysics, University of Oklahoma
Location: Sarkeys Energy Center - Plaza 360
Fee: $10 for students
Limit: 25 participants maximum
Includes: Lunch

This short course emphasizes the concepts and methods of 3-D geological / reservoir modeling through lectures and the use of Petrel software (Petrel software graciously provided by Schlumberger through a major donation to OU). The course addresses the reservoir modeling workflow, modeling inputs and conditioning data, stratigraphic and structural framework, well-log upscaling, “rock type” modeling concepts and methods, petrophysical property modeling methods, and analysis of reservoir modeling results.

Short Course 4
An Independent Petroleum Geologist: What You Will Never Learn form Professors or Majors (Big Boys)

Instructor: Mike Pollok, President of MAP Exploration, University of Oklahoma Alumnus
Location: MAP Exploration—Purcell, OK
Fee: $10 for students
Limit: 35 participants maximum
Includes: Lunch & Transportation

An independent geologist’s perspective on generation, leasing, selling and development of various types of oil and gas prospects. The course will demonstrate proven techniques used in getting wells drilled and completed. Participants will be exposed to all aspects of a prospect from using regional maps for the “big picture” to overseeing leasing, packaging of the prospect, selling of the deal and finally overseeing of the drilling of the well.

Short Course 5
Resource Shale Primer

Instructor: Roger Slatt, Professor of Geology, University of Oklahoma
Location: Sarkeys Energy Center - M130
Fee: $10 for students
Limit: 40 participants maximum
Includes: Lunch

This one day course will briefly present the fundamental geoscience properties of unconventional resource shales. The outline will follow that which is used for common screening practices to evaluate the viability of an economic resource shale (Garvin, 2012).: these include:

1. permeable and brittle lithologies and organic rich source rock; 2. good thermal maturity data; 3. adequate thickness; 4. oil/gas shows in wells or seeps in outcrops; 5. regionally extensive A booklet will be provided titled “Characterization of unconventional resource shales: the necessity of multiscale scientific integration”