



Short Course / Field Trip Descriptions

SHORT COURSE I: "PETREL Fundamentals Seminar", presented by Eva Peza from Schlumberger; Wednesday, March 14th and Thursday, March 15th, 9:00am to 5:00pm. PETREL subsurface interpretation and modeling allows you to build and update reliable subsurface models. Geophysicists, geologists, and reservoir engineers can move across domains, rather than applications, through the PETREL integrated toolkit. Gain a comprehensive overview of PETREL SOFTWARE. Gain the skills you need to start using PETREL with confidence. **LIMITED SEATING FOR STUDENTS ONLY!** (No company recruiters)

The course objectives are an overview of the following:

- Import and edit input data
- Perform seismic visualization and interpretation
- Perform well correlation
- Model faults
- Use the pillar gridding process to create 3D grids
- Generate horizons
- Create vertical layers
- Upscale well logs
- Model facies throughout the reservoir
- Perform petrophysical modeling
- Calculate volumes
- Plot results
- Use the PETREL Process Manager to quickly rerun modeling sequence with new input data

SHORT COURSE II: "3D Seismic Attributes for Prospect Identification and Reservoir Characterization", taught by Dr. Kurt Marfurt, OU Professor of Geophysics, Thursday, March 15th, from 9:00am to 5:00pm. In this course, you will gain an intuitive understanding of the kinds of seismic features that can be identified by 3D seismic attributes, the sensitivity of seismic attributes to seismic acquisition and processing, and of how "independent" seismic attributes are coupled through geology. You will also discuss alternative workflows using seismic attributes for reservoir characterization as implemented by modern commercial software and practiced by interpretation service companies. Participants are invited to bring case studies from their workplace that demonstrate either the success or failure of seismic attributes to stimulate class discussion.



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Page 2

Course Outline

1. Introduction
2. Complex trace attributes
3. Horizon and formation attributes
4. Color display and 3D visualization
5. Spectral decomposition and thin bed tuning
6. Geometric attributes
7. Attribute expression of structure and stratigraphy
8. Impact of data quality on seismic attributes
9. Structure-oriented filtering and image enhancement
10. Multi-attribute analysis tools

SHORT COURSE III: "Prospect Evaluation and Play Analysis", taught by Stan Cunningham. OU alumnus, President of Laurel Petroleum Company, [Thursday, March 15th, 9:00am - 12:00pm.](#) This course will present a review of volumetric calculations of oil and gas reserves for Original Oil/Gas in Place (OOIP, OGIP) and Estimate Ultimate Recovery (EUR) with undiscounted and unrisks calculations of Return of Investment (ROI). Petroleum Systems, Prospects and Plays will be introduced and their evaluation and analysis covered, including the quantification of risk and discounted and risked economic calculations using spreadsheets and Monte Carlo Simulation software. Commonly used economic indicators will be presented and their calculation and use covered. Play Analysis will also be covered, along with calculation of probable field sizes.

Course Outline

1. Introduction
2. Volumetric Calculations
3. Petroleum Systems
4. Petroleum Prospects and Evaluations
5. Economic Indicators
6. Play Analysis



SHORT COURSE IV: “How to get a well drilled”, An independent geologist’s perspective on generation, leasing, selling and development of various types of oil and gas prospects. Presented by Mike Pollok, an OU alumnus and president of MAP Exploration, Inc. Thursday, March 15th from 1:30 to 5:00pm The course will demonstrate proven techniques used in getting wells drilled and completed. The participant 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.

“One-Day Field Trip to Wichita Mountains,” led by Dr. Charles Gilbert of the University of Oklahoma, will be held Thursday, March 15th. Participants will see part of a Cambrian rift zone uplifted as the easternmost Ancestral Rockies. There will be 6 or 7 stops: the Fort Sill Tar Pitt historical site; Carlton Rhyolite; an interesting diabase dike system and Mount Scott Granite; paleotopography (Permian mountains); granite facies of the Permian Post Oak Conglomerate; and the Holocene Meers Fault. Doughnuts, coffee, and field packets will be handed out at 7:15AM at the NE corner of the SEC (2nd floor entrance), and after a brief introductory talk, vans will leave promptly at 7:45AM from SEC East Parking Lot. Trip will return at 4:30PM.

Participants will need to bring some form of personal I.D. with them to gain access into Fort Sill.