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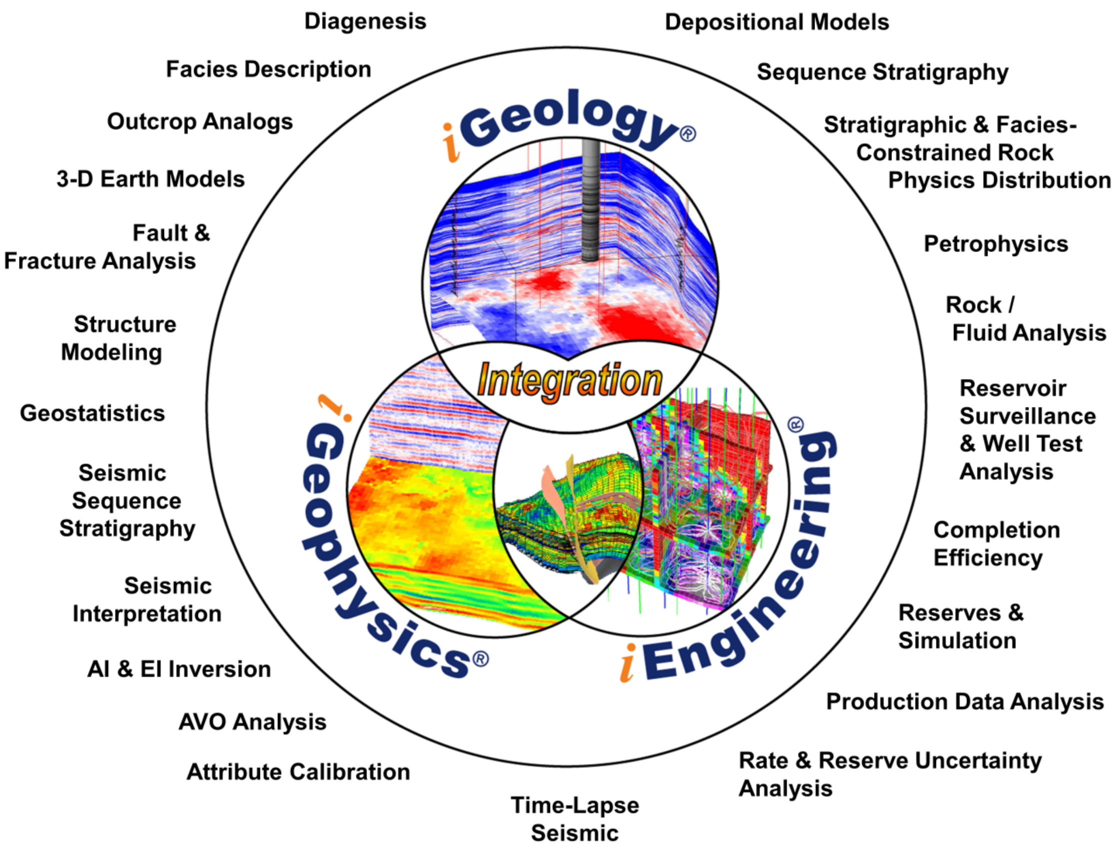
We Provide the Ultimate Answer for Your Reservoir!

Technical Training Courses

We provide world-class consulting services in reservoir characterization and simulation to oil and gas companies using state-of-the-art geoscience and engineering technologies. We also provide a wide range of interdisciplinary courses.



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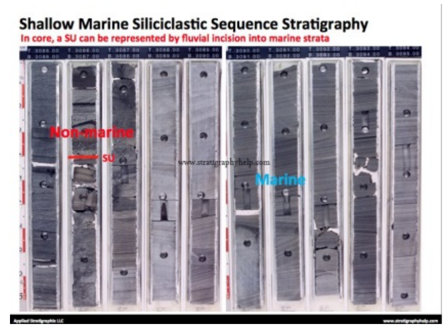
Index: Technical Training Courses

*iReservoir.com and Applied Stratigraphix

Technical Training Course

Applied Sequence Stratigraphy*



Discipline: Geology
Level: Basic
Duration: 5 days
Instructor(s): *Ali Jaffri (Applied Stratigraphix)

Summary

Several companies teach sequence stratigraphic courses. We would argue that each company has a different version. The key-word here is 'applied.' That means the course is not academic, we will not bore you with details of trying to figure out whether the cyclicity in your basin is from climate-change, tectonics, etc., we won't spend ages drawing Wheeler Diagrams for your basin, and we certainly won't be drawing coastal onlap curves.

The objective of this course is to help you find more oil and gas using well-logs, core and seismic data. This is a prerequisite course for others listed here. Topics include the recognition of key sequence stratigraphic surfaces and systems tracts in seismic, well-logs, core and outcrop. Exercises during the course will teach participants how to chronocorrelate wells using wireline logs and core. Unlike other course providers we believe 5-days are too short for participants to master both sequence and seismic stratigraphy, which is why we split these topics into two courses. Please be aware that this is NOT a seismic stratigraphy course and we will spend minimum time on seismic data. Most sequence stratigraphy courses taught by other training providers try to cram-in sequence analysis on logs, core and seismic + seismic facies analysis into 5-days which we feel is a disservice to participants.

The focus of this course is conventional siliciclastic and carbonate reservoirs.

You Will Learn

- To develop a thorough understanding of relative sea-level changes and their effect on the distribution of source and reservoirs rocks
- To create an awareness amongst participants about the limitations of lithocorrelation and the benefits of chronocorrelation
- To prepare participants for realistic facies modeling in the creation of geomodels

Who Should Attend

Geologists, Geophysicists, Petrophysicists, and Engineers who wish to develop a better understanding of the factors that control distribution, reservoir connectivity and compartmentalization of a particular reservoir.

The course assumes no prior knowledge of sequence stratigraphy, which is why we strongly urge geomodelers and reservoir engineers to enroll.

Course Content

- Introduction, applications in exploration and development, autocyclicty vs allocyclicity, Walther's Law and facies belts, identification of Subaerial Unconformities (Sequence Boundaries), Maximum Flooding Surfaces, Wave and Tidal Ravinement Surfaces, Maximum Regressive Surfaces in sub-surface datasets such as seismic, well-log and core data, Sequence Stratigraphy of Shallow Marine Siliciclastic Systems

- Performing sequence analysis on well-logs, exercise on identification of lithofacies and stacking pattern in a wave-dominated parasequences in core

- Sequence stratigraphy of deepwater petroleum systems: effects of relative sea-level fall on sediment gravity flows, canyon incision, longshore drift capture, discussion and identification of key surfaces such as the Maximum Flooding Surface and Sequence Boundary and their identification in seismic, well-log and core data, autocyclic vs allocyclic changes and their controls on reservoir distribution and architecture, predictive stratigraphic models of Mike Gardner (Build-Cut-Fill and Spill and Adjustment-Initiation-Growth-Retreat)

- Identification of key-sequence stratigraphic surfaces in sub-surface data from deepwater exploration basins

- Carbonate sequence stratigraphy and its control on reservoir distribution and quality, recognition of key surfaces in core, highstand shedding of carbonate platforms, effects of karstification, dissolution and leaching along subaerial unconformities, drowning unconformities ("Type-3 sequence boundaries") and source rocks, variations in cycle-style in carbonates, the start-up, catch-up and keep-up phases in carbonate platform development

- Exercise on identification of lithofacies and stacking pattern in a carbonate-ramp parasequence

- Sequence stratigraphic models by the Exxon Group, Hunt and Tucker, Plint and Nummedal, Galloway's genetic sequences, T-R cycles of Ashton Embry and the use of 3G parasequences in correlation

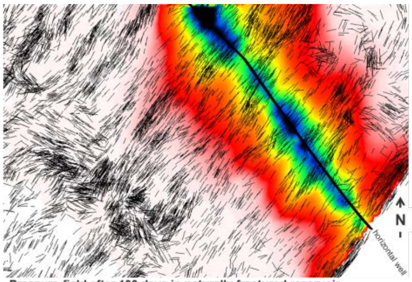
- Exercise on using Ashton Embry's techniques in well-log correlation

- Introduction to sequence biostratigraphy: index fossils including planktonic and benthic foraminifera, calcareous nannoplankton, dinoflagellates, spores and pollen, the concept of ecostratigraphy, finger-printing and biosteering

- Well-log workshop on participant data

Technical Training Course

Seismic for Reservoir Characterization and Geological Modeling



Pressure field after 100 days in naturally fractured reservoir

Discipline: Geophysics
Level: Basic/Intermediate
Duration: 2 days
Instructor(s): Reinaldo J. Michelena

Summary
Seismic data provides information about the subsurface such as structural framework, stratigraphic framework, variations in rock properties and fluid types across the reservoir, fluid and pressure changes, identification of sweet spots related to different reservoir conditions and natural fracture properties. Starting from basic concepts of wave propagation, the purpose of the class is that participants get familiar with modern acquisition, processing and interpretation methods that are needed to build matrix and natural fracture models of the subsurface. Both geophysicists and non-geophysicists will benefit from the class. One the one hand, geophysicists already familiar with some of the methods presented will have the opportunity to see the "larger picture" of how all methods fit together. On the other hand, non-geophysicists will understand *what* seismic data can provide to their disciplines without having to spend too much time understanding the complex details of the *how*. Examples and exercises from different geological environments illustrate the different concepts.

You Will Learn
- To make the right choices regarding the data needed for the project
- Different types of data acquisition method and geometries
- Why you need to migrate the data to get events in the right place
- How to extract structural information from the seismic data
- The importance of having collocated data for proper calibration
- Why seismic data is useful for something else besides mapping the "container"
- How seismic data can help to map matrix and fractures properties
- What kind of seismic derived information can be used to constrain flow simulation models

Who Should Attend
Geologists, petrophysicists, engineers and geophysicists that participate in integrated reservoir characterization and simulation projects.

Course Content
- Fundamentals of seismic wave propagation
- Seismic data acquisition
- Seismic processing and imaging
- Structural framework
- Time to depth conversion
- From seismic amplitudes to elastic properties
- From elastic properties to other rock properties: matrix modeling
- From structural attributes to natural fractures modeling

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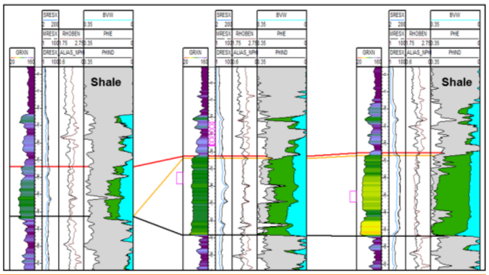
Technical Training Course

Petrophysics for Reservoir Characterization Models

Discipline: Petrophysics
Level: Intermediate
Duration: 2 days
(alternate: “overview” class for 1 day,
or a custom class with client data for 5 days)
Instructor(s): Michael Uland



Summary

This class provides an introduction for beginners and an updated review for practitioners to the range of input petrophysics data types the can be used for reservoir characterization and geomodel construction. The class focuses on practical petrophysics data that is needed for model input and how to evaluate and verify the petrophysics data is usable for the questions that will need to be answered using the models. Class examples include quantifying the range of uncertainty (error) in the input petrophysics data used in the geomodel. Additional topics include how to incorporate horizontal well data in the unconventional reservoir models.

Higher-quality verified petrophysics data (logs and core) that agrees with the seismic and engineering data used in the models will help prevent later model prediction miss-matches and reduce the time required to repair the input data and re-build the geomodels and re-run the flow-simulations. Avoid or minimize bad input data, which results in poor models.

You Will Learn

- Review petrophysics data needed for reservoir characterization and geomodel input
- Input data: identify usable petrophysics data that is available for the models
- Input data: identify missing critical petrophysics data to be acquired
- Verify estimates of lithology and petro-facies data used for geomodel input
- Verify porosity log curves and valid core-to-log calibration for geomodel input
- Verify estimates of matrix permeability for geomodel input
- Verify estimates of fluid types, fluid saturations, and fluid contacts for geomodel input
- Verify Net Pay Criteria and its implications as geomodel input
- Verify rock physics estimates for seismic attributes and rock mechanics (brittleness)
- How to handle horizontal well data for unconventional reservoir geomodel input

Who Should Attend

Geologists, Geophysicists, Petrophysicists, Geomodelers, Reservoir Engineers. Anyone who is using log and core data for input to reservoir characterization, geomodel construction, reservoir models.

Course Content

Review Petrophysics Data needed for Reservoir Characterization and Geomodel Input

- Why is the data type needed, what is it used for in the model, what if we do not have that data
- Value of co-located data sets, and reconciliation of different types of data-scales

Verify Estimates of Lithology and Petro-Facies Data used for Geomodel Input
- Are you using geofacies, lithofacies, seismic-facies and/or petro-facies, Why?
- What are the possible error ranges
- Class Example-1

Verify Geomodel Porosity Input Data and Assumptions
- Are you using Phit or Phie or only core, Why?
- Identify the quality-ranking of porosity log curves and is there valid core-to-log calibration
- What are the possible error ranges
- Class Example-2

Verify Geomodel Estimates of Matrix Permeability
- Are you using core data, NMR log data and/or regression equations, Why?
- What are the possible error ranges
- Class Example-3

Verify Geomodel Estimates of Fluid Types, Fluid Saturations and Fluid Contacts
- Choices to distribute fluids in the geomodel: log or core Sw, BVW, CapPsi
- What are the possible error ranges, and is the Sw consistent with other data types?
- Class Example-4

Verify Geomodel "Net-Pay" Criteria and Model Implications
- Choices for net-pay criteria and Pros/Cons of using net-pay criteria
- What are the possible error ranges, and is the net-pay consistent with engineering data?
- Class Example-5

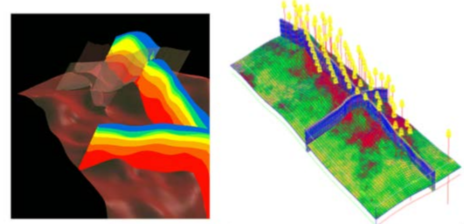
Verify Rock Physics / Rock Mechanics Estimates used as geomodel input
- Does the log rock physics agree with any seismic attributes being used in the geomodel
- Does the log rock mechanics agree with any log data (brittleness) being used in the geomodel
- What are the possible error ranges
- Class Example-6

Verify Additional Data used for Unconventional Reservoir Geomodel Input
- How to check lithology estimates from horizontal well logs
- How to check Kerogen estimates needed for geomodel estimates of adsorbed gas
- How to check for multi-Z tops needed to constrain horizontal wells in the geomodel
- What are the possible error ranges
- Class Example-7

Input Data Review: Usable Data and Missing Critical Data
- Lessons-learned
- Workflow and data checklists
- Class Example-8

Technical Training Course

Applied Reservoir Simulation



Discipline: Reservoir Engineering Flow-Simulation
Level: Intermediate
Duration: 5 days
Instructor(s): James R. Gilman

Summary

The purpose of this class is to introduce the occasional simulation user to advanced reservoir simulation concepts which are required for accurate reservoir simulation. The techniques will be introduced and applied through the use of the ECLIPSE® reservoir simulator packages. The workshop begins with an overview of general reservoir simulation concepts, followed by data preparation and history matching exercises. Emphasis is placed on the importance of data preparation and how it impacts simulation results. The most often used features commercial simulators are reviewed. The class will not address the many auxiliary tools for preparing simulation data (e.g. 3D geomodels, PVT programs, or auxiliary graphical viewers). The class will consist of hands-on simulation activities. The participants will be provided a basic geologic description, basic fluid descriptions (PVT data), relative permeability data, initial conditions, and historical rate data. Simulations may be performed on both conventional black-oil systems (ECLIPSE Blackoil™) and compositional systems (ECLIPSE Compositional™). Simulation results will be compared to historical data.

You Will Learn

- To understand how different input assumptions (gridding, PVT descriptions, etc.) can affect the simulation results and how to perform history matching.

Who Should Attend

Reservoir engineers

Course Content

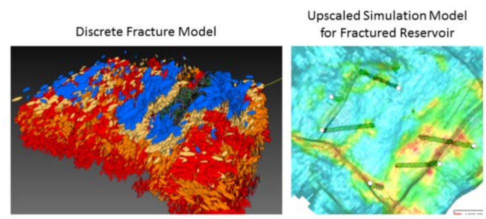
- Topics of discussion include introduction to reservoir simulation, grids, aquifers, PVT data, rock and fluid data, initial conditions, and time-dependent data
- Introduction to the basic formulation of the Blackoil reservoir simulation and discuss the input data file structure and resulting output files
- The process of grid selection between reservoir definition and computer cost. A few methods exist for reducing the number of grid blocks while maintaining a high degree of accuracy for applicable problems
- Fluid phases in the black oil assumption
- Relative permeability, capillary pressure, and rock compressibility data requirements for a simulation project
- Model initialization and some of its limitations in equilibrium conditions and non-equilibrium conditions for special situations

- Well completion, rate/pressure data and other special data (tubing curves, MDT, PLT)
- Advancing the simulator through time and optimizing simulator performance
- History matching methodology and forecasting reservoir performance
- Discussion of special features such as dual-permeability, local-grid refinements, solvent, compositional modeling, and surface networks

Technical Training Course

Advanced Reservoir Simulation for Conventional and Naturally Fractured Reservoirs

Discipline: Reservoir Engineering Flow-Simulation
Level: Advanced
Duration: 5 days
Instructor(s): James R. Gilman



Summary

This class addresses advanced topics in reservoir simulation via lecture and hands-on exercises. Each topic will address both conventional and dual-media (naturally fractured reservoirs). Topics include appropriate choice of grids, initialization methods, multi-phase flow assumptions, rock-fluid interactions and PVT formulations. This course addresses simulation concepts which approximate the physical principles that govern subsurface fluid flow and phase behavior in a variety of geologic environments. Course attendees should have a basic knowledge of reservoir engineering and familiarity with commercial reservoir simulators such as ECLIPSE. The key topics that are covered are outlined below. Not all topics will be addressed in detail because of limited available time. More time will be spent on those topics of most interest to the attendees.

You Will Learn

1. To make appropriate choices with regard to building grids for simulation
2. To make appropriate choices with regard to initializing dynamic models
3. To make appropriate choices with regard to modeling multiphase flow and rock-fluid interaction
4. To make appropriate choices for PVT approximations
5. To understand dual-media modeling choices for naturally fractured reservoirs

Who Should Attend

Reservoir engineers with previous experience in applying reservoir simulation

Course Content

Reservoir Simulation Grids

- Honoring geology, phase fronts, fractures, and computational limitations
- Upscaling from 3D descriptions
- Aquifer approximations
- The value of conceptual models
- Local grid refinement considerations

Fluid Physical Property Data (PVT data)

- Two component vs Equations-of-State formulations
- Choosing the number of components in equations-of-state

Rock-Fluid
- Relative permeability and capillary pressure assumptions
- Pros and con's of end-point scaling
- Modeling hysteresis
- Approximating rock compaction
- Surface tension effects

Initialization (Initial Pressures, Saturations, and Compositions)
- Honoring initial conditions in complex systems
- Using end-point scaling for initial saturation variability
- Non-equilibrium initialization

Well Completion and Rate/Pressure Data
- Simulator assumptions for well connections calculations
- Well connections in horizontal wells and natural fractures
- Incorporating special data types (e.g. ptt, PLT, RFT, tracer)

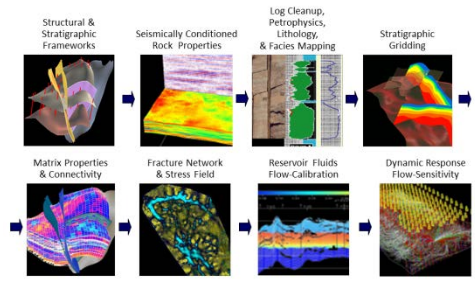
Advancing the Simulator through Time
- Linear and non-linear convergence criteria
- Making your model run better – data issues and stability
- General Black-oil tuning recommendations for fully implicit method
- Tuning implications of parallel processing
- Numerical effects of pinch-outs, local grid refinement and irregular grids
-

Dual Media Modeling of Naturally Fractured Reservoirs
- Characterization of fractured reservoirs for simulation
- Alternative models to represent multi scale transport
- Transfer function choices and adjustments
- Numerical issues and run-time optimization

Technical Training Course

Integrated Reservoir Characterization and Modeling

Optimize Your Reservoir Characterization and Modeling
with Effective Multidisciplinary Team Integration
covering Exploration to Production



Discipline: Integrated Reservoir Characterization
Level: Basic/Intermediate
Duration: 5 days
Instructor(s): Hai-Zui Meng, Michael Uland

Summary

A successful exploration and exploitation project requires efficient use of an integrated, multi-disciplinary team. This training course examines how such a team should be structured, what questions should be asked of each member and what tasks each should perform to deliver the answers. It addresses the different requirements of conventional plays, tight gas plays, and resources plays. Several different field examples will be used, with one public domain data set used as a common characterization theme through all modules.

You Will Learn

- Different contributions of a geologist, petrophysicist, geophysicist and reservoir engineer to a reservoir characterization project
- Establishment of the geological, petrophysical, geophysical and engineering data required to initiate a reservoir characterization project
- To determine which questions need to be answered and what tasks need to be performed by each member of an integrated team
- Workflows for characterization of a conventional reservoir, tight gas reservoirs, and shale gas or shale oil reservoirs

Who Should Attend

Reservoir engineer, geologist, petrophysicist, geophysicist, geomodeller, petroleum engineer, production engineer, project engineer, and project manager

Course Content

Module 1 – Geology

- What database construction issues are available
- Are the data/tops usable for quality control and defining goals
- Ensure the depositional model is a fit with regional framework
- Validating with dynamic data in sealing faults and other barriers
- Seismic/log interpretation (structural, fault, strat map)
- Establishing hierarchy of surfaces in 1-D stratigraphic and facies analysis
- 2-D correlation and facies analysis with flow units, barriers and baffles
- Are facies proportion curves ready for geomodel
- What are the aspect ratios and proportionality in the depositional model
- Learn about specialty tasks and natural fractures in tight oil and gas reservoirs
- Case studies and exercises

Module 2 – Petrophysic

- Review what database (SCAL, logs) is available and usable
- Log normalization
- Petrophysical analysis between conventional analysis vs. model
- What is net pay
- Do facies units or flow units matter
- Additional engineering needs in BVW, contacts, Phi-K
- Learn what rock physics/petrophysics relations tell us
- Learn about specialty tasks in TRA and fracability in tight oil and gas reservoirs
- Case studies and exercises

Module 3 – Geophysics

- Review what pre-stack and post-stack database is available and ready to use
- Analyze what minerals and fluids are available
- Structural interpretation in faults and horizons
- Attribute extraction and analysis from rock types, facies and faults
- Velocity modeling with time-depth conversion
- Learn about AVO inversions to constrain geomodeling
- What lithology, fluids and fractures are available in prestack and multi-component attributes
- Learn about specialty tasks and natural fractures in tight oil and gas reservoirs
- Case studies and exercises

Module 4 – Geomodeling

- Horizon/fault surface construction
- 3-D stratigraphic grid construction for model resolution
- Spatial statistics analysis for depositional environment variables
- Facies distribution
- Is seismic-log calibration available for modeling seismic/petro relationships
- Distribution of Phi-K cloud
- Net-to-gross estimation for net pay cutoff
- 3-D stratigraphic grid upscaling
- Learn about specialty tasks and natural fractures in tight oil and gas reservoirs
- Case studies and exercises

Module 5 – Engineering

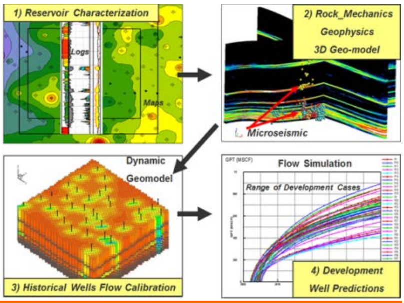
- PVT fluid type models for simulation
- SCAL (Kr, Pc, compaction, behavior) data by facies
- Learn about well tests (PTT, tracer, RFT, PLT) for geomodeling/simulation calibration
- Analyze and prepare well completions, rates and pressure for simulation
- Test impact on simulations with effective Kv, fault sealing, aquifer size and strength
- Dynamic calibration
- History matching, simulation sensitivities, economics with forecasts for uncertainty and optimization
- Learn about specialty tasks and natural fractures in tight oil and gas reservoirs
- Case studies and exercises

Module 6 – Specialty Tasks for Resource Plays

- Geological depositional geo-control and analogs
- Geochemical maturity uncertainty and compartments
- Petrophysical estimation for free and adsorbed gas
- Seismic calibration and rock mechanics
- Geophysical sweet spot and microseismic calibration
- Vertical vs. horizontal drillings and frac-stage completions
- EUR, decline behavior and spacing in simulation
- Risk models and project optimization for economics
- Case studies and exercises

Technical Training Course

Unconventional Reservoirs from Concepts to Full Commercial Development



Discipline: Unconventional Reservoirs
Level: Basic/Intermediate
Duration: 4 days
(this class can be customized to any topic and any length of time)
Instructor(s): Michael Uland

Summary

This class will review and expand on unconventional resource play key-concepts for geology, geophysical, petrophysical, and engineering analysis including data-quality, and data-integration that is required to work a resource play at different stages, from initial play-concept screening, pilot selection and testing, to full commercial PAD developments.

The class is multi-discipline and is designed to highlight that not all resource plays are equal, and each 'shale-play' has its own unique problems. These resource plays are lower in the resource-pyramid with poor matrix quality rock. However some have become major one million BOE per day production plays due to improvements in technology that have allowed some of these unconventional resources to become booked reserves.

The class is taught with examples covering 15 different North American unconventional reservoirs and compares why each one works or fails. Examples include tight-oil (Bakken Cardium, Eagle Ford, Niobrara, Wolfcamp) and tight-gas reservoirs (Piceance, Green River) and unconventional shale-gas reservoirs (Barnett, Marcellus, Utica).

You Will Learn

- What are the key drivers in successful resource plays and pitfalls to avoid
- Examples from North America: successes and failures
- Introduction to reservoir engineering for unconventional reservoirs
- What to look for when screening new plays and identifying good analogs
- How to design and evaluate a pilot scale field test program
- How to move from pilot to project development (PADS) with early optimization
- How to check the data-quality and assumptions used for unconventional wells

Who Should Attend

Geologists, Geophysicists, Petrophysicists, Geomodelers, Reservoir Engineers. Anyone who is involved with unconventional reservoirs from initial play screening to commercial scale PAD developments.

Course Content

Overview of Resource Plays: Existing North America and Emerging Worldwide Play Concepts
- Unconventional resource plays: tight-oil (Bakken-like) and tight-gas reservoirs
- Unconventional resource plays: shale-gas and oil 'chalk/marls' (Niobrara-like)
- What does it take to be successful play and how to avoid Pitfalls
- Staged programs, value-of-new-information, how to quantify and manage risks
- Plan for success, optimize for full commercialization, and long-term reservoir surveillance

Resource Play Fundamentals: What Matters and Why
- Geology: depositional geo-controls for net pay, analog selection, faults, fractures, BHP
- GeoChem: reservoir compartments, maturity uncertainty, and gas-vs-oil ratios
- Petrophysics: free gas and adsorbed gas estimates, new-core, SCAL data, what logs to run
- Rock-Physics: seismic calibrated sweet-spots, and rock-mechanics for better completions
- Seismic: sweet-spots, 'hazard avoidance' and microseismic uses and pitfalls
- Engineering: drilling, completions, and reservoir choices where decisions in one discipline affect others' results
- Economics: what is different with unconventional plays, risk models, and project-optimization

Introduction to Reservoir Engineering for Unconventional Resources
- Define Recovery Factor Drivers (technical and operational)
- How to estimate Recovery Factors (screening, pilot, commercial stages)
- What defines a "sweet-spot" (Brittleness, OOIP, EUR, NPV)
- Hydro-Frac: effective-SRV estimates, microseismic uses and pitfalls
- PAD optimization: well spacing, lengths and hydro-frac stages, and cluster placement
- Lookbacks using well performance (DCA, RTA, and flow-sim models) and caveats of each

Critical Data Checklists
- Identify data types that are key for different play types and different project stages
- How to handle missing critical data
- Newer horizontal well monitoring technology (DTS, passive seismic)

Instructors

Hai-Zui ("Hai-Ray") Meng, Ph.D., President of iReservoir.com, Inc.

Ph.D. Petroleum Engineering, University of Tulsa
M.S. Geophysics, University of Tulsa
B.S. Geology, National Taiwan University, Taiwan

Hai-Zui ("Hai-Ray") Meng has over 35 years of experience in the oil and gas industry working in various technical positions. Hai-Ray created iReservoir.com, Inc. to provide integrated reservoir characterization and fluid flow simulation consulting services using state-of-the-art geoscience and engineering technologies. Previously, he was with Marathon Oil Company, Dowell Schlumberger and Flopetrol-Johnston Schlumberger. Dr. Meng has conducted numerous integrated reservoir characterization, reservoir simulation and reservoir management studies. Dr. Meng has extensive reservoir characterization experience including seismic attribute analysis, depth imaging, 3D faulted structural framework modeling, deterministic and stochastic AI inversion, 3-D geologic model construction, and 'very practical' geostatistical modeling for reservoir engineering problems. Dr. Meng has also conducted detailed reservoir management studies using both black-oil and compositional fluid flow simulation models that are constrained to honor the existing geological, geophysical, petrophysical, and engineering data. Dr. Meng has served on various Technical Committees for both the SPE and SEG as was author of the chapter "Design of Propped Fracture Treatments" in Schlumberger's 1987 textbook on Reservoir Stimulation and USA patent on "Method of Determining Optimum Cost-Effective Free Flowing or Gas Lift Well Production", U.S. Patent No. 4,442,710, April 17, 1984.

Instructors

Michael J. Uland, Industry Technology Advisor at iReservoir.com, Inc.

M.S. Mechanical Engineering, Purdue University
B.S. Engineering, Purdue University

Mike has over 35 years of experience in the petroleum industry. Mike has 15 years of field experience covering a range of engineering positions: drilling, facilities, downhole, operations, EOR, reservoir, and acquisitions & divestiture. Prior to joining iReservoir.com, Mike was involved in multidisciplinary reservoir modeling studies at the Marathon Oil Company's Technology Center. These projects required the data integration of geophysics, petrophysics, 3D geo-modeling and reservoir simulation for the creation of effective reservoir management tools. Mike is a registered PE, and a member of SPE, SPWLA, AAPG, SEG, and CWLS.

Mike's current technical interests are

- Cost-effective reservoir management using fit-for-purpose reservoir characterization models
- Integrated 3D modeling using geophysics, petrophysics, geology, and engineering data
- Optimizing the value of 'Integrated Technology Transfer' for Business Unit planning
- Application of new technology for competitive advantage in new markets
- Creation of 'updateable‘geo-models using collaborative workflow tools.

Mike’s experience in petrophysics and geological modeling of fracture reservoirs covers over 50 worldwide fractured fields including carbonates, clastics and shale gas, shale oil, tight gas unconventional reservoirs. Mike’s EOR field experience includes heavy oil polymer floods, MARCIT polymers for fractured thief-zone control, surfactant floods, firefloods, and some SAGD and CO2 projects.

Instructors

James R. Gilman, Reservoir Engineering Advisor at iReservoir.com, Inc.

M.S. Chemical Engineering, Colorado School of Mines
B.S. Chemical Engineering, Montana State University

Jim Gilman is iReservoir's Director of Engineering and has over 35 years of experience in the petroleum industry. His expertise includes specialization in the area of application and development of numerical simulators for fluid flow in petroleum reservoirs. He was a co-developer of Marathon Oil Company's 3-D, 3-phase simulator for naturally fractured reservoirs and was instrumental in testing and debugging the dual-porosity versions of the commercial black-oil and compositional simulators for Marathon's applications. In addition to simulation expertise, Jim's work at Marathon Oil Company's Technology Center involved company-wide training and consultation in the areas of reservoir engineering, reservoir simulation, naturally fractured reservoirs, horizontal wells and production risk/uncertainty analysis. He was most recently Manager of Reservoir and Well Performance, a multi-disciplinary organization involved in 3-D geologic modeling, laboratory special core analysis, reservoir simulation and general reservoir engineering. Jim has authored or co-authored over a dozen articles primarily dealing with naturally fractured reservoirs or horizontal wells. He was instrumental in simulation of a large naturally fractured reservoir undergoing gas injection to improve gravity drainage and was invited to speak on fractured reservoir simulation at the 2003 International Simulation Forum in Germany and a 2003 Statoil Research Summit on Fractured Carbonates. He was a member of the SPE Editorial Review Committee from 1987-2000 and served as an Executive Editor for SPE Reservoir Evaluation and Engineering. He has also served as chairman of the SPE Monograph and Books Committees, an SPE Symposium on Reservoir Simulation, and an SPE Forum on Fractured Reservoirs. Jim is a registered professional engineer, and a member of the Society of Petroleum Engineers and the American Institute of Chemical Engineers. Jim recently co-authored a 2013 SPE Primer “Reservoir Simulation History Matching and Forecasting” and teaching classes on simulation and history matching for the Nautilus training organization.

Instructors

Reinaldo J. Michelena, Ph.D., Geophysical Technology Advisor at iReservoir.com, Inc.

Ph.D. Geophysics, Stanford University
M.S. Geophysics, Stanford University
B.S. Physics, Universidad Simón Bolívar, Venezuela

Reinaldo has over 30 years dedicated to research, development, and application of innovative seismic methods to help reservoir delineation and characterization, from programming and testing of novel algorithms to integrated interpretation of field data results. He worked 18 years for PDVSA-Intevep, the research and technical services affiliate of PDVSA. Reinaldo has been project leader in the area seismic techniques for reservoir characterization and senior scientist for reservoir delineation and characterization. In 2003, Reinaldo joined iReservoir and since then he has worked in a variety of problems and geological settings where seismic data analysis results are used to constrain geological and flow simulation models. Reinaldo is principal author or co-author of over fifty papers and abstracts published in internationally recognized journals and proceedings of national and international conferences. He is a member of SEG, EAGE, RMAG and DGS. He served as Associate Editor of *Geophysics* and was member of the Editorial Board of *The Leading Edge where he served as Chairman in the years 2010-2011. Reinaldo's experience in fractured reservoirs include the use of single component and multicomponent seismic data to help the characterization of fractured cretaceous formations in Barinas and Maracaibo Lake Basins (Venezuela), as well as fractured reservoirs in Brazil, Bolivia, Iraq, Mexico, South Texas, North Dakota and offshore Bahamas. He has developed techniques for facies mapping in tight formations using seismic data. In the last eleven years, Reinaldo has specialized in extracting information from seismic data to constrain facies variability in geological models as well fracture properties to constrain discrete and continuous fracture models for flow simulation.*

Instructors

Ali Jaffri, Ph.D., Geological Consultant at iReservoir.com, Inc. and President of Applied Stratigraphix LLC.

Ph.D. Geology, Colorado State University
M.S. Geology, Oklahoma State University
BA. Geology, University of Colorado

Ali Jaffri is a geological consultant with iReservoir.com, Inc., and specializes in sequence stratigraphy. Between consulting projects, full-time positions and internships he has worked on the Williston Basin, the North Sea, Norwegian Sea, Barents Sea, West Africa, Southern Indus Basin, the Pricaspian Basin of Kazakhstan and others. His doctorate at Colorado State University focused on sequence stratigraphy of mixed carbonate-siliciclastic-evaporite systems of the Williston Basin in the U.S., and modern coastlines in the Middle East. Masters Degree was acquired from a well-known petroleum school in the U.S. (Oklahoma State University), and the thesis focused on enhanced oil recovery from a fractured carbonate reservoir in northern Pakistan. Bachelors from the University of Colorado at Boulder involved detailed fieldwork on fluvial systems in Pakistan. Over the past few years Dr. Jaffri has trained geoscientists at over seven companies in Norway, Germany, Kuwait, UAE and Pakistan and performs all consulting services. He is also an instructor for Schlumberger's NExT Geoscience training company and leads field-trips to fluvio-deltaic systems in Colorado and Utah, USA as a collaborator with GEO konsulentene, Norway and 4Dimension, United Arab Emirates.