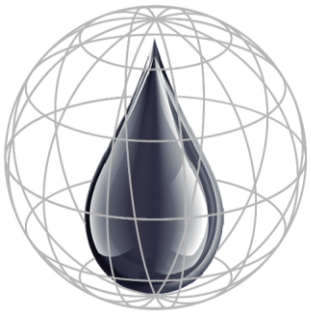


SPE IMPROVED OIL RECOVERY CONFERENCE

IOR 2026

Enabling IOR: Proven and Emerging Strategies for Maximizing Recovery

SPE International Mid-Continent Section

Reservoir Heterogeneity and Characterization

By Jerry L. Jensen and Larry W. Lake

Course Description

This course teaches field-scale reservoir characterization to evaluate heterogeneity and well-to-well communication. Class discussion includes single- and multiphase properties, standard measures of heterogeneity, such as the Dykstra-Parson coefficient, as well as newer methods to analyze inter-well communication. We include examples with geological and seismic information to better understand which heterogeneities affect fluid flow and control injector-producer interactions.

Topics

- Statistical behavior of reservoir properties
- Heterogeneity measures
- Flow-storage (Lorenz) curves
- Koval's method of water flood prediction
- Permeability and percolation
- Flow rate analysis to predict injector-producer communication

Learning Level

Intermediate

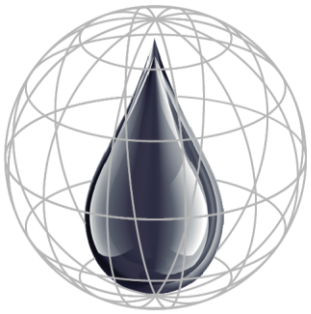
Course Length

1 Day

Why Attend

Managing water floods involves determining which injectors are in communication with which producers. Communication is influenced by the heterogeneity, so that we can improve our understanding of the reservoir by identifying which characteristics are controlling the well-to-well communications. Using the tools covered in this course, you will understand how heterogeneity and communication can be measured and used for better management.

Who Attends



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This course is designed for engineers with at least a bachelor's degree in petroleum or chemical engineering and some exposure to geological concepts. All other engineers, geologists, mathematicians and physicists with at least some experience in reservoir engineering or numerical simulation can benefit from this course.

CEUs

0.8 CEUs (Continuing Education Units) will be awarded for this 1-day course.

Instructors

Jerry L. Jensen recently retired from the University of Calgary, where he was teaching and researching reservoir characterization topics such as interwell communication, petrophysical analysis of tight oil reservoirs, and geological statistics. He currently conducts multidisciplinary reservoir characterization research at the Bureau of Economic Geology (Austin).

Jensen was a 2011-2012 SPE Distinguished Lecturer on the topic of evaluating interwell communications, and is co-author of two books on reservoir characterization. He holds a PhD in petroleum engineering from the University of Texas at Austin.

Larry W. Lake is a professor in the Department of Petroleum and Geosystems Engineering at The University of Texas at Austin. He holds BS and PhD degrees from Arizona State University and Rice University. Lake is the author or co-author of more than 100 technical papers, four textbooks, and the editor of three bound volumes. He has served on the SPE Board of Directors, as a Distinguished Lecturer, won the 1996 Anthony F. Lucas Gold Medal of the AIME, the DeGolyer Distinguished Service Award in 2002, and has been a member of the National Academy of Engineers since 1997.