Society of Petroleum Engineers Distinguished Lecturer's Series

Thursday, January 25th, 2018 at 11:30am

Location:
Dalhousie University
Milligan Room
8th Floor; LSC

Creating Geologically Realistic Models Used for Reservoir Management

Dave Stern

Abstract: To make sensible reservoir management decisions, it is necessary to predict future reservoir performance. This allows testing and optimization of reservoir management strategies before making large investments. When displacement mechanisms change or geologic description is different from current well locations, this prediction is usually done with reservoir simulation models. Because geological features determine the connectivity and productivity of the reservoir, it is important to ensure that models realistically represent the reservoir description in order to provide plausible predictions. Challenges associated with constructing these models include: 1) Uncertainty in the geologic description – measurements are sparse, and do not always resolve the relevant features. It isn't always known which features are relevant to reservoir performance; 2) Geometry and stacking of geologic objects like channels and lobes are difficult to represent in cellular models and 3) Multiple descriptions may exist that are consistent with available data.

Dave Stern is a career researcher at ExxonMobil's Upstream Research Company (URC). He joined URC in 1984 with a PhD in Chemical Engineering from University of California at Berkeley and a BS in Chemical Engineering from MIT. Research areas include experimental measurement of gas injection performance, development and use of simplified models for reservoir management, gridding and scale-up, and history matching. He led a team that developed tools for construction of simulation models from detailed geologic models, worked with software developers to implement that technology, and trained the rest of the corporation in its use. Dave is the author of an SPE distinguished author paper on practical aspects of gridding and scale-up, describing learnings from that experience. Dave is currently a Reservoir Engineering Advisor to a large Project that develops and maintains software for reservoir modelling and simulation.

For more information please visit
http://www.spe.org/dl/index.php

SPE International
Maritimes Section

or contact Adango Miadonye, Program Chairperson, at
adango_miadonye@cbu.ca