Short Course

Oil Reservoir Engineering for Geoscientists

Instructors: Kamal Malick, P.Eng.
Location: CEGA Classroom, +15 level, 540-5 ave SW, Calgary AB

November 7, 2023, | 8:00am-4:00pm (MST)
Member rate: $575+gst
Non-member rate: $775+gst

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Objectives

This course will provide an introduction to oil reservoir engineering for geoscientists. Oil field development is a complex task involving strong collaboration between the various subsurface disciplines. Deep understanding and know-how of oil PVT properties and multi-phase flow is required to exploit and manage oil reservoirs to optimize production and maximize recovery. This course will go through the main areas of focus for the characterization, development planning and commercialization of oil reservoirs and plays including the integrated subsurface understanding required. The course will begin with types of oil reservoirs and their fluid properties. The different methods available to estimate oil-in-place such as Volumetrics and material balance and the inter-dependence of geoscientists and reservoir engineers to reconcile these different methods will be highlighted. Oil well production and deliverability optimization will be discussed followed by the basics of enhanced oil recovery to improve recoverable resource. Relevant well and field examples from Western Canada will be shown throughout the training to highlight the application of the various concepts being discussed.

Outline

- Global Oil Production and Reserves
- Oil Reservoirs PVT Properties
- Volumetric Resource Assessment
- Oil Reservoirs Natural Drive Mechanisms
- Material Balance and Oil-in-Place By Engineering Data
- Oil Well Deliverability Analysis
- Basics Of Enhanced Oil Recovery

Who should attend?
Geologists, geophysicists, petrophysicists, reservoir engineers, production engineers, operations engineers, business development, technologists, technical managers and geomodelers.
FIG 1: Oil PVT Properties

FIG 2: Oil Reservoir Drive Mechanisms

**Biography**

Kamal Malick has been working in the energy industry for more than 25 years in a variety of technical and leadership roles. He has worked globally in Canada, USA, North Sea and Asia-Pacific regions on various complex oil and gas fields under both natural depletion and EOR schemes.

Kamal is currently working for Calgary-based independent, Enerplus Corporation on the Williston Basin in North Dakota developing exploitation plans for the Bakken and Three Forks shale formations. He has also worked on various conventional, tight, and unconventional fields in West Central Alberta in Canada. Previously, he was the Subsurface Manager for one of the largest onshore gas fields in
Indonesia consisting of multiple naturally fractured stacked zones. He was responsible for managing its subsurface development and depletion planning in addition to optimizing the commercial aspects of various gas contracts on behalf of the joint-venture partners. Kamal has also worked on volatile oil and retrograde-condensate gas fields in Algeria and on several oil fields in the UK North Sea with a subsurface consultancy. Kamal started his career from Pakistan where he worked on field development and exploitation planning of oil and gas fields in the Badin Basin in Sindh and in the Kirthar fold belt in Balochistan.

Kamal's areas of expertise are reservoir engineering, field development planning, resource evaluation and economic analysis. He has been involved with teaching and mentoring throughout his career. He conducts industry courses through the Canadian Society of Petroleum Geologists (CSPG) and the Society of Petroleum Engineers (SPE). He has given talks at various universities around the world including in Canada, Pakistan, and Indonesia. He mentors junior professionals from around the world through the SPE e-Mentoring program. He holds a Professional Engineer designation with the Association of Professional Engineers and Geoscientists of Alberta (APEGA) and is a member of its Registration Committee. Kamal holds a Bachelor's degree in Mechanical Engineering from NED University in Karachi, Pakistan, a Master's degree in Petroleum Engineering from Stanford University in USA and is an EMBA candidate from the University of Calgary.