AbarSolutions
Petroleum Consultancy

Training Course :

Geostatistical Reservoir Modeling: Standard Approach and Best Practices

Training Course For One Week In

Turkey, Istanbul, Taksim Gonen Hotel

Which Be Held As Under Details :

Abar Solutions Petroleum Consultancy Invite Your Employee To Participate With Us In Special Training Course As Under Details :

Course Name	Geostatistical Reservoir Modeling: Standard Approach and Best Practices					
Code	Period	Language	Start	End	Location	Fees KD
GT 017	5 Days	Bilingual (Arabic & English)	30/10/2017	03/11/2017	Turkey, Istanbul, Taksim Gonen Hotel	1195
			18/12/2017	22/12/2017		
			15/01/2018	19/01/2018		
			26/03/2018	30/03/2018		
The Fees Includes: Lecturer, Training Material, Training Room With One Coffee Break Daily, Certificate Of Attendance In Last Day Training Course						

Course Description

− The course reviews the full spectrum of an integrated reservoir study from core/well log to fluid flow simulator. It addresses the practical requirements and workflows for modern 3D reservoir modeling. Participants learn how to use deterministic and stochastic modeling methodologies to quantitatively integrate diverse data types, model reservoir heterogeneity, assess model uncertainty, and prepare the reservoir model as input to a flow simulator, Particular emphasis is placed on the best modeling practices and data integration methodologies available using geostatistical techniques. The presentation includes an informal, interactive discussion of the agenda topics, illustrated with case studies and including computer workshops. The objective of this 5-day course is to provide participants who have experience in building reservoir models, with the solid understanding of the underlying geostatistical methodologies used in Applied Reservoir Modeling. The course provides discussion of the heart of geostatistics that includes data stationarity, spatial relationship (variogram), estimation (kriging and

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cokriging), and conditional simulation (SIS, TGS, SGS). Additionally, best practices on the workflow for building reservoir model will be presented. To enhance the understanding of the participants about these topics, the exercise for detail analysis and sensitivity, based on actual field data, is provided.

Course Content & Outlines

- **Day 1**
- Introduction
  - From Core to Simulation: An Integrated Reservoir Modeling Workflow
  - Role of Heterogeneity in Reservoir Modeling
  - Fundamentals of Geostatistics
- Basic Statistics for Reservoir Modeling
  - Descriptive Statistics: Univariate and Bi-variate Analysis (Linear Regression)
  - Inferencial Statistics: Random Experiment, Probability and Probability Distribution Function (PDF)
- Practical Session 1
  - Advantage and Disadvantage of Linear Regression
  - Gaussian Transform
- **Day 2**
- Data Stationarity
  - Background Theory: Outlier, Log ,Trend (1D, 2D and 3D) and Normal Transforms
  - Practical Session 2: Performing Data Analysis of Continuous and Discrete Variables
- Spatial Analysis:
  - Covariance and Variogram in Spatial Space
  - Variogram Analysis: Definition, Variogram in Practice, Modeling, Anisotropy, and Uncertainty

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- Practical Session 3: Building Variogram Model
- **Day 3**
- Deterministics Modeling: Estimation Process (Kriging)
  - Kriging vs. Conventional Linear Interpolation
  - Kriging Fundamental: Simple and Ordinary Kriging
  - Kriging for Geological Facies
  - Role of Secondary Variable (Seismic and / or Concept):
    - ✓ Preparing Secondary Variable
    - ✓ Reconciling Data Resolution
    - ✓ Universal Kriging (Trend Method)
    - ✓ Co-Kriging and Collocated Cokriging
    - ✓ Practical Session 4: Sensitivity of Various Kriging Techniques
- **Day 4**
- Stochastic Modeling: Stochastic Simulation
  - Preserving Heterogeneity: Estimation vs. Simulation
  - Continuous Variable Simulation using Sequential Gaussian Technique
  - Discrete Variable Simulation using Sequential Indicator and Truncated Gausssian Technique
  - Co-Simulation Process for Data Integration
  - Practical Session 4: Sensitivity of Simulation Techniques
- **Day 5**
- Practical Integrated Reservoir Modeling Process
  - Structure Modeling
  - Facies Modeling (Geological Facies and Rock Type)
  - Property Modeling (Porosity, Permeability, and Saturation)
  - Volume Calculation and Uncertainty Analysis
  - Moving to Dynamic Model
    - ✓ Dynamic Ranking
    - ✓ Upscaling

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