SPE Iran Section

RESERVOIR PETROPHYSICS

- **Introduction to Petrophysics and subsurface environment**

  Pore fluid chemistry
  Subsurface Temperature
  Subsurface Pressure

- **Reservoir Description**

  Core Description methods
  Core Gamma Scan
  Core Photography
  Core Imaging
  Core Computerized Tomography
  Mineralogical and Textural Characterization methods

- **Reservoir Heterogeneity and Compartmentalization**

  Heterogeneity (Siliciclastic Reservoir Types)
  Heterogeneity (Carbonate Reservoir Types)

- **Textural and diagenetic controls on reservoir quality**

  Rock Compositional Properties
  Rock Textural Properties
  Diagenesis and reservoir quality

- **Core and formation fluid analysis**

  Coring methods
  Core and plug preparation
  Core plug cleaning and Saturation Determinations
  Grain density
  Fluid saturation measurement methods
  Team Exercises

- **Porosity**

  Porosity measurement methods
  Stress Sensitivity of Porosity
  Team Exercises

- **Fluid Properties**

  Liquid density
  Viscosity
  Interfacial tension
  Wettability
  Team Exercises

- **Fundamentals of capillary pressure and applications**

  Overview and the concept of practical capillary pressure and applications
  Laboratory methods for measuring capillary pressure

- **Applications of capillary pressure in reservoir studies**

  Permeability Estimation
  Pore geometry and pore size distribution
  Height above Free Water Level
  Reservoir Recovery Efficiency
  Rock Typing
  Reservoir vs. Non-Reservoir
  Seal Capacity Evaluation

- **Averaging capillary pressure data using the leverett j-function**

- **Permeability**

  Basic concepts of permeability
  Permeability Measurement Methods
  Klinkenberg Effect
  Permeability Stress sensitivity
  Team Exercises
  Permeability Controlling Parameters

- **Models for Permeability Estimation**

  Models based on empirical or theoretical equations
  Models based on porosity and facies
  Models based on soft computing techniques
  Team Exercises

- **NMR Permeability**
- **Rock typing techniques/Flow units and reservoir characterization**
- **Archie cementation and saturation exponents, with exercises**
- **Individual consultations and presentations**