

# Course agenda: Petrel reservoir engineering

## Day 1

- Reservoir engineering in **Petrel**
- **Petrel** user interface
- Make a simple simulation grid

## Day 2

- Initialization and volume calculation
- Run simulation and results viewing

## Day 3

- History matching and prediction
  - History strategies
  - Prediction strategies.

## Day 4

- Well engineering
  - Import
  - Well path design
  - Completion.
- Upscaling
- Local grid refinement

## Day 5

- Aquifer
- Keyword editor
- Case conversion
  - Import simulation case
  - Convert to **Petrel** case
  - Conversion validation
- Simulation Study

## 1. Training Agenda

### 1-1. Petrel Reservoir Engineering

#### Course Title

Petrel Reservoir Engineering

#### Duration

5 days

#### Course Description

This course is designed to introduce reservoir engineers and asset teams to the interactive Petrel reservoir engineering tools used for the construction of simulation models.

In this course, you will build a 3D simulation model inside Petrel based on a geological input data, add wells and well control rules, create black oil fluid models and rock physics functions, and submit the model to the simulators.

Also practical application of most Petrel simulation processes will be discussed and illustrated in the exercises. Overall, pre-processing and post-processing of simulation data will be done within the Petrel environment.

#### Topics

- Set up simulation case in Petrel
- Initialization and Volume Calculation
- Simulation Run and viewing Results
- History Matching and Prediction
- Simulation study exercise
- Well Engineering
- Upscaling and Advanced Corner Point Grid
- Additional Modeling Options
- Simulation study exercise


#### Audience

Development and exploration petroleum engineers, reservoir engineers and geoscientists.

#### Prerequisites

General knowledge of reservoir engineering, and/or petroleum geology and geophysics.

### 3. Instructor Resume

 <p style="text-align: center;"><b>Haeseon Lee</b></p>	<p><b>Job title</b> Reservoir Engineer</p> <p><b>Organization</b> Oilfield - SIS</p> <p><b>Telephone</b> +82 2 3782 4947 (switchboard)</p> <p><b>Languages</b> English, Korean</p> <p><b>Location</b> Seoul, South Korea</p> <p><b>Email</b> <a href="mailto:HLee7@slb.com">HLee7@slb.com</a></p>
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### Current Projects and Areas of Interest

**Job Title :** Reservoir Engineer

Support Engineer for ECLIPSE, Petrel RE, OFM, PIPESIM , MEPO  
 ECLIPSE Instructor  
 Petrel RE Instructor  
 OFM Instructor  
 PIPESIM Instructor

### Assignment History/Experience

Feb 2012 - present

Reservoir Engineer  
 SIS (Seoul, South Korea)  
 Operations PTEs, Engineers & Specialists  
 Support on reservoir engineering domain

2014

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Instructor  
 Feb 18-21 : ECLIPSE Black oil at FORED  
 Mar 31-Apr 4 : ECLIPSE Black oil for KOGAS HQ  
 Apr 28-30 : Petrel Reservoir Engineering course for SKI

May 13-16: ECLIPSE Advanced course in Tokyo, Japan  
 June 10-12 : GAGD(Gas assisted gravity Drainage) study for SKI  
 July 11-18 : ECLIPSE & Petrel RE & Uncertainty Analysis  
 Aug 18-22: ECLIPSE Black oil for SKI R&D

Assistant

Feb 11-14: PIPESIM Fundamental & Artificial design combined course

Mar 17-21: MEPO training for Daewoo

2013

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Instructor

June 19-21: Petrel RE for Hanyang University in Korea

April 22-26: OFM for SKI in Korea as assistant

Mar 25-29: ECLIPSE for Seoul National University in Korea

Feb 18-22: ECLIPSE+Petrel RE for 19 university students in Korea

Workshop

May 23: OFM displaying and analysis for KOGAS R&D

2012

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Training Assistant

Apr 30-May 7 Petrel Geophysics for KNOC in Korea

Feb 27-Mar 2 ECLIPSE Black Oil for 2 Hanyang University student in Japan

Feb 21-23 Petrel RE for 19 KNOC in Korea

## Education

**Masters, Petroleum Engineering**

**2012** Seoul National University (*South Korea*)

Thesis: Efficient Prediction of SAGD production using static factor with k-means

**Bachelors, Energy Engineering**

**2010** Seoul National University (*South Korea*)

Training taken in Schlumberger

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Aug 25th - Sep 26th 2014 : TechEDGE 3, Melun, France

Aug 26th - Sep 27th 2013 : TechEDGE 2, Houston, USA

Oct 8th - Nov 28th 2012 : Build-it 1, Houston, USA

Apr 9th-14th, 2012 : OFS-1 in KL, Malaysia

Feb 8th-Apr 5th, 2012 : OJT in Tokyo office

## Professional Achievement

Consulting

Oct. 28-30(3days) in 2013, KOGAS R&D: Zubair Field development plan

Mar 4-12 (7 days), KOGAS R&D : Underground Gas Storage Project - Consulting assistant