

# **The Second Norne workshop**

## **IO-Centre**

IPT-P10

Department of petroleum Engineering and applied Geophysics

NTNU

Tuesday, June 22, 2010

The Statoil-operated Norne Field is an oil field offshore Norway that has been in production as a subsea field mainly through water injection since 1997. The expected ultimate oil recovery is more than 60%; probably the highest recovery of all subsea oil reservoirs, worldwide. During 13 years of production five 4D extremely high quality seismic surveys have been recorded.

Norne bench mark case is a unique set of real oil field data which is currently being organized by the Norwegian University of Science and Technology (NTNU). Operator Statoil and partners (ENI and Petoro) have agreed with NTNU to release large amounts of subsurface data from the Norne field for research and education purposes. An important objective of this agreement is to establish a number of international benchmark cases based on real data for the testing of reservoir characterization/history matching and/or production optimization methodologies.

The main objective of workshop based on Norne benchmark case is using real data instead synthetic data in the petroleum related research which includes:

- Be prepared to define a comparative case study of alternative methods for history matching and ultimately closed loop reservoir management,
- Share results and new knowledge with the Norne Field organization, Statoil and IO Center/NTNU participants.

8:30 – 9:00	Coffee and Refreshments	
9:00 -9:10	Introduction and Overview of Program II / IO-Centre Activities	Bjarne Foss
9:10 - 9:30	Norne Benchmark Case – Activities & Plans	Mohsen Dadashpour
9:30 – 10:00	Using Norne data sets to boost collaboration and innovation between Universities and Industrial Companies	Vidar Hespø
10:00 – 10:30	IOR Research and Development in Statoil	Lars Høier
10:30 - 10:50	Coffee break	
10:50 - 11:20	On the time-lapse seismic signatures at Norne / overview of Stanford activities on Norne	Gboyega Ayeni
11:20 - 11:40	4D seismic. Formulation and problems	Richard Rwechungura
11:40 – 12:00	Study production potential from the Tofte formation	Kristian Bunkholt Nauste
12:00 - 13:00	Lunch break	
13:00 - 13:20	History matching using EnKF	Stawomir Szklarz
13:20 – 13:40	Enhanced oil recovery for the Norne	Chinenye Clara Emegwalu
13:40 – 14:00	History Matching and Uncertainty Analysis of the Norne E_Segment using PETREL	Celia D. A. G. Correia & Jidefor Odinukwe
14:00 -14:20	Coffee break	
14:20 – 14:40	An EOR study of the Norne E-Segment, by applying a surfactant simulation and an economical evaluation of the feasibility of the surfactant flooding.	Per Einar Kalnæs
14:40 -15:00	Application of the EnKF routine in history matching and tested on Norne	Espen Rørvik & Kjetil Bjørke
15:00 – 15:20	Surfactant Flooding of the Norne Field E-segment	Aida Kheradmand
15:20 – 15:40	Comparative Case study	Eka Suwartadi
15:40	Discussion and closing	