EAGE/SPE Joint Workshop 2013

Beyond closed-loop integrated monitoring

17-20 November 2013
Lisbon, Portugal

www.eage.org
Welcome

Welcome to the EAGE/SPE Joint Workshop 2013 – Beyond closed-loop integrated monitoring. This programme includes all necessary information about the workshop. Please do not hesitate to contact the EAGE conference staff at the registration desk if you have any questions.

Technical committee

Malcolm Francis (convenor) - WesternGeco
Adam Cherrett (convenor) - Maersk Oil
Colin MacBeth - Heriot-Watt University
Olivier Gosselin - Imperial College London/Total
Pierre Thore - Total
Marie Ann Giddins - Schlumberger
Pierre Bergey - Total
Umar A. Nahdi - Saudi Aramco
Leon Baren - Total
Jan-Arild Skjervheim - Statoil
Veronique Gervais - IFPEN
Paul Naccache - Schlumberger
Francesca Pirera - Eni
Roddy Irwin - Gaffney, Cline & Associates
Paul Johan Valle - Statoil

About the workshop

Beyond closed-loop integrated monitoring brings together data, modelling and understanding from the borehole to the field scale. Increasing recovery is a significant goal for field management. Can we improve on existing closed-loop history matching? Technology is rapidly evolving; history matching now includes new data types on a field scale such as time-lapse seismic and gravity. The challenge now is to integrate more detailed measurements using information from borehole-scale measurements into closed-loop approaches. The workshop emphasis is to link the borehole-scale measurements, petrophysics, flow modelling and optimisation to field-scale seismic, reservoir modelling and monitoring.

Workshop overview

Sunday 17 November
18:30-20:30 hrs Icebreaker Reception
19:00 Welcome & workshop introduction

Monday 18 November
09:00-16:20 hrs Technical Programme
16:20-18:30 hrs Software demonstrations

Tuesday 19 November
09:00-17:00 hrs Technical Programme
18:30-22:30 hrs Workshop dinner

Wednesday 20 November
09:00-12:30 hrs Technical Programme
12:30 hrs End of the workshop

About Lisbon

About Lisbon

With its heart and soul in the Mediterranean and a history linked to the Atlantic, Lisbon is one of Europe’s most intriguing cities. Styled over 400 years by the Moors and enriched by the spice trade in the golden age, Lisbon is a historic capital, a collection of unusual character and charm.

More information about the city can be found at www.visitlisboa.com

Technical programme

The objective of this workshop is to emphasise the integration of closed-loop approaches, measurements and models over a range of scales. We look forward to open communication, exchange of ideas and experience. The technical programme includes presentations and workshop discussions.

Monday 18 November 2013

Castello I+II

SESSION I-A: A QUESTION OF SCALE AND DATA MODELLING
M. Francis (WesternGeco) & L. Baren (Total)

9:00 Introduction

9:10 A01 - Reservoir Condition Pore-scale Imaging of CO2 in Carbonates and Sandstones - M.G. Andrew* (Imperial College London), B. Bijeljic (Imperial College London) & M.J. Blunt (Imperial College London)

9:30 A02 - The Impact of Scale of Measurement on Integrated Petrophysical Interpretations - J.R. Irwin* (Gaffney, Cline & Associates Ltd), S. Bhattacharyya (Gaffney, Cline & Associates Ltd)
Beyond closed-loop integrated monitoring

Tuesday 19 November 2013

**CASTELLO I+II**

**SESSION III-A: COMBINING SCALES**

9:00 Introduction

9:10 C01 - Closing the Loop - Dynamic Upscaling of Geomodels - K. Fletcher (Schlumberger)

9:30 C02 - Examples and Demonstration of Dynamic Upscaling - K. Fletcher (Schlumberger)

9:50 C03 - Closing the Loop for Unconventionals - F. Akram (Schlumberger)

10:10 C04 - Fracture Levels and Characterization - F. Akram (Schlumberger)

10:30 Coffee break

**CASTELLO I+II**

**SESSION IV-B: THE PRACTITIONER’S VIEW**

15:30 Introduction

15:40 D04 - High Resolution 4D Inversion Driven by Dynamic Constraint - P. Thore (Total E&P UK Limited)

16:00 D05 - Model Maturation - Perhaps we Should Talk? - G.J.P. Joosten (Shell)

16:20 D06 - Closing the Loop Using Engineering-consistent 4D Seismic Inversion - S. Tian* (Heriot-Watt University), C. MacBeth (Heriot-Watt University) & A. Shams (Heriot-Watt University)

16:40-17:00 Round Table Discussions - Using Integrated Work-flows for Reservoir Modeling - Experiences & Challenges.

18:30 Departure from SANA Lisboa Hotel for Workshop Dinner
**Wednesday 20 November 2013**

**Castello I+II**

**SESSION V-A: WHAT ENGINEERS REALLY WANT**

*P. Bergey (Total) & V. Gervais (IFPEN)*

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<tr>
<th>Time</th>
<th>Session</th>
<th>Speakers</th>
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<tr>
<td>09:00</td>
<td>Introduction</td>
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<td>09:15</td>
<td>E01 - Integrated Reservoir Modeling, Assisted History Matching and Uncertainty Management in Petroleum Reservoirs - P. Van den Hoek* (Shell), G. Joosten (Shell), G. van Essen (Shell) &amp; G. Kaleta (Shell)</td>
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<td>09:40</td>
<td>E02 - Incorporating Data at Various Scales in an Integrated Modelling Workflow - C. Otterlei* (Statoil), O. Lia (Statoil), J. van Hagen (Statoil), A. Pontén (Statoil) &amp; J. Quin (Statoil)</td>
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<td>10:05</td>
<td>E03 - Parameterisation - Selected Approaches Derived from Reservoir Engineering Laws - P. Bergey (Total E&amp;P UK Limited)</td>
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<td>10:30</td>
<td>Coffee Break</td>
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**SESSION V-B: WHEN IT WORKS AND WHEN IT DOES NOT WORK, CONTRASTING CASE HISTORIES**

*J.A. Skjervheim (Statoil)*

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<th>Time</th>
<th>Session</th>
<th>Speakers</th>
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<td>11:00</td>
<td>Introduction</td>
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<td>11:10</td>
<td>E04 - Reservoir Modeling and Production Forecast under Geological Uncertainties - R.G. Hanea* (Statoil), J.A. Skjervheim (Statoil), G. Evensen (Statoil) &amp; L. Hustoft (Statoil)</td>
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<td>11:30</td>
<td>E05 - The Roles of Geophysicists, Geologists and Reservoir Engineers in Closing the Loop - Data - Modeling - Understanding - K. Midtveit (Roxar Software Solutions AS)</td>
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<td>11:50</td>
<td>Workshop Wrap-up - Summaries of All Sessions and Closing Remarks</td>
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<td>12:30</td>
<td>Lunch and Close</td>
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The extended abstracts are available on the proceedings USB as well as at www.earthdoc.org, EAGE’s online geoscience database.

**Software demonstrations**

The Software demonstrations are a great opportunity to get (re)introduced to participating companies showcasing their software and services.

The following companies will participate in the Software demonstrations:

- Halliburton
- Roxar

**General information**

**Opening hours registration/info desk**

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<th>Day</th>
<th>Time</th>
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<tr>
<td>Sunday 17 November</td>
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<td>Wednesday 20 November</td>
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**Catering**

Coffee/tea breaks and lunches are included in the registration fee. The coffee/tea breaks take place in the Foyer in front of the meeting room. Lunches will take place in the Restaurant Contemporâneo (level -2).

**Social programme**

**Icebreaker reception**

*Sunday 17 November, 18:30-20:30 hrs*

The workshop will start on Sunday evening with an informal icebreaker reception in the Foyer of the SANA Lisboa Hotel (level -1). The reception is a perfect occasion to meet the other workshop participants and an opportunity to pick up your workshop badge.

**Workshop dinner**

*Tuesday 19 November, 18:30-22:30 hrs*

The workshop dinner will take place at the Aura Restaurant, located in the heart of Lisbon at the Praça do Comércio, one of the largest historical squares in Europe, overlooking the Tagus River. The evening will comprise of contemporary Portuguese cuisine accompanied with traditional fado music.

The workshop dinner is sponsored by **Schlumberger**

**Family members**

Family member registration fee includes access to the icebreaker reception and workshop dinner.

**Sponsors**

**Main sponsor**

*Statoil*

**Sponsor**

*Schlumberger*

**Software demonstrations**

- Halliburton
- Roxar