Permanent Reservoir Monitoring, also known as Life-of-Field Seismic, using permanently installed seismic cables, has been characterized by a few key marker projects but did not reach mainstream status during its first ten years. However, since the start of its second decade we have witnessed a flurry of new projects and activity on both sides of the Atlantic.

This workshop sets out to explore whether the mood in industry has changed. We explore new evidence to better understand the value proposition, including factors impacting and enabling the business decision. There will be technical discussions about existing systems, around logistical challenges of installation and maintenance, and ways for efficient and effective data acquisition once the system is in place. We also investigate new concepts entering the market and new ideas no matter how embryonic to understand how the benefits of what we would call Frequent 4D (F4D) can be realized beyond the confines of PRM alone. Ultimately our objective is to understand how reservoir management can move to a more pro-active approach thanks to the regular availability of F4D seismic data.

Catering
The following is included in the workshop registration fee:
- Lunch on Tuesday and Wednesday
- Coffee breaks on all workshop days
- Icebreaker Reception, Poster Session Drinks and Conference Dinner

Technical Programme

Oral & Poster Presentations - Tuesday 17 March

General Information

Venue
The workshop will take place at Gamle Logen in Oslo. The venue is located at walking distance from Oslo Central Station. Address: Grev Wedels plass 2, Oslo Norway

Accommodation
Accommodation is not included in the registration fee and is to be secured at the participant’s own discretion. EAGE has negotiated discounted accommodation rates with the Clarion Collection Hotel Bastion. Please note that this is an extra service. Participants are free to book their accommodation elsewhere.

Please visit the workshop website for more information.
Oral Presentations - Wednesday 18 March

KEYNOTE SESSION I

08:30 Keynote Speech  - Ekofisk Permanent Seismic Monitoring - Results After first 4 years - P.G. Folstad* (ConocoPhillips Norge AS), P. Morgan (ConocoPhillips Norge AS), A. Bertrand (ConocoPhillips Norge AS), M. Rosasing (ConocoPhillips Norge AS) & E. Lyngnes (ConocoPhillips Norge AS)

MAKING THE PRM DECISION

09:00 We A01  - Maximizing the Field Value of Edvard Grieg Using 4D Surveillance – The Feasibility Phase - P.E. Dheldie* (Lundin Norway AS), P.B. Seljebotn (Lundin Norway AS), H. Stemmark (Lundin Norway AS), A.O. Ndingwan (Lundin Norway AS), T. Kollien (Lundin Norway AS), G. Watts (Watts Geoscience Consulting) & M. Bacon (IKON Science)

09:25 We A02 - North Sea Buzzard Field 4D Concept - The Decision Making Process - R. G. Barker* (Nexen Petroleum UK Ltd)

09:50 We A03 - Delivering Permanent Reservoir Monitoring for Snorre and Grane - M. Thompson* (Statoil ASA), M. Andersen (Statoil ASA), R.M. Elde (Statoil ASA), S.S. Roy (Statoil ASA) & S.M. Skogland (Statoil ASA)

10:15 Coffee break

10:35 We A04 - Microseismicity Recorded by a Fiberoptic Oceanbottom PRM Installation Offshore Brazil - A.V. Goertz* (PGS), J. Richardson (PGS), J. Faragher (PGS), C. Remington (Microseismic Inc.), P. Morton (Microseismic Inc.), P. Barros (Petrobras) & C. Theodoro (Petrobras)

11:00 Discussion

KEYNOTE SESSION II

11:30 Keynote Speech - TBD

12:00 Lunch

13:00 Conversation Cafe

15:00 Coffee break

HARVESTING DATA FAST AND FURIOUS - PRM IN ACTION

15:20 We B01 - Permanent Reservoir Monitoring on Snorre – The Natural Extension of a Successful 4D History - S. M. Skogland* (Statoil ASA), M. Andersen (Statoil ASA) & M. Thompson (Statoil ASA)

15:45 We B02  - Grane PRM Project - Following the Footsteps of a Successful 4D Story - S. Sinha Roy* (Statoil ASA), C. Faust Andersen (Statoil ASA), R. Elde (Statoil ASA), F. Been (Statoil ASA) & A. Saba (Statoil ASA)

16:10 We B03 - BC10 LoFS - First Results and Year One Operations - H.G. Farmer* (Shell), M. Galarraga (Shell), K. Wang (Shell), J. Stammeijer (Shell) & M. Lydon (Shell)

16:35 We B04 - First Results on Reservoir Monitoring in Jubarte PRM - Offshore Brazil - E.A. Thedy* (Petrobras), P. Dariva (Petrobras), W.L. Ramos Filho (Petrobras), C.M.O. Falcone (Petrobras), C.C. Born (Petrobras) & L.B. Zoranelli (Petrobras)

17:00 Discussion and wrap up

Oral Presentations - Thursday 19 March

Storesal

PRM - UNCONVENTIONALS

09:00 Th A01 - A Permanent Downhole Electrode Array as Valuable Tool for CO2 Monitoring at the Ketzin Pilot Site - C. Schmidt-Hattenberger* (GFZ German Research Centre for Geosciences), P. Bergmann (GFZ German Research Centre for Geosciences), T. Labitzke (GFZ German Research Centre for Geosciences) & F. Wagner (GFZ German Research Centre for Geosciences)

09:25 Th A02 - Using Ambient Noise for real-time (Hourly) Overburden Monitoring - S.B. Bussat* (Statoil ASA)

09:50 Th A03 - Permanent Seismic Reservoir Monitoring for Real-Time Surveillance of Thermal EOR at Peace River - J.L. Lopez* (Shell International Exploration & Production Inc.), P.B. Wills (Shell International Exploration & Production Inc.), J.R. La Follett (Shell International Exploration & Production Inc.), J.C. Hornman (Shell Global Solutions International B.V.), J.H.H.M. Potters (Shell Global Solutions International B.V.), M. van Lokven (Shell Canada Inc.), C. Perkins (Shell Canada Inc.) & C. Trefanenko (Shell Canada Inc.)

10:15 Th A04 - Carbon Capture and Storage Projects are such PRM Applications - M. Longton* (Silixa Ltd)

10:40 Discussion

11:10 Coffee break

CLOSING SESSION

11:30 PRM Questionnaire Report-out

12:00 Workshop Learnings Summary

12:30 Conclusion

Conversation Café

Beyond conventional keynotes, technical presentations, and interactive posters, we include Conversation Café’s as an effective mechanism to engage the global Permanent Reservoir Monitoring Community and create space for ideas, issues, and potential solutions. These structured and very stimulating round-table discussions capture the “pulse” of the PRM community, and the highlights will be fed back to all Workshop participants on the last day.
Social Programme

Icebreaker Reception
Monday 16 March, 18:30 - 20:00 hrs
The Icebreaker Reception takes place on Monday evening and is a perfect occasion to meet the other workshop participants and an opportunity to pick up your workshop badge.

Workshop Dinner
Wednesday 17 March, 19:00 - 22:00 hrs
The workshop dinner will take place at the Fram Museum. The museum houses the world’s most famous polar ship, the Fram.

The evening will start on board of the Fram with appetizers and a light show of the Northern Lights. Time has been allocated for a visit of the museum before the start of the dinner.

Short Course

Time-Lapse Seismic: A Multidisciplinary Tool for Reservoir Management
Monday 16 March, 09:00 - 17:00 hrs
Course instructor: Cedric Fayemendy

The purpose of this one-day course is to provide an overview of the importance and the benefit of time-lapse seismic. The course will kick off with a review of the Geophysical Reservoir Monitoring history within Statoil, followed by the instructors experiences on 4D processes, resources allocation and overall monitoring strategies. How to push the GRM technology towards higher use of quantitative results will also be discussed.

This course should be of interest to managers, geoscientists, reservoir and petroleum engineers with interest in reservoir management and monitoring using time-lapse seismic.

This course is an optional extra and is therefore not included in the workshop fee.

Registration

Registration fees
All fees are in Euros (€). One Euro of your total registration fee is donated to the EAGE Green Fund.

<table>
<thead>
<tr>
<th>Registered and paid</th>
<th>Until 15/01/2015</th>
<th>16/01/2015 - 10/03/2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshop¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EAGE members</td>
<td>€ 605</td>
<td>€ 705</td>
</tr>
<tr>
<td>EAGE student members¹</td>
<td>€ 305</td>
<td>€ 355</td>
</tr>
<tr>
<td>Non-members²</td>
<td>€ 705</td>
<td>€ 805</td>
</tr>
<tr>
<td>Full-time student non-members¹²</td>
<td>€ 355</td>
<td>€ 405</td>
</tr>
<tr>
<td>Family Member</td>
<td>€ 150</td>
<td>€ 150</td>
</tr>
</tbody>
</table>

How to register
We recommend that you register via the online registration form on the EAGE website (www.eage.org). However, a downloadable registration form, which should be completed and returned to the EAGE Head Office, is also available on the EAGE website www.eage.org/event/prm-2015.

Sponsoring

Sponsoring:
We would like to thank our sponsors for their generous support of the workshop.

Main Sponsors:

| ConocoPhilips | TGS | PGS | OptoPlan |

Sponsors:

| TGS | WGP | READ | Svilax |

Company display:

| TGS | WGP | OCTIO | GEOSPACE |

Contact
For further up-to-date information, please visit the conference website www.eage.org/event/prm-2015 or contact the EAGE Head Office at +31 88 9955055.