EAGE Land and Ocean Bottom Workshop
Broadband full azimuth seismic surveys
28 April - 2 May 2014
Mallorca, Spain
www.eage.org
**Committee**

Chris Krohn *(Chair)*  
ExxonMobil

Peter Pecholsy *(Chair)*  
CGG

Guido Baeten  
Shell

Claudio Bagaini  
WesternGeco

Thomas Bianchi  
CGG

Gerrit Blacquiere  
Delft University

James Keggin  
BP

**Technical Programme**

**Tuesday 29 April**

**Gaspar de Villalonga room**

**WELCOME**

08:30  
Opening - Welcome - P. Pecholsy* (CGG)

**KEYNOTE**

08:40  
Tu 01 - Land and Ocean Bottom; Broadband Full Azimuth Seismic Surveys - P. Pecholsy* (CGG)

**SURVEY DESIGN**

09:35  

10:20  
Break

10:35  
Tu 03 - 3D Land Broadband Data Needs Ultra Dense Acquisition - M. Denis* (CGG), M.R. Retailleau (CGG), N.B. Benjamin (CGG) & E.S. Suauudeau (CGG)

11:10  
Tu 04 - (An)Elastic Modeling As a Tool to Understand Seismic Data in Complex Environments - K. Eggenberger* (Schlumberger), M. Branston (Schlumberger), G. El-Kaseeh (Schlumberger), P. Wang (Schlumberger), A. Koesoemadinata (Schlumberger) & M. Egan (Schlumberger)

11:45  
Tu 05 - Randomization and Repeatability in Time-lapse Marine Acquisition - H. Wason (University of British Columbia), F. Oghenekohwo (University of British Columbia) & F.J. Herrmann* (University of British Columbia)

12:20  
Discussion

12:30  
Lunch

**BREAKOUT DISCUSSION 1**

14:00  
Breakout discussion

14:30  
Wrap up

**NOISE**

14:50  
Introduction

15:00  
Tu 06 - Stretching the Limits of the Point-receiver Sampling – Feasibility Study from Kuwait - A.H. El-Emam* (Kuwait Oil Company (K.S.C.)), M. Dawas (Kuwait Oil Company) & T. Albader (WesternGeco)

15:35  
Tu 07 - Scattered Noise Attenuation with Point-receiver Acquisition - P.J. Bilsby* (Schlumberger) & J. Quigley (WesternGeco)

16:10  
Break

16:25  
Tu 08 - Combining WATS and OBN Data for OBN Free-surface Multiple Removal - A Case Study in Deep-water Gulf of Mexico - R.Z. Zhong* (CGG), J.C. Chao (Statoil), S.J. Ji (CGG) & Y.X. Xuan (CGG)

17:00  
Tu 09 - Shear Wave Noise on OBS Vz Data - J. Paffenholz* (FairfieldNodal), P. Docherty (FairfieldNodal), R. Shurtleff (Fairfield Industries Inc.) & D. Hays (FairfieldNodal)

17:35  
Discussion

18:00  
Adjourn

**About the workshop**

When seismic receivers are located on land or on the ocean bottom, the recorded wavefield is complex, certainly more complex than that recorded with marine streamer within a homogenous water layer. However, this complexity also provides the opportunity to record more fully and to utilize this complex wavefield. It is on land or the ocean bottom where we can plant a large fixed spread of receivers, and densely record fuller azimuths using high productivity simultaneous sourcing. By moving away from the ocean surface ghost, we can excite and record broad-band data better. There is a condition for using this richer data, namely the ability to handle the distortion and noise associated with the heterogeneous near surface, which vary significantly with azimuth.

This workshop will focus on the new advances in land and ocean bottom equipment/acquisition design, processing, and reservoir characterization that result in unparalleled signal-to-noise quality for these challenging environments. Specific sub-topics for this 5-day workshop include noise, sources, receivers, productivity, low and high frequencies, survey designs, imaging, inversion and more.

**Workshop Overview**

**Monday 28 April**

**Hall of the Hilton Sa Torre Hotel**

16:00  
Registration opens

16:00  
Tour desk opens

18:00  
Icebreaker Reception in the gardens of the Hilton Sa Torre Hotel
Wednesday 30 April

Gaspar de Villalonga room

08:30 Introduction


10:25 Break

10:40 We 04 - The Limitations of Generating Broadband Signals Using Hydraulic Vibrators and how to Overcome Them - T. Dean (WesternGeco), S. MacDonald (WesternGeco), J. Quigley* (WesternGeco), C. Readman (WesternGeco), D. Lane (Schlumberger), J. Tulett (Schlumberger) & M. Puckett (Schlumberger)


11:50 We 06 - Delineating the Cenozoic Field in the Central North Sea Using Full Azimuth Illumination from High Density OBC Data - A. Merry* (Maersk Oil) & E. Sturup-Toft (Maersk Oil)

12:25 Discussion

13:00 Lunch

Thursday 1 May

Gaspar de Villalonga room

08:30 Introduction

08:40 Th 01 - Improvements in the Efficiency of Ocean Bottom Sensor Surveys through the Use of Multiple Independent Seismic Sources - F. Janiszewski* (ConocoPhillips), J. Brewer (ConocoPhillips), C. Mosher (ConocoPhillips)

09:15 Th 02 - Blended Acquisation and Deblending Processing of 3D Ocean Bottom Node Data - D.B. Hays* (FairfieldNodal), C.D.T. Walker (FairfieldNodal) & A. Mahdad (FairfieldNodal)

09:50 Th 03 - Combining Deblending with Source Dethosting - G. Blacquiere* (Delft University of Technology) & A.J. Khbouth (Delft University of Technology)

10:25 Break

10:40 Th 04 - Broadband Pseudo-Random Vibratory Sweeps for Productivity Enhancement - P. Scholtz* (TGS Geophysical Company (UK) Ltd)

11:15 Th 05 - Effect of Near Surface on Seismic Data Quality in Shallow Oil Sand Reservoirs - A.-P. Shealio* (ExxonMobil Upstream Research Company), K. Lewallen (ExxonMobil Upstream Research Company), M. Norris (ExxonMobil Upstream Research Company), M. Matheney (ExxonMobil Upstream Research Company) & T. Jenkinson (ExxonMobil Upstream Research Company)

11:50 Th 06 - Broadband Signal Processing for Shallow-Water OBN Data - R. Haacke* (CGG), S. Monnier (CGG), S. Halliday (CGG), J. Zaske (Maersk Oil) & H. Roende (Maersk Oil (now at TGS))

Friday 2 May

Gaspar de Villalonga room

08:30 Inversion and Reservoir Characterization

08:30 Fr 01 - Scratching the Surface - Integrating FWI with Surface-wave Inversion to Enhance Shallow-water Near-seabed Modelling - E.J. Warda* (Schlumberger), D. Boiero (Schlumberger), A.A. Shmelev (Schlumberger) & C. Leone (Schlumberger)

08:40 Fr 02 - Fast Track Broadband Seismic Inversion Workflows - A. Geisslinger* (Brunel Shell Petroleum Company)

09:05 Fr 03 - From Raw OBN Data to Inversion in Three Easy Steps - A. Baumstein* (ExxonMobil) & Y. Tang (ExxonMobil)

10:15 Break

10:30 Fr 04 - Full Waveform Inversion and Imaging on Broadband Data - D. Vigh* (Schlumberger), N. Modoveanu (Schlumberger), J. Kapoor (Schlumberger) & K. Jiao (Schlumberger)

11:05 Fr 05 - Experience with Application of Ocean Bottom Nodes (OBN) for Reservoir Imaging and Characterization - A.-V. Strudley* (Chevron Energy Technology Company), G. Chou (Chevron Energy Technology Company), S. Iyiola (Chevron Nigeria Limited), L. Sydora (Chevron Energy Technology Company) & J. McClay (Chevron Nigeria Limited)

11:40 Breakout discussion

12:15 Wrap up

13:00 Adjourn

13:00 Lunch
Social Programme

The Icebreaker Reception will take place on Monday 28 April (18:00 hrs).
The Workshop Dinner is planned on Thursday 1 May at 19:00 hrs.

Optional tours

Optional tours will be offered on Wednesday and Friday afternoon. More information is available on the EAGE website. An onsite tour desk will be open on Monday 28 April from 16:00 - 20:00 hrs.

Contact

For more information about this workshop, please go to our website (www.eage.org/events/landandoceanbottom).