

AGENDA – ROSE meeting 27th-30th April 2015

Location: P1 in PTS1, S.P. Andersens veg 15, Trondheim.

Monday 27th April

09:30 Coffee and registration

09:50 Welcome

Session 1: Rock physics

10:00 Rock Physics Template for Source Rocks, *Jose Carcione, OGS*

10:30 Rock Physics Template for Source Rocks – examples from offshore Norway; *Per Avseth, NTNU/Tullow Oil Norge*

10:50 Static vs. Dynamic Moduli – Another piece in the puzzle; *Erling Fjær, SINTEF / NTNU*

11:10 Ultrasonic Studies of Stressed Sand and Clay; *Mohammad Hossain Bhuiyan, NTNU (now SINTEF)*

11:30 Seismic Dispersion of Mancos Shale; *Dawid Szewczyk, NTNU*

11:50 Bounds on anisotropic moduli; *Rune M Holt, NTNU/ SINTEF*

12:10 **LUNCH**

13:00 Laboratory Simulation of stress effects on 4D at Seismic and Ultrasonic frequencies; *Andreas Bauer, SINTEF/NTNU*

13:20 Aspect ratio histograms of 3D Ellipsoids and 2D Ellipses; *Martin Landrø, NTNU*

Session 2: Modeling, Processing and Anisotropy

13:40 Diffractions: Do we exploit the imaging potential?, *Dirk Gajewski, University of Hamburg, Germany.*

14:10 Recursive stack to zero offset along local slope, *Bjørn Ursin, NTNU*

14:30 Integrated basin scale thermal modelling, *Ketil Hokstad, NTNU/Statoil*

14:50 Estimation of anisotropy parameters from CRS approximation, *Shibo Xu, NTNU*

15:10 **Coffee break**

15:30 Upscaling in orthorhombic media, *Yuriy Ivanov, NTNU*

15:50 Wavefield modeling in shadow zones. Tip wave superposition versus finite difference method, *Alena Ayzenberg, NTNU*

16:10 Anelliptic approximation for P-wave phase and group velocity in orthorhombic media, *Qi Hao, NTNU*

16:30 Low-frequency dispersion. Layering versus fracturing, *Alexey Stovas, NTNU*

19:00 Dinner, Palmehaven, hotel Britannia, Dronningens gt. 5

Tuesday 28th April

Session 3: Seismic acquisition and broadband seismic

09:00 Spatial gradient acquisition *Johan Robertsson, ETH Zurich*

09:30 Modeling and migration of marine seismic with general source configurations, *Kjetil Eik Haavik, NTNU*

Session 4 Time lapse and reservoir characterization

09:50 Overburden 4D time shifts induced by reservoir compaction at the Snorre Field, *Thomas Røste, Statoil*

10:10 **Coffee break**

10:40 Combining time lapse seismic and gravity to estimate CO₂ saturation changes at Sleipner, *Martin Landrø, NTNU and Mark Zumberge, Scripps*

11:00 Spatial reservoir characterization using the dilation factor, *Kenneth Duffaut, NTNU*

11:20 Topography and column thickness inversion from 4D amplitudes, *Anders Kiær, NTNU*

11:40 Shot generated noise and towing depth – implications for 4D seismic, *Toan Dao, NTNU*

12:00 **LUNCH**

Session 5: Imaging and inversion

13:00 Parametrisation and resolution of Elastic Full Waveform Inversion, *Børge Arntsen, NTNU*.

13:20 3D Wave Equation Migration Velocity Analysis of seismic data from Sleipner, *Wiktor Waldemar Weibull, NTNU*.

13:40 Imaging and Full Waveform Inversion of seismic data from the CO₂ gas cloud at Sleipner, *Espen B. Raknes, NTNU*.

14:00 Elastic wave mode decoupling for seismic imaging, *Cheng-Long Wang, NTNU*.

14:20 The Snorre PRM study, *Mark Thompson, Statoil*

14:50 **Coffee break**

15:20 Creating Virtual Receivers from Drill-bit Noise, *Yi Liu, NTNU*.

15:40 Anisotropic Elastic Full Waveform Inversion, *Tore Bergslid, NTNU*.

16:00 Industry scale elastic modeling on a single GPU, *Jon M. Venstad, NTNU*.

16:20 Discussion and adjourn

**29th -30th April: Course on CSEM (Controlled Source ElectroMagnetics, P1, 8:30
Rune Mittet and Ståle Johansen. (course description on next page). Course ends at 16:00
30th April**

CSEM (Controlled Source ElectroMagnetics) COURSE - ROSE consortium meeting

Lectures: Rune Mittet and Ståle Johansen; 2 lecture days: 29th-30th April 2015, aud. P1, S.P. Andersens veg 15A

Wednesday 29th May: Lecturer: Rune Mittet:

Introduction

Application areas for marine CSEM and marine MT.
Survey layout.
Transmitter and receiver equipment.

Theory

Skindepth and dispersion effects
Radiation pattern from a horizontal electric dipole transmitter.
Transmitter waveform design.
Propagation modes in marine CSEM – reflections versus refractions.

Data visualization

Amplitude and phase as a function of transmitter-receiver offset.
The effects of high/low resistivity on amplitude (and phase) versus offset.
Normalized plots.

Data uncertainty

Data weights for inversion.
Maximum depth of imaging.

Marine CSEM in shallow water.

Decomposition in upgoing and downgoing fields.

Effect on data.
Inversion of upgoing electric fields.

Anisotropy

Environmental effects of marine CSEM

Thursday 30th April: Lecturer: Ståle Johansen:

Interpretation of CSEM data

Description will come soon.

Daily time plan:

08:30	Lecture	13:15	Lecture
10:15	Coffee	15:00	Coffee
10:30	Lecture	15:15	Lecture
12:15	Lunch	16:30	End

