**URE MEETING 2015 HO/13.03.2015**

## Summary

## Future Priorities – URE Research

The discussion on future directions and the preferences of the URE-partners resulted in the following recommendations:

**TOPIC A**: Assessment of seismic velocities from seismic data

Close contact with Børge A must be ensured to relate the research activity to the state of the art in the field.

Problem formulations that accounts for uncertainties should be given priority – this probably require integration of Topics A and B to ensure correct uncertainty transmission from surface seismic data to reservoir characterization.

Many active research groups in the field – and focus is about to be shifted towards uncertainty quantification. Must be updated on current research. Still URE is encouraged to be brave in model formulation and solution method – that is the privilege of Uni-research .

This is a very timely and important subject – and many relevant data sets are available.

URE-partners that explicitly expressed interest in the subject are:

. BP Sunbury

. Det norske

. Lundin

. Maersk

. Statoil

**TOPIC B**: Lithology, fracture and fluid inversion from well and seismic data

Considerable previous URE-activity in this field – particularly on discrete spatial prior models.

Important to integrate horizontal discrete models with more spatial continuity into seismic AVO inversion.

Must improve the background trend model for seismic AVO inversion – possibly from seismic velocity modelling. Should introduce more flexibility in trends and non-stationarity inferred from the well observations.

Fluid modelling and prediction from two subsequent time-lapse seismic surveys should be explored, using continuous multi-modal spatial prior models.

Should explore the potential for spatial mapping of fracture density based on seismic data – new activity for URE.

Improved seismic data – also time-lapse data – are available from the Alvheim field.

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. Lundin

. Maersk

. Schlumberger

. Statoil

. Total GRC

**TOPIC C**: Fluid monitoring from time-lapse seismic and production data

Considerable previous URE-activity in this field – using various spatio-temporal statistical models.

Several other active groups that have strong petroleum focus in this field – must be smart in model formulation and research focus.

Discrete EnKF models combining Markov RF appears as a hard and interesting subject – well suited for the URE profile.

Application of EnKF to geological process models poses several interesting, particular challenges.

Real data sets on classical petroleum reservoir 'history matching' are huge and often difficult to handle for Uni research. Should look for creative small-scale applications of spatio-temporal models.

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. Schlumberger

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. Total GRC