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## Research areas:

My doctoral thesis is organized in a larger cooperative framework of agreement between the University of Tromsø and Statoil. The project focus on basin analysis and 3D-seismics of Carboniferous/Permian carbonates on the Finmark Platform in the Barents Sea and is supervised by Prof. Jürgen Mienert (supervisor) and Assoc. Prof. Karin Andreassen (associate supervisor) both from the Department of Geology at the University of Tromsø and Leif Bjørnar Henriksen from Statoil.

Starting with the sequence stratigraphical interpretation of the Upper Palaeozoic section using 3D-seismics and tielines up to the three major exploration wells in the area (7128/4-1, 7128/6-1 & 7229/11-1), further work will be done on seismic facies classification models based on the seismic stratigraphy. Facies distribution for the Upper Carboniferous/Lower Permian Gipsdalen Group will be developed on a more regional scale to explore possible correlations between petrophysical properties and seismic attributes. Therefore interaction of the carbonates and evaporites -both present in the Gipsdalen Group- during sedimentation and compaction processes will be examined in more detail. One of the goals is to examine the heterogeneity of rock properties in carbonate platforms and their distribution. This will be done in context with reservoir quality and hydrocarbon prospectivity within the larger study area.

The wells will be used as key information source for petrophysical rock properties analysis. Detailed synthetic wavelet extraction and well log correlations with seismic lines will be elaborated in the direct vicinity of the three exploration wells in order to integrate the well information within the seismic. Furthermore, seismic inversion and AVO could help us to extend the petrophysical analysis from seismic over the larger 3D-area. This diagnostic approach should allow us at the end to predict petrophysical parameters in areas where only seismic data but no wells are available. The final aim of the project is to get a better idea about the porosity distribution throughout the whole carbonate platform by analysing directly the seismic data.

## Topics of interest:

- Carbonate seismology
- Tectonic and sedimentary evolution of the Norwegian-Barents Sea margin
- Sequence stratigraphy and carbonate platform development
- Seismic attribute analysis, seismic facies classification and seismic modelling
- Petroleum geology and basin analysis
- Basin modelling

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