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DATE OF DISPUTATION:	21st of March 2018
DISSERTATION TITLE:	*Faults affecting the Triassic Barents Shelf: Syn-kinematic deposition, deformation mechanisms and driving forces*

Forkastninger av sentrias alder på kontinentalsokkelen i Barentshavet har påvirket bergartenes reservoaregenskaper. I avhandlingen er det undersøkt hvordan syn- og post-kinematisk forkastningsaktivitet påvirket reservoaregenskapene ved å 1) kontrollere fordelingen av sandige sedimenter og 2) endre strømningsegenskapene i den upåvirkete reservoarbergarten. Seismiske undersøkelser viser at Barentssokkelen var mer tektonisk aktiv i Trias enn tidligere antatt. I tillegg gir feltstudier av Triassiske vekstforkastninger i deltaiske avsetninger innsikt i effekten av tidlig diagenese og differensiell kompaksjon på mekanismer og stil av skråningsdeformasjon.

This research addresses the Triassic development of the Norwegian Barents shelf using case studies from the Hammerfest Basin (offshore) and Svalbard (onshore). The Triassic successions represent large deltaic systems that are partly sandstone prone, and envisaged to host significant undiscovered hydrocarbon resources. Further, the distal parts of these successions onshore Svalbard are being appraised for potential CO_2 storage. The study attempts to bridge some of the knowledge gaps that exists in respect to the Triassic evolution of the Barents shelf, in particular, Late Triassic extensional tectonism is investigated, the driving mechanisms and styles of this faulting, and how the faulting affects the distribution and petrophysical properties of reservoir quality sandstones.

Seismic and outcrop based studies show that the Triassic Barents shelf was more tectonically active than previously described. Offshore, multi-azimuth seismic investigations highlight a previously undocumented phase of Norian to Rhaetian extension in the Hammerfest Basin, which is possibly linked to a phase of rejuvenation of Fennoscandia to the south. Onshore investigations of growth faults in Late Triassic deltaic successions on Edgeøya, Eastern Svalbard highlight the importance of slope attitude, diagenesis, and compaction on the style/mechanisms of faulting and the subsequent petrophyical properties of damage zones**.**