

The Force Geophysical Method Groups invites you to a lunch and learn seminar on a project proposal for an Ultra-Deep Imaging Seismic Survey in Norwegian Sector.

The lectures will take place in the Tor Auditorium at NPD's offices, and lunch will be served afterwards.

More information about the project proposal can be found here

<http://force.org/en/IE/Project-groups/Projects---Improved-Exploration---overview/>

Agenda

1000-1030 Novel seismic acquisition technology for recording ultra-long offsets (>100 km) and low frequency data in a cost-effective way, Aleksandr Nikitin, GWL

Summary: Benefits of long-offsets acquisition and low frequencies usage are evident for both the academic and industry scientific community but due to technical issues it has often been considered as low efficient, cost and time demanding and not easily applicable. To overcome these technical and logistic issues, GWL has developed new seismic equipment able to emit low frequencies (GWL LF Source™) and record simultaneously long-offsets (GWL Seismobuoy™). These tools form the basis of two new seismic data acquisition techniques: FloatSeis LF™ and FloatSeis UltraDeepImaging™ which enables recording of long-offsets and low frequencies in an efficient and cost-effective way.

1030-1100 Regional and tectonic implications of new long-offset seismic lines on the Norwegian continental Shelf, Dr. Laurent Gernigon, NGU

Summary: The present-day distribution of long-offset seismic data along the Norwegian Continental Shelf remains relatively sparse and poorly distributed. The new seismic lines proposed for this test project aims to complete the pre-existing database concern both the mid-Norwegian margin and the Southwestern Barents Sea. Previous attempts to better constrain the deep imaging architecture and of the Norwegian basins with modern refraction data mostly concerned the distal part of the mid-Norwegian margin and only very few refraction profiles were acquired in the proximal part of this complex volcanic rifted margin. Except a few onshore-offshore interpretation and modelling supported by potential field data, the nature, composition, structure and expected location of the deep basement inherited from the old pre-rift Precambrian and Caledonian terranes remain largely unknown. However, this geological aspect still present a challenge to fully understand the overall tectonic, crustal and thermal evolution of the Norwegian sedimentary basins and underlying basement. Some of the basins in the Barents Sea and mid-Norwegian margin are also very deep and locally suffer from imaging issues related to sub-basalt and/or sub-salt. In the Barents Sea, long-offset data are even sparser and do not allow to get a proper understanding of the complexity and heterogeneity of the entire basement structures. Particularly, the presence of Late Palaeozoic basins in the Barents Sea is basically acknowledged but their geometries and regional distribution underneath the thick Permo-Triassic platform and salt provinces have been currently challenged based on new aeromagnetic surveys. However, this interpretation remains unconstrained/validated by additional refraction data. Mapping the basement and the deep mid-lower crustal units can shed additional light on the evolution of the geological structures as they have undergone and recorded the various tectonic deformation and volcanic processes since the onset of rifting on the Norwegian Continental Shelf.

1100-1120 Basement and Margin Ultra-Deep Imaging Seismic Survey of the Norwegian Offshore Realm. Details of the project, Aleksandr Nikitin, GWL

Summary: Introduction of the proposed survey with diving into main objectives of the survey, scope of work, acquisition details, deliverables, time schedule, budget options, etc.

Duration: 15 minutes + 5 minutes for Q&A.

1120-1140 Discussion

Participants: All