



## **Paleomagnetic Synchronization: A transect of sedimentological archives from N-Svalbard towards Arctic-Norway**

Sædis Olafsdottir (1,2), Jostein Bakke (1,2), and Joseph Stoner (3)

(1) Department of Earth Science, University of Bergen, Norway (saedis.olafsdottir@geo.uib.no), (2) Bjerknes Centre for Climate Research, Bergen, Norway, (3) College of Earth, Ocean, and Atmospheric Sciences Oregon State University, USA

From the Polar Regions only scattered paleomagnetic records are available, mostly being rare because of accessibility and logistical difficulties of obtaining them. The rare records available strive to contain both temporal resolution and the chronological accuracy required to document centennial or shorter changes. In global context the geomagnetic field as many other Arctic atmospheric or climate phenomena is important to document and understand. Here, Paleomagnetic Secular Variation (PSV) records reconstructed through alternating field demagnetization of u-channel samples from four lacustrine archives from Svalbard, Bjørnøya and Arctic Norway (HAP-212; GL-1, BJP-213; BGP-211) were analyzed to synchronize various sediment archives and thus paleoclimate and paleoenvironmental proxies across the Arctic.

This unique transect of paleomagnetic records, from the high to low Arctic attest the nature of the paleomagnetic field and also importantly provides a robust high-resolution stratigraphic dating tool for paleoclimate and paleoenvironmental studies. The PSV-synchronized sediment cores will allow first hand attempt to evaluate the variability of the Arctic system and the feedbacks that lead to rapid and pronounced changes, such as those currently taking place.