



## **German-Russian project PLOT: new postglacial-glacial-preglacial pollen records from the Lakes Ladoga, Bol'shoe Shuch'e, and Levinson-Lessing**

Andrei Andreev (1), Raphael Gromig (1), Larisa Savelieva (2), Lyudmila Shumilovskikh (3), Marlene Baumer (1), Volker Wennrich (1), Grigory Fedorov (2), Bernd Wagner (1), and Martin Martin (1)

(1) Cologne University, Institute for Geology and Mineralogy, Cologne, Germany (aandreev@uni-koeln.de), (2) St. Petersburg State University, Institute of Earth Sciences, St. Petersburg, Russia, (3) Georg-August University, Department of Palynology and Climate Dynamics, Göttingen, Germany

The German-Russian project PLOT (PaleolimnoLogical Transect) investigates the Late Quaternary environmental history along transect across Northern Eurasia. Within the scope of a pilot phase of the project we have investigated Lake Ladoga, the largest lake in Europe. Although the postglacial history of the lake was studied over the last decades, the preglacial history remained unknown. It is assumed that during the Last Interglacial Lake Ladoga was part of a precursor of the Baltic Sea, which had a connection via Ladoga and Onega Lakes to the White Sea. Sediment coring at two sites in western Ladoga Lake in September 2013 has revealed a sediment succession that can be subdivided into 5 main lithological units. The sediments studied in this 22.7 m lake core were also palynologically investigated. Pollen assemblages indicate that the lowermost sediments with pollen of *Betula*, *Alnus*, *Pinus*, *Carpinus*, *Quercus*, *Corylus*, *Ulmus*, *Tilia*, remains of fresh-water *Pediastrum* and *Botryococcus* colonies as well as cysts of marine dinoflagellates were accumulated during an interval with a climate more favorable than in the Holocene. The OSL-dated samples show late Eemian and post Eemian ages.

The sediment record cored in Lake Bol'shoe Shuch'e (Polar Urals) in April 2016 is 54 m long. Preliminary studies of this record show that it consists of sediments formed during the Holocene (uppermost 9 m), Younger Dryas (9-11 m), Allerød (11-13 m), LGM (13-25 m), MIS 2 and the end of MIS 3 (25-54 m). The sediment record cored in the Lake Levinson-Lessing (Taymyr Peninsula) in April 2017 is 46 m long. Preliminary studies on this record suggest that the lowermost sediments were accumulated during MIS 3. These new cores will provide the most continuous and detailed records from the region, which have a great potential to shed new light on the climatic and environmental of the Russian Arctic and its internal and external driving forces.