

**RATE OF TECTONIC PLATES MOVEMENT IN NEOPROTEROZOIC TIME -
VERIFICATION OF NEOPROTEROZOIC TRUE POLAR WANDER HYPOTHESIS
(ACRONYM: NEOMAGRATE)**

The Neoproterozoic Era (1000-541Ma) was characterised by a remarkable reorganization of the lithospheric plates which forced dramatic global climate change and an acceleration of biological evolution. The Neoproterozoic followed a billion-year stable tectonic stage. The change to “modern” style plates tectonics around 800 Ma is attributed to the break – up of Rodinia Supercontinent, which generated a mosaic of continental plates with divergent and convergent boundaries. The reconfiguration of the continents related to the break-up of Rodinia resulted in a sufficient redistribution of mass to cause a rapid entire crust-mantle system motion relative to the Earth's spin axis (change in the locations of the Earth’s geographic poles), which is referred to as the True Polar Wander (TPW).

Palaeomagnetism is the only method available that can quantify the positions of lithospheric plates through geological time. The NEOMAGRATE is focused on palaeomagnetic investigations of one of the most spectacular and complete Neoproterozoic sections on the Earth, located in Eastern Svalbard. In the course of the project ambitious scientific expedition to remote sector of Svalbard is going to be organized. The new unique data will provide evidence to determine the movement velocities of East Svalbard crustal block, verify the postulated Neoproterozoic TPW events, and significantly improve models for the evolution of Rodinia.

The NEOMAGRATE creates multidisciplinary international platform bringing together experienced Arctic scientists from different branches of the Earth Sciences. Palaeomagnetic and rock-magnetic investigations will be conducted at the project host Institute of Geophysics Polish Academy of Sciences. Laboratories of the Faculty of Geology, University of Warsaw will be responsible for the petrological and mineralogical investigations. Chemo-stratigraphic, isotopic age determination and structural control of the sampling sites will be coordinated by the scientists from Dartmouth College (United States), Uppsala University (Sweden) and the Natural History Museum of London (Great Britain).