



Project acronym: ARCHEN

Project title: Contributions of ammonia-oxidizing archaea and bacteria to nitrification in taiga soils

Project leader: Beata Klimek, Jagiellonian University, Poland

Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Värriö Subarctic Research Station (Finland), Oulanka Research Station (Finland)

There is observed increased interest in archaea functions in soil, including their importance in nitrification processes. The project aimed to check the participation of soil bacteria and soil archaea in soil nitrification processes in acidic boreal soils in a laboratory experiment. Soils were collected in 2021 nearby two Interact stations: Värriö Subarctic Research Station and Oulanka Research Station. On each location, we collected 10 soil samples of soil O horizon under pine and pine-spruce-birch mixed forest, each one of about 0.5kg of wet mass (altogether we collected 20 soil samples). Soils were transported to the laboratory of my institution (Jagiellonian University in Kraków), where the laboratory experiment is performing, after some initial steps of analysis, including measuring of physical-chemical properties of collected soil samples (soil dry mass, organic matter content, water holding capacity, C, N and S content etc.). The experiment results will allow distinguishing between nitrification conducted in studied soils by archaea (AOA) and bacteria (AOB).