



Project acronym: LoTeVeCh

Project title: Long term experimental climate manipulation in central Svalbard: comparison of taxonomic and functional changes in vegetation

Project leader: Lauri Laanisto, Estonian University of Life Sciences, Estonia

Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Adam Mickiewicz University Polar Station Petuniabukta (Svalbard/Poland)

The proposed project will study plant-plant interactions in a rapidly changing climate. By means of passive chambers installed over cushion plants and its subsidiary species in an existing experimental design, we will target ecological questions on tundra species coexistence in a warmer climate. Furthermore, we use not only micro-climate manipulation, but also we manipulate species presence in the community and ask, if site quality (i.e., warmer growing season) or dispersal limitation will drive future tundra community composition. Finally, we focus on functional shift in these novel communities.

The project builds upon existing experimental setup that was established in 2015 at two distinct locations in Billefjorden, central Spitsbergen. A core species in this experiment is cushion forming *Silene acaulis*. Cushions are complemented by neighbouring subsidiary species, which have been either maintained in natural state or manipulatively added into the community.