



Project acronym: Cryolink

Project title: Permafrost soil microbiome

Project leader: Beat Frey, Swiss Federal Research Institute WSL, Switzerland

Discipline: Earth Sciences & Environment: Ecosystems & Biodiversity

Station(s): Czech Arctic Research Station (Svalbard/Czech Republic), Tarfala Research Station (Sweden)

We compare the permafrost microbiota in alpine, arctic and antarctic regions to understand the distribution of the permafrost microbiome and their environmental drivers. Permafrost soil samples and active layers collected from the Arctic, Antarctic and Alpine sites will be analyzed for microbial (including bacteria, archaea, fungi and microeukaryote) diversity, abundance and functions. DNA and RNA will be extracted from the active layer and permafrost soils. Amplicon sequencing (Illumina Miseq) of bacterial 16S, archaeal 16S and fungal ITS will be performed to analyse the permafrost microbiome. Shotgun metagenomics will be performed on selected samples. Here, permafrost and active layers should be collected from Tarfala Research Station in Sweden and the Czech Arctic Research Station in Svalbard.