



# Pallas Symposium 2022, preliminary program

## Monday 5 September

Finnair flight arrival at Kittilä airport at 19:00

Bus transport to Hotel Harriniva and Hotel Jeris

## Tuesday 6 September: Symposium

**08:30** Bus transport from Hotel Jeris to Hotel Harriniva

**09:00–09:30 Meeting begins**

- Forewords from the organizers
- **Keynote speech: David Hannah: Protecting rivers from high water temperature extremes under global change 20+5 min**

**09:30–10:30 Session 1: Hydrology and the water cycle (4 presentations á 12+3 min). Chair: Danny Croghan**

09:30-09:45 Ala-Aho et al: Defining groundwater influenced areas in the Pallaslompolo catchment using integrated numerical modelling, areal thermal imaging, and stable water isotopes

09:45-10:00 Schilling et al. Quantifying Groundwater Recharge Dynamics and Unsaturated Zone Processes in Snow-Dominated Catchments via On-Site Dissolved (Noble) Gas Analysis

10:00-10:15 Croghan et al. DOC Transport Processes in a subarctic headwater stream revealed by multi-year high-resolution measurements

10:15-10:30 Mustonen. Arctic Water-Carbon Cycle Forensics - Case of northern freshwater ecosystem processes sustained by microbial communities

**10:30–11:15 Coffee, possibility to hang up posters**

**11:15–12:30 Session 2: Land-atmosphere interactions through biogeochemical and biophysical processes (5 presentations á 12+3 min) Chair: Stephanie Gerin**

11:15-11:30 Lohila A. et al.: Methane research at Pallas area - lessons learned



11:30-11:45 Kohl L. et al.: Belowground methane cycle processes along a stream-to-edge transect in the Lompolojänkkä fen

11:45-12:00 Erkkilä A. et al.: Distribution of northern high latitude biospheric methane fluxes based on Earth Observation data products

12:00-12:15 Thum T. et al.: Carbon and nitrogen cycling in a changing climate at a Scots pine forest in Lapland using a terrestrial biosphere model together with in-situ and remote sensing observations

12:15-12:30 Aalto J. et al.: Microclimatic variability from boreal forests to the tundra with implications on northern ecosystem changes

### **12:30–13:30 Lunch**

### **13:30–14:45 Session 3: Air quality, aerosols, clouds and reactive gases (5 presentations á 12+3 min) Chair: Mika Vestenius**

13:30-13:45 Nerentorp et al.: 25-year trends of organic pollutants in air at the Pallas station compared to at the Råö station in South-West of Sweden

13:45-14:00 Kyllönen et al.: Trends of inorganic and organic pollutants at Pallas during the last decades

14:00-14:15 Maljanen et al.: Emissions of atmospherically reactive gases (HONO and NO) from Boreal and Arctic permafrost peatlands

14:15-14:30 Hellén et al.: Biogenic volatile organic compound emissions from sub-Arctic Norway spruces at Pallas

14:30-14:45 Hyvärinen et al.: Long-term aerosol in situ measurements at Pallastunturi, Scandinavian sub-Arctic

### **14:45–15:20 Coffee**

### **15:20–15:45 Keynote speech 2: Heikki Henttonen 20+5 min: “Importance of community approach in population ecology: rodent dynamics at Pallasjärvi 1970–2022”**

### **15:45–17:00 Session 4: Biodiversity and land-use (5 presentations á 12+3 min) Chair: Aino Korrensalo**

15:45-16:00 Hultman et al: Illuminating microbial communities in the Arctic soil and peatland ecosystems

16:00-16:15 Peltoniemi et al: Archaeal and bacterial communities in two arctic fens under the impact of reindeers



16:15-16:30 Mäkiranta et al: Do grazing reindeer affect methane emissions from northern fens?

16:30-16:45 Kuuri-Riutta et al: Recent changes in the vegetation of a subarctic fen

16:45-17:00 Rana et al: Assessing the effects of onshore wind power development on biodiversity and mitigation strategies

### **18:00–19:00 Poster session and wine serving**

#### **POSTERS:**

##### ***Hydrology session posters:***

**Bailey et al.** Atmospheric moisture source-to-sink dynamics in Pallas-Yllästunturi National Park, Finland

**Khamis et al.** Using in-situ sensors to characterise spatio-temporal dynamics in dissolved organic matter and nutrient concentrations

**Ala-Aho et al.** Revealing “hot spots” and “hot moments” in Arctic water-carbon interactions using high frequency data and tracer-aided hydrological modeling

**Marttila et al.** Hydrological studies in Pallas catchment – general overview

**Noor et al.** Stable Water Isotope Studies for Understanding Snowpack and Snowmelt Characteristics in the Pallas Catchment

**Nousu et al.** Spatially distributed hydrological modelling to explore catchment-scale soil moisture patterns

**Muhic et al.** Water in the sub-arctic till soil profile gets flushed twice a year

##### ***Land-atmosphere interactions session posters:***

**Rana P. et al.:** Simulation modelling in carbon storage, biodiversity and ecosystem services (BES) assessments of northern boreal peatland forests

**Laitinen A. et al.:** Methane trends in the Nordic countries

**Korrensalo A. et al.:** Methane production and oxidation potentials along a fen-bog gradient from southern boreal to subarctic peatlands in Finland

**Rinne E. et al.:** Surface energy balance of boreal pristine peatlands

##### ***Air quality, aerosols, clouds and reactive gases session posters:***

**Vestenius et al.:** The sources of persistent organic compounds in atmospheric aerosols at Pallas

**Stapleton et al.:** Parameterisation of Cloud Condensation Nuclei Concentrations in Northern Finland

**Praplan et al.:** Large unidentified fraction of reactive biogenic emissions from a subarctic wetland

**Vettikkaat et al.:** High Emissions and Strong Temperature Dependence of Terpenes From a Boreal Fen

##### ***Biodiversity and land-use session posters:***

**Siljanen et al:** NitroBiome -project: Microbial mechanisms regulating N<sub>2</sub>O metabolism in above-ground vegetation - significant northern N<sub>2</sub>O sink?

**Sofieva et al:** Ice nucleating microbes from Arctic cloud water



**Kuzmin et al:** Multi-sensor UAS-based approach for biodiversity, deadwood and flux footprint mapping in Lompolojänkä catchment.

**Vainio et al:** Targeting Universal Organismal Pico-, Nano- and Microlevel Cell Secretome in Nature Interactome Dynamics

**19:00**      **Symposium dinner**

## **Wednesday 7 September: Field excursion**

EXCURSION DAY: RESEARCH ACTIVITIES AT PALLAS SUPERSITE  
(<https://en.ilmatieteenlaitos.fi/pallas-atmosphere-ecosystem-supersite>)

8:30 Bus departure from Hotel Harriniva

9:00 Bus departure from Hotel Jeris

9:15- ca.9:45 Walk from the bus to the top of Sammaltunturi fell

9:45-11:00 Introduction of the Sammaltunturi station and measurements

11:15 Bus departure

11:30-12:45 Lunch outside the Jannela log cabin

12:45 Bus departure

13:00 Introduction of the stream measurement station

13:30 Bus or walk to the nearby Lompolojänkkä mire GHG flux station, introduction of the measurements

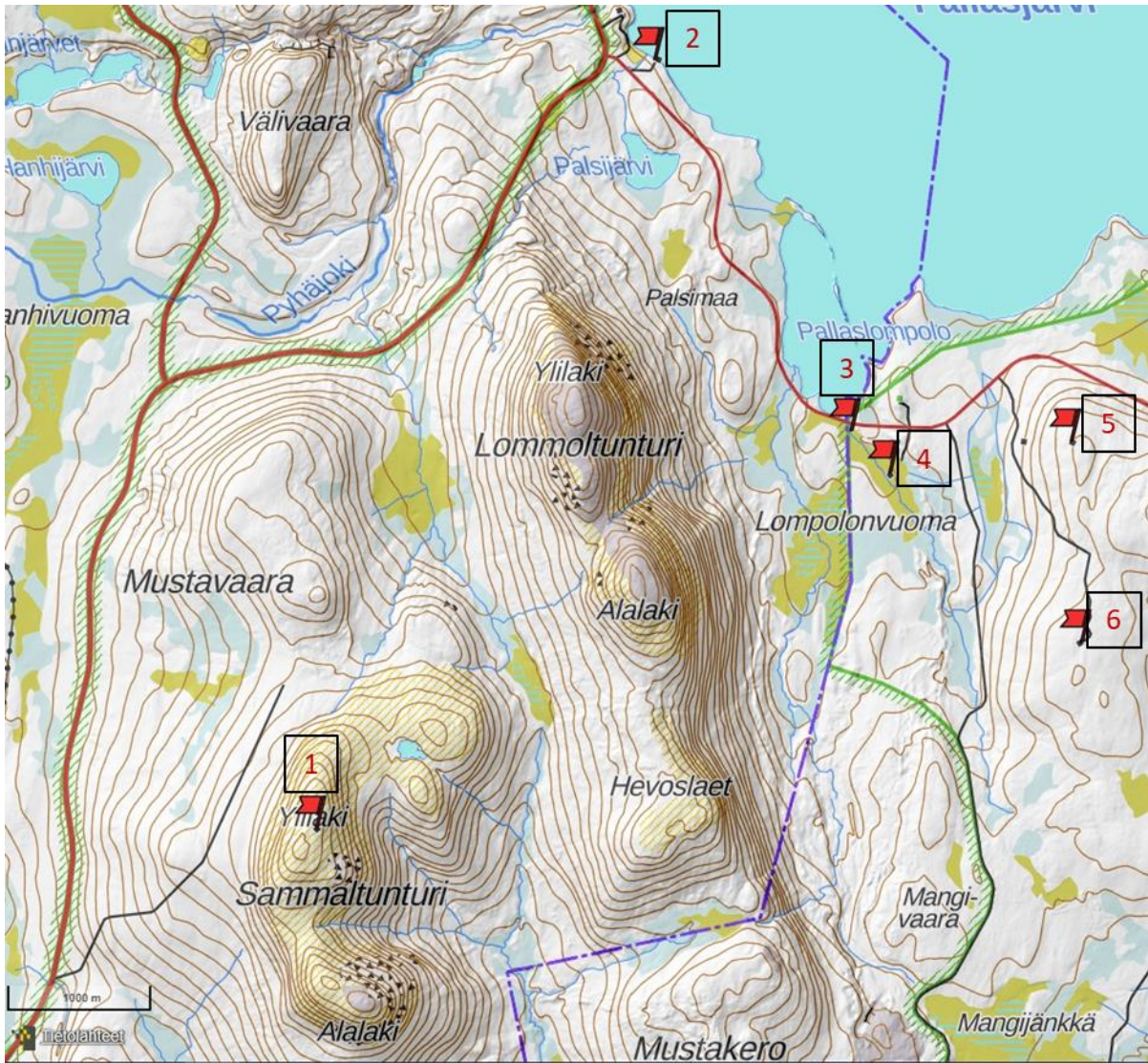
14:45-16:15 Bus departure and introduction of either Matorova air quality station or Kenttäröva GHG flux station and weather station (snacks available in the bus)

16:15-16:45 Bus to the Jeris hotel

17-19 Sauna world experience at Lake Jeris

19:30-21:30 Dinner at Hotel Jeris

21:30 Bus transport to Hotel Harriniva



Map of excursion locations: 1. Sammaltunturi station, 2. Jannela (lunch), 3. Stream measurement station, 4. Lompolojänkkä station, 5. Matorova station, 6. Kenttäröva station

## Thursday 8 September

9:30 Bus transport from Harriniva to the Kittilä airport