

Integrating Arctic Plant and Microbial Ecology - 21st ITEX meeting

Wednesday 16th September 2015

Location: SLU Campus Ultuna, Ulls Hus, Room V

Main scientific themes:

- *Linking vegetation and microbial community ecology*
- *Terrestrial and aquatic microfauna – climate responses*
- *Biogeochemical cycles and carbon fluxes*
- *Arctic and alpine vegetation ecology*

Session chairs:

9.00 – 12.00: Kari Klanderud

13.30 – 15.00: Greg Henry

15.30 – 18.00: Karina Clemmensen

Presentations:

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| 9.00 – 9.15 | Welcome! |
| 9.15 – 9.45 | <u>Ellen Dorrepaal</u> : Impacts of winter snow on plants and microbes in a mountain peatland (O1) |
| 9.45 – 10.00 | <u>József Geml</u> : Long-term warming and increased snow depth alters richness and composition of taxonomic and functional groups of arctic fungi (O2) |
| 10.00 – 10.15 | <u>James Weedon</u> : Bacterial community composition in a subarctic peatland is resistant to experimental warming (O3) |
| 10.15 – 10.45 | Fika! |
| 10.45 – 11.00 | <u>Pernille Bronken Eidesen</u> : Ectomycorrhizal fungi composition show resilience to experimentally increased snow depth in the High Arctic archipelago Svalbard (O4) |
| 11.00 – 11.15 | <u>Sunil Mundra</u> : Richness and community structure of ectomycorrhizal and saprotrophic soil fungi in relation to long-term experimentally increased snow in High-Arctic Svalbard (O5) |
| 11.15 – 11.30 | <u>Oriol Grau</u> : Interactions between fungal and shrub communities along a snow-depth gradient in NE Greenland (O6) |
| 11.30 – 11.45 | <u>Karina Clemmensen</u> : Warming-induced tree expansion in the Arctic leads to a more closed N cycle (O7) |
| 11.45 – 12.00 | <u>Jaanis Juhanson</u> : Bacterial community composition and potential for N-transformation processes in different tundra habitats (O8) |

- 12.00 – 13.30 **Buffet lunch and posters!**
- 13.30 – 13.45 Peter Luptáčík: Micro-scale heterogeneity buffers the effects of 20 years of experimental climate warming on soil mites in alpine/subarctic vegetation communities (O9)
- 13.45 – 14.00 Stephen Coulson: Survival of rapidly fluctuating natural low winter temperatures by High Arctic microarthropods (O10)
- 14.00 – 14.15 David Angeler: Long-term change in water chemistry and phytoplankton/invertebrate communities in Swedish arctic/alpine lakes (O11)
- 14.15 – 14.30 Sylvain Monteux: Ecological responses of non-sorted circles tundra to simulated winter climate change (O12)
- 14.30 – 14.45 Frida Lindwall: Emission of biogenic volatile organic compounds from arctic ecosystems- responses to climate manipulations (O13)
- 14.45 – 15.15 **Fika!**
- 15.15 – 15.30 Steven Siciliano: The Diapir Divorce in Deserts: soil diapirs provide nutrients to plants but diapirs don't explain soil activities (O14)
- 15.30 – 15.45 Amanda Guy: Putting Carbon in the Pocket of Polar Deserts: Plants and Organic Carbon in Desert Frost Boils (O15)
- 15.45 – 16.00 Martin Hallinger: How do different soil characteristics and climate influence tundra shrub growth in Alaska? (O16)
- 16.00 – 16.15 Phil Wookey: Could shrubification threaten soil carbon stocks in the Arctic? (O17)
- 16.15 – 16.30 Chelsea Little: Limited Effects of a Decade of Warming on Tundra Vegetation in a Svalbard Mesic Meadow (O18)
- 16.30 – 16.45 **Leg stretcher!**
- 16.45 – 17.00 Gaius R Shaver: Leaf traits and canopy structure in heterogeneous arctic vegetation (O19)
- 17.00 – 17.15 Janet Prevéy: Relative flowering time helps explain climate sensitivity of Arctic and alpine plant phenology (O20)
- 17.15 – 17.30 Friederike Gehrman: Subarctic plant phenology along a microclimatic gradient (O21)
- 17.30 – 17.45 Jeremy May (for Steven Oberbauer): Plant phenological responses to a long-term experimental extension of growing season and soil warming in the tussock tundra of Alaska (O22)

Thursday 17th September 2015

Location: SLU Campus Ultuna, Ulls Hus, Room V

Main scientific themes:

- *Linking vegetation dynamics and climate data*
- *Arctic and alpine vegetation ecology*
- *Herbivory – responses and feedbacks*

Session chairs:

9.00 – 12.00: *Sara Hallin*

13.30 – 15.00: *Juha Alatalo*

15.30 – 17.00: *Robert Hollister*

Presentations:

9.00 – 9.30 Anne Björkman: Patterns in plant functional traits across the tundra biome over space and time (O23)

9.30 – 9.45 Christian Rixen: Impact of snow and temperature on alpine plant phenology in the Alps (O24)

9.45 – 10.00 Kari Kländerud: Temperature and precipitation effects on alpine plant communities. Results from a transplant experiment in southern Norway (O25)

10.00 – 10.15 Greg Henry: Maintaining long-term climate data at ITEX sites: results, problems and solutions from Alexandra Fiord since 1989 (O26)

10.15 – 10.45 **Fika**

10.45 – 11.00 Esther Frei: Does quantitative trait differentiation in Arctic tundra species facilitate adaptation to climate change? (O27)

11.00 – 11.15 Ned Fetcher: Climate change in the Arctic and the response of locally adapted populations (O28)

11.15 – 11.30 Nicoletta Cannone: Trends in snow melting and leaf senescence and their impacts on the growing season length of high elevation alpine plants (O29)

11.30 – 11.45 Robert Hollister: Making sense of two decades of vegetation change at Barrow and Atqasuk (O30)

11.45 – 12.05 Presentation of workshops by workshop chairs

12.05 – 13.30 **Buffet lunch and posters**

13.30 – 13.45 Robert Björk: Phylogenetic community structure determines the responsiveness of tundra plant communities to climate warming (O31)

13.45 – 14.00 Ashley Brecken: The long term response of *Salix rotundifolia* to experimental warming (O32)

- 14.00 – 14.15 Jeremy May: Comparison of using handheld and Mobile Instrumented Sensor Platform NDVI measurements to track associated plant activity period at Toolik Lake, Alaska ITEX site (O33)
- 14.15 – 14.30 IS Jónsdóttir: Standardized measurements of herbivory within ITEX experimental sites: first trials (O34)
- 14.30 – 14.45 Tone Birkemoe: Does experimental warming effect herbivory by leaf-chewing insects in an alpine plant community? (O35)
- 14.45 – 15.00 Johan Olofsson: Mammalian herbivores confer resilience of Arctic shrub-dominated ecosystems to changing climate (O36)
- 15.00 – 15.30 **Fika**
- 15.30 – 15.45 Tage Vowles: Shrub expansion in Scandinavian mountain range: the importance of grazing (O37)
- 15.45 – 16.00 Anna Skarin: Reindeer use of Yamal tundra measured with pellet-group counts: understanding reindeer effects on willow growth and recruitment in a landslide- rich area (O38)
- 16.00 – 16.15 Anne Tolvanen: Selective herbivory offsets carbon losses in the sub-arctic tundra (O39)
- 16.15 – 16.30 Mats P. Björkman: The sensitivity of carbon in Arctic permafrost soils to climate change - A work in progress (O40)
- 19.00 **Conference dinner at Västgöta Nation**, Slottsgränd 12, city center

Friday 18th September 2015

Location: SLU Campus Ultuna, Ulls Hus, Rooms V, R, Z, S

- 9.00 - 10.00 ITEX network, discussions in plenum (chairs: Christian Rixen, Robert Hollister) Room V
- 10.0 - 12.20 Parallel workshops incl. coffee (available from 10.00):
1. ITEX network continued – Christian Rixen (Room V)
 2. Microbial ecology - Sara Hallin, Karina Clemmensen (Room Z)
 3. Herbivory– Johan Olofsson, Isabel C. Barrio, Ingibjörg Svala Jónsdóttir (Room R)
 4. Seasonality – Nicoletta Cannone, Martin Hallinger (Room S)
- 12.20 - 13.00 Reporting from the workshops (10 min per group) Room V
- 13.00 – 14.00 **Lunch at “Logen”** Campus Ultuna
- 15.30 – 18.10 **Guided city tour.** Start in The Linnaeus garden, Svartbäcksgatan 27

The Linnaeus Garden was the first botanical garden in Sweden founded in 1655 by Olof Rudbeck the elder. It is laid out in the French Style and restored following Linnaeus' and Carl Hårleman's design from 1745. Today approximately 1300 species are grown here. All known to have been cultivated by Linnaeus and arranged according to his own system.