

## “Roles of fungi in sustainable forestry”

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Thursday 8<sup>th</sup> of February 2018

Location: Loftets hörsal, Ultuna, Swedish University of Agricultural Sciences

Chairs: Karina Clemmensen and Anders Dahlberg

### The state of knowledge - evidence for fungi-forestry links

- 12.30 – 13.00      *Arrival and presentation uploads*
- 13.00 – 13.05      Intro by session chairs
- 13.05 – 13.25      **Björn Lindahl** - Effects of forestry on fungal communities and their role in nutrient cycling
- 13.25 – 13.50      10 min presentations:  
**Taina Pennanen** - Wood debris and seedlings as refugium for fungi along energy wood harvesting  
**Samantha Dawson** - Fungi, functional traits and forestry; how land use intensity changes fungal communities
- 13.50 – 13.55      *Leg-stretcher*
- 13.55 – 14.40      10 min presentations:  
**Rasmus Kjøller** - Wood ash and liming effects on ectomycorrhizal fungi  
**Leticia Perez** – Fungal community shifts along a fire severity gradient in a boreal forest  
**Maarja Öpik** – AM fungi in temperate forests - how does forest management affect them?  
**Jenny Nordén** - At which spatial and temporal scales can fungi indicate habitat connectivity?
- 14.40 – 15.00      *Fika*

### Forest ecology and forestry perspectives

- 15.00 – 15.30      **Per Angelstam** (SLU) What is the net result of pressures on green infrastructures in forest landscapes and stakeholders’ responses?
- 15.30 – 16.00      **Rolf Björkheden** (Skogforsk) – forestry before, now and in the future

### Discussion

- 16.00 – 17.00      - *How can forest mycologists contribute to sustainable forestry?*  
- *Which are the important results concerning forest fungi and forestry?*  
- *Are these results representable for the landscape and global scales?*  
- *To whom should these results be communicated, and how?*  
- *Which questions do we still need to answer?*
- 19.00                      **Conference dinner** – “Hantverksföreningens lokal”, Nedre Slottsgatan 6, central Uppsala by the Castle. Fish and vegetarian buffet served by Hamberg’s Restaurant.

## “Implementing fungal traits to link fungal diversity with ecosystem properties”

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Friday 9<sup>th</sup> February 2018 - morning

Location: Loftets hörsal, Ultuna, Swedish University of Agricultural Sciences

Chairs: Håvard Kauserud and Jacob Heilmann-Clausen

- 8.30 – 8.40      *Arrival + presentation uploads*
- 8.40 – 8.45      Intro by session chairs
- 8.45 – 9.25      **Peter Kennedy** – Using trait databases to explore of the ecology of fungal communities
- 9.25 – 10.10    Three c. 10 min presentations and discussions:  
**Urmars Kõljalg** – Taxon Hypotheses - new UNITE feature  
**Leho Tedersoo** – the use of phylogeny in ITS-based community studies  
**Thomas Stjernegaard Jeppesen** – OTUs entering the GBIF Backbone Taxonomy  
**Marie Davey** - Coming up short: Identifying substrate and geographic biases in fungal sequence databases
- 10.15 – 10.35    *Fika*
- 10.35 – 11.15    Three c. 10 min presentations and discussions:  
**Tobias Frøslev** - Man vs Machine - Do fungal fruitbodies and eDNA convey the same information on biodiversity across broad environmental gradients?  
**Carrie Andrew** - Climatic patterns of European fungal phenology and species assemblages  
**Henrik Nilsson** - UNITE and fungi in the built environment
- 11.15 – 10.20    *Leg-stretcher*
- 11.20 – 12.00    Three c. 10 min presentations and discussions:  
**Magdalena Wutkowska** - Fungal trophic mode congruency based on rDNA and rRNA from snow fence experiment in High Arctic  
**Florian Barbi** - Metatranscriptomic analysis of fungal functional traits in boreal forest soils  
**Jussi Heinonsalo** - Attempts to incorporate mycorrhizal fungi and key aspects of soil microbiology into the YASSO-model
- 12.15 – 13.00    *Lunch*

## “Project presentations”

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Friday 9<sup>th</sup> February 2018 - afternoon

Location: Loftets hörsal, Ultuna, Swedish University of Agricultural Sciences

Chairs: Marie Davey

- 13.00 – 14.00      10 min presentations:  
**Anna Rosling** - Delimiting environmental species in Archaeorhizomycetes  
**Tanel Vahter** - Manipulating below ground diversity for above ground diversity: the application of arbuscular mycorrhizal fungi in vegetation restoration  
**Laura M. Suz** - Plant-fungal interactions in Alpine ecosystems  
**Ella Thoen** - Mycena – purely saprotrophs or potential plant root symbionts?  
**Sannakajsa Velmala** - Spruce root traits
- 14.00 – 14.05      *Leg-stretcher*
- 14.05 – 15.00      10 min presentations:  
**Martin Bidartondo** - Large-scale controls on ectomycorrhizas  
**Mélissande Nagati** - Effect of microorganisms and vegetation cover on the establishment of balsam fir in boreal forest  
**Jenna Purhonen** - Effect of forest naturalness on poorly known wood-inhabiting fungi  
**Dabao Lu** - The Fungal Community in Spruce Logs  
**Julia Kyaschenko** - Drivers of organic matter accumulation in the mor layer of Swedish boreal forests
- 15.00 – 15.30      *Fika*
- 15.30 – 16.30      Summarizing discussions, UNITE and NEFOM!

## Saturday 10<sup>th</sup> February 2018

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- 9.00 – c. 14.00      **Excursion** – winter walk near Uppsala!

# NEFOM meeting, Uppsala, 8-9<sup>th</sup> of February 2018

“North European FOrrest Mycologists”

## PARTICIPANTS

Participant	Email address	Country	City	University
Alice Retter	alicertr@gmail.com	Sweden	Gothenburg	University of Gothenburg
Anders Dahlberg	anders.dahlberg@slu.se	Sweden	Uppsala	SLU
Anna Rosling	Anna.Rosling@ebc.uu.se	Sweden	Uppsala	Uppsala University
Björn Lindahl	Bjorn.Lindahl@slu.se	Sweden	Uppsala	SLU
Carrie Andrew	carrie.andrew@wsl.ch	Switzerland / United Kingdom	Birmensdorf / Cambridge	Swiss Federal Research Institute WSL / University of Cambridge
Claudele Ghotsa Mekontchou	claudefe.ghotsamekontchou@uqat.ca	Canada / France	Rouyn-Noranda / Toulouse	University of Quebec in Abitibi-Temiscamingue / Université Paul Sabatier Toulouse 3
Dabao Lu	dabaosl@ulrik.uio.no	Norway	Oslo	University of Oslo
Dmitry Schigel	dschigel@gbif.org	Denmark	Copenhagen	GBIF / University of Helsinki
Edda Oddsdottir	edda@skogur.is	Iceland	Reykjavik	Icelandic Forest Research Mógilsá
Ella Thoen	ella.thoen@ibv.uio.no	Norway	Oslo	University of Oslo
Eva Krab	eveline.krab@slu.se	Sweden	Uppsala	SLU
Fahri Azhari Hasby	fahri.hasby@slu.se	Sweden	Uppsala	SLU
Florian Barbi	florian.barbi@slu.se	Sweden	Uppsala	SLU
Håkan Wallander	hakan.wallander@biol.lu.se	Sweden	Lund	Lund University
Håvard Kauserud	haavarka@ibv.uio.no	Norway	Oslo	University of Oslo
Helen Moor	helen.moor@slu.se	Sweden	Uppsala	SLU
Henrik Nilsson	henrik.nilsson@bioenv.gu.se	Sweden	Gothenburg	University of Gothenburg
Jacob Heilmann-Clausen	jheilmann-clausen@snm.ku.dk	Denmark	Copenhagen	University of Copenhagen
Jenna Purhonen	jenna.purhonen@jyu.fi	Finland	Laukaa	Univeristy of Jyväskylä
Jenni Nordén	jenni.norden@nina.no	Norway	Oslo	Norwegian Institute for Nature Research
Johan Liljebblad	johan.liljebblad@slu.se	Sweden	Uppsala	SLU
Jørn Henrik Sønstebo	j.h.sonstebo@ibv.uio.no	Norway	Oslo	University of Oslo
Julia Kyaschneko	julia.kyaschenko@slu.se	Sweden	Uppsala	SLU
Jussi Heinonsalo	jussi.heinonsalo@helsinki.fi	Finland	Helsinki	University of Helsinki / Finnish Meteorological Institute
Karina Clemmensen	karina.clemmensen@slu.se	Sweden	Uppsala	SLU

# NEFOM meeting, Uppsala, 8-9<sup>th</sup> of February 2018

“North European FOrrest Mycologists”

<b>Participant</b>	<b>Email address</b>	<b>Country</b>	<b>City</b>	<b>University</b>
Karolina Jörgensen	karolina.jorgensen@slu.se	Sweden	Uppsala	SLU
Laura Brodde	laura.brodde@slu.se	Sweden	Uppsala	SLU
Laura M. Suz	l.martinez-suz@kew.org	United Kingdom	London	Royal Botanic Gardens, Kew
Leena Hamberg	leena.hamberg@luke.fi	Finland	Helsinki	Natural Resources Institute Finland (Luke)
Leho Tedersoo	leho.tedersoo@ut.ee	Estonia	Tartu	Tartu
Leticia Pérez Izquierdo	leticia.perez@slu.se	Sweden	Uppsala	SLU
Maarja Öpik	maarja.opik@ut.ee	Estonia	Tartu	University of Tartu
Magdalena Wutkowska	magdalena.wutkowska@unis.no	Norway	Longyearbyen	The University Centre in Svalbard
Mari Jönsson	mari.jonsson@slu.se	Sweden	Uppsala	SLU
Marie Davey	m.l.davey@ibv.uio.no	Norway	Oslo	University of Oslo
Martin Bidartondo	m.bidartondo@imperial.ac.uk	England	London	Imperial College
Mathilde Jeanbille	mathilde.jeanbille@slu.se	Sweden	Uppsala	SLU
Mélessande Nagati	melissande.nagati@uqat.ca	France	Toulouse	Université Paul Sabatier Toulouse 3
Per Angelstam	per.angelstam@slu.se	Sweden	Skinnskatteberg	SLU
Peter Kennedy	kennedyp@umn.edu	United States	Minneapolis	University of Minnesota
Petra Fransson	petra.fransson@slu.se	Sweden	Uppsala	SLU
Rasmus Kjølner	rasmusk@bio.ku.dk	Denmark	Copenhagen	Copenhagen
Rolf Björkheden	rolf.bjorheden@skogforsk.se	Sweden	Uppsala	Skogforsk
Samantha Dawson	samantha.dawson@slu.se	Sweden	Uppsala	SLU
Sannakajsa Velmala	sannakajsa.velmala@luke.fi	Finland	Helsinki	Natural resources Institute
Taina Pennanen	taina.pennanen@luke.fi	Finland	Helsinki	Natural Resources Institute Finland
Tanel Vahter	tanel.vahter@ut.ee	Estonia	Tartu	Tartu University
Thomas Stjernegaard Jeppesen	tsjeppesen@gbif.org	Denmark	Copenhagen	GBIF
Tobias Frøslev	tobiasgf@bio.ku.dk	Denmark	Copenhagen	University of Copenhagen
Tord Snäll	tord.snall@slu.se	Sweden	Uppsala	SLU
Unni Vik	unni.vik@ibv.uio.no	Norway	Oslo	University of Oslo
Urmas Kõljalg	urmas.koljalg@ut.ee	Estonia	Tartu	Tartu University
Ylva Strid	ylva.strid@ebc.uu.se	Sweden	Uppsala	Uppsala University
Yngvild Ransedokken	yngvild.ransedokken@nmbu.no	Norway	Ås	Norwegian University of Life Sciences
Åke Olson	ake.olson@slu.se	Sweden	Uppsala	Swedish University of Agricultural Sciences

## Discussion topics

These are the topics suggested participants:

### **Community-related:**

- Fruitbody versus eDNA data
- Many new species continuously detected, and so what?
- Use of citizen science in fungal biodiversity research

### **Trait-related:**

- Which traits are important?
- assessment methods of functional traits
- How do we assign function to uncultured fungi?
- Intraspecific vs. interspecific trait variation in fungi
- Traits on individual, species or community level
- genomics for ecological insights
- metatranscriptomics or metagenomics for community level insights?

### **Communities and traits – links to ecosystem processes:**

- rDNA/rRNA template in fungal community studies, how to group OTUs into functional groups
- Fungal functional traits related to different lifestyle strategies of soil fungi involved in biogeochemical process like carbon cycling
- Using of metatranscriptomic and new bioinformatic tools to study functional diversity
- Mycelial turnover time, formation of stabile C in soils

### **Data-management related:**

- Data management with traits linked to individuals or species levels?
- Use of sample-metadata to define fungal niches
- Integration of OTUs / SHs / BINs into global fungal and universal nomenclators

### **Societal links:**

- from science to environmental policy and conservation!