

Report for annual networks

Submit the report to sns@slu.se by 24:00 CET, 1st of March the year after the activities.
The report should not exceed 2000 words.

Please adjust the size of the boxes to the length of your answer.

1. Title of the network:	Nordic Network of Forest Regeneration
2. Network number:	N2019-04
3. Main applicant:	Marek Metslaid
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Address:	Estonian University of Life Sciences Institute of Forestry and Rural Engineering Kreutzwaldi 5, 51006 Tartu, Estonia

Activities

4. Place of the activity:	Tallinn, Estonia
Duration of the activity (start date, end date):	01.01.2019 - 31.12.2019

5. Provide a short network summary, including:
<p>a) The purpose of the project/main problems/background</p> <p>The Nordic-Baltic countries are among the world leaders in technological innovations (incl. IT) in silviculture (incl. forest regeneration), logging and timber processing. Regeneration of forests means establishment of new forests, for example through planting after clear-cutting or natural disturbances. In forestry, it is one of the most crucial steps, influencing strongly what kind of forests will be left for future generations. Successful forest regeneration is today more important than ever because of the urgent need of productive forests that can bind the excess atmospheric carbon dioxide and provide renewable raw material for different purposes, replacing the plastics and other fossil-based materials. International research collaboration and information sharing is helping the society to find cost-efficient and sustainable solutions to regeneration problems.</p> <p>b) A description of the main activities of the network</p> <p>The activity resulted in a workshop with a focus on infotechnological solutions (IT) used in forest regeneration today, and possible impacts of innovation and IT progress in forest regeneration in the future. Unmanned aerial vehicle (UAV)-based solutions, as well as utilization of robotics, e.g. in nurseries and field, are a few examples of the topics that were covered during the workshop. The workshop was organized in Tallinn, Estonia. The activity was announced and described at the homepages and newsletters of the participating institutions and other relevant interest groups (e.g. News and Views of Scandinavian Journal of Forest Research, Baltic Forestry).</p>

Outcome

6. Published outputs achieved as a consequence of the network (peer-reviewed articles, other publications)
The network organized an international workshop "NEW SOLUTIONS for FOREST REGENERATION" on November 5-6, 2019 in Tallinn, Estonia.

7. Other practical outputs of the project (workshops, conferences, scientific meetings, policy recommendations, conferences, large-scale project applications, databases or websites etc.)

The network organized an international workshop "NEW SOLUTIONS for FOREST REGENERATION" on November 5-6, 2019 in Tallinn, Estonia.

Conference presentations are electronically available at

<https://drive.google.com/drive/folders/19WLWBZcoAOvEyxFGF5HkZc-pdtLOe2aa>

The activity was covered in several international/local publications:

Metslaid, M. 2019. International Workshop: New Solutions for Forest Regeneration. *Baltic Forestry*, 25 (2), 303-303.

EMU press release:

<http://www.emu.ee/ylikoolist/uudised/pressiteated/uudis/2019/11/12/konverents-keskendus-uudsetele-lahendustele-metsade-uuendamisel>

TORNATOR press release:

<https://www.tornator.ee/siteneews/view/-/ngid/1/nid/198>

We blogged on the activity and encouraged the participants to spread the information through personal and department twitter accounts and facebook.

8. How and within which areas was the network beneficial for the Nordic region?

Forest regeneration is a key for successful and adaptive forestry in future climate, and the prerequisite for the continued and increasing supply of forest biomass and ecosystem services for the present and future societies. Thus, it is very important to maintain and improve our competence and collaborations in this subject field, both regionally and globally. The Nordic Network of Forest Regeneration aims to promote forest regeneration collaboration and exchange of information in the field of forest regeneration and closely related fields of science across the Nordic and Baltic regions. It actively seeks interactions with other relevant researcher networks in the region, as well as with internationally renowned experts from whole world. The network specifically aims to support and facilitate the participation and visible role of PhD students and early stage researchers, and participants of both genders. Strengthening the existing synergies and promoting new contacts between researchers and PhD students in different countries promotes future research projects in forest regeneration and closely related fields of science.

* Nordic is defined here as Denmark, Finland, Iceland, Norway, Sweden and the autonomous areas of the Faroe Islands, Greenland and Åland Islands.

9. Provide a popular science piece for dissemination in SNS' various channels (maximum 700 words) with emphasis on application of results and benefits for the Nordic society.

Provide pictures (size at least 500x500 pixels and resolution at least 72 pixels) as separate files (.jpg). Include caption to each picture, including the name of photographer.

In the context of climate change, effective forest regeneration is one of the main pillars of sustainable forestry. Successful forest regeneration is today more important than ever because of the urgent need of

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productive forests that can bind the excess atmospheric carbon dioxide and provide renewable raw material for multiple purposes, replacing the plastics and other fossil-based materials. Up-to-date information on forests is crucial for good management decisions. International research collaboration and knowledge sharing helps the society to find cost-efficient and sustainable solutions to regeneration problems.

On November 5–6, 2019, an international workshop "New Solutions for Forest Regeneration" was held in Tallinn, Estonia. The conference was organized jointly by the SNS network "Forest Bioeconomy Network in Forest Regeneration", by the Estonian University of Life Sciences and by the Swedish University of Life Sciences.

The workshop served as an important meeting place for Nordic-Baltic forest researchers and practitioners. Altogether about 50 participants from all Nordic and Baltic countries took part in the workshop. The sessions of the workshop included: Unmanned aerial vehicle (UAV)-based solutions, remote sensing and utilization of satellite data; Recent advances in forest regeneration practices; Technological and ecological innovations in forest regeneration. The 21 oral presentations given, and complemented with poster sessions during the coffee breaks, on the first conference day created good discussions. On the second conference day a field trip with field presentations and demonstrations nearby Tallinn was organized in forest regeneration areas managed by Tornator Eesti OÜ (largest private landowner in Estonia). Through presentations, discussions and field excursion the workshop increased the collaboration and general level of competence in the field of forest regeneration and closely related fields. More information can be found on webpage for the Nordic Network of Forest Regeneration:

<https://nordicforestresearch.org/n2019-04/>

Participation and inclusion in the network activities

10. Participants								
Country	PhD students & Post-docs	Senior researchers	Stakeholders	Communication officers	Gender			Total
					Women	Men	Other	
Denmark	1				1			1
Finland	3	4	2		2	7		9
Iceland								
Norway		3			2	1		3
Sweden	1	1			1	1		2
Estonia	4	1	12		4	13		17
Latvia	4	2	5		2	9		11
Lithuania	1		2		1	2		3
...								
...								
...								
Total	14	11	21		13	33		

Economic report

11. Received grant from SNS (SEK):
150 000 SEK

12. Costs	SNS funding	Co-financing	Total
Travel and accommodation	70 000		70 000
Meeting costs	80 000		80 000
Communication			
Salary	Not allowed	150 000	150 000
Other costs (specify)			
Total SUM (SEK)	150 000	150 000	300 000

13. Allocation of SNS funding		
Country	Partner organization	% of total
Denmark		
Finland		
Sweden		
Norway		
Iceland		
...		
...		
...		
Total SUM		

14. Economic result (deficit or surplus)
All the allocated funding 150.000 SEK is spent.

Optional: Comments to the economic reporting

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I hereby declare that the above statements are true to the best of my knowledge

Signature of the main applicant

M. Mäkilä

Signature

ESTONIAN UNIVERSITY
OF LIFE SCIENCES

Institution

20.02.2020

Date

MAREK METSLAID

Printed name

Signature of the department head at the department of the main applicant

[Signature]

Signature

Estonian University
of Life Sciences

Institution

20.02.2020

Date

Anneli Veemees

Printed name

Second applicant's signature, place and date

J. Witzell

Signature

SLU

Institution

2020-02-20

Date

Johanna Witzell

Printed name

Third applicant's signature, place and date

Kjersti H. Hanssen

Signature

NIBIO

Institution

20.02.2020

Date

KJERSTI HOLT HANSSEN

Printed name