



NB-NORD workshop on Big data from forest machines: Ongoing and possible future R&D activities for forest operations

Modern forest machines continuously generate large amounts of data on harvested trees and machine performance. Based on these data, smart decision support tools and models for feedback and support can be developed. Potential end-users for such tools and models are forest companies as well as forest owners and machine entrepreneurs and operators. The NB-NORD CAR therefore invites to a workshop where researchers will share ideas and experiences on working with forest data and applications and talk about future opportunities and potential obstacles on the way.

Preliminary programme

June 19

Vitenparken, Campus Ås

Time	Content	Speaker
12-13	Lunch at Vitenparken	
13-14.30	Welcome address and key note speakers	
	Key note #1: Digitalization of the forest sector today and tomorrow	Magnus Hell – Tieto
	Key note #2: Making use of big data – perspective from a neighboring sector	TBD
	Q&A and discussion	
14.30-15	Coffee	
15-17.30	National perspectives on big data from forest machines, including: <ul style="list-style-type: none"> • Today's use of forest machine data • Examples of projects with relevance to the workshop theme • Focus areas and next steps in research and development Questions and discussion	Country representatives from Norway, Sweden, Denmark, Finland, Latvia and Switzerland
17.30	Bus/boat to Oscarsborg	
~ 19.00	Dinner at Oscarsborg	

June 20

Oscarsborg

Time	Content	Speaker
8.30-11	Workshop in smaller groups (presentations listed below)	
11-12	Group presentations and wrap up in plenary	
12-	Lunch and departure	



Workshop presentations June 20 – preliminary

Group 1 – Sources of big data from forest machines and data infrastructure	Title of presentation	Speaker	Country
	The potential and use principles of harvester production data as forest resource information	Tapio Räsänen – Metsäteho	Finland
	StanForD 2010	John Arlinger – Skogforsk	Sweden
	Single-tree positioning using harvester: Experiences from an operational implementation	Terje Gobakken – NMBU	Norway
	Harvester head position data – how precise is it?	Bruce Talbot – NIBIO	Norway
	Big Databases in forest planning and operations – New national lidar campaign in Sweden	Erik Willén – Skogforsk	Sweden
	Building a database with machine data	Bjørn Lauritzen – MEF	Norway
Group 2 – Applications based on big data from forest machines #1	Title of presentation	Speaker	Country
	Automated stand delineation and strip road generation based on harvester location data	Timo Melkas and Kirsi Riekkö – Metsäteho	Finland
	The influence of driving distance on the forwarders' average speed in mid Sweden	Simon Berg – SLU	Sweden
	Feedback to operators based on harvester data	Maria Nordström – Skogforsk	Sweden
	Development of the bucking procedure based on feedback from harvester data	Even Bergseng – NIBIO	Norway
	Mathematical Optimization of Harvesting and Transportation Processes in Steep Terrain and potential benefits from having big data from Forest Operations available	Leo Bont – WSL	Switzerland





Group 3 – Applications based on big data from forest machines #2	Title of presentation	Speaker	Country
	Utilization of high resolution harvester production data for improved pre-harvest planning and follow-up	Johan Möller – Skogforsk	Sweden
	Improving forest-to-industry integration through digital descriptions of wood properties based on harvester data	Lars Wilhelmsson – Skogforsk	Sweden
	Using external datasets for small area estimation - a simulation example using Swiss forest management inventory data	Liviu Ene – WSL	Switzerland
	Climate change and forest traffickability – adaptation options in a Danish perspective	Ingeborg Callesen – University of Copenhagen	Denmark
	SB Log, a tool for planning of operations and registering of environmental considerations taken	TBD	Norway

Registration, accommodation and travel

Link to registration: <https://www.deltager.no/registration - nb-nord workshop on big data from forest machines 19062018>

NB! For food allergies, please notify the organizers.

Accommodation

Hotel rooms are available at Oscarsborg, the fare is NOK 1700 for single room, NOK 1300 for part in double room. Please note that participants make their own reservation by contacting the hotel directly, referring to the NB-NORD workshop:

Tel: (+47) 468 00 630. Order number: 25813. E-mail: oscarsborg.festning@festningshotellene.no

Travel to the workshop

There are buses from Oslo airport (Gardermoen) to Campus Ås (bus stop *Korsegården*). Please follow link for schedule:

<https://www.nor-way.no/en-US/#/?showEarlierDepartureTrips=0&showLaterDepartureTrips=0&showEarlierReturnTrips=0&showLaterReturnTrips=0&originId=NSR%3AStopPlace%3A58211&originName=Oslo%20lufthavn%20OSL&st>





[ep=3&destinationId=NSR%3AStopPlace%3A5311&destinationName=Korseg%C3%A5rden&departureTime=11%3A00&departureDate=2018-06-19](#)

Travel from the workshop

There are two options travelling from Oscarsborg to Oslo/airport:

Alternative 1: Boat to Drøbak + bus to Oslo + train to airport

Boat schedule Oscarsborg – Drøbak (Sundbrygga, trip takes 5 min):

https://www.forsvarsbygg.no/globalassets/02-dokumenter/fergeruter/engelsk/fergerute-engelsk-oscarsborg_02-summer.pdf

Bus from Drøbak brygge to Oslo bus terminal:

[https://ruter.no/reiseplanlegger/Mellom/Fra/\(2150800\)Dr%C3%B8bak%20brygge%20%5bbuss%5d%20\(Frogn\)/til/\(3010619\)Oslo%20bussterminal%20\(Oslo\)/etter/200620181300/#st:0,sp:0,bp:0](https://ruter.no/reiseplanlegger/Mellom/Fra/(2150800)Dr%C3%B8bak%20brygge%20%5bbuss%5d%20(Frogn)/til/(3010619)Oslo%20bussterminal%20(Oslo)/etter/200620181300/#st:0,sp:0,bp:0)

Airport train from Oslo S: <https://flytoget.no/>

Other trains: www.nsb.no

Alternative 2: Boat to Oslo + train to airport

Boat no 21 travelling from Oscarsborg – Aker brygge (Oslo) leaves at 12.45. The trip takes approximately 1h20min.

[https://ruter.no/reiseplanlegger/Mellom/Fra/\(2150807\)Oscarsborg%20\(Frogn\)/til/\(3010049\)Aker%20brygge%20%5bbåt%5d%20\(Oslo\)/etter/200620181205/#st:0,sp:0,bp:0](https://ruter.no/reiseplanlegger/Mellom/Fra/(2150807)Oscarsborg%20(Frogn)/til/(3010049)Aker%20brygge%20%5bbåt%5d%20(Oslo)/etter/200620181205/#st:0,sp:0,bp:0)

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Other trains: www.nsb.no

Looking forward to seeing you at the workshop!

/ Eva Skagestad, Erik Willén & Maria Nordström

Questions?

Eva Skagestad (es@skogkurs.no) – Forcus area Contracor forestry

Maria Nordström (maria.nordstrom@skogforsk.se) – Forcus area Big data and value creation

Erik Willén (erik.willen@skogforsk.se) – Forcus area Big data and value creation

