



August 2017

Invitation to the IEA Wind Task 32 Workshop #6 on

Power Performance Measurement Using Nacelle Lidars

Date: 27th September 2017

Venue: DONG Energy, Gentofte (5 km North of Copenhagen), Denmark

Workshop leader: Rozenn Wagner (DTU)

Introduction to IEA Wind Task 32

The main objective of the Task 32 is to identify and mitigate barriers to the use of lidar technology in wind energy applications such as site assessment, power performance, loads & control, and complex flow. One yearly workshop is organized for each of the four applications focusing on one specific problem, and with a well-defined program and tangible outcome.

More details can be found on the [task website](#).

Objective

The workshop will focus on following questions:

- How can nacelle lidar systems be calibrated and used for power curve measurements?
- What are the current limitations and approaches to solve them?
- What would help the different stakeholders to fasten the process?

The outcome of the workshop will be a “state-of-the-art” report which will be used as input for the concurrent new IEC standard on this topic (IEC 61400-50-3: Use of nacelle mounted lidars for wind measurements) and future application of nacelle lidars for power curve measurements.

Concept

The workshop is split in two main sessions:

1. In the morning we will have invited presentations and discussions about **nacelle lidar calibration and measurement uncertainty estimation**.
2. In the afternoon we will have invited presentations and discussions about **nacelle lidar applied to power curve measurement**.

Expected Outcome

The outcome of this workshop will be collected in a short report and will be presented as input to the IEC61400-50-3 kick-off meeting, scheduled on the 4-6th of October 2017.

Expected Participants

All kinds of stakeholders –lidar and turbine manufacturers, consultants, academics, end users dealing with power performance testing using nacelle mounted lidars.

Practical Arrangements

Registration

For participation in the workshop, please register by sending an email to the Operating Agent Representative [David Schlipf](#). Your registration email should include:

- Name and institution, member country
- Please describe your stakeholder role (e.g., wind turbine manufacturer, lidar supplier, academic, consultant, developer, utility, etc.)
- A slide to be presented during the introduction round, which describes your experience with lidar measurements and/or power performance assessment and your expectation from the workshop.

Please register before **Friday September 8 2017**. Prior to the workshop, registered participants will receive if necessary additional workshop details and materials. Registration for the workshop is free of charge.

Venue Information

The workshop will be held in room Auditorium F0.1a at DONG Energy, Nesa Allé 1, 2820 Gentofte, Denmark. **Register in the reception, when you arrive.**





Public transportation time schedules

www.Rejseplanen.dk

Bus

150 S Nørreport - Kokkedal. Stops at Brogårdsvej / Lyngbyvej. 5 mins. time to Hagedornsvej 4.

169 Lyngby - Hellerup. Stops at Jægersborg station. 15 min. walk to Nesa Alle.

176 Emdrup Square - Gentofte st. Stops at Egebjerg nursing homes. 2 min. walk to Hagedornsvej 4.

179 Hellerup - Lyngby. Stops at Jægersborg station. 15 min. Walk to Nesa Alle.

184 Nørreport. - Holte st. Stops at Brogårdsvej / Lyngbyvej and on Lyngbyvej opposite DONG Energy.

196 Lyngby st. - Hellerup st. Stops at Egebjerg nursing homes.

S train

S train line E goes to Gentofte and Jægersborg st. Walk along Ørnegårdsvej and use the highway underpass to get to DONG Energy.

Car

Helsingør motorway exit 5, both in south and northbound direction.

Motorring 3 northbound exit 18th

Contact Information

Please contact [Rozeen Wagner](#) (workshop leader) or [David Schlipf](#) (IEA Wind Task 32 Operating Agent) with any questions you may have about the workshop.

Program Draft

8:30	Registration	
9:00	Introduction	
	<ul style="list-style-type: none"> • Welcome to DONG Energy – Nicolai G. Nygaard – DONG Energy • Purpose of the workshop and agenda – Rozenn Wagner – DTU Wind Energy • Presentation round 	
9:30 to 12:00	Nacelle lidar calibration & measurement uncertainty estimation	
9:30	Invited Speakers	Nacelle lidar calibration - current practice at different institutions
10:30	Break	
10:45	More Speakers	What are the main challenges to overcome for the nacelle lidar calibration?
11:15	Group discussions	<ul style="list-style-type: none"> • What are the main barriers in nacelle lidar calibration identified by the industry? • What (critical) points need to be addressed in a standard (e.g. IEC -50-3)? • What are the proposed solutions?
12:00	Groups discussions conclusions	Presentation of discussion outcome and short plenum discussion
12:30	Lunch Break	
13:30 – 16:30	Nacelle lidar applied to power curve measurement	
13:30	Invited Speakers	What are the main challenges to overcome for using nacelle lidars for power performance verification? (offshore, in complex terrain, ...)
14:30	Break	
14:45	More Speakers	What are the main challenges to overcome for using nacelle lidars for power performance verification? (offshore, in complex terrain, ...)
15:00	Group discussions	<ul style="list-style-type: none"> • What are the main barriers in using nacelle lidars for power performance measurements? • What (critical) points need to be addressed in a standard (e.g. IEC -50-3)? • What are the proposed solutions?
15:45	Groups discussions conclusions	Presentation of discussions outcome and short plenum discussion
16:30	Conclusions of the day	
17:00	End of Workshop	
18:30	Dinner in Copenhagen	