





_____TU Munich



DTU

Frederik Zahle Thanasis Barlas Kenneth Lønbæk Julian Quick Marianne Hjorthede Arbirk Garrett Barter Pietro Bortolotti

NREL

Samuel Kainz

7th Wind Energy Systems Engineering Workshop

Complex Flow & Environment Plant Energy **Operations &** Production & Expenditures Plant Layout System Cost & Performance External **Turbine Design** Impacts & Cost **Balance of Station** Costs & Grid Interconnection

WESE Workshop Overview

TuesdayDecember 29:00-17:00Workshop day 118:00-Social event at Musicon
MikrobryggeriWednesdayDecember 39:00-17:00Workshop day 2 (Coffee from 8:00)ThursdayDecember 49:00-13:00Tours / Software workshop
More info will follow!



WESE Workshop Day 1 Overview

8:15-9:00	45'	Registration	
9:00-9:20	15'	0 - Welcome and conference overview	Frederik Zahle
9:20:10:05	45'	Keynote 1 Grand challenges and opportunities for systems engineering in wind energy	Katherine Dykes
10:05-10:45	40'	1 - Political, economical, social and environmental considerations	Chair: Thanasis Barlas
10:45-11:05	20'	Coffee break	
11:05-12:25	90'	2 - Upscaling perspectives across the full system and supply chain	Chair: Garrett Barter
12:25-13:25	1h	Lunch	
13:25-14:45	90'	3 - Innovation in turbine design, new concepts	Chair: Kenneth Lønbæk
14:45-15:05	20'	Coffee break	
15:05-15:45	40'	4 - Software talks	Chair: Frederik Zahle
15:45-16:55	70'	5 - IEA Wind Activities	Chair: Frederik Zahle

WESE Workshop Day 1 Overview

9:00-9:10	10'	0 - Day 2 We			
9:10-9:55	45'	Keynote 2	System integration - a solution to renewable energy profitability?	José Blasques	
9:55-11:15	90'	6 - Machine-le	Chair: Julian Quick		
11:15-11:35	20'	Coffee break			
11:35-12:55	90'	7 - Floating w	Chair: Thanasis Barlas		
12:55-13:55	1h	Lunch			
13:15-14:45	90'	8 - Systems e	Chair: Garrett Barter		
14:45-16:05	90'	9 - Wind-base	ed hybrid power plants	Chair: Julian Quick	
16:05-16:25	20'	Coffee break			
16:25-16:55	40'	10 - Software	Chair: Frederik Zahle		
16:55-17:10	15'	Workshop De	Frederik Zahle		



Workshop practical info

- Audience
 - Wifi: You should have received login details during registration
 - No pictures or videos during presentation
 - Organizers will distribute the slides from the authors that have approval to share their presentation publicly
- Speakers
 - Keep the time! Be aware of signs and prompts about time remaining
 - Always use microphone for the presentation
 - Notify organisers if your presentation can be shared publicly



Social event this evening

- All participants are invited to join us at Musicon Micro Brewery for a meal and optional beer tasting, both included in your registration fee.
- If you haven't indicated your preferences regarding participation, please find Frederik or Marianne during the next break
- The venue is open from 18:00.



- Address: Penselstrøget 52, 4000 Roskilde
- We gather 17:15 to take bus 600S with departure 17:32 from Risø main gate
- 1 km walk from the bus stop to the brewery

Risø 5 km winter run 7:45 Wednesday 3/12 ?

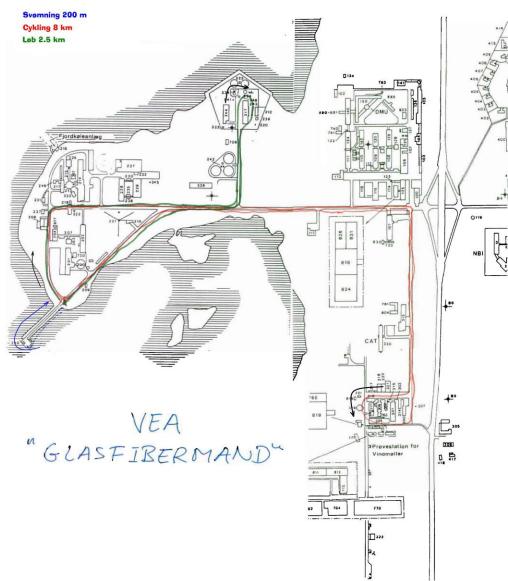
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- Did anyone bring their running shoes?
- Mads Mølgaard will take you for a 3-5 km run around Risø at 7:45. Sunrise is at 8:22 !!
- Warm showers are available in the basement of Building 114.
- Any pace is welcome, a morning walk is also highly recommended! Onsdag 4. dec.

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• We also have the traditional "Glassfiber Man" circuit for the ones who brought their swimwear, but I'm not sure there will be a guide to take you around the wet part of the route!



Route of the 2009 Risø Wind Energy Department "Glass Fiber Man"