Wake Conference 2025

TUESDAY 10 JUNE

09.00-10.00 **REGISTRATION AND COFFEE (OUTSIDE E22)**

10.00-10.30 **OPENING SESSION (E22)**

Professor **Stefan Ivanell**, Uppsala University and Professor **Jens Nørkær Sørensen**, Technical University of Denmark/Uppsala University.

10.30-11.50 **SESSION I - WAKE MODELING (E22)**

TIME	TITLE	PRESENTING AUTHOR
10.30-10.50	Actuator methods for wind turbine wake predictions on coarse meshes	Zormpa, Markella
10.50-11.10	Aerodynamic Performance and Wake Validation of Micro Wind Turbines Using CFD and SPIV	Zhang, Shuo
11.10-11.30	Benchmark Study on Rotor Performance, Wake Dynamics, and Atmospheric Boundary Layers using NREL SOWFA-6 and AMR-WIND	Dangi, Nirav
11.30-11.50	Analytical prediction of the start of a wind turbine far wake considering the balance between pressure and Reynolds stresses	Fei, Zheni

11.50-13.10 **LUNCH (VINÄGER)**

13.10-15.10 **SESSION II - WAKE MODELING (E22)**

TIME	TITLE	PRESENTING AUTHOR
13.10-13.30	Blind test on wind turbine wake modelling: Benchmark results and Phase II announcement	Manolesos, Marinos
13.30-13.50	Evaluation of wake superposition methods for wind-farm flow and power prediction	Du, Bowen
13.50-14.10	Exploring the impact of surface waves on wakes using LES in the WRF model	Garcia-Santiago, Oscar M.

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TIME	TITLE	PRESENTING AUTHOR
14.10-14.30	Gaussian wake model for Airborne Wind Energy Systems	Trevisi, Filippo
14.30-14.50	Impact of coastal gradients on wind farm energy yield assessment: model comparison	Pablo Navarro Diaz, Gonzalo
14.50-15.10	Impact of Wind Turbine Rotor Blade Bound Circulation Distribution on Wake Diffusion	Gerhardy, Fynn

15.10-15.40 **COFFEE BREAK (OUTSIDE E22)**

15.40-17.00 **SESSION III A - WAKE MODELING (E22)**

TIME	TITLE	PRESENTING AUTHOR
15.40-16.00	Numerical case study of the impact of wind farm wakes on ocean surface waves in the Baltic sea	Mastrogiorgos, Georgios
16.00-16.20	Wake Aerodynamic of Multi-Rotor System with Lifting-Devices Under Different Ambient Turbulence	Li, YuanTso
16.20-16.40	Wake wrecker: a special case of a shallow low-level jet simulation impacting a turbine in WRF-LES	Peña , Alfredo
16.40-17.00	Wind turbine wakes under different atmospheric conditions: Bridging internal dynamics and meandering with Taylor's diffusion theory	Noel, Emeline

15.40-17.00 **SESSION III B - VORTEX DYNAMICS AND INSTABILITIES (E31)**

TIME	TITLE	PRESENTING AUTHOR
15.40-16.00	Controlled low-frequency modulation of tip vortex instability to enhance turbine wake recovery	Smyth, Amanda
16.00-16.20	Experiments and simulations on short-wave instabilities in helical vortices	Xu, Zhihan
16.20-16.40	Wake Recovery Enhancement with Helix Active Wake Control: Vortex Structures in a Porous Disk Wake Observed in PIV Experiments	Gutknecht, Jonas
16.40-17.00	Numerical simulation of dynamic stall on vertical-axis wind turbine	Lu, Yu-Cheng

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18.00 **MINGLE (ITALIENAREN)**

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WEDNESDAY 11 JUNE

09.00-10.20 **SESSION IV A - ABL MODELING AND COMPLEX TERRAIN (E22)**

TIME	TITLE	PRESENTING AUTHOR
09:00-09.20	A damping method for RANS wind farm flow simulations subjected to shallow atmospheric boundary layers	van der Laan, Paul
09.20-09.40	A multi-scale model with an atmosphere-soil-vegetation coupling to explore the effect of wind turbines on near-surface meteorological conditions.	Boumendil, Paul
09.40-10.00	Predicting the impact of flow field acceleration on wind turbine performance in complex terrain and wind farms	Zengler, Clemens
10.00-10.20	The wind farm as a sensor in highly complex terrain	Braunbehrens, Robert

09.00-10.00 **SESSION IV B - REDUCED ORDER MODELING AND AI/ML TECHNIQUES (E31)**

TIME	TITLE	PRESENTING AUTHOR
09.00-09.20	Long-Distance Wind Farm Wake Modelling Using Convolutional Neural Networks	Weilmann Rasmussen, Frederik Peder
09.20-09.40	Low-pass filtering of meandering scales	Larsen, Gunner Chr.
09.40-10.00	Power Prediction in Offshore Wind Farms using Transferable Multi-Task Graph Neural Networks	Daenens, Simon

10.20-10.50 **COFFEE BREAK (OUTSIDE E22)**

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10.50-11.50 **SESSION V - NUMERICAL TECHNIQUES (E22)**

TIME	TITLE	PRESENTING AUTHOR
10.50-11.10	Ainslie Wake Model with Forcing Term	Warncke, Norbert
11.10-11.30	GPU-enabled high-order gas-kinetic scheme for actuator line model simulations of wind turbine wakes	Huo, Pengyu
11.30-11.50	Nonlinear Wake Dynamics of a Model Floating Offshore Wind Turbine Under Pitch and Roll Motions	Hameed Mian, Haris

11.50-13.10 **PHOTO SESSION ALMEDALEN + LUNCH (VINÄGER)**

13.10-14.50 **SESSION VI A - WIND FARM MODELING (E22)**

TIME	TITLE	PRESENTING AUTHOR
13.10-13.30	Coarse, fast, and still accurate - Comparing corrections for the actuator line model	Korb, Henry
13.30-13.50	Sensitivity analysis of computational domain height for semi-infinite and finite-sized wind farms	Ivanell, Stefan
13.50-14.10	Validation of WRF-Simulated Wind Fields at North Sea: A Comparative Analysis with Observations at LEG and EPL Platforms	Vimalakanthan, Kisorthman
14.10-14.30	Wind Farm Layout Optimization Accounting for Uncertainty of Model Selection	O'Neill, Niall
14.30-14.50	Wind farm wake recovery: LES and engineering models compared to wind tunnel data	Centurelli, Gabriele

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13.10-14.50 **SESSION VI B - EXPERIMENTAL STUDIES (E31)**

TIME	TITLE	PRESENTING AUTHOR
13.10-13.30	Advancements in Wind Turbine Wake Modelling using 3D scanning LiDAR measurements.	Turrini, Marco
13.30-13.50	Design of twist-modified lab-scale wind turbine rotors for enhanced wake recovery	Bartl, Jan
13.50-14.10	Does the data quality of nacelle-based scanning lidar measurements deteriorate after passing through an offshore wind farm?	Hung, Lin-Ya
14.10-14.30	Wake of a floating wind turbine model under roll motion	Duan, Guiyue
14.30-14.50	From single turbine to wind farm wake: a wind tunnel study	Messmer, Thomas

14.50-15.30 **COFFEE BREAK (OUTSIDE E22)**

15.30-17.30 **SESSION VII A – WIND FARM INTERACTION (E22)**

TIME	TITLE	PRESENTING AUTHOR
15.30-15.50	Identifying Wake Patterns in Weather Regimes over the Southern Bight of the North Sea using clustering techniques	Palatos-Plexidas, Alexandros
15.50-16.10	Impact of Scaling on the Performance and Wake Characteristics of Paired Counter-Rotating Vertical Axis Wind Turbine	Salman Siddiqui, Muhammad
16.10-16.30	Parametric Analysis of Inter-Farm Wake Interactions in Offshore Wind Farm Projects Along the US East Coast	Moura, Antonio
16.30-16.50	Benchmarking Engineering Wake Models for Assessing Wind Farm Wakes Interaction	Valotta Rodrigues, Rafael
16.50-17.10	Towards a regional wind farm planning approach: The Wakeness Index	Gonzalez Alonso de Linaje, Nicolas

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15.30-17.30 **SESSION VII B EXPERIMENTAL STUDIES (E31)**

TIME	TITLE	PRESENTING AUTHOR
15.30-15.50	Impact of swirl on the round wake	Naughton, Jonathan
15.50-16.10	In situ measurements of near wake dynamics with a fleet of multicopter drones	Wildmann, Norman
16.10-16.30	Measurement of flow deflection effects around an offshore wind farm caused by global blockage	Schneemann, Jörge
16.30-16.50	Round-robin test II – wake measurements of porous discs under clearly defined boundary conditions	Manolesos, Marinos
16.50-17.10	Synergizing the Helix Approach with Dynamic Yawing: An exploration study using Porous Disks in a Wind Tunnel	Gutknecht, Jonas
17.10-17.30	Wake Measurement of Utility-Scale Wind Turbine Wake Using Drone	Uchida, Takanori

19.00 **Dinner (WISBY STRAND)**

Directions:

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THURSDAY 12 JUNE

09.30-10.30 **SESSION VIII - TURBINE AND FARM CONTROL (E22)**

TIME	TITLE	PRESENTING AUTHOR
09.30-09.50	LiDAR-assisted closed-loop control of a wind farm	Dubuc, Donatien
09.50-10.10	Assessment of loads and power generation for a wind farm utilizing Helix control strategy	Mehdi Mohammadi, Mohammad
10.10-10.30	Revenue-Focused Wind Farm Control Co-Design for Future Electricity Market Scenarios	Gokhan Dirik, Deniz

10.30-10.50 **COFFEE BREAK (OUTSIDE E22)**

10.50-11.30 **SESSION IX - TURBINE AND FARM CONTROL (E22)**

TIME	TITLE	PRESENTING AUTHOR
10.50-11.10	Time-Accurate Wind Farm Control in Dynamic Flow Conditions using Deep Reinforcement Learning	Sheehan, Helen
11.10-11.30	Uncertainty of toggling in wake steering experiments under diurnal cycle atmospheric conditions: an LES study	Hodgson, Emily Louise

11.30-12.00 **CLOSING SESSION (E22)**

Professor **Stefan Ivanell**, Uppsala University and Professor **Jens Nørkær Sørensen**, Technical University of Denmark/Uppsala University.

12.00-13.00 **LUNCH (VINÄGER)**

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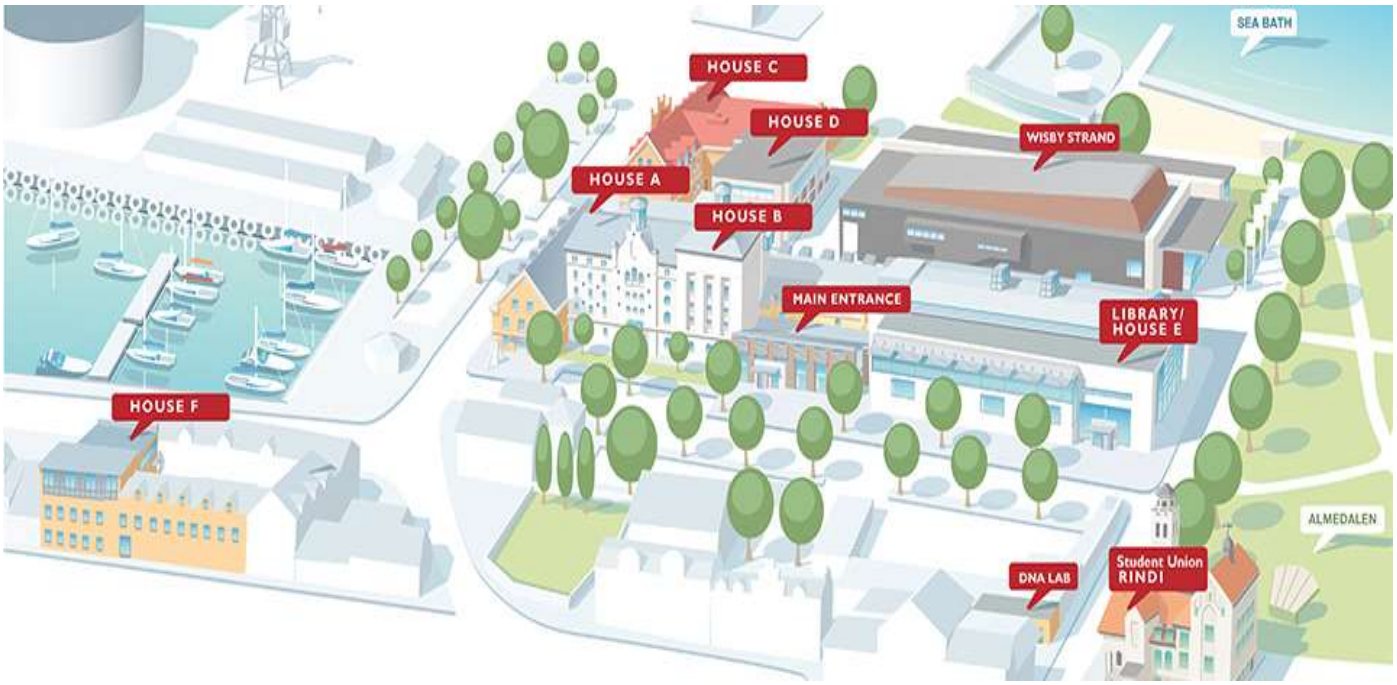
Instructions for attending the conference

Uppsala University, Campus Gotland
Cramérgatan 3, Visby.

The conference venue is in the Library House E @ Campus Gotland, Cramérgatan 5, Visby.
(E22 and E31)

- On the first day, please register outside the main conference room E22.



If there are some questions during your time at the conference, please contact:

Annie Nyström, annie.nystrom@geo.uu.se or +46701679928

Andrew Barney, andrew.barney@geo.uu.se or +46498108372

Most welcome,

Stefan Ivanell and Jens Nørkær Sørensen

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european academy of wind energy

Region Gotland

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