WESC 2025
24 - 27 JUNE | NANTES, FR

Updated on 3 July 2025

In case of inconsistencies with the App, the App is right !

MS#01.1.1: (Dual) Doppler Wind Radar for Wind Energy Applications

CHAIRED BY: B. LANGE

25/06/2025 14:00

Salle F

14:00: An Overview of the Versatility of Specialized Doppler Radar to Inform Wind Energy Applications (ID 8942)

B. HIRTH[1], J. SCHROEDER[1]

[1] Texas Tech University

14:20: Dual Doppler radar for wind energy applications – first results of the 'Wind Farm Radar' project (ID 9011)

B. LANGE[1], L. HUNG[1], L. LEGENDRE[2], J. GOTTSCHALL[3], J. DIETTRICH[2], S. STONE[2]

[1] Fraunhofer IWES|[2] Fraunhofer Institute for Wind Energy Systems IWES|[3] Fraunhofer Institute for Wind Energy Systems IWES,

14:40: Dual-Doppler wind radar measurement at Krummendeich-WiValdi wind farm – campaign overview and initial results (ID 8619)

H. LIN-YA (LILIAN)[1], J. GOTTSCHALL[1]

[1] Fraunhofer Institute for Wind Energy Systems IWES

15:00: Characterization of Extreme Wind Ramps at AWAKEN (ID 8249)

A. ABRAHAM[1], N. HAMILTON[1], B. HIRTH[2], J. SCHROEDER[2], P. MORIARTY[1]

[1] National Renewable Energy Laboratory|[2] Texas Tech University

MS#01.1.2: (Dual) Doppler Wind Radar for Wind Energy Applications

CHAIRED BY: J. GOTTSCHALL

25/06/2025 16:10

Salle F

16:10: Recovering 2D Wind fields from sparse measurements of a single scanning Radar or Lidar Instruments using Physics-Informed Neural Networks (ID 8911)

C. SCHIEFER[1]

[1] LEONARDO Germany GmbH

16:30: Investigating Differences in Remotely-Sensed Wind Speed Measurements from the AWAKEN Campaign (ID 8454)

J. NADOLSKY[1], J. SCHROEDER[1], B. HIRTH[1]

[1] Texas Tech University

16:50: Uncertainty probe volume modeling at longer ranges for dual-Doppler radar systems (ID 8675)

A. TRINDADE[1], S. D'HOEDT[1], J. SCHNEEMANN[1], A. ROTT[1], M. KüHN[1]

[1] Carl von Ossietzky Universität Oldenburg, School of Mathematics and Science, Institute of Physics. ForWind - Center for Wind Energy Research

17:10: Validation of the measurement accuracy of DD radar measurement system (ID 8795)

S. D'HOEDT[1], A. ROTT[2], J. SCHNEEMANN[3], A. TRINDADE[3]

[1] Carl von Ossietzky Universität Oldenburg - ForWind Centre for Wind Energy Research|[2] Carl von Ossietzky Universität Oldenburg|[3] Carl von Ossietzky Universität Oldenburg - ForWind Center for Wind Energy Research

MS#01.10.1: Wind meets ocean: Joint assessment of atmospheric and oceanographic parameters throughout the life of an offshore wind project

CHAIRED BY: J.COLLINS

25/06/2025 14:00

Salle C

14:00: Metocean vs Wind Resource: the long-term hindcast debate (ID 8327)

A. BARBEITO ALBIZU[1], D. PULLINGER[2]

[1] Rambøll|[2] Ramboll

14:20: A new methodology for extreme value analysis in the wind industry (ID 8497)

L. RENAC[1]

[1] Pondera Consult

14:40: From Colour to Money: Embedding Spatial Met-Ocean Intelligence into Offshore Wind Operational Models (ID 7884)

D. MCMILLAN[1], E. SALO[2]

[1] Trios Renewables Ltd & University of Strathclyde|[2] Trios Renewables Ltd

15:00: Climate Projections of Wind Speed at Six Possible Wind Farm Locations (ID 8578)

E. COURTNELL[1], J. ORWAT-KAPOLA[1], S. PANDEY[1], B. BHASKARAN[1]

[1] Shell International

15:20: Impact of Climate Change on Offshore Wind Industry in Metropolitan France: Results from the 2C NOW Project. (ID 8320)

Y. KERVELLA[1], T. CHEVALLIER[1], B. OUESLATI[2], N. LUXCEY[1], F. GUINOT[1], C. POPPESCHI[1], A. PATRA[1], L. DUBUS[3]

[1] France Energies Marines|[2] EDF R&D|[3] RTE

MS#01.11.1: Understanding the physics and aerodynamics of atmospheric flow for predicting wind power production and evaluating loads

CHAIRED BY: B. MENDEZ-LOPEZ, S. WATSON, J. MANN

27/06/2025 08:40

Salle I

08:40: WIFA 1.0: a multi-fidelity tool for wind farm power production estimation (ID 8740)

A. MATHIEU[1], R. MOURADI[2], J. SCHULTE[3], K. DEVESSE[4], F. AERTS[4], T. RASSE[1], J. QUICK[5]

[1] EDF R&D|[2] EDF RD|[3] Fraunhofer IWES|[4] KU Leuven|[5] DTU Dept of Wind and Energy Systems

09:00: Generation and characterization of low-level jets with CFD (ID 8775)

H. OLIVARES ESPINOSA[1], A. MATHIEU[2], J. BLEEG[3], S. IVANELL[1]

[1] Uppsala University|[2] CEREA,EDF R&D, École des Ponts, France|[3] DNV United Kingdom

09:20: Offshore wind profile characteristics and their impact on the power production of floating wind turbines (ID 8150)

N. ANGELOU[1], C. DUBREUIL-BOISCLAIR[2]

[1] Technical University of Denmark (DTU)|[2] Equinor

09:40: Revision and validation of minimalistic model for predicting energy production of offshore wind farms (ID 8527)

J. SøRENSEN[1], G.C. LARSEN[2], M.M. PEDERSEN[1]

[1] DTU Wind and Energy Systems|[2] DTU Wind And Energy Systems

10:00: Non-Gaussian Extension of Current Wind Field Models in IEC 61400-1 and their Impact on Wind Turbine Loading (ID 8840)

J. FRIEDRICH[1], C. SCHUBERT[2], D. MORENO[3], J. LENGYEL[3], K. SANDEL[4], M. BERTELé[3], P. MEYER[3], A. SYED[5], J. MANN[5]

[1] ForWind, Institute of Physics, University of Oldenburg, Oldenburg, Germany|[2] ICM, Institute for Mechanical and Industrial Engineering Chemnitz, Germany|[3] ForWind, Institute of Physics, University of Oldenburg, Oldenburg, Germany}|[4] Siemens Gamesa Renewa

10:20: Wind profiles beyond mast height during rainy and dry conditions (ID 8483)

E. DELLWIK[1], . HANNISDOTTIR[2], C. HASAGER[2], A. SYED[1], A. JAMIESON[3], K. DYER[3], E. CANTERO NOUGUERET[4], O. PIRES[4]

[1] DTU Wind and Energy Systems|[2] DTU Wind & Energy Systems|[3] Offshore Renewable Energy Catapult|[4] CENER

MS#01.12.1: Uncertainty Quantification [UQ] in Wind, as of 2024

CHAIRED BY: T. GEER, C.MÖHRLEN

27/06/2025 08:40

Salle E

08:40: Wind Farm Layout Optimization under Uncertainty: Accounting for Variability in Model Bias (ID 8860)

N. O'NEILL[1], P. RéTHORé[1], R. MOURADI[2], A. MATHIEU [2], J. QUICK[1]

[1] Technical University of Denmark|[2] EDF R&D

09:00: Using One Wind Farm as a Reference to Estimate the Energy Production of Another: Insights from a Probabilistic Analysis (ID 8822)

P. MAZOYER[1], T. DUC[1], G. KARINIOTAKIS[2]

[1] ENGIE Green|[2] Mines Paris, PSL University

09:20: Bayesian uncertainty quantification of an engineering model for wind-farm blockage (ID 8507)

F. AERTS[1], K. DEVESSE[1], J. MEYERS[1]

[1] KU Leuven

09:40: Effect of wind direction uncertainties on yaw-based wake steering control (ID 8533)

E. MULLER[1], S. GREMMO[2], L. BEAUDET[3], P. BENARD[1]

[1] CNRS UMR6614 - CORIA|[2] Von Karman Institute for Fluid Dynamics|[3] Siemens Gamesa Renewable Energy

10:00: Wind power forecasting error evaluation and decoupling methods (ID 8450)

J. YAN[1], Y. LI[1]

[1] North China Electric Power University

MS#01.3.1: The role of air-sea interactions in offshore wind energy applications

CHAIRED BY: S. PORCHETTA, J. FISCHEREIT

27/06/2025 10:50

Salle F

10:50: The impact of operating wind farms in the wave field: a case study (ID 8630)
J. DU[1], J. SOERENSEN[1], P. SANTOS[1], I. KOUMANIOTIS[1]
[1] DHI A/S

11:10: Assessing Subfilter Scale Wave Drag Models for LES for Offshore Wind Farms (ID 8880)
H. WILLIAMS[1], A.K. AIYER[2], L. DEIKE[1], M.E. MUELLER[1]
[1] Princeton University|[2] Lehigh University

11:30: Modeling wave-induced stress and atmospheric stability effects in offshore wind farm wakes (ID 8900)
A. AIYER[1], G. NARASIMHAN[2]
[1] Lehigh University|[2] University of Minnesota

11:50: Turbulent flow structure over ocean waves: A data-driven approach (ID 9005)
A. HAMADA[1], G. HORA[2], K. YOUSEFI[1]
[1] University of Texas at Dallas|[2] Columbia University

12:10: Panel Discussion - Future of offshore wind reseach (Boris Conan, Alfredo Peña, Raul Bayoan Cal, TBD)

MS#01.3.2: The role of air-sea interactions in offshore wind energy applications

CHAIRED BY: K. YOUSEFI, A. AIYER

27/06/2025 14:00

Salle F

14:00: Investigating Wind Turbulence and Sea Spray Interactions in the Marine Atmospheric Boundary Layer Using Scanning Doppler LiDAR (ID 8989)
G.V. IUNGO[1], M. SHAMS SOLARI[1], S. ROY[1], C. MOSS[1]
[1] University of Texas at Dallas

14:20: Effects of surface characterization on a United States East Coast low-level jet and resulting wind farm wakes (ID 8994)
N. AGARWAL[1], J. LUNDQUIST[1]
[1] Johns Hopkins University

14:40: Assessing boundary layer heights with ERA5 and scanning lidar measurements (ID 8098)
C. MULET-BENZO[1], J. GOTTSCHALL[1], A. BLACK[2], H. LIN-YA[1]
[1] Fraunhofer IWES|[2] Vaisala

15:00: Mean Wind Profile Departure From MOST Above Different Wave Conditions - Part 1: Scanning LiDAR Measurements (ID 8531)
W. BRUCH[1]
[1] Nantes Université, Ecole Centrale Nantes, CNRS, UMR 6598, F-44000 Nantes, France

15:20: Mean Wind Profile Departure From MOST Above Different Wave Conditions - Part 2: Parametrization (ID 8423)
W. BRUCH[1], B. MICHEL[2], M. BARBARIN[3], B. CONAN[4]
[1] University of Brest, CNRS, Ifremer, IRD, IUEM, LOPS, UMR 6523 Plouzané,France|[2] Nantes Université, Centrale Nantes, LMJL, CNRS, UMR 6629, Nantes, France|[3] Nantes Université, Centrale Nantes, LMJL, CNRS UMR 6629, F-44000, Nantes, France|[4] Nantes Universi

WESC 2025
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Updated on 3 July 2025

MS#01.4.1: Icing of wind turbine blades

CHAIRED BY: T.KARLSSON

25/06/2025 10:50

Salle E

10:50: 2D and 3D simulations of particle trajectories for blade icing and erosion (ID 8120)

F. CACCIA[1]

[1] Politecnico di Milano

11:10: Validation of wind turbine icing models (ID 8935)

L. KASTNER[1], M. RICHTER-ROSE[2], A. BALTZER[2]

[1] Pavana GmbH and Hochschule Flensburg|[2] Pavana GmbH

11:30: Enhancing Wind Turbine Icing Loss Forecasts with Machine Learning and SCADA Tuning (ID 8088)

C. HALLGREN[1], M. KURPPA[2], C. DUSCHA[3], S. YNGVAR EKERN[3], S. GRINI[3], S. GUTTU[3], V. LEHTOMäKI[2], J. MOLINDER[1]

[1] Kjeller Vindteknikk, Norconsult Sverige AB, SE|[2] Kjeller Vindteknikk OY, FI|[3] Kjeller Vindteknikk, Norconsult Norge AS, NO

11:50: Development of a free software for massive wind turbine ice throw simulations (ID 8678)

H. SARLAK[1], F. BERTAGNOLIO[2]

[1] Associate professor|[2] DTU Dept of Wind and Energy Systems

MS#01.6.1: Understanding the Impact of Tropical Cyclones and Winter Storms on Offshore Wind Turbines

CHAIRED BY: X. LARSÉN, J.K. LUNDQUIST

27/06/2025 10:50

Salle E

10:50: Extreme wind speeds in tropical cyclones using parametric models (ID 8032)

P. RENAUD[1], L. VINOUR[2], J. FILIPOT[1]

[1] France Energies Marines|[2] Hokkaido University

11:10: Quantification of Tropical Cyclone Characteristics in Taiwan, Japan and the US East Coast (ID 8233)

K. CHAPMAN-SMITH[1], X. GUO LARSéN[1], M. BRODERSEN[2]

[1] The Technical University of Denmark|[2] Ørsted

11:30: Generation of combined meso and microscale turbulence field for tropical cyclone conditions (ID 8509)

S. MüLLER[1], X. GUO LARSéN[1], D. VERELST[1]

[1] Danish Technical University

11:50: Mean wind and turbulence characteristics near the surface of Hurricane Laura (2020) (ID 8429)

M. SANCHEZ GOMEZ[1], G. DESKOS[1]

[1] National Renewable Energy Laboratory

12:10: Simulating the structural performance of FOWT in Extreme Irish Atlantic Conditions (ID 8384)

M. O SHEA[1]

[1] University College Cork

MS#01.7.1: New methods for turbulence measurements and models in offshore wind

CHAIRED BY: J. GOTTSCHALL, T. LUNEL

26/06/2025 08:40

Salle C

08:40: Reconstruction methods for turbulence measurements using ground-based wind pulsed lidar profilers: comparison and future improvements (ID 8238)

M. THIEBAUT[1]

[1] France Energies Marines

09:00: Enhancing Floating Lidar Turbulence Intensity Accuracy: A HybrMotion Compensation and Machine Learning Approach (ID 8492)

W. WATSON[1], J. GOTTSCHALL[1]

[1] Fraunhofer Institute for Wind Energy Systems IWES, Bremerhaven, Germany

09:20: Height Extrapolation of Floating Lidar Turbulence Intensity Using Machine Learning: A Comparative Study Against Multiple References (ID 8569)

G. RAPISARDI[1], M. ARAúJO[1], A. MIQUEL[1]

[1] EOLOS FLoating Lidar Solutions

09:40: Impact of Scanning Schedules on Turbulence Intensity Measurements Using Dual Scanning LiDAR Systems (ID 8135)

S. SHIMADA[1], T. KOGAKI[1], T. IKEDA[2], H. HAYASHI[2], Y. FUKATANI[3], Y. TANIYAMA[3]

[1] National Institute of Advanced Industrial Science and Technology | [2] Japan Weather Association | [3] Toshiba Energy Systems & Solutions Corporation

10:00: Coastal TI Measurement using Scanning Lidars: Is intersecting DSL the optimal approach? (ID 8917)

F. ROUHOLAHNEJAD[1], J. GOTTSCHALL[1]

[1] Fraunhofer IWES

MS#01.7.2: New methods for turbulence measurements and models in offshore wind

CHAIRED BY: M. THIEBAUT, F. ROUHOLAHNEJAD

26/06/2025 10:50

Salle C

10:50: A comprehensive evaluation of turbulence intensity from a mesoscale model for offshore wind sites (ID 8529)

S. SCHWEGMANN[1], L. VOLLMER[1], J. GOTTSCHALL[1]

[1] Fraunhofer Institute for Wind Energy Systems

11:10: Characterisation of atmospheric boundary layer turbulence in the Gulf of Lion: insights from atmospheric models and a wind lidar profiler (ID 8170)

T. LUNEL[1], D. RICARD[2], M. THIEBAUT[1]

[1] France Energies Marines | [2] Centre National de Recherches Météorologiques

11:30: Application of Universal Multifractal framework on data collected from an off-shore wind farm (ID 8572)

S. MAURYA[1]

[1] France Energies Marines

11:50: The field evaluation on measurement accuracy of Turbulence Intensity (TI) of Nacelle Mounted Wind Lidar (ID 8666)

Z. LIANG[1], F. DELBOS[1], A. JEANNIN[1], M. BOQUET[1]

[1] Vaisala

MS#01.8.1: Lidars In and Out of Simulations – a collaboration between IEA Tasks 52 and 57

CHAIRED BY: S. LETIZIA, J. GOTTSCHALL

25/06/2025 10:50

Salle F

10:50: Sensitivity of the turbulence measurements from ground-based lidars to the beam orientation (ID 8665)

A.H. SYED[1], J. MANN[1]

[1] DTU Wind and Energy Systems, Denmark

11:10: Wind Field Reconstruction Using Single Doppler lidar: A Lagrangian Approach (ID 8679)

I. RANSQUIN[1], A. ROTT[1], M. KüHN[1]

[1] Carl von Ossietzky Universität Oldenburg, School of Mathematics and Science, Institute of Physics, ForWind - Center for Wind Energy Research, Küpkersweg 70, 26129 Oldenburg, Germany

11:30: Large-Eddy-Simulation-based performance evaluation of floating lidars (ID 8558)

F. GUILLEMIN[1], N. TOM[2]

[1] IFP Energies Nouvelles, 92852 Rueil-Malmaison, France|[2] Ocergy

11:50: A Comprehensive Sensitivity Analysis of Wind Lidar Uncertainty Using a Fiber Optic Bench and Monte Carlo Simulation (ID 8902)

A. BLACK[1]

[1] Vaisala France

MS#01.9.1: Wind energy optimization for challenging sites and climatic conditions with special focus on blade erosion.

CHAIRED BY: H. KASSEM, A. HANNESDÓTTIR, T. ARPONEN

26/06/2025 14:00

Salle C

14:00: AIRE measurement campaigns and data analysis (ID 7448)

C. HASAGER[1], B. MENDéZ[2]

[1] DTU Wind and Energy Systems|[2] CENER

14:20: Erosion risk mapping in Northern Spain comparing two versions of satellite IMERG rainfall data (ID 7653)

K. DIMITRIADOU[1], . HANNESDóTTIR[1], C.B. HASAGER[1]

[1] Technical University of Denmark

14:40: Wind speed effects on droplet size distribution (ID 8932)

. HANNESDóTTIR[1], E. DELLWIK[1]

[1] Technical University of Denmark, Department of Wind and Energy Systems

15:00: Comparative Analysis of Erosion Potential of Wind Turbine Blade at Northern and Southern Europe Sites (ID 8439)

E. ADIROSI[1], M.S. CAMPOBASSO[2], S. SHENDE[3], A. CASTORRINI[3]

[1] Institute of Atmospheric Sciences and Climate - National Research Council of Italy|[2] Lancaster University|[3] Sapienza University of Rome, Italy

15:20: Methodology for the analysis of the effect of precipitation (ID 8804)
M. APARICIO-SANCHEZ[1], E. CANTERO-NOUQUERET[1], I. EGUINOA[1]
[1] National Renewable Energy Centre (CENER), Spain

MS#01.9.2: Wind energy optimization for challenging sites and climatic conditions with special focus on blade erosion.

CHAIRED BY: C. BAY HASSAGER, B. MÉNDEZ

26/06/2025 16:10
Salle C

16:10: Numerical characterization of precipitation impingement on rotating wind turbine (ID 8938)
M. JAVAHERIANRAD[1], L. HöNING[1], J.N. THERON[1]
[1] Fraunhofer Institute for Wind Energy Systems IWES

16:30: Study of the impact on offshore wind energy of frequent events with high dust concentration (ID 8499)
E. CANTERO[1], O. PIRES[2], E. SAENZ[2], I. PRADA[3], L. MELINI[3], M.D. GELADO[4]
[1] Wind Energy|[2] CENER|[3] PLOCAN|[4] Universidad de Las Palmas de Gran Canaria

16:50: Integrated wind farm control toolbox for optimised design and operation including erosion (ID 8239)
T. BARLAS[1], J. VISBECH[1], T. GöçMEN[1]
[1] DTU Wind and Energy Systems

17:10: Assessment of Wind Turbine Precipitation Reactive Control with Measured Synchronous Co-located Time-Series of Wind and Rain Data (ID 8434)
M. ROSE[1], S. DORAYMORAY BADALGE[1], S. SHENDE[2], A. CASTORRINI[2], M.S. CAMPOBASSO[1]
[1] Lancaster University|[2] Sapienza University of Rome, Italy

17:30: Investigation of the effect of offshore environmental conditions on leading edge erosion repairs of wind turbine blades (ID 8845)
E. TOBIN[1], M. AGHDAM[1]
[1] South East Technological University

MS#02.1.1: Data-driven flow modeling and control of wind farms

CHAIRED BY: M. ABKAR, G.V. IUNGO, X. YANG

25/06/2025 14:00
Salle G

14:00: AI-powered model for predicting broad-spectrum wind turbine wake turbulence (ID 8657)
X. YANG[1]
[1] Institute of Mechanics, Chinese Academy of Sciences

14:20: Bases for wind turbine wake flow reconstruction: Why the optimal is not always the best choice (ID 8841)
J.F. CESPEDES[1], S. ANDERSEN[2], M. JUAN PABLO[2]
[1] Technical University of Denmark|[2] Technical University of Denmark (DTU)

14:40: A deep learning technique for modelling wakes of floating wind turbines (ID 8519)
B. FEDERICO [1], M. EBRAHIMI[1], A. FONTANELLA[1], S. MUGGIASCA[1], M. BELLOLI[1]
[1] Politecnico di Milano

15:00: Wake Prediction Using Deep Leaning Method of a Model Wind Turbine (ID 8184)
T. QINGHONG[1], W. YUXIN[2], L. JUNFU[2]
[1] Department of Energy and Power Engineering, Tsinghua University|[2] Tsinghua University

15:20: Advancing CFD simulations of wind farms using a progressive data-augmentation strategy (ID 8157)
A. AMARLOO[1], N. ZEHTABIYAN-REZAIE[1], M. ABKAR[1]
[1] Aarhus University, Denmark

MS#02.1.2: Data-driven flow modeling and control of wind farms

CHAIRED BY: M. ABKAR, G.V. IUNGO, X. YANG

25/06/2025 16:10

Salle G

16:10: Graph Neural Operator (GNO) for complex wind farm flows (ID 8067)
J.P. SCHøLER[1], P. RéTHORé[1]
[1] DTU Wind and Energy Systems

16:30: Using Blockage Parameters and Reinforcement Learning to OptimiseWind Farm Arrays (ID 8431)
J. LEWIS[1], L. JIA[1]
[1] University of Strathclyde

16:50: Wind field reconstruction based on LiDAR measurements (ID 8277)
T. COUSIN[1], A. TONNOIR[1], C. GOUT[1], C. LE GUYADER[1], N. WARNCKE[2]
[1] Laboratoire de Mathématiques de l'INSA de Rouen|[2] Siemens Gamesa Renewable Energy

17:10: Super-Resolution of Wind Data at Perdigão Using Machine Learning (ID 8966)
S. SUDHAKARAN[1], H. PENEDONES[1], J. PALMA[2], J. LOPES[3]
[1] Inductiva Research Labs|[2] Faculty of Engineering of the University of Porto|[3] Faculty of Sciences University of Porto

MS#02.2.1: Modeling atmospheric boundary layer impacts on wind power from rotors to wind farm wakes

CHAIRED BY: M. HOWLAND AND S. PORCHETTA

25/06/2025 10:50

Salle H

10:50: Wind Farm Dynamics over a Diurnal Cycle: Analysis of a comprehensive LES Web-Services Accessible Dataset (ID 8870)
S. XIAO[1], Z. XIAOWEI[2], G. NARASIMHAN[3], D.F. GAYME[1], C. MENEVEAU[1]
[1] Johns Hopkins University|[2] Portland State University|[3] University of Minnesota

11:10: Atmospheric Stability Effects on Wind Farm Flow and Power Performance (ID 8518)
M. SOUAIBY[1], F. PORTé-AGEL[1]
[1] École Polytechnique Fédérale de Lausanne (EPFL)

11:30: The impact of static and dynamic atmospheric stability on wind turbine wakes at the WiValdi research wind park (ID 8262)
J. MENKEN[1], N. WILDMANN[1], J. THAYER[1]
[1] Deutsches Zentrum für Luft- und Raumfahrt e.V.

11:50: LES of a 4-GW wind farm in conventionally-neutral conditions: farm performance and wake (ID 8878)
M. GHOBRIAL[1], T. STALLARD[1], P. OURO[1]
[1] School of Engineering, University of Manchester

12:10: Integration of a veer-aware Gaussian wake model into the Weather Research and Forecasting model (ID 8807)
K. ALI[1], D. SCHULTZ[1], T. STALLARD[1], P. OURO[1]
[1] University of Manchester

MS#02.2.2: Modeling atmospheric boundary layer impacts on wind power from rotors to wind farm wakes

CHAIRED BY: M. HOWLAND AND S. PORCHETTA

25/06/2025 14:00

Salle H

14:00: Wakes and the Atmosphere: Are We Reaching the Limits of Modelling? A deep dive into representative atmospheric profiles. (ID 8983)
C. RODAWAY[1], K. GUNN[1], C. MONTAVON[2]
[1] RWE|[2] DNV

14:20: Beyond inflow turbulence: A numerical exploration of various atmospheric influences on wakes and blockage (ID 8832)
J. BLEEG[1], C. MONTAVON[2]
[1] DNV|[2] DNV United Kingdom

14:40: A comparison of simulation setups in modeling a wind farm in a neutral atmospheric boundary layer (ID 8568)
M. KHAN[1], S.J. WATSON[1], M.J. CHURCHFIELD[2], D.J.N. ALLAERTS[1]
[1] Delft Technical University|[2] National Renewable Energy Laboratory: Boulder, CO, USA

15:00: Effect of height dependent inflow conditions on the power predictions of a dynamic wind farm flow model (ID 8915)
J.K. BOHRER[1], V. PETROVIĆ[1], A. ROTT[1], M. KüHN[1]
[1] Carl von Ossietzky Universität Oldenburg, School of Mathematics and Science, Institute of Physics, ForWind - Center for Wind Energy Research, Küpkersweg 70, 26129 Oldenburg, Germany

MS#02.2.3: Modeling atmospheric boundary layer impacts on wind power from rotors to wind farm wakes

CHAIRED BY: M. HOWLAND AND S. PORCHETTA

25/06/2025 16:10

Salle H

16:10: Can gravity waves explain seasonality in wind farm performance? (ID 8828)
N. GAYLE NYGAARD[1]
[1] Ørsted

16:30: Investigating wind-farm-induced Gravity Waves using high-resolution mesoscale modeling (ID 8816)
A. PALATOS PLEXIDAS[1], S. GREMMO[2], J. VAN BEECK[2], L. DE CRUZ[3], W. MUNTERS[2]

[1] The von Karman Institute for Fluid Dynamics (VKI); Vrije Universiteit Brussel (VUB)|[2] The von Karman Institute for Fluid Dynamics|[3] Vrije Universiteit Brussel (VUB)

16:50: An analytical model for wind farm efficiency in conventionally neutral boundary layers (ID 8580)

K. DEVESSE[1], F. AERTS[2], J. MEYERS[2]
[1] KU Leuven|[2] Mechanical Engineering, KU Leuven

17:10: Assessment of the impact of blockage on the optimal collective farm set point: a large-eddy simulation analysis (ID 8183)

T. DELVAUX[1], J. MEYERS[1]
[1] KU Leuven

17:30: Multiscale (Meso-to-Microscale) Modeling of Offshore Wind Farm-Atmosphere Interactions: An Energy Budget Analysis (ID 8972)

M. BAKHODAY PASKYABI[1], X. NING[1]
[1] Associate Professor, Geophysical Institute, University of Bergen, Norway

MS#02.3.1: Wind Farm Flow Control Research Symposium, Hosted by IEA Wind Task 44

CHAIRED BY: E. SIMLEY AND M. SINNER

26/06/2025 08:40

Salle H

08:40: The CAP project: Full-scale demonstration of wind farm flow control (ID 8903)

M. DUPOIRON[1], P. TONA[2], F. GUILLEMIN[2], C. LEPAYSAN[3]
[1] GreenWITS|[2] IFP Energies nouvelles|[3] EPSILINE

09:00: Results of the first DNV joint industry project on wind farm flow control (ID 8263)

M. HARRISON[1], P. VISHWAKARMA[1], R. WILLIAMS[1], G. SMITH[1], P. DOWNES[1], J. KING[1]
[1] DNV

09:20: Turbine-based inflow estimation as precursor for wake characteristics (ID 8537)

D. ONNEN[1], V. PETROVIĆ[2], J. MENKEN[3], D. BEKIROPOULOS[4], M. KüHN[2]
[1] Carl von Ossietzky Universität Oldenburg, School of Mathematics and Science, Institute of Physics, ForWind - Center for Wind Energy Research|[2] Carl von Ossietzky Universität Oldenburg, School of Mathematics and Science, Institute of Physics, ForWind - C

09:40: Short-range LiDAR measurements for wind farm flow control (ID 8590)

D. COLLET[1], P. TONA[1], M. DUPOIRON[2]
[1] IFPEN|[2] GreenWITS

10:00: Operational wake loss estimation in non-homogeneous inflow and mixed layouts (ID 8054)

S. DAVOUST[1], F. DELAUNAY[1]
[1] Tipspeed

MS#02.3.2: Wind Farm Flow Control Research Symposium, Hosted by IEA Wind Task 49

CHAIRED BY: T. GÖÇMEN

26/06/2025 10:50

Salle H

10:50: Automatic calibration method for engineering wake models (ID 8951)

P. FLEMING[1], B. DOEKEMEIJER[2]
[1] National Renewable Energy Laboratory (NREL)|[2] Shell International

11:10: Analytical modelling for wake steering in wind farms (ID 8656)
N. GAUKROGER[1], D. SIGUENZA-ALVARADO[2], A. MEYER FORSTING[1], P. VAN DER LAAN[1], P. RéTHORé[1], M. BASTANKHAH[2]
[1] Technical University of Denmark (DTU)|[2] durham university

11:30: Feature engineering for Gaussian process modeling of wake steering data (ID 8851)
M. LUGO-ALVAREZ[1], C. ZENG[2], D. KERRIGAN[3], E. TRONCI[4], N. POST[5]
[1] Northeastern University, Boston MA, USA|[2] Roux Institute, Northeastern University, Portland ME|[3] Khoury College of Computer Science, Northeastern University, Boston MA|[4] Department of Civil and Environmental Engineering, Northeastern University, Boston

11:50: Power modeling of wind turbines under yaw-controlled conditions using deep learning and field-measured data (ID 8204)
H. WANG[1], J. YAN[1], Y. LIU[1], S. HAN[1]
[1] North China Electric Power University

MS#02.3.3: Wind Farm Flow Control Research Symposium, Hosted by IEA Wind Task 53

CHAIRED BY: J.W. VAN WINGERDEN

26/06/2025 14:00

Salle H

14:00: Wind farm wake steering control considering wind process (ID 8208)
S. HE[1], J. YAN[1], Y. LIU[1], S. HAN[1]
[1] School of New Energy, North China Electric Power University

14:20: Towards a silent wind farm control: Deep Reinforcement Learning to balance power extraction and noise reduction. (ID 8638)
M. DE FRUTOS MUñOZ[1], D. HUERGO PEREA[1], E. FERRER[1]
[1] Universidad Politécnica de Madrid

14:40: Towards wake steering at large scale wind farms: An LES grresolution sensitivity study (ID 8326)
R. DE JONG[1], J. VAN WINGERDEN[1], R. VERZIJLBERGH[2]
[1] TU Delft|[2] Whiffle Weather Forecasting

MS#02.3.4: Wind Farm Flow Control Research Symposium, Hosted by IEA Wind Task 58

CHAIRED BY: I.E. ERDOZAIN

26/06/2025 16:10

Salle H

16:10: Control co-design of wind farms: balancing economic costs and environmental impact (ID 8368)
M. BARICCHIO[1], S. KAINZ[2], J. IORI[1], P.M. GEBRAAD[3], C.L. BOTTASSO[2], J. VAN WINGERDEN[1]
[1] Delft University of Technology|[2] Technical University of Munich|[3] Youwind Renewables

16:30: Desirability optimization of wind farm control for loads and yield objectives (ID 8308)
T. LOKKEN[1], M. BARICCHIO[2], P. GEBRAAD[1], A. GUILLORE[3], J. VAN WINGERDEN[2], C. BOTTASSO[3]
[1] Youwind Renewables|[2] Delft University of Technology|[3] Technical University of Munich

16:50: Optimizing Wind Farm Operations: A Cost-Benefit Analysis of Strategic Turbine Derating using FLORIS (ID 8947)
P. FLEMING[1], E. SIMLEY[1], M. SINNER[1], D. MILLSTEIN[2]
[1] National Renewable Energy Laboratory (NREL)|[2] Lawrence Berkeley National Laboratory

17:10: Evaluating wake effects of new wind developments on existing wind farms (ID 8943)
M. SINNER[1], P. FLEMING[1], G. DESKOS[1]
[1] NREL

MS#02.4.1: Wind Turbine Wake Modelling

CHAIRED BY: M. MANOLESOS, S. IVANELL

26/06/2025 10:50

Club Atlantique

10:50: Wind Turbines simulations using High-Order h/p Solvers (ID 8792)
O. MARINO[1], E. FERRER[2]
[1] Universidad Politécnica de Madrid|[2] Universidad Politécnica de Madrid

11:10: Large eddy simulation of rotor size effects on wake development for large wind turbines (ID 8912)
A. PARINAM[1], P. BENARD[1], V. MOUREAU[1], D. VON TERZI[2], A. VIRE[2]
[1] CORIA-CNRS|[2] TU Delft

11:30: A non-uniform actuator disk formulation for the linearized CDF turbine wake model Fuga (ID 8979)
L. ALCAYAGA[1], S. OTT[1], G. LARSEN[1], M. PEDERSEN[1]
[1] DTU Wind and Energy Systems

11:50: Aerodynamic investigation of a floating offshore wind turbine rotor under yawed flow using free vortex wake model and vortex ring wake model (ID 8219)
. ÖZTüRK[1], N. SEZER UZOL[1]
[1] Middle East Technical University

12:10: Rotor-averaged deficit due to a turbine wake model based on scalar diffusion (ID 8824)
K. ALI[1], T. STALLARD[1], P. OURO[1]
[1] University of Manchester

MS#02.4.2: Wind Turbine Wake Modelling

CHAIRED BY: M. MANOLESOS, S. IVANELL

26/06/2025 14:00

Club Atlantique

14:00: Structure of yawed wind turbine wakes in neutral and stable stratification. (ID 8815)
R. FOSTER[1], M. PLACIDI[1], P. HANCOCK[1]
[1] University of Surrey

14:20: Two in-line wind turbines interaction with a Vortex Particle Method code (ID 8517)
M. ROPERCH[1], P. BéNARD[2], G. PINON[1]
[1] Laboratoire Ondes et Milieux Complexes, UMR6294 CNRS, Université Le Havre Normandie, Le Havre, France|[2] CORIA, CNRS UMR 6614, INSA Rouen, Rouen 76000, France

14:40: A Blind Test on Wind Turbine Wake Modelling: Benchmark Results and Next Steps (ID 8779)
I. CHONDROMATIDIS[1], V. PAPPA[1], B. DSOUZA[2], A. SCIACCHITANO[2], S. TAMARO[3], F. MüHLE[3], F. CAMPAGNOLO[3], C.L. BOTTASSO[3], M. MANOLESOS[1]

[1] National Technical University of Athens|[2] Delft University of Technology|[3] Technical University of Munich

15:00: Impact of Mesh Resolution of twin wind turbines using High Fidelity Large Eddy Simulations (ID 9012)

V.H.C. MULAKALOORI[1], P. BENARD[1], V. MOUREAU[1]
[1] CORIA, CNRS UMR 6614, INSA Rouen, Rouen 76000, France

MS#02.4.3: Wind Turbine Wake Modelling

CHAIRED BY: M. MANOLESOS, S. IVANELL

26/06/2025 16:10

Club Atlantique

16:10: Data-Driven Wind Power Prediction and Double-Gaussian Wake Model Approximation with Deep Learning Method (ID 8060)

C. QIN[1]
[1] Harbin Institute of Technology (Shenzhen)

16:30: Wind-turbine wake simulations with an assimilated atmospheric inflow compared to measurements (ID 8205)

L. WRBA[1], A. ENGLBERGER[1], A. DöRNBRACK[1], J. MENKEN[1], N. WILDMANN[1]
[1] German Aerospace Center

16:50: Physics-based modelling of turbulence in wind turbine wakes (ID 8599)

F. BLONDEL[1], H. SCHOTTENHAMML[1], E. JéZéQUEL[1], M. BASTANKHAH[2]
[1] IFP Energies nouvelles|[2] Durham university

17:10: Simulated Meteorological Impacts of Wind Turbines and Sensitivity to the Amount of Added Turbulence Kinetic Energy (ID 8453)

J. LUNDQUIST[1], D. QUINT[2], N. BODINI[3], D. ROSENCRANS[2]
[1] Johns Hopkins University|[2] University of Colorado Boulder|[3] National Renewable Energy Laboratory (U.S.)

MS#02.4.4: Wind Turbine Wake Modelling

CHAIRED BY: M. MANOLESOS, S. IVANELL

27/06/2025 08:40

Salle J

08:40: Validation of different fidelity flow models for yaw and veer (ID 8479)

J. STEINER[1], H. EMILY[1], M.P. VAN DER LAAN[1], M. PEDERSEN[1], G.C. LARSEN[1], S.J. ANDERSEN[1], P.M. RéTHORé[1]
[1] DTU Wind

09:00: Large Eddy Simulation Studies of an Isolated Wind Turbine Sited Behind a Smooth-to-Rough Surface Roughness Transition (ID 8495)

N.N. KETHAVATH[1], K. MONDAL[1], N.S. GHAISAS[1]
[1] Indian Institute of Technology Hyderabad, India

09:20: Improvement of a double-Gaussian wake model for complex operational conditions (ID 8247)

J. KRAUSE[1], M. DE PASCALI[2], C.L. BOTTASSO[1]
[1] Wind Energy Institute, TUM |[2] Politecnico di Milano

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Updated on 3 July 2025

MS#02.4.5: Wind Turbine Wake Modelling

CHAIRED BY: M. MANOLESOS, S. IVANELL

27/06/2025 10:50

Salle J

10:50: An analytical model for wind turbine wake dynamics (ID 8617)

M. JAMSHIDMOFID[1], F. PORTE-AGEL[1]

[1] Wind Engineering and Renewable Energy Laboratory (WiRE), Ecole Polytechnique Federale de Lausanne (EPFL), 1015 Lausanne, Switzerland

11:10: Calibration of Wake Model in a Windfarm using Measured Data: A Case Study of Block Island Wind Farm (ID 8255)

F. DI CIOCCIO[1], S. SHID-MOOSAVI[2], E.M. TRONCI[2], R. HAGHI[3], B. MOAVENI[3], S. LIBERATORE [3], E. HINES[3]

[1] Tufts University |[2] Northeastern University|[3] Tufts University

11:30: Modeling of wake-induced fatigue inside a wind farm with "wake profile" method theory and application on a case study (ID 8721)

N. DELEPINE[1]

[1] IFPEN

11:50: Yet another OpenFOAM actuators library for high performance simulation of wind farms (ID 8163)

D.A. BARILE[1], J.I. TEICH[2], M.. PANETTA[2], J. SANDEZ[2], S. SANTISI[1], A.D. OTERO[1]

[1] Universidad de Buenos Aires, Facultad de Ingeniería / CONICET, Centro de Simulación Computacional para Aplicaciones Tecnológicas|[2] Universidad de Buenos Aires, Facultad de Ingeniería

MS#02.5.1: The American WAKE experiment (AWAKEN): Recent research

CHAIRED BY: G.V. IUNGO

25/06/2025 10:50

Salle G

10:50: The AmericanWake Experiment (AWAKEN): Past, Present, and Future (ID 8992)

P. MORIARTY[1], A. ABRAHAM[1], R. BARTHELMIE[2], N. BODINI[1], A. FRèRE[3], N. HAMILTON[1], T. HERGES[4], B. HIRTH[5], C. KAUL[6], P. KLEIN[7], A. LAMPERT[8], S. LETIZIA[1], J. LUNDQUIST[9], Y. PICHUGINA[10], S. PRYOR[2], J. SCHROEDER[5], E. SIMLEY[1], S. SHARTZER[11], L. VöHRINGER[12], S. WH

[1] NREL|[2] Cornell University|[3] ENGIE Laborelec|[4] Sandia National Laboratories|[5] Texas Tech University|[6] Pacific Northwest National Laboratory|[7] University of Oklahoma|[8] Technische Universität Braunschweig|[9] Johns Hopkins University|[10] CIRES, University of

11:07: Results from the AWAKEN International Wind Farm Wake Benchmark (ID 8044)

N. BODINI[1], A. ABRAHAM[1], P. DOUBRAWA[1], L. STEFANO[1], M. PATRICK[1]

[1] NREL

11:24: Thermodynamic profiling around wind plants: uncertainty quantification and evidence of thermal wakes (ID 8248)

S. LETIZIA[1], A. ABRAHAM[1], D.D. TURNER[2], P.J. MORIARTY[1]

[1] National Renewable Energy Laboratory|[2] National Oceanic and Atmospheric Administration

11:40: Evaluation of wind farm wake modeling using AWAKEN ground-based and airborne measurements (ID 8455)

J. LUNDQUIST[1], N. AGARWAL[1], W. RADüNZ[1], A. LAMPERT[2], A. VOß[2], K. BäRFUSS[2], T. FEUERLE[2], B. CAñADILLAS[2], N. BODINI[3], S. LETIZIA[3], P. MORIARTY[3]

[1] Johns Hopkins University|[2] Technische Universität Braunschweig|[3] National Renewable Energy Laboratory (U.S.)

11:57: Assessment of Consensus and Wake Steering Wind Farm Control for the American WAKE ExperimeNt (AWAKEN) (ID 8973)

E. SIMLEY[1], S. SHARTZER[2], I. SOOD[3], A. FRèRE[3], P. FLEMING[1], P. MORIARTY[1]

[1] National Renewable Energy Laboratory|[2] GE Vernova|[3] ENGIE Research & Innovations | Laborelec

12:14: Modal Analysis of Wind Turbine Wake Meandering from the AWAKEN and RAAW projects (ID 8251)

N. HAMILTON[1], P. DOUBRAWA[2], R. THEDIN[1], P. MORIARTY[1]

[1] National Renewable Energy Laboratory|[2] Naitonal Renewable Energy Laboratory

MS#03.1.1: Gust Generation in Wind Tunnels for Wind Energy Research

CHAIRED BY: M. PERCIN, M. HÖLLING

26/06/2025 10:50

Salle N

10:50: Streamwise gust generation using an active turbulence grid: effects of constant and variable blockage configurations (ID 8587)

M. YAZDANPANAH[1], C. EVCIMEN[1], A. HASSANEIN[2], O. UZOL[1]

[1] Middle East Technical University (METU)|[2] Delft University of Technology

11:10: Gust in a box; an experimental study on wake generation in highly turbulent flow over a porous disc (ID 8261)

B. RANJBARAN[1], . GYLFASON[1], R. BAYOáN CAL[2]

[1] Reykjavik University|[2] Portland State University

11:30: Reproducing high Reynolds number atmospheric turbulent gusts in a pressurized wind tunnel (ID 8830)

H. KIM[1], L. LE TURNIER[1], C. BRUNNER[1]

[1] Max-Planck Institute for Dynamics and Self-Organization

11:50: Generation of extreme wind shear gusts using an active turbulence grid (ID 8595)

M. YAZDANPANAH[1], C. EVCIMEN[1], A. HASSANEIN[2], O. UZOL[1]

[1] Middle East Technical University (METU)|[2] Delft University of Technology

12:10: Design of a wind tunnel set up to measure airfoil aeroelastic gust response (ID 8528)

M. MANOLESOS[1], C. AMPATIS[1], D. GKIOLAS [1], N. PAPAKONSTANTINOU[1], A. ALEXANDRIS GALANOPOULOS[1], K. REKOUMIS[1], G. PAPADAKIS[1]

[1] National Technical University of Athens (NTUA), Athens, Greece

MS#03.2.1: Leading Edge Erosion: An Aerodynamic Perspective

CHAIRED BY: F. GRASSO, G. SCHEPERS, A. OLSEN

26/06/2025 16:10

Salle J

16:10: The Impact of Airfoil Leading Edge Shape on Erosion Rate (ID 8855)

J. TE KAMP[1], J. SHAH[1], M. JAVAHERIANRAD[1], J.N. THERON[1], H. KASSEM[1]

[1] Fraunhofer Institute for Wind Energy Systems IWES

16:30: High-resolution 3D CFD simulations of aerofoils with 3D scanned leading edge roughness (ID 8430)

A. MEYER FORSTING[1], N.N. SØRENSEN[1], A. BILLE[2], A. DICHOLKAR[1], A.S. OLSEN[1], J. ROMBLAD[2], N. GAUDERN[2]
[1] DTU Wind & Energy Systems | [2] PowerCurve ApS

16:50: Numerical study on water film formation and stress reduction in rain erosion of wind turbine blades (ID 7838)
E. SAKAI[1]
[1] Central Research Institute of Electric Power Industry

17:10: Prediction of the Aerodynamic Performance Degradation due to Insect Contamination (ID 8039)
Y. RYU[1], S. MIN[2], T. KIM[2], C. SON[1]
[1] Cheongju University | [2] Technical University of Denmark

MS#03.2.2: Leading Edge Erosion: An Aerodynamic Perspective

CHAIRED BY: F. GRASSO, G. SCHEPERS, A. OLSEN

27/06/2025 08:40

Salle B

08:40: Climate change and its effect on rain erosion on wind turbine blades at the Galway Wind Park in Ireland (ID 8541)
F. AZARKAMAN[1]
[1] SFI MaREI Centre for Energy, Climate and Marine, Ryan Institute & School of Engineering, University of Galway, H91 TK33 Galway, Ireland

09:00: Wind Tunnel Tests of Leading Edge Roughness for an Aerodynamic Categorisation Scheme (ID 8773)
A.S. OLSEN[1], A.M. FORSTING[1], C. BAK[1], A. MUNOZ[2], J. MADSEN[2], R. HANSEN[2]
[1] DTU WIND | [2] LM Wind Power

09:20: Leading edge erosion classification based on wind tunnel tests (ID 8471)
F. GRASSO[1]
[1] Vestas Technology Centre Porto

MS#04.1.1: Value-centred design and operation of wind turbines and farms

CHAIRED BY: M. KÜHN, C.L. BOTTASSO, D. VON TERZI, L. PAO

26/06/2025 14:00

Salle M

14:00: Initial steps towards a quantification of the environmental value of wind farm control (ID 8707)
A. GUILLORÉ[1], S. KAINZ[1], A. SCHERZL[1], A. ANAND[1], C.L. BOTTASSO[1]
[1] Wind Energy Institute, Technical University of Munich

14:20: Impact of different financial objectives and realistic site conditions in wind farm layout optimization (ID 8364)
M. BARICCHIO[1], T.S. LOKKEN[2], J. IORI[1], P.M. GEBRAAD[2], J. VAN WINGERDEN[1]
[1] Delft University of Technology | [2] Youwind Renewables

14:40: The IEA Wind 2200-22-MW Reference Offshore Wind Plants: sequential vs. cooperative design (ID 8486)
S. KAINZ[1], J. QUICK[2], A. ARASTEH[2], M. SOUZA DE ALENCAR[2], R. VALOTTA RODRIGUES[3], A. KAPILA[4], B. NGUYEN[4], P. RéTHORé[2], C.L. BOTTASSO[1], P. BORTOLOTTI[5], C.J. BAY[5]

[1] Wind Energy Institute, Technical University of Munich, Garching bei München, Germany|[2] Department of Wind and Energy Systems, Technical University of Denmark, Roskilde, Denmark|[3] University of Massachusetts Boston: Boston, MA, USA|[4] RWE Offshore Wind, H

15:00: Layout optimization for offshore wind farms selling on the day-ahead market (ID 8544)

M. GAUTHIER[1], J. IORI[1], B. NGUYEN[2]
[1] TU Delft|[2] RWE

15:20: Flexible Operation of Wind Turbines as a Multidimensional Multiple-Choice Knapsack Problem (ID 8685)

J. SCHMELTER[1], N. RUCK[1]
[1] University of Stuttgart

MS#04.2.1: Modeling and Control for FOWT Performance Improvement

CHAIRED BY: M.A. HAMIDA, M. AIT-AHMED

27/06/2025 14:00

Salle E

14:00: Robust adaptive super-twisting control for floating wind turbines in region III (ID 8634)

M. SARBANDI[1], M. MOHAMMADI SHAHIR[1], M.A. HAMIDA[1], F. PLESTAN[1]
[1] Nantes Université, École Centrale Nantes, CNRS, LS2N, UMR 6004, F-44000 Nantes, France

14:20: Limit cycles and multi-parameter bifurcations of a simplified nonlinear floating wind turbine model (ID 9003)

D. STOCKHOUSE[1]
[1] University of Colorado Boulder

14:40: Vibration mitigation of barge-type floating offshore wind turbine via active tuned mass damper based on Adaptive Linear Quadratic Regulator (ID 8152)

Y. DONG[1], N. AIT-AHMED[2], G. YAO[3]
[1] Shanghai Maritime University|[2] Nantes Université|[3] Shanghai Maritime University,

15:00: LQR-based gains scheduling for floating offshore wind turbine pitch controller in ROSCO framework (ID 8105)

M. DE PASCALI[1], A. FONTANELLA[1], S. MUGGIASCA[1], M. BELLOLI[1]
[1] Politecnico di Milano

MS#04.3.1: Active Wake Mixing

CHAIRED BY: J. GUTKNECHT & M. COQUELET

26/06/2025 08:40

Salle G

08:40: The wake recovery mechanisms in clockwise and counter-clockwise helix wakes (ID 8345)

J. GUTKNECHT[1], E. TASCHNER[1], M. COQUELET[1], A. VIRé[1], J. VAN WINGERDEN[1]
[1] TU Delft

09:00: Active wake mixing: from the small-scale tip vortex instabilities to the large-scale flow structures in the wake (ID 8629)

M. COQUELET[1]
[1] TU Delft

09:20: On the effectiveness of dynamic induction control under different inflow wind directions (ID 8575)

M. ZúñIGA[1], P. HULSMAN[1], M. KüHN[1], V. PETROVIć[1]
[1] ForWind - Universität Oldenburg

09:40: Time-varying wind-turbine wakes at high Reynolds numbers (ID 8916)
N. WEI[1], A. FLEISHER[2], J. KURELEK[3], M. HULTMARK[2]
[1] University of Pennsylvania|[2] Princeton University|[3] Queen's University

10:00: Proof of Concept: Modified Pulse Method for Improved Turbine Reliability (ID 8934)
K. BROWN[1], G. YALLA[1], N. DEVELDER[1], D. HOUCK[1], D. ZALKIND[2]
[1] Sandia National Laboratories|[2] National Renewable Energy Laboratory

MS#04.3.2: Active Wake Mixing

CHAIRED BY: J. GUTKNECHT & J.W. VAN WINGERDEN

26/06/2025 10:50

Salle G

10:50: Evaluating helix wake-mixing control using Gaussian process regression (ID 8611)
D. VAN DER HOEK[1], T. DAMMANN[1], J. VAN WINGERDEN[1]
[1] Delft University of Technology

11:10: An Engineering Wake Model for a Wind Turbine under Helix actuation (ID 8716)
T. DAMMANN[1], D. VAN DER HOEK[1], W. YU[1], J. VAN WINGERDEN[1]
[1] Delft University of Technology

11:30: The effectiveness of the Helix control strategy for a wind farm in atmospheric boundary layer (ID 8376)
M.M. MOHAMMADI[1], W. CHANPRASERT[1], S. IVANELL[1]
[1] Uppsala University

11:50: Towards a Holistic Assessment of the Helix Pitch Approach (ID 8809)
S. BARTHOLOMAY[1], C.N. NAYERI[1], D. MARTEN[1]
[1] TU Berlin

MS#04.3.3: Active Wake Mixing

CHAIRED BY: J. GUTKNECHT & E. TASCHNER

26/06/2025 14:00

Salle G

14:00: Synchronized Helix Wake Mixing (ID 8235)
A. VAN VONDELEN[1], M. COQUELET[1], S. NAVALKAR[2], J. VAN WINGERDEN[1]
[1] TU Delft|[2] Siemens Gamesa

14:20: Active Cluster Wake Mixing in Low Turbulence Intensity Conditions (ID 8410)
S. UMANS[1], J. GUTKNECHT[1], F. PISH[1], E. TASCHNER[1], M. BECKER[1], M. ZAGóROWSKA[1], A. VIRé[1], J. VAN WINGERDEN[1]
[1] Delft University of Technology

14:40: Dynamic yaw and individual pitch control for enhanced wake mixing and load reduction (ID 8234)
D. BORTOLIN[1], T. JEON[2], D.H. AKTAN[3], J. KRAUSE[3], S. TAMARO[3], F. CAMPAGNOLO[3], C.L. BOTTASSO[3]
[1] Wind Energy Institute, Technical University of Munich, Boltzmannstr. 15, 85748 Garching bei München, Germany|[2] Department of Integrated Energy and Infra System, Kangwon National University, Chuncheon-si 24341, Republic of Korea|[3] Wind Energy Institute,

15:00: Enhanced wake mixing via the helix approach: insights from a scaled two-bladed downwind turbine (ID 8698)
H.D. AKTAN[1], S. TAMARO[1], F.V. MüHLE[1], F. CAMPAGNOLO[1], C.L. BOTTASSO[1]
[1] Wind Energy Institute, Technical University of Munich

15:20: A closed-loop active wake mixing controller (ID 8980)
J. FREDERIK[1]
[1] National Renewable Energy Laboratory

MS#05.2.1: Corrosion Fatigue of Offshore Renewable Energy Structures

CHAIRED BY: E. GHAFOORI

26/06/2025 16:10

Salle M

16:10: Introductive talk by MS co-organisers : Fatigue Strength development of corroded offshore welded joints

16:30: Development of pitting corrosion over time - an algorithm to detect fatigue relevant pit geometry parameters (ID 8598)
F. SCHöNAMSGRUBER[1], S. SHOJAI[1], E. GHAFOORI[2], M. BRAUN[1], S. EHLERS[1]
[1] German Aerospace Center (DLR), Institute of Maritime Energy Systems|[2] Leibniz Universität Hannover, Institute for Steel Construction ForWind

16:50: Mechanistic Understanding of Life Extension of Ageing Offshore Structures (ID 9027)
S. MANZOOR[1], X. SUN[2], K. KHAN[1], S. SHOJAI[3], N. LAROSSA[4]
[1] Coventry University|[2] TWI Ltd|[3] Institut für Maritime Energiesysteme des Deutschen Zentrums für Luft- und Raumfahrt (DLR)|[4] University of Bristol

17:10: Modeling of the ion transportation within a corrosion fatigue crack (ID 8893)
V. GOLSHANI[1], M. ALEXANDER EDER[1], M. STENDAHL JELLESEN[2], A. BECH ABRAHAMSEN[1]
[1] Department of Wind and Energy Systems, Technical University of Denmark, Frederiksborgvej 399, 4000 Roskilde, Denmark|[2] Department of Civil and Mechanical Engineering Materials and Surface Engineering, Technical University of Denmark, Produktionstorvet 4

MS#05.4.1: Structural design, modelling and simulation of wind turbine rotor blades

CHAIRED BY: C. BALZANI, S. SCHEFFLER, A. DEAN

27/06/2025 08:40

Salle M

08:40: Geometric Nonlinear Analysis of Timoshenko Beam with Variable Cross Section Based on Improved Corotational Formulation (ID 8258)
Y. GAO[1]
[1] Shantou University

09:00: Reduced-order modelling of beam-like structures undergoing large deflections in a multibody formulation (ID 8371)
A. ANTUNES[1], A. ZWöLFER[2], D. VERELST[1], R. RIVA[1], P. HASELBACH[1], T. KIM[1]
[1] Technical University of Denmark (DTU)|[2] Technical University of Munich

09:20: Influence of different wind speeds on the cross-sectional deformations in wind turbine rotor blades (ID 8576)
J. GEBAUER[1], C. BALZANI[1]
[1] Leibniz University Hannover, Institute for Wind Energy Systems, Appelstr. 9A, 30167 Hannover, Germany

09:40: A Numerical Investigation of Breathing Induced Trailing Edge Out of Plane Displacements in Reference Wind Turbines (ID 8180)
P. MORONEY[1], A. NEJAD[2], A. VERMA[1]
[1] University of Maine (United States)|[2] Norwegian University of Science and Technology

MS#05.4.2: Structural design, modelling and simulation of wind turbine rotor blades

CHAIRED BY: C. BALZANI, S. SCHEFFLER, A. DEAN

27/06/2025 10:50

Salle M

10:50: Scale-bridging stochastic identification of mechanical properties in unidirectional fiber-reinforced composites using randomized periodic representative volume elements (ID 8794)
B. RAJJOUB[1]
[1] ForWind - Leibniz University Hannover

11:10: Advancing Microstructure Synthesis for Composite Adhesives in Wind Energy: A Denoising Diffusion Probabilistic Model Approach (ID 8797)
A.W. KHAN[1], C. BALZANI[2]
[1] Leibniz University Hannover|[2] Leibniz Universität Hannover

11:30: Finite element model updating of a wind turbine blade utilizing invertible neural networks (ID 8838)
C. MUYAN[1], F. HOSSEINI[2], F. PRIGGE[1], P. CASTELOS[1], C. BALZANI[1]
[1] Leibniz University Hannover|[2] Leibniz University Hannover,

11:50: Blade leading edge erosion protection: high-speed rain droplet impact pressure and resulting damage evolution in hyper-viscoelastic material (ID 8949)
V. RAMACHANDRAN NAMBIAR[1], A. SHADMANI[1], J. DEGROOTE[1], W. DE WAELE[1], D. FAUCONNIER[1]
[1] Soete Laboratory, Gent University

12:10: Influence of repair parameters on the static and fatigue properties of scarf-repaired composites (ID 8649)
M. CHRISTOFFERS[1], A. BECH[1], P. ANILKUMAR[1], S. SCHEFFLER[1], R. ROLFES[1]
[1] Leibniz University of Hanover - Institute of Structural Analysis

MS#05.4.3: Structural design, modelling and simulation of wind turbine rotor blades

CHAIRED BY: C. BALZANI, S. SCHEFFLER, A. DEAN

27/06/2025 14:00

Salle M

14:00: EXPERIMENTAL AND NUMERICAL INVESTIGATION OF THE FATIGUE BEHAVIOR OF SHORT FIBER REINFORECD ADHESIVES (ID 8276)

M. HEMATIPOUR[1], T. LUCAS[2], N. SAMADAEI[2], A. DEAN[2], S. SCHEFFLER[2], R. ROLFES[2]
[1] Leibniz University Hannover|[2] Leibniz University Hannover

14:20: The investigation of the interaction between matrix cracking and delamination in [90/0] CFRP curved composite laminates (ID 8867)
A. CEVIK[1], D. YAVAS[2], D. COKER[1]
[1] Department of Aerospace Engineering, Middle East Technical University, Ankara, Turkiye|[2] Department of Mechanical Engineering, Rice University, Houston, TX 77005, USA

14:40: A Phase-Field Approach for Fracture Modeling in Fiber-Reinforced Polymer Composites (ID 8293)
A. DEAN[1], P.K. ASUR VIJAYA KUMAR[2], R. ROLFES[1]
[1] Leibniz University Hannover|[2] Vienna University of Technology

15:00: Experimental Investigation of Interlaminar Properties in Carbon/Glass Interply HybrComposite Laminates (ID 8910)
C. KARATAS-DEMIRCAN[1], D. COKER[1]
[1] Middle East Technical University (METU)

15:20: Validation of a ply-based fatigue damage model using blade fatigue test data until failure (ID 8644)
H. JAUKEN[1], L. LIESECKE[2], M. WOLNIAK[2], R. ROLFES[2]
[1] Leibniz University Hannover|[2] University of Hannover

MS#05.6.1: Advances in Blade Structural Testing

CHAIRED BY: K. BACHAROUDIS, M. ROSEMEIER

27/06/2025 10:50

Salle D

10:50: Field experimental modal analysis of an 88.4 m wind turbine rotor blade (ID 8926)
M. ROSEMEIER[1], M. GöRING[2], T. HORSTMANN[1], M. KRANZ[1]
[1] Fraunhofer Institute for Wind Energy Systems IWES|[2] Jade University of Applied Sciences

11:10: Comparison of Fatigue Test Methods for the IEA 22MW Reference Turbine Blade (ID 8265)
P. GREAVES[1], A. AGHABABAEI[1]
[1] Offshore Renewable Energy Catapult

11:30: Validating torsional stiffness through full-scale torsional testing on an 80m+ wind turbine rotor blade (ID 8409)
H. ROSEMANN[1], M. KRANZ[1], A. NICKEL[2]
[1] Fraunhofer Institute for Wind Energy Systems IWES|[2] Nordex Energy GmbH

11:50: Comprehensive computational framework for structural test simulations of wind turbine blades (ID 8592)
M.K. DHADWAL[1], P. BERRING[1], S.K. NIELSEN[2], K. BRANNER[1]
[1] Technical University of Denmark|[2] Blaest A/S, Denmark

12:10: Enhanced approach to match damage-equivalent loads in rotor blade fatigue testing (ID 8681)
D. MELCHER[1], S. SEMENOV[2], P. BERRING[2], K. BRANNER[2], E. PETERSEN[1]
[1] Fraunhofer Institute for Wind Energy Systems IWES|[2] Technical University of Denmark (DTU)

MS#05.7.1: Innovation in materials for wind blades

CHAIRED BY: B. ENNIS

27/06/2025 14:00

Salle D

14:00: Evaluation method of fatigue life distribution of polymers at early stage of damage in whirling arm rain erosion test (ID 8190)

M. TANAKA[1], T. HIROYUKI[1], S. YUUKI[2], K. HARUTAKA[3], S. HITOSHI[4], S. JUNICHIRO[5], H. TOORU[6], A. AYA[1]

[1] National Institute of Advanced Industrial Science and Technology|[2] Resonac Holdings Corporation|[3] Asahi Rubber Inc.|[4] FUJIKURA COMPOSITES Inc.|[5] Mitsubishi Chemical Group Corporation.|[6] Kao Corporation

14:20: Biofouling Mitigation for Wind Energy Systems: Exploring Contrasting Wetting Behaviours (ID 8266)

S. NAZARI [1], L. ZAMBRANO[1], D. CULLITON[1]

[1] Department of Aerospace and Mechanical Engineering, South East Technological University (SETU), Carlow Campus, Ireland

14:40: Failure analysis of industrial glass fibre reinforced polypropylene-TPU adhesive joint for protection of leading-edge erosion of offshore wind turbine blade (ID 8335)

O. SAM-DALIRI[1], F. AZARKAMAN[1], Y. JIANG[1], R. Ó COISDEALBHA[2], C. KELLY[2], T. FLANAGAN[2], P. GHABEZI[1], W. FINNEGAN[1]

[1] Ryan Institute for Environmental, Marine and Energy Research, University of Galway, Ireland|[2] ÉireComposites Teo, Údarás Industrial Estate, An Choill Rua, Inverin, Co. Galway, Ireland

15:00: Design, Analysis, and Wind Tunnel Evaluation of Novel Fabric-Covered Rotor Blades in Wind Energy Generation: An Experimental and Numerical Investigation (ID 8763)

F. JELILI[1], B. MICHAEL[1], R. UWE[1]

[1] University of Rostock

15:20: Design of fiber geometry to improve carbon fiber performance for wind blades (ID 9006)

B. ENNIS[1]

[1] Sandia National Laboratories

MS#06.1.1: Data Synergies in Wind: Process Modelling Beyond Power Generation

CHAIRED BY: T.GÖÇMEN, I.EGUINOA

25/06/2025 10:50

Salle B

10:50: Modeling Wind Farm Response: a Modular, Integrated, and Multi-Stakeholder Approach (ID 8688)

A. VAD[1], A. ANAND[1], A. GUILLORé[1], V. PETTAS[2], M. APARICIO-SANCHEZ[3], I. LIZARRAGA-SAENZ[3], A. SHAH[1], A. VUKOBRAT[1], N. DIMITROV[2], I. EGUINOA[3]

[1] Wind Energy Institute, Technical University of Munich, Germany|[2] Technical University of Denmark, DTU Wind and Energy Systems, Denmark|[3] Wind Energy Department, National Renewable Energy Centre (CENER), Spain

11:10: State estimation using LSTMs trained on synthetic data and validated with real measurements (ID 8343)

J. GEISLER[1]

[1] University of Applied Sciences Flensburg

11:30: Clustering algorithms for SCADA data filtering of utility-scale wind farms (ID 8245)

N. ITALIANO[1], V. PETTAS[1], T. GöçMEN[1]

[1] Technical University of Denmark (DTU)

11:50: Experimental investigation of the effect of wake steering on the noise emission of a commercial wind turbine (ID 8103)
T. DUC[1], A. ACHHIBAT[1], A. FINEZ[1], C. LE BOURDAT[1]
[1] ENGIE Green

12:10: The effects of bat protection strategies on energy production and structural loads of wind farms (ID 8210)
V. PETTAS[1], T. GöçMEN[1], T. DUC[2], A. VAD[3], A. VUKOBRAT[3]
[1] Denmark's Technical University|[2] ENGIE Green|[3] Technical University of Munich

12:30: Open Session on Data Synergies (ID)

MS#06.10.1: Impact of uncertainties in wind turbine design and operations

CHAIRED BY: N. DIMITROV, G. HUWART

25/06/2025 10:50

Salle N

10:50: Advancing Technology Qualification for Wind Turbine Components (ID 8325)
F. PIOVESAN[1], A. KOLIOS[2], N. DIMITROV[2], M. CAPALDO[3]
[1] DTU|[2] DTU Wind and Energy Systems|[3] TTE One Tech

11:10: Surrogate Modelling Approach for Reliability-Based Design Optimization of a Semi-Taut Mooring System of a Floating Offshore Wind Turbine (ID 8506)
A. LUDOT[1], B. YILDIRIM[2], A. KOLIOS[2]
[1] DTU|[2] DTU Wind

11:30: A Markov-Copula-based Dependent Degradation Model for Offshore Wind Turbine Pitch System Maintenance Optimisation (ID 8250)
A. ANTROLIA[1], D. ZAPPALá[2], S. MANCINI[3], Y. LIU[3]
[1] TNO - TU Delft|[2] TU Delft|[3] TNO

11:50: Computationally Efficient Access Modelling using Analytical Discrete Time Markov Chains (ID 8299)
K. RABY[1], J. FEUCHTWANG[2], E. HART[2]
[1] Nadara|[2] University of Strathclyde

12:10: Investigations on distance functions for uncertainty quantification in model updating (ID 8118)
N. DIERKSEN[1], M. KITAHARA[2], C. HüBLER[1]
[1] Institute of Structural Mechanics and Design Technical University of Darmstadt|[2] Department of Civil Engineering, The University of Tokyo

MS#06.10.2: Impact of uncertainties in wind turbine design and operations

CHAIRED BY: A. LUDOT, N.DIMITROV

25/06/2025 14:00

Salle N

14:00: Ultimate Limit State reliability methods to reduce offshore wind turbine design conservatism: application to a monopile-supported turbine of Teesside wind farm (ID 8801)
A. COUSIN[1]
[1] IFP Energies Nouvelles

14:20: Uncertainty quantification of drivetrain technologies in offshore wind: operational and environmental perspectives (ID 8369)
V. DIGHE[1], S. DRENKELFORD[1]
[1] TNO

14:40: Towards a load surrogate model for low-frequency fatigue cycles in wind turbines (ID 8557)
A. SHAH[1], A. VAD[1], A. GUILLORé[1], C.L. BOTTASSO[1]
[1] Technical University of Munich

MS#06.12.1: Digital Twinning for Offshore Wind: Integrating Physics-Based, Data-Driven, and Hybrid Methods for Reliability and Performance Assessment

CHAIRED BY: E.M. TRONCI AND E. CHATZI

26/06/2025 16:10
Salle N

16:10: Design of virtual sensors for floating wind turbine components using cooperative sensing strategies (ID 8549)
H. DEL POZO GONZALEZ[1], T. YALCIN[1], M. KALLINGER[1], J.I. RAPHA[1], J.L. DOMINGUEZ-GARCIA[1]
[1] Catalonia Institute for Energy Research (IREC)

16:30: Digital Twin Development for Alpha Ventus Wind Turbine: Integrating Upscaled Weather Forecasts for Loads Prediction (ID 8959)
D. LIU[1]
[1] University of Stuttgart

16:50: Improving digital twin using AI & scada (ID 8220)
B. MALBOIS LE BORGNE[1], F. GATTI[2], R. DESMORAT[2], M. CAPALDO[3]
[1] Université Paris-Saclay/TotalEnergies|[2] Laboratoire de Mécanique Paris-Saclay|[3] TotalEnergies

17:10: Modified Constitutive Relation Error for Multi-Physics Wind Turbine Calibration (ID 8819)
A. ROUSSEL[1], L. CHAMOIN[2], J. ARGAUD[1], P. BOUSSEAU[1], M. CAPALDO[1]
[1] EDF R&D|[2] Université Paris-Saclay, CentraleSupélec, ENS Paris-Saclay, CNRS, LMPS

17:30: Digital Structural Health Monitoring : a case study (ID 8395)
A. CADORET[1], D. COLLET[2], N. BONFILS[2], N. GUY[2], J. LEROY[2], E. ROGUET[2], F. CALEYRON[1], V. LE CORRE[1], J. PFISTER[2]
[1] GreenWITS|[2] IFP Energies Nouvelles, 92852 Rueil-Malmaison, France

17:50: Towards robust wind turbine farms SHM monitoring software (ID 8574)
G. BLONDET[1], V. PIBERNUS[1], J. HEURTIER[2]
[1] Phimeca|[2] Principia

MS#06.12.2: Digital Twinning for Offshore Wind: Integrating Physics-Based, Data-Driven, and Hybrid Methods for Reliability and Performance Assessment

CHAIRED BY: F. PIMENTA AND E. M. TRONCI

26/06/2025 14:00
Salle N

14:00: Bayesian model updating of rotating wind turbines (ID 7641)
N. DELETTE[1], J. PFISTER[1], E. DENIMAL GOY[2], M.R. EL AMRI[3], L. MEVEL[4]

[1] IFP Energies Nouvelles, 92852 Rueil-Malmaison, France|[2] Inria, CMAP, Ecole Polytechnique, IPP, Palaiseau, France|[3] IFP Énergies nouvelles, Rond-point de l'échangeur de Solaize, 69360 Solaize, France|[4] Univ. Gustave Eiffel, Inria, COSYS-SII, I4S, 35042

14:20: Structural Identification and Monitoring for Offshore Wind Turbine Foundations (ID 8605)

H. SIMPSON[1], E. CHATZI[2], M. CHATZIS[1]
[1] University of Oxford|[2] ETH Zurich

14:40: Composite model approach leveraging machine learning and finite element for efficient lifecycle assessment of wind turbine (ID 8802)

S.S. BAISTHAKUR[1], J. MCAULLIFE[1], B. BRODERICK[1], B. FITZGERALD[1]
[1] Trinity College Dublin

15:00: Multi-parametric analysis of marine growth effects on mooring lines for monitoring applications (ID 8869)

K. COUGHLAN[1], K. THIAGARAJAN[1], S. ARWADE[1]
[1] University of Massachusetts Amherst

15:20: Data-driven probabilistic prediction of floating wind turbine lifetime damage equivalent load (ID 8739)

D. SINGH[1], E. HAUGEN[2], K. LAUGESEN[2], R. DWIGHT[1], V. AXELLE[1]
[1] Delft University of Technology|[2] Siemens Gamesa Renewable Energy

MS#06.2.1: How does the way we operate wind turbines affect loads and lifetime?

CHAIRED BY: L. ZIEGLER, W. WEIJTJENS

25/06/2025 10:50

Salle C

10:50: An operators need for through-life management_Balancing measurements and modelling (ID 8636)

K. DE BAUW[1], J. MARTENS[1], T. DUC[2], N. QUIéVY[3]
[1] ENGIE R&I|[2] ENGIE Green|[3] ENGIE

11:07: Field observation of increased uncertainty in lifetime prediction due to deviations of turbine operation from initial turbine design (ID 7926)

V. BULLER[1]
[1] Nordex Energy SE & Co. KG

11:24: Impact of GrServices on Fatigue Life of Offshore Wind Turbine Components (ID 8848)

J. GEBEL[1]
[1] VUB

11:40: Impact of curtailment strategy on fatigue loads of offshore wind turbines (ID 8680)

P. KONIS[1], N. NOPPE[1], K. ROBELLEIN[1], C. DEVRIENDT[2]
[1] 24SEA|[2] Vrije Universiteit Brussel (VUB)

11:57: Implications of WTG curtailment and idling on foundation fatigue loads: a comparison between measured and predicted results for different substructure types (ID 8699)

G. WALKER[1], D. DHORU[1], C. HAMILTON[1], R. PRICE[1], D. WITCHER[1]
[1] Arup

12:14: FlexiWind: Lifetime Management of Flexibly Controlled Offshore Wind Substructures (ID 8473)

J. SCHRAUDER[1], M. HENKEL[1], J. TAUTZ-WEINERT[1]
[1] Ramboll

WESC 2025
24 - 27 JUNE | NANTES, FR

Updated on 3 July 2025

MS#06.3.1: Recent Progress on Lifetime Extension, Decommissioning, Repowering and Repurposing of Onshore and Offshore Wind Turbines

CHAIRED BY: J. SANTOS

25/06/2025 14:00

Salle D

14:00: Parametric study of wind turbine rotor structural parameters in OpenFAST with comparison to measurements (ID 8813)

A. GALHARDO[1], F. MAGALHãES[1], J.P. SANTOS[2]

[1] Faculty of Engineering of the University of Porto|[2] Nadara

14:20: Weather risk assessment during the decommissioning phase of an offshore wind farm (ID 8825)

L. DE LA TORRE-CASTRO[1], J. KACZENSKI[2]

[1] Fraunhofer Institute for Wind Energy Systems|[2] Fraunhofer Institute for Wind Energy Systems IWES

14:40: A decision support process for wind farm repowering using constrained optimization techniques to address uncertainty (ID 8363)

H. NORTON[1], L. MILLER[2], M. RODGERS[1]

[1] Wind Energy Institute of Canada|[2] University of Windsor

15:00: Wavelet-Based Damage-Sensitive Feature Extraction for Structural Health Monitoring of Wind Turbine Blades (ID 8307)

M. ASHKARKALAEI[1]

[1] University College Dublin

MS#06.4.1: Turbine Performance Monitoring

CHAIRED BY: C. PLUMLEY

27/06/2025 14:00

Salle C

14:00: Inter-Turbine Modelling of Wind Farm Power using Multi-Task Learning (ID 7932)

S. BREALY[1], L. BULL[2], P. BELTRANDO[3], A. SOMMER[3], N. DERVILIS[1], K. WORDEN[1]

[1] University of Sheffield|[2] University of Glasgow|[3] Vattenfall R&D

14:20: Collective Blade Pitch Misalignment in Wind Turbines: a learning-based detection and classification approach (ID 8530)

S. MILANI[1], J. LEONI[2], S. CACCIOLA[2], A. CROCE[2], M. TANELLI[2]

[1] Politecnico di Milano |[2] Politecnico di Milano

14:40: Comparison of Lidar and SCADA Data-Driven Methods for Detecting Yaw Misalignment (ID 8603)

L. DING[1]

[1] edf renouvelables

MS#06.5.1: Structural Monitoring as a Tool for Managing Wind Farms Operation

CHAIRED BY: F. MAGALHÃES, W. WEIJTJENS

27/06/2025 08:40

Salle H

08:40: Fatigue estimation and operational insights of offshore wind turbine through acceleration-based representation learning (ID 8172)

Y. BEL-HADJ[1], F. DE NOLASCO SANTOS[1], C. DEVRIENDT[1], W. WEIJTJENS[1]

[1] Vrije Universiteit Brussel (VUB)

09:00: Offshore Wind Farm-Wide Fatigue Predictive Model Based on SCADA Conditions and Wave Properties (ID 8182)
B. MOYNIHAN[1], E.M. TRONCI[2], B. MOAVENI[1], E. HINES[1]
[1] Tufts University|[2] Northeastern University

09:20: Validation of virtual sensing applications based on nonlinear and linear Kalman filters (ID 8566)
R. GONZáLEZ-LOPE[1]
[1] National Renewable Energy Centre (CENER), Spain

09:40: Preliminary evaluation of a data driven approach for enhanced bending moments reconstruction of wind turbine towers (ID 8677)
F. PIMENTA[1], S. PEREIRA[1], G. MATA[1], F. MAGALHãES[1]
[1] CONSTRUCT, Faculty of Engineering of the University of Porto

10:00: Platform-Generic Surrogate Modelling for Fatigue Load Prediction in Offshore Wind Turbine Support Structures Using Bayesian Neural Networks (ID 9014)
H. SPAAN[1], D. ZAPPALA[2], M. RESTROPO BOTERO[3]
[1] TU Delft, Siemens Gamesa Renewable Energy|[2] TU Delft|[3] Siemens Gamesa Renewable Energy

MS#06.5.2: Structural Monitoring as a Tool for Managing Wind Farms Operation

CHAIRED BY: F. MAGALHÃES, E. CHATZI

27/06/2025 10:50

Salle H

10:50: Fault Detection in Wind Turbines Using Health Index Monitoring with Variational Autoencoders (ID 7688)
S. WANG[1], Y. VIDAL[1], F. POZO[1]
[1] Universitat Politècnica de Catalunya

11:07: A Physics-Informed Neural Network Framework for Input Load Estimation of a 6MW Offshore Monopile (ID 8786)
E.M. TRONCI[1], A. MEHRJOO[2], B. MOAVENI[2]
[1] Northeastern University|[2] Tufts University

11:24: Parameter transfer learning of wind turbine towers structural responses (ID 8914)
C. MIRANDA OLIVEIRA[1], J. SANTOS[2], E. CAETANO[1], M. XU[3]
[1] Faculty of Engineering of the University of Porto (FEUP)|[2] Nadara|[3] National Laboratory for Civil Engineering (LNEC)

11:40: Impact of Foundation Repair on Wind Turbine Dynamics: Frequency and Acceleration Analysis (ID 8939)
T. LIPARI[1]
[1] Faculty of Engineering, University of Porto (FEUP)

11:57: Large Scale Time Synchronization of Measurement Signals in the Experimental Wind Farm WiValdi (ID 8613)
B. BARZGARAN[1], S. GRAEBER[1], M. JESSEN[1], N. FABIAN[1]
[1] German Aerospace Center (DLR)

12:14: A Methodology for Farm-wide Corrosion Prognosis of Offshore Wind Turbine Structures using Sparse Multi-Fidelity Data (ID 8230)
S. HEDAYATRASA[1], J. VERHELST[1], P. BOVIJN[1], S. MICHIELS[1], T. OOIJEVAAR[1]

[1] Flanders Make

MS#06.6.1: Reliability modelling of current and future wind turbines

CHAIRED BY: F. ANDERSON

25/06/2025 16:10

Salle D

16:10: Field-data based wind turbine reliability modelling: Quantifying effects of design, technological development, operating age and environmental and load conditions (ID 8380)

J. WALGERN[1], K. FISCHER[1]

[1] Fraunhofer Institute for Wind Energy Systems IWES

16:30: Prior Elicitation for wind turbine reliability analysis (ID 8187)

I. SAXENA[1], B. KAZEMTABRIZI[1], M.C. TROFFAES[1], C.J. CRABTREE[1]

[1] durham university

16:50: A data-driven approach for advanced reliability forecast of wind turbine major components (ID 8547)

C. JACQUET[1], L. HAUS[2], R. PULIKOLLU[2], N. MARX HERMOSO[1]

[1] EPRI Europe DAC|[2] Electrical Power Research Institute

17:10: Improving the reliability of offshore wind systems by incorporating the MTTR. (ID 8313)

M. LEDUC[1], F. DUPRIEZ-ROBIN[1], F. ROUX[1], F. SCHOEFS[2], L. COSSALTER[1]

[1] France Energies Marines|[2] Nantes Université

17:30: Impact of Multi Rotor Wind Turbine Configurations on Operation and Maintenance Costs (ID 8331)

A. KHISRAW[1], P. DALHOFF[1], S. STöRTENBECKER[1], A. KESSLER[2], C. JAHN[3]

[1] Hamburg University of Applied Sciences|[2] EnBW Energie Baden-Württemberg AG|[3] Hamburg University of Technology

MS#06.7.1: Lifetime extension of support structures of wind turbines

CHAIRED BY: C. HÜBLER, E. GHAFOORI

26/06/2025 08:40

Salle N

08:40: The Forced Oscillations experiment; an experimental study on how managing power oscillations impacts the lifetime of offshore wind turbines (ID 8472)

W. WEIJTJENS[1], A. DEMUYNCK[2], C. DEVRIENDT [1]

[1] Vrije Universiteit Brussel|[2] Otary RS NV

08:57: Reduction of computing time for the lifetime reassessment of offshore wind turbines using meta-models (ID 8280)

F. SCHMIDT[1], C. HüBLER[2], R. ROLFES[1]

[1] Leibniz University Hannover, Institute of Structural Analysis, ForWind|[2] TU Darmstadt, Institute of Structural Mechanics and Design

09:14: Comparison of different soil models as input for aero-elastic transient offshore wind turbine simulations (ID 8556)

M. WOLNIAK[1], P. KRABBE[1], F. SCHMIDT[1], R. ROLFES[1]

[1] Leibniz University Hannover

09:30: Comparison between different approaches for data-driven remaining useful lifetime assessments using Structural Health Monitoring data (ID 8836)
N. NOPPE[1], K. ROBBELEIN[1], A. MUJTABA[2], C. DEVRIENDT[3]
[1] 24SEA|[2] OWI-lab Vrije Universiteit Brussel|[3] 24SEA & OWI-lab Vrije Universiteit Brussel

09:47: Probabilistic Forecast of Wind Turbine Remaining Useful Life Using Conformal Prediction (ID 8632)
A. EFTEKHARI MILANI[1], D. ZAPPALÁ[1], S. WATSON[1]
[1] TU Delft

10:04: On service life management of infrastructures and wind turbine structures (ID 8859)
S. THöNS[1]
[1] Lund University

MS#06.8.1: Next-Generation Condition Monitoring and Maintenance Decision-Making: A Multi-Scale Digital Twin Perspective

CHAIRED BY: M. GALAGEDARAGE DON, X. JIANG, T. WANASINGHE

26/06/2025 16:10
Salle I

16:10: An Efficient Numerical Model of a Wind Turbine Mooring Line for Digital Twin-Enhanced Fatigue Life Prediction and Maintenance Decision Making (ID 8711)
M. GALAGEDARAGE DON[1], M. LI[2], T. WANASINGHE[3], M. NARAYANA[4], S. BOSSUYT[1]
[1] Aalto University, Finland|[2] The University of Tokyo, Japan|[3] Memorial University of Newfoundland, Canada|[4] University of Moratuwa, Sri Lanka

16:24: Field validation of a wind turbine digital shadow (ID 7772)
H. HOGHOOGHI[1], C.L. BOTTASSO[1]
[1] Wind Energy Institute, Technical University of Munich

16:38: Computer vision models for wind turbine predictive maintenance using SCADA data (ID 8392)
K. BARRERA LLANGA[1]
[1] Universitat Politècnica de Catalunya - BarcelonaTech

16:52: Unsupervised Fault Diagnosis and Remaining Lifetime Estimation for the Predictive Optimization of Offshore Wind Turbine Maintenance. (ID 8419)
J. HES[1], X. JIANG[1], M. BORSOTTI[1]
[1] Delft University of Technology

17:06: A Deep Reinforcement Learning Approach to O&M Planning for Offshore Wind (ID 8191)
M. BORSOTTI[1], R. NEGENBORN[1], X. JIANG[1]
[1] TU Delft

17:20: Wind Turbine Failures: Can an LLM Talk Its Way To Fault Detection? (ID 8490)
D. O'CONNOR[1]
[1] Trinity College Dublin

17:34: Condition Monitoring of Offshore Wind Turbine Tower Base using Wavelet-enhanced Convolutional Neural Network (ID 8990)
F. KARIM[1], I. MISHRA[1], S. SENEMMAR[1], T. GRIFFITH[1], J. ZHANG[1]
[1] The University of Texas at Dallas

MS#06.9.1: In-Field Monitoring of Wind Turbine Blades

CHAIRED BY: S. WATSON, D. ZAPPALA, M. STAMM, S. CHAUDHURI, V. PAKRASHI

27/06/2025 10:50

Salle B

10:50: EvalTherm: Evaluation of passive thermography for the inspection of operational wind turbine rotor blades. (ID 8720)

S. CHAUDHURI[1], M. STAMM[1], I. LAPSANSKA[1], R. KRANKENHAGEN[1]

[1] Bundesanstalt für Materialforschung und prüfung (BAM), Berlin Germany

11:10: Automotive lidars for monitoring rotating wind turbine blades (ID 8461)

L. JIN[1], J. MANN[2]

[1] Technical University of Denmark|[2] Technical University of Denmark (DTU)

11:30: Enhancing operational modal analysis of wind turbine blades with shape sensing data (ID 8642)

J. PACHECO[1], M. BEREZYAK[1], C. PEREIRA[1], R. FIGUEIREDO[1], C. OLIVEIRA[1]

[1] Fibersail

11:50: Sensitivity of Drivetrain Condition Monitoring Signals to Wind Turbine Blade Damage (ID 8918)

S. PAL[1], D. ZAPPALA`[1], S.J. WATSON[1], A.R. NEJAD[2]

[1] TU Delft|[2] Norwegian University of Science and Technology (NTNU)

12:10: Investigation of wind turbine rotor imbalances using drivetrain signals (ID 8338)

I. LEO[1], S. PAL[1], D. ZAPPALA`[1], F.C. MEHLAN[2]

[1] TU Delft|[2] NTNU

MS#07.2.1: Wind turbine energy conversion system: rare earth materials, design concepts and circular solutions

CHAIRED BY: A. NEJAD, S. ALLY

25/06/2025 10:50

Salle D

10:50: Design and Modeling of a 15 MW Light-Weight Medium-Speed Drivetrain for Floating Offshore Wind Turbines (ID 8469)

F. MEHLAN[1]

[1] NTNU - The Norwegian University of Science and Technology

11:07: On rare earth materials utilization in offshore wind turbine and green hydrogen (ID 8415)

A. NEJAD[1], M. IBRION[2], A. EBRAHIMI[3], F. KODALLE [3], M. KLOEPZIG [4], K. SCHLEICHER [4], P. FEJA[5], S. ALLY [6], M. BRUNINX [6], J. HELSEN [6]

[1] Norwegian University of Science and Technology|[2] Norwegian University of Science and Technology (NTNU)|[3] Bremen University|[4] Siemens AG|[5] Fraunhofer Institute for Wind Energy Systems IWES|[6] Vrije Universiteit Brussel (VUB)

11:24: Electro-mechanical conversion as the core component – modelling vibration impact in the armature currents of wind generators (ID 8074)

T. LOSS[1], I. TSOUMAS[2]

[1] ABB Corporate Research Center, Germany|[2] ABB System Drives, Turgi, Switzerland

11:40: Rare earth metals and offshore wind: on permanent magnets, policies and energy security (ID 8927)

M. IBRION[1], A. NEJAD[2]

[1] Norwegian University of Science and Technology|[2] Norwegian University of Science and Technology (NTNU)

11:57: Designing Downscaled Direct Drive Generator Structures for laboratory scale air gap deformation experiments (ID 8512)
Y. ZHANG[1], A. MCDONALD[1]
[1] School of Engineering, University of Edinburgh, Edinburgh, Scotland

12:14: A coherent chemical recycling study of glass fibre reinforcements recycled from novel Recyclamine epoxy composites (ID 8441)
I.R. CHOWDHURY[1], L.R. JENSEN [1], B.L.V. BAK[1], E. LINDGAARD[1]
[1] Aalborg University

MS#07.3.1: Offshore Wind and AC/DC grids

CHAIRED BY: G. KARINIOTAKIS

27/06/2025 14:00

Salle B

14:00: Transmission expansion planning using continuos variables for AC/DC grids to interconnect offshore wind energy (ID 8122)
B. CASTRO VALERIO[1], M. CHEAH-MAñE[2], V. ALBERNAZ LACERDA[2], P. GEBRAADB[1], O. GOMIS-BELLMUNT[2]
[1] Youwind Renewables|[2] Universitat Politècnica de Catalunya

14:20: Optimal Design and Sizing of Energy Islands Integrating Battery Energy Storage Systems, HVDC Systems and Hydrogen Energy Storage (ID 8158)
M. USECHE-ARTEAGA[1], G. PIETER[1], G. ORIOL[2], L. VINICIUS[2], C. MARC[2]
[1] Youwind Renewables|[2] Centre d'Innovació Tecnològica en Convertidors Estatics i Accionaments (CITCEA-UPC)

14:40: Holistic Grid-Forming Control for HVDC-Connected Offshore Wind Power Plants to Provide Frequency Response (ID 8257)
Z. XU[1]
[1] Technical University of Denmark

15:00: Testing of distance protection in offshore wind power plants (ID 8362)
A. NOVIKOV[1], N. CUTULULIS[1], R. SHARMA[2], D. VITOLDAS[2], G. YANG[1]
[1] Technical University of Denmark (DTU)|[2] Siemens Gamesa Renewable Energy A/S

15:20: EMT study of interactions between Multi-vendor offshore wind power plants connected to weak grids (ID 8399)
G. MUGAMBI[1], N. DARII[2], H. KHAZRAJ[3], O. SABORíO-ROMANO[1], A. RADUCU[3], R. SHARMA[4], N. CUTULULIS[5]
[1] Technical University of Denmark (DTU)|[2] Siemens Gamesa Renewable Energy A/S & Technical University of Denmark (DTU)|[3] Vattenfall Vindkraft A/S, Denmark|[4] Siemens Gamesa Renewable Energy A/S|[5] Technical University of Denmark (DTU)

MS#07.4.1: Offshore Energy Hubs

CHAIRED BY: D. MÜLLER, H. LIANG, S. YOU

27/06/2025 08:40

Salle F

08:40: Small-Signal Stability Analysis of HVDC-connected Offshore Energy Hubs (ID 8176)

A. DUVIVIER[1], N. CUTULULIS[2], D. MüLLER[2]
[1] DTU|[2] DTU Wind and Energy Systems

09:00: Evaluation of DC-side decopuling and DC circuit breakers in offshore electrical energy hubs (ID 8723)
M. VAN DEYCK[1], G. BASTIANEL[1], G. CHAFFEY[1], H. ERGUN[1], D. VAN HERTEM[1]
[1] KU Leuven / Etch-EnergyVille

09:20: Fast Active Power Ramp-down of Offshore Wind Power Plants Connected to Offshore Energy Hubs (ID 8669)
M. KAMENICA[1], D. MüLLER[1], N. CUTULULIS[1]
[1] Technical University of Denmark

09:40: Power Balancing Services from Electrolyzer on Offshore Energy Hub (ID 8772)
N. TARANIN[1], T. GRIMSDOTTIR[1], D. MULLER[1], M. NUHIC[1], G.F. GONTIJO[2], N. CUTULULIS[3]
[1] Technical University of Denmark (DTU)|[2] Ørsted|[3] Technical University of Denmark (DTU)

10:00: Energy Infrastructure for Offshore Energy Hubs (ID 8727)
C. LIU[1], S. YOU[1]
[1] Technical University of Denmark

MS#07.5.1: Hybrid Power Plants

CHAIRED BY: C. BAY

25/06/2025 14:00

Salle B

14:00: IEA Task 50 (work package 1) HybrPower Plant – Aggregating and defining global taxonomy (ID 8374)
M. KOTARBINSKI[1], S. POURALTAFI-KHELJAN [2]
[1] NREL|[2] Technical University of Denmark (DTU)

14:20: IEA Task 50 - WP2: Reference designs for hybrpower plants (ID 8623)
J. IORI[1], M. GUPTA[2]
[1] TU Delft|[2] Technical University of Denmark (DTU)

14:40: Benchmarking of current hybrenergy system design tools - an update of work within IEA Task 50 HybrPower Plants: Work Package 3 (ID 8986)
C. BAY[1], K. BRUNIK[1], M. FRIIS-MøLLER[2], K. JOHNSON[3]
[1] National Renewable Energy Laboratory (NREL)|[2] DTU Tech. Univ. of Denmark|[3] Colorado School of Mines

15:00: Hybridization of wind farms: physical design of added solar PVs (ID 8849)
K. OBRADOVIć[1], N. DKHILI[2], S. RøPKE[1], M. EL SIED[2], K. DAS[1], P. RéTHORé[1]
[1] Technical University of Denmark|[2] TotalEnergies R&D

15:20: Challenges of developing a generic control architecture for HybrPower Plants (ID 8953)
A. BAVISKAR[1]
[1] Technical University of Denmark

MS#07.5.2: Hybrid Power Plants

CHAIRED BY: M. KOTARBINSKI, A. BAVISKAR

25/06/2025 16:10

Salle B

16:10: On the relevance of ensemble forecasts for the operation of wind-storage systems (ID 8035)
J. IORI[1], M. ZAAIJER[1], D. VON TERZI[1], S. WATSON[1]
[1] TU Delft

16:30: Wind Modelling for Hybrid, Off-Grid, Wind to Hydrogen Systems (ID 8937)
A. STOCK[1], E. HART[2], R. CATHCART[2]
[1] Heriot-Watt University|[2] University of Strathclyde

16:50: Linear Operation Optimization of a Co-Designed Wind-Hydrogen-Battery System including Electrolyzer degradation (ID 8589)
D. FRINGS[1], G. JACOBS[2], T. REICHARTZ[2], L. BLICKWEDEL[2], R. SCHELENZ[2]
[1] Chair for Wind Power Drives - RWTH Aachen University|[2] Chair for Wind Power Drives - RWTH Aachen

17:10: Wind Farm Power Tracking Control to Follow a Hydrogen Production Signal (ID 8941)
G. STARKE[1], M. SINNER[2], J. JASA[2], P. FLEMING[2]
[1] National Renewable Energy Laboratory|[2] National Renewable Energy Laboratory (NREL)

17:30: Optimal day-ahead trading and power control for a hybrwind-hydrogen plant with multi-agent reinforcement learning (ID 8315)
S. ALLY[1], T. VERSTRAETEN[2], N. ANN[1], J. HELSEN[1]
[1] Vrije Universiteit Brussel (VUB)|[2] VUB

MS#08.1.1: Nature Inclusive Designs for Floating Offshore Wind Turbines

CHAIRED BY: M. CENTENO TELLERÍA, G. VERAO FERNÁNDEZ

27/06/2025 08:40

Salle C

08:40: Nature inclusive design innovations for future floating offshore wind farms (ID 8881)
G. VERAO FERNáNDEZ[1], C. WINDT[1], N. GOSEBERG[1], S. SCHIMELS[2], H. RUSCHE[3], F. ADAM[4], W. SWIDZINSKI[5], K. KAZIMIEROWICZ-FRANKOWSKA[5], O. KIRCA[6], S. MUTLU[6], T. UGELVIG PETERSEN[7], N. ROJAS[8], M. PENALBA[9], G. BRACCO[10], G. GIORGI[10], P. TROCH[11], M. STREICHER[11], E. HA
[1] TU Braunschweig|[2] Coastal Research Centre, Hannover, Germany|[3] Wikki GmbH, Wernigerode, Germany|[4] GICON GmbH, Rostock, Germany|[5] Institute of Hydro-Engineering of Polish Academy of Sciences, Gdansk, Poland|[6] BM SUMER Consultancy Research, Istanbul, Turk

09:00: Towards a novel modelling approach for soft marine growth (ID 8883)
H. BUSCH[1], C. WINDT[1], G. VERAO FERNáNDEZ[1], N. GOSEBERG[1]
[1] Technische Universität Braunschweig, Germany

09:20: An experimental method to evaluate the hydrodynamic effects of artificial reefs attached to floating wind platforms (ID 8891)
. GALLARDO RIVERA[1], M. STREICHER[1], A. BAINES[1], P. TROCH[1]
[1] Ghent University

09:40: Beauty is in the eyes of the beholder: marine growth on offshore wind infrastructure (ID 8466)
M. SCHLAEPPY[1]
[1] University of Western Australia / Aurora Offshore Engineering

10:00: Numerical Modeling of Two-Phase Flow and Wave Interaction with Porous Media for Floating Wind Turbines (ID 8970)
M. FARHADZADEH[1], Y. ZHAI[2], E. DAMGAARD CHRISTENSEN[1]

[1] Department of Civil and Mechanical Engineering, Technical University of Denmark|[2] Department of Civil and Mechanical Engineering, Technical University of Denmark,

MS#08.1.2: Nature Inclusive Designs for Floating Offshore Wind Turbines

CHAIRED BY: G. VERAO FERNÁNDEZ, M. CENTENO TELLERÍA

27/06/2025 10:50

Salle C

10:50: Techno-Environomic Assessment Framework for Floating Offshore Wind Farms (ID 8212)

M. CENTENO-TELLERIA[1]

[1] Mondragon University

11:10: Design of reference floating offshore wind farms in three areas (ID 8646)

J. FENG[1], H. SARLAK[1]

[1] DTU Wind and Energy Systems

11:30: On the effect of second order loads of floating turbine dynamics (ID 8861)

E. PETRACCA[1], D. ISSOGLIO[1], V. DE CLERCK[1], B. PADUANO[1], M. SIRIGU[1], G. GIUSEPPE[1], G. BRACCO[1]

[1] Politecnico di Torino

MS#08.2.1: Floating Wind Turbine Design Optimization Methods

CHAIRED BY: F. MENG, F. PIERELLA

25/06/2025 10:50

Salle M

10:50: Phase II of the Wind Energy with Integrated Servo-controls Toolset: Building Flexibility and Specificity (ID 8436)

D. ZALKIND[1]

[1] National Renewable Energy Laboratory (U.S.)

11:10: The integration of the HAWC2 aeroelastic software within the WEIS wind turbine optimization framework (ID 8487)

A. RUSSELL[1], F. MENG[1], F. PIERELLA[1]

[1] DTU Wind & Energy Systems

11:30: Evaluating the Influence of Aeroelastic Fidelity on Control Co-Design for Floating Offshore Wind Turbines (ID 8481)

R. BEHRENS DE LUNA[1], F. PAPI[2], N. NAYERI[1], C.O. PASCHEREIT[1]

[1] Technische Universität Berlin|[2] Università di Firenze

11:50: Impact of blade torsion and its modelling on the optimization of a load constrained low specific power rotor (ID 8312)

F. PAPI[1], R. BEHRENS DE LUNA[2], A. BIANCHINI[1]

[1] Università degli Studi di Firenze|[2] Technical University of Berlin

12:10: Fast Multi-Objective Optimization Based Tuning of Floating Wind Turbine Controller Using Surrogate Models (ID 8443)

A.K. SUNDARRAJAN[1], D. HERBER[1]

[1] Colorado State University

MS#08.2.2: Floating Wind Turbine Design Optimization Methods

CHAIRED BY: F. PIERELLA AND R. BEHRENS DE LUNA

25/06/2025 14:00

Salle M

14:00: Aero-Hydro-Servo-Elastic Design Optimization of a Floating Offshore Vertical Axis Wind Turbine (ID 8800)

D. BOUZOLIN[1], D.T. GRIFFITH[1]

[1] The University of Texas at Dallas

14:20: RB-FEA and Automated Load Mapping: Key Pillars for Structural Design Optimization of FOWTs (ID 8322)

R. PINGUET[1], T. DO[1], J. NAHON[1], D. KNEZEVIC[1], S. VALLAGHE[1], G. LECHATON[1]

[1] Akselos

14:40: Coupled wake steering techniques for passively self-adjusting floating offshore wind farm layouts (ID 8793)

M.Y. MAHFOUZ[1], P.W. CHENG[2]

[1] Dr.-Ing.|[2] Prof.

15:00: Preliminary Evaluation of NeuroTower: A Computational Framework for AI-Driven Offshore Wind Turbine Tower Design with FEA and TO Simulations (ID 8999)

J. ALVES RIBEIRO[1], F. PIMENTA[2], B. ALVES RIBEIRO[3], S. M. O. TAVARES[4], F. AHMED[5]

[1] Department of Mechanical Engineering, Massachusetts Institute of Technology; LAETA-INEGI, Faculty of Engineering, University of Porto|[2] CONSTRUCT, Faculty of Engineering of the University of Porto|[3] School of Engineering, Brown University; Faculty of Me

MS#08.2.3: Floating Wind Turbine Design Optimization Methods

CHAIRED BY: R. BEHRENS DE LUNA, D. ZALKIND

25/06/2025 16:10

Salle M

16:10: Integrated design of a semi-submersible floating wind turbine for deployment in Japan using a dedicated pre-design software (ID 8061)

M. ALBERS[1], N. JACOB[1], M. VAN DEN BROEK[1], F. LEMMER[1], T. SAKAKI[2], H. SHIRATANI[2]

[1] sowento GmbH|[2] Taisei Corporation

16:30: Holistic design of offshore wind turbines: a preliminary approach (ID 8213)

A. CROCE[1], K. YILMAZLAR[1], M. GALLIANI[1]

[1] Politecnico di Milano

16:50: Multidisciplinary design optimisation of floating offshore wind turbines using hybrdomain physics-based surrogate-augmented coupled model. (ID 8985)

K. PATRYNIAK[1], M. COLLU[1], C. ANDREA[2]

[1] University of Strathclyde|[2] Delft Technical University

17:10: Simulation-based cost optimization of floating offshore wind turbines: a case study using a low fidelity level model (ID 8783)

G. TROISE[1], V. AURIEMMA[1], D. COIRO[2]

[1] Seapower scrl|[2] University of Naples "Federico II"

17:30: Holistic Optimization of Mooring Systems for Floating Wind Turbines Across Multiple Water Depths (ID 8470)

M. KALLINGER[1], P. TRUBAT CASAL[2], J.L. DOMINGUEZ GARCIA[3]

[1] Catalan Institute for Energy Research (IREC) & BarcelonaTech University (UPC)|[2] Universitat Politècnica de Catalunya (UPC)|[3] Catalan Institute for Energy Research (IREC)

MS#08.3.1: Motion effects on aerodynamics and wake of a single floating offshore wind turbine

CHAIRED BY: F. PAPI, Z. LI, T. MESSMER

27/06/2025 08:40

Salle N

08:40: Wake study of a FOWT model under surge motion: a POD analysis (ID 8132)

D.A. BARILE[1], R. SOSA[2], S. AUBRUN[3], A.D. OTERO[1]

[1] Universidad de Buenos Aires, Facultad de Ingeniería / CONICET, Centro de Simulación Computacional para Aplicaciones Tecnológicas|[2] Universidad de Buenos Aires, Facultad de Ingeniería / CONICET - INTECIN|[3] Nantes Université, École Centrale Nantes, CNRS

09:00: Large wind turbine rotors in surge motion: Relevance of unsteady aerodynamics (ID 8417)

C.W. SCHULZ[1], R. BERGUA[2], E. BRANLARD[3], S. NETZBAND[1], A. ROBERTSON[2], M. ABDEL-MAKSOUD[1]

[1] Hamburg University of Technology|[2] National Renewable Energy Laboratory (U.S.)|[3] University of Massachusetts Amherst

09:20: Analysis of the sub-harmonic frequency visible in the far-wake of a floating wind turbine model subjected to surge motion (ID 8342)

A. HUBERT[1], B. CONAN[1], S. AUBRUN[2]

[1] Ecole Centrale de Nantes|[2] Ecole Centrale Nantes

09:40: Multi-fidelity analysis of wake dynamics in floating wind turbines (ID 8228)

S. CIONI[1], F. PAPI[1], A. FONTANELLA[2], M. BELLOLI[2], A. BIANCHINI[1]

[1] Università di Firenze|[2] Politecnico di Milano

10:00: Coherent structures excited by platform motion in the wake of a floating wind turbine (ID 8270)

T. MESSMER[1], T. WESTER[2], J. PEINKE[2], M. HöLLING[2]

[1] Carl von Ossietzky Universität Oldenburg, Germany|[2] Carl von Ossietzky Universitat Oldenburg, School of Mathematics and Science, Institute of Physics, 26129 Oldenburg, Germany

MS#08.3.2: Motion effects on aerodynamics and wake of a single floating offshore wind turbine

CHAIRED BY: F. PAPI, Z. LI, T. MESSMER

27/06/2025 10:50

Salle N

10:50: Wind Tunnel Experiment Using Hot-wire Anemometers for Understanding the Wake Structure of Pitching FOWT (ID 8194)

K. SHIBUYA[1], M. INUI[1], Y. FUKATANI[2], S. OHGI[2], K. UMAZUME[1], T. YOSHIDA[1], Y. TANIYAMA[2], T. UCHIDA[3]

[1] Kanadevia Corporation|[2] Toshiba Energy Systems and Solutions Corporation|[3] Research Institute for Applied Mechanics, Kyushu University

11:10: Experimental Study of Floating Wind Turbine Wake Dynamics Using 2D Array of 35 Hotwires (ID 8525)

K. SILWAL[1], M. HöLLING[1], T. MESSMER[1]

[1] University of Oldenburg

11:30: Design of wind turbine scale model and imposed motion platform for floating wind turbine wake in tunnel experiment. (ID 8066)

K. UMAZUME[1], Y. FUKATANI[2], K. SHIBUYA[1], U. WATANABE[2], T. HARA[1], N. MORIWAKI[2], M. INUI[1], T. YOSHIDA[1], Y. TANIYAMA[2], T. UCHIDA[3]

[1] Kanadevia Corporation|[2] Toshiba Energy Systems and Solutions Corporation|[3] Research Institute for Applied Mechanics, Kyushu University

11:50: RANS Investigation of Wake of a Floating Offshore Wind Turbine in Atmospheric Boundary Layer (ID 8968)

H. SARLAK[1]

[1] DTU Wind Energy

12:10: Vortex Interaction of a Floating Offshore Wind Turbine in the Wake Region (ID 8059)

K. XU[1]

[1] University of Maine

MS#08.3.3: Motion effects on aerodynamics and wake of a single floating offshore wind turbine

CHAIRED BY: F. PAPI, Z. LI, T. MESSMER

27/06/2025 14:00

Salle N

14:00: Understanding Unsteady Aerodynamic Effects of Floating Wind Turbine in Surge Motion (ID 8924)

A. SANVITO[1], C. SCHULZ[2], A. FIRPO[1], V. DOSSENA[1], G. PERSICO[1]

[1] Politecnico di Milano|[2] Hamburg University of Technology

14:20: Parametric study of the floating wind turbine configurations most likely to impact far-wake dynamics by OpenFAST (ID 8445)

M. ABDULLAH[1], V. LEROY[2], S. AUBRUN[3]

[1] Technical University of Denmark |[2] Ecole Centrale de Nantes|[3] Ecole Centrale Nantes

14:40: Towards an efficient dynamic wake model for floating wind turbines by using spatial marching method (ID 8188)

Y. XINMING[1], Z. LI[2], Y. XIAOLEI [2]

[1] University of Chinese Academy of Sciences|[2] Chinese Academy of Sciences

15:00: A Refined Actuator Disk Model for computationally efficient investigations of FOWT wakes (ID 8582)

L. PAGAMONCI[1], S. XIE[2], G. COJOCARU[1], S. KUMAR NAMBULLY[1], M. D'ELIA[1], R. ROTHBAUER[1]

[1] Convergent Science GmbH|[2] Convergent Science Inc.

15:20: Data-Driven Modelling of Unsteady Aerodynamic Loads of a Pitching Wind Turbine (ID 8583)

G. VAN ESSCHE[1], T. HAAS[1], J. DECUYPER[1], T. DE TROYER[1], L. GRECO[2], M.C. RUNACRES[1]

[1] Vrije Universiteit Brussel (VUB)|[2] Institute of Marine Engineering (CNR-INM), Rome, Italy

MS#08.4.1: Wake interactions in floating wind farms

CHAIRED BY: A. BIANCHINI, R.B. CAL

26/06/2025 08:40

Salle B

08:40: Experimental Analysis of Wake Pulsation and Meandering Between Two Floating Wind Turbines (ID 8030)
A. FONTANELLA[1], F. BELLINI[1], M. EBRAHIMI[1], A. FACCHINETTI[1], S. MUGGIASCA[1], M. BELLOLI[1]
[1] Politecnico di Milano

09:00: Power, Loading and Wake Dynamics of Floating Wind Turbines under Cyclic Pitch or Roll: Insights from Wind Tunnel Experiments (ID 8377)
C. JACQUET[1], S. RANDINO[1], N. COUDOU[1], G. GLABEKE[1], W. MUNTERS[1], J. VAN BEECK[1]
[1] von Karman Institute for Fluid Dynamics

09:20: Effects of waves and floating turbine pitch motion on the wind flow structure: insights from Large Eddy Simulations (ID 8933)
C. MENEVEAU[1], M. AYALA[1], D.F. GAYME[1]
[1] Johns Hopkins University

MS#08.4.2: Wake interactions in floating wind farms

CHAIRED BY: A. FONTANELLA, C. MENEVEAU

26/06/2025 10:50

Salle B

10:50: Comparison of FAST.Farm against AMR-Wind for a small farm of IEA 15 MW floating wind turbines (ID 8524)
B. DELLO IACONO[1]
[1] von Karman Institute for Fluid Dynamics

11:10: Multi-fidelity actuator line modelling of tandem floating offshore wind turbines (ID 8812)
A. FIRPO[1], A.G. SANVITO[1], V. DOSSENA[2], G. PERSICO[2]
[1] Politecnico di Milano|[2] Politecnico di Milano

11:30: Comparing wake recovery in fixed and floating wind farms with Wind Farm Parameterizations (ID 8398)
W. RADüNZ[1], J.K. LUNDQUIST[1]
[1] Johns Hopkins University

11:50: Coupled modelling of FOWT dynamics capturing turbulent wind loading, wave forcing and mooring constraints (ID 8750)
E. UZAR[1], M. GHOBRIAL[1], Y. ZHANG[1], P. STANSBY[1], T. STALLARD[1], P. OURO[1]
[1] University of Manchester

12:10: Waveform impacts on the dynamics of floating offshore wind farms (ID 9008)
Z. SADEK[1], O. FERCAK[1], M. AYALA[2], D. GAYME[2], C. MENEVEAU[2]
[1] Portland State University|[2] Johns Hopkins University

MS#08.5.1: Hybrid testing for floating wind

CHAIRED BY: F.TARUFFI

26/06/2025 14:00

Salle B

14:00: HybridLabs: bridging the gap between lab-scale and full-scale testing of floating wind turbines (ID 9833)
F. TARUFFI[1], A. VIRé[1]
[1] Delft University of Technology

14:17: Improving the performances of a real-time hybrid testing system for wave-tank testing of floating wind turbines (ID 8478)
S. HAN[1], O. MIZZI-DEGIOANNI[1], S. DELACROIX[1], V. LEROY[1]
[1] Ecole Centrale Nantes

14:34: Hydro-real time hybrid simulation framework for floating offshore wind turbine subjected to simultaneous aero- and hydro-dynamics (ID 8920)
A. SEKI[1]
[1] Stanford University

14:50: Fast second-order slender body force model calibration on a 20MW class floating wind turbine experimental campaign (ID 8687)
I. JOHANNESEN[1]
[1] DTU

15:07: Interpretation of IEA 15 MW wind turbine as porous disc for far wake flow characterization in atmospheric flow (ID 8224)
A. ULU[1], S. GILLMEIER[1], T. VAN HOOFF[1]
[1] Building Physics and Services, Department of the Built Environment, Eindhoven University of Technology, P.O. Box 5600 MB, Eindhoven, the Netherlands

15:24: Porous disk characterization for experimental and numerical floating offshore wind turbines applications (ID 8659)
G. POMARANZI[1], F. TARUFFI[2], M. CATANIA[1], A. VIRé[2], A. ZASSO[1]
[1] Politecnico di Milano|[2] Delft University of Technology

MS#08.5.2: Hybrid testing for floating wind

CHAIRED BY: S. GILLMEIER, F. TARUFFI

26/06/2025 16:10

Salle B

16:10: Challenges in hardware-in-the-loop wind tunnel testing of floating wind turbines (ID 8581)
F. TARUFFI[1], A. VIRé[1]
[1] Delft University of Technology

16:27: Requirements selection for 15 MW floating wind turbine robotic hydrodynamic emulator (ID 8388)
B. GERLAGH[1], W. HAKVOORT[1], K. DWARSHUIS[1], N. MARIJN[1]
[1] University of Twente

16:44: Design of a hexapod for hybrid testing of floating wind turbines (ID 8324)
K. DWARSHUIS[1], B. GERLAGH[1]
[1] University of Twente

17:00: Exploratory approaches for scaled aero-elastic designs for hybrid wind tunnel testing of floating wind turbines (ID 8570)
M. MIROUX[1], A. VIRé[1], F. TARUFFI[1]
[1] Delft University of Technology

17:17: Experimental Investigation of an Offshore Airborne Wind Energy Floating Platform (ID 8771)
S. TROMBINI[1], L. CECCHIN [2], A. LUCARELLI[3], A. BARDAZZI[3], C. LUGNI[3], L. FAGIANO[1]
[1] Politecnico di Milano|[2] Politecnico di Milano |[3] Institute of Marine Engineering (CNR-INM), Rome, Italy

17:34: FloatLab: Design and testing of a 5x5m2 wind generator for FOWT lab scale testing (ID 8958)

R. MIKKELSEN[1], K. ENEVOLDSEN[1], G.R. THORSEN[1], H. BREDMOSE[1]
[1] DTU Tech. Univ. of Denmark

MS#09.1.1: Assessing wind power integration in Europe while considering impacts on society and the environment

CHAIRED BY: A. HAHMANN, L. RAMIREZ CAMARGO, CHRISTIAN MIKOVITS

25/06/2025 16:10

Salle N

16:10: Multispectral land cover analysis of European wind parks (ID 8500)
T. ÖBERSEDER[1], C. MIKOVITS[1]
[1] University of Natural Resources and Life Sciences, Vienna

16:30: AI and 3D radar -Based Next-Generation Bird Protection Technologies (ID 8551)
M. CASADO[1]
[1] MINSAIT

16:50: The obstacles of wind power expansion and the need for user-centred decision-making tools (ID 8538)
L. BAKELANTS[1], T. SCHAUPPENLEHNER [2], C. MIKOVITS[2], G. GIORGI[3], A.N. HAHMANN[4], N. DAVIS[4], R. HUETING[5], L.R. CAMARGO[6]
[1] Nazka Mapps|[2] BOKU University of Natural Resources and Life Sciences|[3] Politecnico di Torino|[4] Technical University of Denmark (DTU)|[5] DeepBlue|[6] Utrecht University

MS#09.1.2: Assessing wind power integration in Europe while considering impacts on society and the environment

CHAIRED BY: A. HAHMANN, L. RAMIREZ CAMARGO, CHRISTIAN MIKOVITS

25/06/2025 14:00

Salle I

14:00: Multi-Dimensional Trade-Offs of Wind Energy in Europe's Net-Zero Electricity System (ID 8366)
G. VALENZUELA-VENEGAS[1], J. PRICE[2], M. ZEYRINGER[1], O. VåGERö[1], A. ETARD[3], R. CHEN[4], P. VISCONTI[3], L. RAMIREZ CAMARGO[5]
[1] University of Oslo|[2] University College London|[3] International Institute for Applied Systems Analysis|[4] ETH Zurich|[5] Utrecht University

14:20: WindTrace: a parametric life-cycle inventory model for wind energy (ID 8526)
M. SIERRA-MONTOYA[1], J. MUñOZ-LIESA[2], L.. PéREZ-SáNCHEZ[1], A. DE TOMáS-PASCUAL[1], C. MADRID-LóPEZ[1]
[1] Institute of Environmental Science and Technology (ICTA-UAB)|[2] Royal Institute of Technology (KTH)

14:40: Multi-Criteria Decision Analysis for Proposed Areas for Offshore Wind Implementation with Monte Carlo method (ID 8123)
C. MATA EIZAGUIRRE[1], D. ROMERO[2], N. ADEMA[1]
[1] HUAS, ENTRANCE Centre of Expertise Energy|[2] Univergy Solar

15:00: The Rationale of Maps in Offshore Wind Development: Inclusion and Exclusion of Knowledge in Environmental Impact Assessment (ID 8875)
V. ULRICHSEN FLAGET[1]
[1] University of Agder

WESC 2025
24 - 27 JUNE | NANTES, FR

Updated on 3 July 2025

MS#09.2.1: Social science for collaborative wind energy planning and participation

CHAIRED BY: J. ASTON & S. TEGEN

26/06/2025 08:40

Salle KL

08:40: Bridging social science and wind energy deployment: The role of IEA Wind Task 62 (ID 8826)

J. ASTON[1]

[1] AstonECO Management Ltd

09:00: Wind Turbine Noise, Annoyance and Cognitive Performance: Implications for the Propagation of Annoyance (ID 8231)

D. O'HORA[1], M. MANOHARE[1], S. GARCIA-GUERRERO[1], E. KING[1]

[1] University of Galway

09:20: Addressing Socio-Technical Challenges Through Collaborative Research in Airborne Wind Energy (ID 8567)

H. SCHMIDT[1], G. DE VRIES[1], R. SCHMEHL[1], R.J. RENES[2], F.J.Y. MüLLER[3], V. LESCHINGER[4], G. HüBNER[4]

[1] TU Delft|[2] Amsterdam University of Applied Sciences|[3] MSH Medical School Hamburg|[4] Martin-Luther-University Halle-Wittenberg; MSH Medical School Hamburg

09:40: Understanding the value of locally deployed, distributed wind energy systems (ID 8978)

E. BARING-GOULD[1], A. HIRSCHL[2]

[1] National Renewable Energy Laboratory|[2] University of Applied Sciences, Technikum Wien

MS#09.2.2: Social science for collaborative wind energy planning and participation

CHAIRED BY: J. HILDEBRAND & M. DE SAIN

26/06/2025 10:50

Salle KL

10:50: The social impact of offshore wind development (ID 8151)

P. BUCHAN[1]

[1] University of Exeter / IEA Wind Task 62

11:10: Integrating social science into renewable energy projects: The ELSA community of practice for enhanced project proponent–host community partnership (ID 8823)

J. ASTON[1]

[1] AstonECO Management Ltd

11:30: Fisheries and offshore wind power in Ireland: attitudes, trust and the planning system (ID 8874)

J. ROUX[1]

[1] Sustainable Energy Authority of Ireland /// University of Exeter

11:50: Community-driven engagement in designing energy projects (ID 8467)

G. HüBNER[1], F. MüLLER[2], V. LESCHINGER[1]

[1] Martin-Luther-University Halle-Wittenberg; MSH Medical School Hamburg|[2] MSH Medical School Hamburg

MS#09.2.3: Social science for collaborative wind energy planning and participation

CHAIRED BY: D. RUDOLPH & P. BUCHAN

26/06/2025 14:00

Salle KL

14:00: Localities under pressure in the green transition – issues of acceptability and governing capacity in Nordic municipalities (ID 8396)
L. PELTONEN[1], J. DONNER-AMNELL[2], T. BJäRSTIG[3], M. VASSTRöM[4]
[1] University of Eastern Finland|[2] University of Eastern Finand|[3] Umeå University|[4] University of Agder

14:20: Survey findings regarding residents' views on community-based wind energy in Canada and Ireland (ID 8174)
J. BAXTER[1], G. ELLIS[2], S. WILSON[1], B. MCATEER[2]
[1] University of Western Ontario|[2] Queen's University Belfast

14:40: Visual tools for effective and trustful stakeholder engagement (ID 8348)
A. ROQUE DE OLIVEIRA[1]
[1] Environmental Consultant

15:00: Do Community Benefits Enhance Local Support for Offshore Wind Energy? A Case Study in Japan (ID 8305)
M. MOTOSU[1], A. TAKEUCHI[2], Y. MARUYAMA[1]
[1] Nagoya University|[2] Toho University

15:20: Financial participation options for municipalities and citizens as an acceptance factor for wind energy expansion - Experiences from Germany and Denmark (ID 8892)
J. HILDEBRAND[1], D.P. RUDOLPH[2], I. RAU[1]
[1] Institute for Future Energy and Material Flow Systems (IZES)|[2] Technical University of Denmark (DTU)

MS#09.2.4: Social science for collaborative wind energy planning and participation

CHAIRED BY: S. TEGEN & J. ASTON

26/06/2025 16:10

Salle KL

16:10: Recode: Identifying a pathway for renewable energy community-industry development (ID 7776)
N. BRENNAN[1]
[1] University of Galway

16:30: Between empowerment and governmentality: the role of community wind in a market-driven energy system (ID 8336)
L. CLAUSEN[1], D. RUDOLPH[2]
[1] University of Agder|[2] Danish Technical University

16:50: Determinants of public objections to wind infrastructure projects in Ireland (ID 8514)
O. MICHAEL [1], B. POWER[1], G. RYAN[2], E. O'CONNOR[1]
[1] University College Cork|[2] University College Cork Ireland

17:10: Mini-symposium closing panel: next steps for social science in wind (ID)

MS#10.2.1: Distributed wind energy: challenges and opportunities

CHAIRED BY: M.RUNACRES & F. CASTELLANI

25/06/2025 14:00

Salle E

14:00: Who, how and where? – Factors influencing the perception of small-scale wind energy in Austria (ID 7637)
F. BACHLEITNER[1], J. BERG[1], K. HöFERL[2], K. BHAT[1], M. MALLOTKE[1], D. ÖSTERREICHER[1], A. HIRSCHL[1]
[1] UAS Technikum Wien|[2] IMC Krems UAS

14:20: Inflow conditions and turbulence for distributed wind energy (ID 8381)
M. RUNACRES[1]
[1] Vrije Universiteit Brussel

14:40: Benchmarking initiative for distributed wind energy (ID 8553)
I. BARING-GOULD[1], M. RUNACRES[2]
[1] National Renewable Energy Laboratory|[2] Vrije Universiteit Brussel (VUB)

15:00: Multidisciplinary Design Analysis and Optimization of Small Wind Turbines. A VAWT case (ID 8513)
A. CROCE[1]
[1] Politecnico di Milano

15:20: Effects of the rotor on the behaviour of generic tail fins for small wind turbines (ID 8462)
F. CASTELLANI[1], M.M. HAMMAM[2], A. GUPTA[3], D.H. WOOD[4]
[1] University of Perugia - Department of Engineering|[2] Port Said University, Port Said, Egypt|[3] National Renewable Energy Laboratory, Golden, Colorado, USA|[4] University of Calgary, Canada

MS#10.2.2: Distributed wind energy: challenges and opportunities

CHAIRED BY: M.RUNACRES & F. CASTELLANI

25/06/2025 16:10

Salle E

16:10: Applications of Distributed Wind-Hybrid Systems in HOPP (ID 8944)
E. GRANT[1], K. BRUNIK[1], B. STANISLAWSKI[1]
[1] National Renewable Energy Laboratory (NREL)

16:30: IEA Task 41 meeting (ID)

MS#10.3.1: Airborne Wind Energy

CHAIRED BY: J. DEGROOTE

25/06/2025 10:50

Salle J

10:50: Investigation of the annular wake of airborne wind energy systems using actuator methods (ID 8285)
T. HAAS[1], M. RUNACRES[1]
[1] Vrije Universiteit Brussel (VUB)

11:10: Large Eddy Simulation of two Airborne Wind Energy Systems with wake interaction (ID 8625)
J. CRISMER[1], G. WINCKELMANS[2], M. DUPONCHEEL[2]
[1] UCLouvain|[2] Université catholique de Louvain (UCLouvain), Institute of Mechanics, Materials and Civil engineering (iMMC), B-1348 Louvain-la-Neuve, Belgium

11:30: A new Gaussian wake model to study the aerodynamic interaction between two Airborne Wind Energy Systems (ID 8696)
F. TREVISI[1], L.J. SABUG[1], L. FAGIANO[1]

[1] Politecnico di Milano

11:50: Assessment of aerodynamic derivatives of an airborne wind energy system using geometry-resolved computational fluid dynamics (ID 8356)
M. NOTABLE[1], N. PYNAERT[1], J. WAUTERS[1], G. CREVECOEUR[1], J. DEGROOTE[1]
[1] Ghent University

12:10: Aerodynamic analysis of dual-kite airborne wind energy system using geometry-resolved computational fluid dynamics (ID 8169)
T. HAAS[1], N. PYNAERT[2], J. DEGROOTE[2]
[1] Vrije Universiteit Brussel (VUB)|[2] Ghent University

MS#10.3.2: Airborne Wind Energy

CHAIRED BY: T. NAM

25/06/2025 16:10

Salle J

16:10: A kite-based generator and coupling modelling approach for airborne energy optimisation (ID 8535)
A. BAVOIL[1], J. CAILLAU[1], L. DELL'ELCE[2], C. JOCHUM[3], A. NêME[3]
[1] Université Côte d'Azur, CNRS, Inria, LJAD|[2] Inria|[3] ENSTA, Institut Polytechnique de Paris, UMR CNRS 6027, IRDL, F-29200 Brest, France

16:30: An onboard control system based on bridle actuation for airborne wind energy systems (ID 8246)
J. GONZáLEZ-GARCíA[1], F. DELOSRIOS-NAVARRETE[2], D. SANTOS-MARTíN[1], G. SáNCHEZ-ARRIAGA[1]
[1] Universidad Carlos III de Madrid|[2] CT Ingenieros A.A.I. S.L. / Universidad Carlos III de Madrid

16:50: Testing of a ground-controlled airborne wind energy system prototype (ID 8485)
F. DE LOS RíOS NAVARRETE[1], J. GONZáLEZ-GARCíA[2], C. NICOLáS-MARTíN[2], D. SANTOS-MARTíN[2], G. SáNCHEZ-ARRIAGA[2]
[1] CT Ingenieros A.A.I. S.L. / Universidad Carlos III de Madrid|[2] Universidad Carlos III de Madrid

MS#10.3.3: Airborne Wind Energy

CHAIRED BY: K. PETRICK

25/06/2025 14:00

Salle J

14:00: Standardization of Airborne Wind Energy systems (ID 8862)
K. PETRICK[1]
[1] Airborne Wind Europe

14:20: Mapping the future of Airborne Wind Energy: site identification analysis in North-West European countries (ID 8042)
M. MOUTEL[1], K. PETRICK[2], A. LUCA[3]
[1] Laminak Energy|[2] Airborne Wind Europe|[3] Kitepower

14:40: Technology Development for Airborne Wind Energy (ID 8367)
T. NAM[1]
[1] Toyota

15:00: Exploring Airborne Wind Energy Scaling: An Open-Source Parametrized Design Framework for Fixed-Wing Kites (ID 8846)

D. EIJKELHOF[1], R. SCHMEHL[1]
[1] Delft University of Technology

15:20: System design and scaling trends in airborne wind energy (ID 8876)
R. JOSHI[1], D. VON TERZI[1]
[1] Delft University of Technology

MS#10.3.4: Airborne Wind Energy

CHAIRED BY: D. NGUYEN

26/06/2025 08:40

Salle J

08:40: Experimental study on the influence of the aspect ratio and the endplate configuration on the performance of Magnus-effect airborne generators (ID 8223)
A. GENONI[1], C. SICOT[2], S. BARRE[3]
[1] Wind Fisher SAS - 38190 Les Adrets, France|[2] Institut Pprime - UPR 3346, CNRS-ENSMA-Université de Poitiers, 86360 Futuroscope-Chasseneuil, France|[3] LEGI, Grenoble-INP - UMR 5519, BP53, 38041 Grenoble Cedex 9, France

09:00: Wind Tunnel Load Measurements of a Leading-Edge Inflatable Kite Rigid Scale Model (ID 8385)
J. POLAND[1], J.M. VAN SPRONSEN[1], M. GAUNAA[2], R. SCHMEHL[1]
[1] TU Delft|[2] DTU

09:20: Wind Estimation for Airborne Wind Energy Systems (ID 8393)
M. BORDIGNON[1], A. CROCE[1], L. FAGIANO[1]
[1] Politecnico di Milano

09:40: Kite as a Sensor: Wind and State Estimation in Tethered Flying Systems (ID 8501)
O. CAYON[1], S. WATSON[1], R. SCHMEHL[1]
[1] TU Delft

10:00: Measuring soft kites deformation using Ultra Wide Band (ID 8868)
N. HIRTZIG[1], L. DARIDON[1], K. RONCIN[2], V. HUON[1]
[1] LMGC - University of Montpellier|[2] Centre de recherche de l'Ecole de l'air et de l'espace, Ecole de l'air et de l'espace, F-13660

MS#10.3.5: Airborne Wind Energy

CHAIRED BY: A. CROCE

26/06/2025 10:50

Salle J

10:50: Towards aero-servo-elastic simulations of airborne wind energy systems using geometry-resolved computational fluid dynamics (ID 8159)
N. PYNAERT[1], T. HAAS[2], J. WAUTERS[1], G. CREVECOEUR [1], J. DEGROOTE[1]
[1] Ghent University|[2] Vrije Universiteit Brussel (VUB)

11:10: Trimming a fixed-wing airborne wind system for coordinated circular flights (ID 7700)
D. NGUYEN[1], E. OLAND[2], M. LOWENBERG[1]
[1] University of Bristol|[2] Kitemill AS

11:30: From a Novel Flight Mechanics Simulation Tool to a Classical Aero-Servo-Elastic Multibody Model: Bridging Dynamics and Control for the AWE Design and Future International Standards (ID 8394)

A. CROCE[1], M. BORDIGNON[1], C.E.D. RIBOLDI[1]
[1] Politecnico di Milano

11:50: Data-Driven Modeling and Control of an Airborne Wind Energy System (ID 8534)
M. ROSITANI[1], L. CECCHIN[1], M. ALBORGHETTI[1], F. TREVISI[1], L. FAGIANO[1]
[1] Politecnico di Milano

12:10: Dynamic Model of a Ground-Controlled Ram-Air Kite System for Ship Propulsion (ID 8908)
B. VAN DE LINT[1], U. FECHNER[2], R. SCHMEHL[2]
[1] Bart van de Lint Produktutvikling, Odd Brochmanns veg 12, 7051 Trondheim, Norway|[2] Delft University of Technology

MS#10.3.6: Airborne Wind Energy

CHAIRED BY: R. SCHMEHL

26/06/2025 14:00

Salle J

14:00: Towards a Validated Digital Twin of an Inflatable Kite for Airborne Wind Energy Applications (ID 8967)
R. SCHMEHL[1], O. CAYON[1], J. POLAND[1]
[1] TU Delft

14:20: Opti-MegAWES: a Toolbox for Optimal Path Planning of Megawatt-scale Airborne Wind Energy Systems (ID 8433)
O. HEYDARNIA[1], J. WAUTERS[1], T. LEFEBVRE[1], G. CREVECOEUR[1]
[1] Ghent University

14:40: Multi-objective Optimal Trajectory Generation for a Kite-based Ship Traction System (ID 8608)
K. KHEDACHE[1], A. CHEMORI[2], L. DARIDON[1], K. RONCIN[3], J. LOUSTAU-LAGUIDE[3]
[1] Université de Montpellier|[2] CNRS |[3] Ecole de l'Air et de l'Espace

15:00: Optimal Power Smoothing of Airborne Wind Energy Systems via Pseudo-Spectral Methods and Multi-objective Analysis (ID 8780)
M. ALBORGHETTI[1], F. TREVISI[1], R. BOFFADOSSI[1], L. FAGIANO[1]
[1] Politecnico di Milano

MS#10.5.1: Exploiting the potential of digitalisation in wind energy

CHAIRED BY: S. BARBER, Y. MARYKOVSKIY, C. PLUMLEY

26/06/2025 08:40

Salle M

08:40: Assessing the feasibility of a digital open innovation platform for the wind energy sector (ID 8477)
S. BARBER[1], R. BIGGER[1], Y. MARYKOVSKIY [1], S. DAVOUST[2], C. JONSSON[3]
[1] Eastern Switzerland University of Applied Sciences|[2] Tipspeed|[3] KUDO Software

09:00: Solving Industry Challenges Together: A WeDoWind Open Data Exploration Case Study (ID 8907)
C. PLUMLEY[1], S. BARBER[2]
[1] Nuveen Infrastructure|[2] Eastern Switzerland University of Applied Sciences

09:20: The influence of organisational culture on digitalisation in the wind energy sector (ID 8476)
S. BARBER[1], A.M. SEMPREVIVA[2], J. CLERC[3]

[1] Eastern Switzerland University of Applied Sciences|[2] DTU Wind|[3] National Renewable Energy Laboratory

09:40: Integrating domain knowledge into generative AI: A case for a foundational wind energy ontology. (ID 8871)

Y. MARYKOVSKIY[1], S. BARBER[1]
[1] OST - Ostschweizer Fachhochschule

10:00: Developing Knowledge Graph Schemas for Modelling Lost Production Events in Wind Turbine Condition Monitoring (ID 8358)

J. WILSON[1], M. HJORTH JENSEN[2], P. MATTHEWS[1]
[1] Durham University|[2] Ørsted A/S

MS#10.5.2: Exploiting the potential of digitalisation in wind energy

CHAIRED BY: S. BARBER, Y. MARYKOVSKIY, C. PLUMLEY

26/06/2025 10:50

Salle M

10:50: Towards seamless data exchange in the wind energy industry through schema standardisation (ID 8244)

C. JONSSON[1], S. HOLLERAN[2], T. CLARK[3]
[1] KUDO Software|[2] BrightWind|[3] Octue

11:10: Risk-based maintenance – a case study on leading edge erosion (ID 8365)

J. NIELSEN[1]
[1] Aalborg University

11:30: Decision Support System for Continuous Economic Evaluation of Wind Farms (ID 8749)

M. WIENS[1], A. KERR[2], R. CARRIVEAU[2], N. REQUATE[1]
[1] Fraunhofer IWES|[2] University of Windsor

11:50: The Digital Twins for Winds-Offshore (DTWO) Project (ID 8264)

X. LARSéN[1]
[1] Technical University of Denmark

12:10: Design of a wind and power digital twin for farm performance assessment (ID 8925)

S. DAVOUST[1], F. REBEYRAT[1], F. DELAUNAY[1]
[1] Tipspeed

MS#10.6.1: Advanced Machine Learning for Wind Farm Optimisation and Maintenance

CHAIRED BY: L. LANDBERG, T. GÖÇMEN, M. ANGELA

27/06/2025 14:00

Salle J

14:00: A Deep-Learning Approach to Farm-to-Farm Wake Impacts to Inform Regional Wind Farm Deployment Scenarios (ID 8256)

M. OPTIS[1]
[1] Veer Renewables

14:14: Value of added information in reinforcement learning for wind farm flow control (ID 8407)

M. NILSEN[1], J. QUICK[1], T. GöçMEN[1], R. PIERRE-ELOUAN[1], D. NIKOLAY[1]

[1] DTU Wind and Energy Systems

14:28: Graph Transformers for flow reconstruction from sparse sensing (ID 8788)

G. DUTHé[1], E. CHATZI[1]
[1] ETH Zürich

14:42: Surrogate Modeling for Wind Turbine Fatigue Loads: A Comparison of Sector-Averaged and POD-Based Approaches (ID 8872)

H.R. RAMASWAMY[1], A. GUILLORé[2], V. PETTAS[1], J.P. MURCIA LEON[1], R. RIVA[1], J. ANTONY QUICK[1], F. CAMPAGNOLO[2], P. MIKAEL RéTHORé[1]
[1] Technical university of Denmark|[2] Technical University of Munich

14:56: Multi-agent reinforcement learning for condition-based erosion-safe operation (ID 8930)

J. VISBECH[1], T. GöçMEN[1], C. HASAGER[1], P. RéTHORé[1]
[1] Technical University of Denmark

15:10: Comparison of Machine Learning Models for Short-term Wind Power Prediction (ID 8540)

A. BAIGARINA[1]
[1] [1] Nazarbayev University, School of Engineering and Digital Sciences, Astana, Kazakhstan [2] Stuttgart Wind Energy (SWE), University of Stuttgart, Germany

15:24: Comparison of graph neural network surrogate models for collection system cable length in offshore wind farms (ID 8888)

M. SOUZA DE ALENCAR[1], G. DUTHé[2], C. ELENI[2], T. GöçMEN[1], N. CUTULULIS[1]
[1] Technical University of Denmark|[2] Institute of Structural Engineering, ETH Zürich

MS#10.7.1: Designs from International Small Wind Turbine Contest

CHAIRED BY: G. SCHEPERS, N. ADEMA, C. BRAUD

27/06/2025 08:40

Club Atlantique

08:40: Ecole Centrale de Nantes (ID)

09:00: Hanze UAS (ID)

09:20: GUST (Polytechnic University of Lodz) (ID)

09:40: Eolia (Polytechnic University of Valencia) (ID)

10:00: Aiolos (National Technical University of Athens) (ID)

10:20: UT Wind (University of Toronto) (ID)

MS#10.7.2: Designs from International Small Wind Turbine Contest

CHAIRED BY: G. SCHEPERS, N. ADEMA, C. BRAUD

27/06/2025 10:50

Club Atlantique

10:50: EURUS (Zewail University) (ID)

11:10: Danish Technical University (ID)

11:30: WE Design (University of Manitoba) (ID)

11:50: ASU Wind (Ain Shams University) (ID)

12:10: Inholland UAS (ID)

12:30: University of Waterloo (ID)

RS#01.1: Theme 1 : Regular sessions

CHAIRED BY: B. CONAN, A. HAHMANN

25/06/2025 10:50

Salle 300

10:50: Analyzing low winds over Europe and uncertainties in the ensemble of regional climate models (ID 8400)

I. ISIK CETIN[1], T. FRISIUS [1], E. KEUP-THIEL [1], D. RECHID [1]

[1] Climate Service Center Germany (GERICS)

11:10: Identifying systematic biases in ERA5 and downscaled mesoscale products in modelling for wind energy applications (ID 8237)

M. POGUMIRSKIS[1], T. SĪLE[2], L. SVENNINGSEN[3], A.N. HAHMANN[4]

[1] University of Latvia, EMD International A/S|[2] University of Latvia|[3] EMD International A/S|[4] Technical University of Denmark (DTU)

11:30: A new downscaling method for the global (GWA) and New European Wind Atlas (NEWA) (ID 8777)

R. FLOORS[1], A. HAHMANN[1], B. OLSEN[1]

[1] DTU Wind & Energy Systems

11:50: The future of wind resources in the North Sea: assessment of wind energy via HighResMIP global climate models (ID 8321)

A. DIERICKX[1], S. GREMMO[1], S. CALUWAERTS[2], W. MUNTERS[1]

[1] von Karman Institute for Fluid Dynamics|[2] Royal Meteorological Institute of Belgium & Department of Physics and Astronomy, Ghent University

12:10: Beyond standard Fitch: Validating WRF's wind farm parameterizations with offshore SCADA data (ID 8111)

B. SENGERS[1], L. VOLLMER[1], M. DOERENKAEMPER[1]

[1] Fraunhofer IWES

RS#01.10: Theme 1 : Regular sessions

CHAIRED BY: K. DIMITRIADOU

27/06/2025 10:50

Salle 300

10:50: Non-stationary models for modeling extreme sea-states in a changing climate along the French coasts (ID 8628)
N. RAILLARD[1], Y. KERVELLA[2], C. POPPESCHI[1], T. CHEVALLIER[3], L. DUBUS[4]
[1] IFREMER|[2] FEM|[3] France Energies Marines|[4] RTE

11:10: A localized interpolation technique for the generation of short-crested waves in Computational FluDynamics solver (ID 8448)
Y. CHOI[1], M. TIERNO[2], T. DESCAMPS[3], M. CHARLOU[2], B. BOUSCASSE[2], G. DUCROZET[2]
[1] Pusan National University|[2] Nantes Université, Centrale Nantes, CNRS, LHEEA, UMR 6598, Nantes, France |[3] Bureau Veritas Solutions - Marine & Offshore

11:30: A Lightning Risk Assessment Methodology over Wind Farm Areas in the US and Europe (ID 8658)
K. DIMITRIADOU[1], D. CAVAR[2], O. GARCIA SANTIAGO[2], M. AAGREN JENSEN[3], A. ESPERSEN[3], C.B. HASAGER[2]
[1] Technical University of Denmark|[2] Technical University of Denmark, DTU Wind and Energy Systems|[3] Wind Power Lab

11:50: Novel Integration of Wind and Precipitation Measurement Using Wind Lidar for Wind Energy (ID 8663)
X. LIU[1], X. ZHANG[1], R. ZHANG[1], G. DAI[1], H. WANG[1], D. FU[1], S. WU[1]
[1] Ocean University of China

RS#01.11: Theme 1 : Regular sessions

CHAIRED BY: A. YAMAGUCHI, J. MANN

27/06/2025 14:00

Salle 300

14:00: Estimation of Turbulence Statistics from Pulsed Lidar (ID 8403)
M. MANAMI[1], M. SJöHOLM[2], J. MANN[2], G. LéA[3], G. GORJU[3]
[1] Technical University of Denmark (DTU) |[2] Technical University of Denmark (DTU)|[3] Lumibird

14:20: Cup Equivalent TI for Continuous Wave Lidar (ID 8650)
E. MACDONALD[1], J. MEDLEY[2]
[1] ZXLidars|[2] ZX Lidars

14:40: Turbulence reconstruction of flow components using Dual WindScanners (ID 8640)
S. ULUOCAK[1], A. ROTT[1], H. BECK[1], M. KüHN[1]
[1] Carl von Ossietzky Universität Oldenburg, School of Mathematics and Science, Institute of Physics, ForWind - Center for Wind Energy Research, Küpkersweg 70, 26129 Oldenburg, Germany

15:00: An investigation of the error of TI measurement in dual scanning lidar by using synthetic turbulent wind field (ID 8463)
Y. AKARI[1]
[1] Ashikaga University/KOZO Keikaku Engineering Inc.

15:20: The NEOWIND Project – Next Generation of Offshore Wind Lidar Measurements: Development and Proof of Concept of a Lidar Modular System (LMS) (ID 8765)
H. FüRST[1], O. BISCHOFF[1], B. MEYERER[1], C. SCHMID[1], M. DA SILVA[2], A. MIQUEL[2], J. PUIGCORBé[2], M. ALBERS[3], S. RAACH[3], P.W. CHENG[1]
[1] University of Stuttgart|[2] EOLOS Floating Lidar Solutions|[3] sowento GmbH

RS#01.2: Theme 1 : Regular sessions

CHAIRED BY: A. PENA, M. DÖRENKÄMPER

25/06/2025 14:00

Salle 300

14:00: Dynamic ABL changes under time-varying geostrophic wind speed (ID 8314)

Y. LIU[1], R. STEVENS[1]

[1] University of Twente

14:20: Coupling SWAN and WRF-LES using the COAWST framework (ID 8353)

S. HAMZELOO[1], X. GUO LARSéN[2], A. PEñA[3], J. FISCHEREIT[3]

[1] DTU Wind and Energy Systems | [2] Technical University of Denmark (DTU) | [3] Technical University of Denmark

14:40: Impact of gravity waves and sea breeze on offshore wind resource: a case study (ID 8515)

M. LANDREAU[1], I. CALMET[1], B. CONAN[1]

[1] Nantes Université, École Centrale Nantes, CNRS, LHEEA, UMR 6598, F-44000 Nantes, France

15:00: A Wavelet-Based Profile Assimilation in Mesoscale-to-Microscale Coupling (ID 9007)

A. AJAY[1], J. SINGH[2], S. STIPA[3]

[1] University of British Columbia | [2] The University of British Columbia Okanagan | [3] von Karman Institute for Fluid Dynamics

15:20: Can we simulate non-standard inflow conditions measured over the North Sea with the WRF model? (ID 8031)

A. PEñA[1]

[1] Technical University of Denmark

RS#01.3: Theme 1 : Regular sessions

CHAIRED BY: S. WATSON

25/06/2025 16:10

Salle 300

16:10: Validation of the WRF Model for Simulating Deep Convection and Cold Pool Characteristics Relevant to Wind Energy Applications in Germany (ID 8421)

G. KILROY[1], J. THAYER[1]

[1] German Aerospace Center (DLR)

16:30: How do convective cold pools influence the boundary-layer atmosphere near two wind turbines in northern Germany? (ID 8427)

J. THAYER[1], G. KILROY[1]

[1] German Aerospace Center (DLR)

16:50: Characteristics of Low-Level Jets Revealed by 50-Year Bias-Corrected ERA5 Wind Profiles (ID 8166)

H. BUI[1], M. BAKHODAY-PASKYABI[1], J. REUDER[1]

[1] University of Bergen

17:10: Low-level jets in the southern North Sea: implications for wind turbine performances using Doppler lidar observations (ID 8289)

P. HAEZEBROUCK[1], E. DIEUDONNé[1], A. SOKOLOV[1], H. DELBARRE[1], P. AUGUSTIN[1], M. FOURMENTIN[1]

[1] Université du Littoral Côte d'Opale (ULCO)

17:30: Observational Study and Probabilistic modeling of Low-Level Jet events happening over the Belgian part of the North Sea (ID 8349)

G. GLABEKE[1], L. SCHENA[1], M.A. MENDEZ[1], J. VAN BEECK[1]

[1] von Karman Institute

RS#01.4: Theme 1 : Regular sessions

CHAIRED BY: B. CONAN, D. CALLIES

26/06/2025 08:40

Salle 300

08:40: Assessing canopy models in forested complex terrain: insights from the Perdigão case study (ID 8884)

J. MONTEIRO[1], J. PALMA[2], I. COIMBRA[2]

[1] University of Porto (UPORTO), Faculdade de Engenharia da Universidade do Porto|[2] University of Porto (UPORTO)

09:00: Numerical analysis of the impact of forestry on the wind resource assessment in complex terrains (ID 8622)

P.F. MELANI[1], F. BALDUZZI[1], S. ORLANDO[2], V. VITI[3], A. BIANCHINI[1]

[1] Università degli Studi di Firenze|[2] Ansys Canada Ltd.|[3] Ansys Inc.

09:20: Multi Sensor Measurement Campaign in Complex Terrain at WINSENT Test Site (ID 8835)

F. SCHURIG[1], C. SCHMID[1], N. CECCON LIBARDI[1], H. FüRST[1], B. MEYERER[1], M. HOFSäß[1], P.W. CHENG[1]

[1] SWE at Institute of Aircraft Design, University of Stuttgart

09:40: An Immersed Forcing Approach with Adaptive Mesh Refinement for Wind Farm Simulation over Complex Terrain on Cartesian Grids (ID 8974)

H. GOPALAN[1], R. THEDIN[1], J. JONKMAN[1]

[1] National Renewable Energy Lab

10:00: Discussion of round robin test results for determining lidar correction factors in complex terrain (ID 8791)

O. BISCHOFF[1], M. HOFSäß[1], P. KüHN[2], B. KLOSE[3], T. NEUMANN[3]

[1] University of Stuttgart|[2] Fraunhofer IEE|[3] Fördergesellschaft Windenergie e.V

RS#01.5: Theme 1 : Regular sessions

CHAIRED BY: S. WATSON, M. WÄCHTER

26/06/2025 10:50

Salle 300

10:50: k-epsilon turbulence model consistent with Monin-Obukhov similarity theory using a single generalized gradient function (ID 8216)

J. DA SILVA[1], Y. SAKAGAMI[2], A. PRISCO PETRY[1]

[1] Federal University of Rio Grande do Sul|[2] Federal Institute of Santa Catarina

11:10: Thermally stratified boundary layer simulations with the Lattice Boltzmann Method (ID 8643)

H. KORB[1], H. ASMUTH[2], S. IVANELL[1]

[1] Uppsala University|[2] Uppsala University, Nordex SE

11:30: A Lagrangian particle tracking method for studying large-scale flow phenomena in offshore wind farms (ID 8697)

A. BORRA[1], M. GRUNWALD[1], B. CLAUDIA[1]

[1] Max Planck Institute Dynamics and Self-Organization

11:50: Characterization of an Atmospheric Boundary Layer in an Open-Jet Wind Tunnel (ID 8612)

B. DSOUZA[1], I. BASHLIEV[1], W. YU[1], A. SCIACCHITANO[1]
[1] Delft University of Technology

12:10: Characterization and experimental reproduction of the fractal atmospheric turbulent–non-turbulent interface (ID 8548)

M. WäCHTER[1], L. NEUHAUS[1], M. HöLLING[1], K. AVILA[1], J. PEINKE[1]
[1] Carl von Ossietzky Universität Oldenburg, School of Mathematics and Science

RS#01.6: Theme 1 : Regular sessions

CHAIRED BY: L. LANDBERG, T. GÖÇMEN

26/06/2025 14:00

Salle 300

14:00: The Dawn of Super Resolution: Generating High-Resolution Wind Resource Data Using Deep-Learning Diffusion Models (ID 8253)

M. OPTIS[1], J. SCHNELL[2]
[1] Veer Renewables|[2] University of Waterloo

14:20: Downscaling reanalysis models using a simple data-driven approach based on topography and atmospheric conditions (ID 8601)

L. PAUSCHER[1], D. GEIGER[2], M. WIRTH[1], D. YUAN[1], H. WEBER[3], D. CALLIES[2]
[1] University of Kassel|[2] Fraunhofer IEE|[3] Deutscher Wetterdienst

14:40: A data-driven approach for modelling wind profiles for wind power applications (ID 8609)

M. WIRTH[1], D. GEIGER[1], D. CALLIES[1], D. YUAN[1], L. PAUSCHER[2]
[1] University of Kassel; Fraunhofer IEE|[2] University of Kassel; Fraunhofer IEE; Vrije Universiteit Brussel

15:00: Synthetic time series development and uses in energy estimates for wind farms (ID 8328)

G. ERFORT[1], S. ALLIE[1], B. ARGENT[1]
[1] EDF Renewables South Africa

15:20: Accelerate offshore resource assessment with satellites: a data-driven approach to metocean time series reconstruction (ID 8346)

E. PASTA[1], G. GIORGI[1], L. GAMBARELLI[1], G. CERVELLI[2], A. GULISANO[2]
[1] Politecnico di Torino|[2] MESPAC s.r.l.

RS#01.7: Theme 1 : Regular sessions

CHAIRED BY: J. GOTTSCHALL, S. BUCKINGHAM

26/06/2025 16:10

Salle 300

16:10: Wind Shear Exponent and Turbulence Intensity derived from LiDAR Measurements at the nearshore SEM-REV test site (ID 8217)

O. THILLEUL[1], W. BRUCH[2], B. CONAN[2], Y. PERIGNON[1]
[1] Open-C|[2] Nantes Université, École Centrale Nantes, CNRS

16:30: Measurements of inflow turbulence for large wind turbines (ID 7713)

A. PATEL[1], J. MANN[2], M. SJöHOLM[1], G.R. THORSEN[1], E. SIMON[1], A.H. SYED[1], L. HUNG[3], J. GOTTSCHALL[3]
[1] Technical University of Denmark|[2] Technical University of Denmark |[3] Fraunhofer Institute for Wind Energy Systems IWES,

16:50: Measuring turbulent structures in atmospheric flows with high-resolution meteorological mast array (ID 8655)

A. ABDULRAZEK[1], J. PEINKE[2], M. HöLLING[2]

[1] DLR, Windenergieexperimente, Lilienthalplatz 7 38108 Braunschweig|[2] Carl von Ossietzky Universität Oldenburg, School of Mathematics and Science, Institute of Physics, ForWind - Center for Wind Energy Research, Küpkersweg 70, 26129 Oldenburg, Germany

RS#01.8: Theme 1 : Regular sessions

CHAIRED BY: L. LANDBERG, G. KARINIOTAKIS

27/06/2025 14:00

Salle H

14:00: Increased forecasting performance associated with the use of a large ensemble of weather models for wind energy forecasting (ID 8610)

A. FALGON[1], A. DIAZ-SANCHEZ[1], A. BEN DAOUD[1], M. BOUASRIA[1], T. SUZON[1], O. VANNIER[1], A. BEN DAOUD[1]

[1] Compagnie Nationale du Rhône (CNR)

14:20: A HybrApproach to Long-Term High-Resolution Wind Time Series with Turbulence (ID 8726)

M. GIL BARDAJI[1], G. CAVERO SISCART[2], P. CASSO TORRALBA[1]

[1] Vortex FdC|[2] VortexFdC

14:40: Extrapolating turbulence measurements to the long term (ID 8618)

G. CAVERO SISCART[1], M. GIL BARDAJí[1], P. CASSO TORRALBA[1]

[1] Vortex FdC

15:00: Modelling the impact of large-scale wind farms in the North Sea and Southern Baltic Sea towards 2030 (ID 8560)

A. HAHMANN[1], M. IMBERGER[1], N. ALONSO-DE-LINAJE[1], J. FISCHEREIT[1], A. PEñA[1], J. BADGER[1]

[1] DTU Dept of Wind and Energy Systems

RS#01.9: Theme 1 : Regular sessions

CHAIRED BY: A. YAMAGUCHI, B. CONAN

27/06/2025 08:40

Salle 300

08:40: An extension of the Sea Surface Levelling method for determining the alignment accuracy of offshore scanning lidars (ID 8494)

K. GRAMITZKY[1], F. JäGER[2], D. CALLIES[2], J. RIECHERT[3], L. PAUSCHER[4]

[1] Fraunhofer IEE|[2] Fraunhofer IEE; University of Kassel|[3] EnBW Energie Baden-Württemberg AG|[4] Fraunhofer IEE; University of Kassel; Vrije Universiteit Brussel

09:00: The effect of the range gate of Scanning LiDAR on the standard deviation of Line of Sight wind speed (ID 8521)

A. YOSHIMURA[1], A. YAMAGUCHI[2], I. PREZ[1], Y. NAGASE[1], G. PHILLIP[1]

[1] Green Power Investment Corporation|[2] Ashikaga University

09:20: Comparison between a nacelle lidar and a met mast in spatially varying flow (ID 8232)

T. VANELLI[1], E. DELLWIK[2], J. MANN[2], P. VAN DER LAAN[2], M. CAVALLI[3], M. MIRZAEI[3], M. ZAGAR[3]

[1] DTU Wind and Energy Systems - Vestas Wind Systems A/S|[2] DTU Wind and Energy Systems|[3] Vestas Wind Systems A/S

09:40: Instrument validation at a distance: An analysis of a sodar – mast comparison (ID 8240)

J. MANN[1], E. DELLWIK[1], R. FLOORS[1], P. VAN DER LAAN[1]
[1] DTU Wind

10:00: Improving SAR observations with SCADA data – Initial results for the Westermoust Rough wind farm (ID 9019)

J. DI CAVE[1], A. VAD[2], C.L. BOTTASSO[2], M. MARSELLA[3]
[1] La Sapienza University of Rome|[2] Technische Universität München|[3] Sapienza Universita´ di Roma

RS#02.1: Theme 2 : Regular sessions

CHAIRED BY: M. HÖLLING, K. SILWAL

25/06/2025 10:50

Salle 200

10:50: Wind tunnel study of the effects of freestream turbulence on wind turbine wakes (ID 8195)

M. BOURHIS[1], T. MESSMER[2], M. HöLLING[2], O.R. BUXTON[1]
[1] Department of Aeronautics, Imperial College London, London SW7 2AZ, United Kingdom|[2] Carl von Ossietzky Universitat Oldenburg, School of Mathematics and Science, Institute of Physics, 26129 Oldenburg, Germany

11:10: Wind tunnel study of yawed porous discs subjected to veered inflow (ID 8116)

S. PUROHIT[1], H. SUN[1], A. SCIACCHITANO[1], W. YU[1]
[1] TU Delft

11:30: Wake Dynamics in a Counterrotating Dual Rotor System for different Yaw Angles: An Experimental Study (ID 8121)

J. MAUS[1]
[1] CvO University Oldenburg - ForWind

11:50: An experimental study on the combination of Helix and steering and their effects on wake behavior (ID 8789)

F. MüHLE[1], S. TAMARO[1], D. BORTOLIN[1], F. CAMPAGNOLO[1], V. PAPPA[2], M. MANOLESOS[2], B. DSOUZA[3], A. SCIACCHITANO[3], C.L. BOTTASSO[1]
[1] Wind Energy Institute, Technical University of Munich, Germany|[2] National Technical University of Athens (NTUA), Athens, Greece|[3] TU Delft

12:10: Time resolved three-dimensional wind tunnel measurements of a wind turbine wake (ID 8898)

L. LE TURNIER[1], C. KüCHLER[1], J. MOLáčEK[1], H. KIM[1], C. BRUNNER[1]
[1] Max Planck Institute for Dynamics and Self-Organization

RS#02.10: Theme 2 : Regular sessions

CHAIRED BY: J. LUNDQUIST

27/06/2025 14:00

Salle 200

14:00: Assessment of wall models with pressure gradient effect in wind farm simulation (ID 8690)

J. JACOB[1]
[1] Aix-Marseille Univ, CNRS, Centrale Med

14:20: Evaluation of near surface wakes from two 4GW wind farms to inform environmental modelling (ID 8834)

D. ARAYA[1], M. GHOBRIAL[1], P. OURO[1], T. STALLARD[1]

[1] School of Engineering, University of Manchester, UK

14:40: Can the power density of a VAWT farm be increased by using turbines as vortex generators to control the atmospheric boundary layer? (ID 8181)

J. DANDOY[1], J. CRISMER[2], M. MOENS[2], M. DUPONCHEEL[2], P. CHATELAIN[2]

[1] Université catholique de Louvain (UCLouvain), Institute of Mechanics, Materials and Civil engineering (iMMC), B-1348 Louvain-la-Neuve, Belgium | [2] Institute of Mechanics, Materials and Civil engineering (iMMC)

15:00: Site Specific Calibration of Engineering Models with Large Eddy Simulation (ID 8952)

M. FOLKERSMA[1], N. GOEDEGEBURE[1], P. VAN DORP[1]

[1] Whiffle

RS#02.11: Theme 2 : Regular sessions

CHAIRED BY: P. GEBRAAD

27/06/2025 14:00

Club Atlantique

14:00: Towards a Digital Twin for Optimal Control Strategies in Wind Farms (ID 8402)

L. FIRRINCIELI[1], A. CROCE[1], A. MATTA[1]

[1] Politecnico di Milano

14:20: Improving the wake modeling of FAST.Farm to account for veer and shear (ID 8879)

J. HANAK[1], E. BRANLARD[1], J. JONKMAN[2], A. PLATT[2], R. THEDIN[2]

[1] University of Massachusetts Amherst | [2] National Renewable Energy Laboratory, Golden, Colorado, USA

14:40: Fast Wake Simulations using Vortex Methods on the GPU (ID 8674)

J. SAVERIN[1]

[1] Technische Universität Berlin

RS#02.2: Theme 2 : Regular sessions

CHAIRED BY: A. OTERO

25/06/2025 14:00

Salle 200

14:00: Energy entrainment from higher altitude of a tilted rotor wind farm in the North Sea (ID 7659)

K. VIMALAKANTHAN[1], E. BOT[1], A.K. RAVISHANKARA[1], K. BOORSMA[1], W. ENGELS[1]

[1] TNO

14:20: Interaction betwen wind farms and shallow cumulus clouds (ID 8144)

D. SELVATICI[1], R.J. STEVENS[1]

[1] Physics of Fluids, University of Twente, Enschede, The Netherlands

14:40: Atmospheric gravity wave impacts on wind turbine wakes (ID 8387)

T. RAFFERTY[1], C. VOGEL[1]

[1] University of Oxford

15:00: The actuator farm model for large-eddy simulations of large-scale wind farm applications (ID 8295)

S. STIPA[1], A. AJAY[2], J. BRINKERHOFF[2]
[1] von Karman Institute for Fluid Dynamics|[2] The University of British Columbia Okanagan

15:20: Performance and cluster wake effects of low specific rating turbines (ID 8695)

J. PAULSEN[1], G. STEINFELD[1], M. KüHN[1], M. DöRENKäMPER[2]
[1] Carl von Ossietzky Universität Oldenburg - ForWind Center for Wind Energy Research|[2] Fraunhofer Institute for Wind Energy Systems IWES

RS#02.3: Theme 2 : Regular sessions

CHAIRED BY: A. OTERO

25/06/2025 16:10

Salle 200

16:10: Investigation of the effect of blockage on wind turbine wake development (ID 8267)

O. NDINDAYINO[1], A. PUEL[1], J. MEYERS[1]
[1] KU Leuven

16:30: The Global Blockage Effect: a comparative study between LES and LiDAR. (ID 8615)

J. MEIJER[1]
[1] Carl von Ossietzky Universität Oldenburg - ForWind Centre for Wind Energy Research

16:50: Mitigating wind farm cluster wakes by vertical staggering (ID 8585)

A. GAISER[1], G. STEINFELD[1], M. KüHN[1]
[1] Carl von Ossietzky Universität Oldenburg, School of Mathematics and Science, Institute of Physics, ForWind - Center for Wind Energy Research, Küpkersweg 70, 26129 Oldenburg, Germany

17:10: The interplay of wakes, blockage, and topographic effects in stratified flow (ID 8808)

J. BLEEG[1]
[1] DNV

17:30: Multi-fidelity approach for estimating inter- and intra-farm wake losses for offshore wind farms in the Moray Firth, Scotland (ID 8579)

S. GREMMO[1], C. ABIVEN[2], R.A. CHáVEZ ARROYO[3], A. FRèRE[4], S. BUCKINGHAM[2], W. MUNTERS[1]
[1] von Karman Institute for Fluid Dynamics|[2] ENGIE Laborelec|[3] Ocean Winds|[4] ENGIE Research & Innovations | Laborelec

RS#02.4: Theme 2 : Regular sessions

CHAIRED BY: J. MEYERS

26/06/2025 08:40

Salle 200

08:40: Optimization of Floating Offshore Wind Farm designs considering Wake Effect to minimize their Levelized Cost of Energy (ID 7759)

B. THOMAS[1], X. COSTOYA[1], M. DECASTRO[1], M. GóMEZ-GESTEIRA[1]
[1] EPhysLab - CIM - UVigo

09:00: Energy production and inter-farm wake losses in future North Sea wind farms (ID 8318)

R. BORGERS[1], J. MEYERS[1], N. VAN LIPZIG[1]
[1] KU Leuven

09:20: Modeling of wind farms in the operational weather forecasting model HARMONINE-AROME (ID 8333)

J. FISCHEREIT[1], B.T. EISENSøE OLSEN[1], M. IMBERGER[2], H. VEDEL[3], K. HOLTEN MøLLER[3]
[1] Technical University of Denmark (DTU)|[2] Technical University of Denmark (DTU)|[3] Danish Meteorological Institute (DMI)

09:40: COSMO-WF: a comprehensive wind farm cost model used for integrated wind farm design and micro-siting (ID 8412)

A. CROCE[1], K. YILMAZLAR[1], D. VARANO[1]
[1] Politecnico di Milano

RS#02.5: Theme 2 : Regular sessions

CHAIRED BY: S. IVANELL

26/06/2025 10:50

Salle 200

10:50: Validation of Actuator Line against Geometrically Resolved Blades for Wake Steering with a 22MW Turbine (ID 8614)

E. HODGSON[1], C. GRINDERSLEV[1], N. SøRENSEN[1], N. TROLDBORG[1], S. ANDERSEN[1]
[1] DTU Wind and Energy Systems

11:10: Impact of atmospheric boundary layer turbulence length scales in wind turbine wake development at wind tunnel scale (ID 8671)

L. TIZIANO[1], P. SCHITO[1], A. ZASSO[1]
[1] Department of Mechanical Engineering, Politecnico di Milano, Milano, Italy

11:30: Modelling wake momentum deficits and wake-added turbulence in stratified atmospheric boundary layers (ID 8432)

M. HOWLAND[1], K. KLEMMER[1]
[1] Massachusetts Institute of Technology

11:50: Modified CFD with BEMT for Enhanced Wake Prediction in Wind Farms (ID 8542)

S. ORRITT[1], M. RAHMATI[1], S.W. NAUNG[2]
[1] Northumbria University |[2] University of the West of England

12:10: A non-uniform actuator disk formulation for the linearized CDF turbine wake model Fuga (ID 8976)

L. ALCAYAGA[1], S. OTT[1], G. LARSEN[1], M. PEDERSEN[1]
[1] DTU Wind and Energy Systems

RS#02.6: Theme 2 : Regular sessions

CHAIRED BY: P. GEBRAAD

26/06/2025 14:00

Salle 200

14:00: Dynamic wake detection and characterisation utilising blade loads: a generalised approach (ID 8532)

P. FOJCIK[1], E. HART[1], E. HEDEVANG[2]
[1] University of Strathclyde|[2] Siemens Gamesa Renewable Energy

14:20: The Impact of Wake Steering in Enhancing Energy Production and Profitability (ID 8350)

F. WASILCZUK[1], P. KASPRZAK[2], M. RYBIńSKI[3], P. FLASZYńSKI[1], P. DZIERWA[3], K. ZIęDALSKA[4], S. KOWALCZYK[5]

[1] Institute of Fluid Flow Machinery, Polish Academy of Sciences|[2] Gdansk University of Technology|[3] Cracow University of Technology|[4] Energa Wytwarzanie|[5] Self-employed

14:40: Impact of Wake Effects on Dense Wind Farm Clusters in Future North Sea Development Scenario (ID 8565)

M.L. MAYOL[1], S. ERBSLöH[1]
[1] Vattenfall Europe Windkraft GmbH

15:00: intra-farm wind direction changes due to wind farm blockage - Identification, modeling and use cases in yield assessment, layout optimization, and flow control (ID 8886)

D. VAN BINSBERGEN[1], P. DAEMS[2], T. VERSTRAETEN[2], A. NEJAD[3], J. HELSEN[2]
[1] VUB & NTNU|[2] Vrije Universiteit Brussel (VUB)|[3] Norwegian University of Science and Technology (NTNU)

15:20: Modeling large-scale wake effects using FLORIS: insights for future re-powering strategies of the Belgian Eastern Zone (ID 8593)

M. LEJEUNE[1], W. MUNTERS[1]
[1] Von Karman Institute for Fluid Dynamics

RS#02.7: Theme 2 : Regular sessions

CHAIRED BY: M. HÖLLING

26/06/2025 16:10

Salle 200

16:10: JIP - FAME: challenges of comparing wind tunnel experiments to an ABL-oriented LES code for wind turbine wakes under tilt conditions (ID 8379)

E. JÉZÉQUEL[1]
[1] IFP Energies nouvelles

16:30: JIP - FAME: wind tunnel assessment of positive platform tilt effects on turbine wakes in realistic offshore conditions (ID 8684)

L. TIZIANO[1], A. FONTANELLA[1], A. ZANOTTI[2], P. JOULIN[3], E. JEZEQUEL[3], A. BORRAS-NADAL[3]
[1] Department of Mechanical Engineering, Politecnico di Milano, Milano, Italy|[2] Department of Aerospace Science and Technology, Politecnico di Milano, Milano, Italy|[3] IFP Energies Nouvelles, 92852 Rueil-Malmaison, France

16:50: Lagrangian particle tracking in the wakes of wind turbines at field scale (ID 8853)

M. GRUNWALD[1], A. BORRA[1], L. LE TURNIER[1], C.E. BRUNNER[1]
[1] Max Planck Institute for Dynamics and Self-Organization

17:10: Evaluation of wind turbine wake effects using a combination of dual scanning and vertical lidars at a coastal wind farm (ID 8134)

Y. FUKATANI[1], Y. KANISHIMA[1], K. SAITO[1], S. OHGI[1], T. HIRANO[1], Y. TANIYAMA[1], T. KURACHI[2], Y. KANDA[2], M. INUI[3], T. YOSHIDA[3], T. UCHIDA[4]
[1] Toshiba Energy Systems & Solutions Corporation|[2] NSK Ltd.|[3] Kanadevia Corporation|[4] Research Institute for Applied Mechanics, Kyushu University

RS#02.8: Theme 2 : Regular sessions

CHAIRED BY: S. IVANELL

27/06/2025 08:40

Salle 200

08:40: CPU vs. GPU-Resident LES Simulations for Wind Farms: A Comparative Analysis of Computational Time and Energy Consumption (ID 8586)

N. MANELIL[1], M. JORRIT[2], S. BERNHARD [3], K. MARTIN[2]

[1] Fraunhofer Institute for Wind Energy system, Carl von Ossietzky Universität Oldenburg|[2] Carl von Ossietzky Universität Oldenburg, School of Mathematics and Science, Institute of Physics, ForWind - Center for Wind Energy Research|[3] Fraunhofer Institute f

09:00: A modular Wind Farm Simulation Framework based on Co-Simulation (ID 8803)

M. WIENS[1], N. REQUATE[1], O. KENO[1], B. SENGERS[1], L. VOLLMER[1], J. SCHULTE[1]

[1] Fraunhofer IWES

09:20: The ExaWind benchmark repository for wind energy high-fidelity modeling and simulation (ID 8982)

M. SPRAGUE[1], M. KUHN[1], M. HENRY DE FRAHAN[1], S. BIDADI[1], P. MOHAN[1], N. MATULA[2], G. YALLA[2], B. LEE[1], G. VIJAYAKUMAR[1], N. DEVELDER[2]

[1] National Renewable Energy Laboratory|[2] Sandia National Laboratories

09:40: Impact of Wake Impingement on Fatigue Damage: from Simulation to Validation at Tocha Wind Farm (ID 8545)

T. LUCAS FRUTUOSO[1], R. SANTOS PEREIRA[1], S. PEREIRA[2], F. MAGALHãES[2]

[1] IDMEC, Instituto Superior Técnico|[2] CONSTRUCT, Faculty of Engineering of the University of Porto

10:00: DNS/ iLES Vortex Dynamics of Vertical-Axis Wind Turbines (ID 8294)

H. DUNN[1], N. CHAKRABORTY[1], M. LAHOOTI[1]

[1] Newcastle University

RS#02.9: Theme 2 : Regular sessions

CHAIRED BY: J. MEYERS

27/06/2025 10:50

Salle 200

10:50: A wakeness index for preliminary multi-scenario wind farm assessment (ID 8635)

N. GONZALEZ ALONSO DE LINAJE[1], A. HAHMANN[2], A. PEñA[2]

[1] DTU|[2] DTU Wind & Energy Systems

11:10: Difference between external wake losses modelled with mesoscale models and engineering models (ID 8839)

L. VOLLMER[1], B. SENGERS[1], J. SCHULTE[1], M. DöRENKäMPER[1]

[1] Fraunhofer IWES

11:30: Performance and loads analysis of wind farms under complex terrain: A comparison between engineering-fidelity and LES (ID 9000)

R. THEDIN[1], H. GOPALAN[1], W. YU[2], A. PLATT[1], M. CHURCHFIELD[1], M. PALLUD[3]

[1] National Renewable Energy Laboratory|[2] TotalEnergies|[3] Total Energies

11:50: A turbulence-optimized Gaussian wake model for enhanced prediction of intra-farm and farm-to-farm interactions (ID 8221)

N. ZEHTABIYAN-REZAIE[1], J.P. JUSTSEN[1], M. ABKAR[1]

[1] Department of Mechanical and Production Engineering, Aarhus University, 8200 Aarhus N, Denmark

12:10: A large eddy simulation environment for offshore wind farm flows, using the new open source code SOD2D (ID 8981)

M. AVILA[1], H. OWEN[1], O. LEHMKUHL[1], R. CHAVEZ-ARROYO[2], M. CORDOBA[2]
[1] Barcelona SuperComputing Center|[2] Ocean Winds, Madrid, Spain

RS#03.1: Theme 3 : Regular sessions

CHAIRED BY: M. MANOLESOS

25/06/2025 10:50

Salle 150

10:50: Experimental Analysis of a Stalled Vertical Axis Wind Turbine Using Time-Resolved Particle Image Velocimetry (ID 8175)

N. ARYAN[1], G. MOSCATO[1], D. CORAPI[1], N. BURATTINI[1], F. DI FELICE [2], L. GRECO[2], A. BOSCHETTO[1], G.P. ROMANO[1]
[1] Sapienza University of Rome, Italy|[2] Institute of Marine Engineering (CNR-INM), Rome, Italy

11:10: Reynolds number effects on power coefficient and optimal pitch angle of a model wind turbine (ID 8831)

Y. HATTORI[1], A. BORRA[1], F. KRIPPENSTAPEL[1], J. JüCHTER[2], C. BRUNNER[1]
[1] Max Planck Institute for Dynamics and Self-Organization|[2] Carl von Ossietzky Universität Oldenburg

11:30: Near-wake and rotor aerodynamics of the Hybrid-Lambda Rotor in wind tunnel experiments (ID 8271)

D. RIBNITZKY[1], H. IVáN[2], P. VLAHO[1], K. MARTIN[1]
[1] Carl von Ossietzky Universität Oldenburg|[2] University of Applied Sciences Emden/Leer

11:50: Addressing end-effects in wind turbine simulations using actuator line model within FEM-based variational multiscale framework (ID 8844)

V. MORICI[1], A. REGMI[2], S. DAVE[2], A. CASTORRINI[1], A. KOROBENKO[2]
[1] Sapienza University of Rome, Italy|[2] University of Calgary, Canada

12:10: Investigating Aerodynamic Performance and Design Parameters Optimization of Coaxial Dual Rotor Wind Turbines (ID 8963)

H. GURRAM[1]
[1] TU Delft

RS#03.10: Theme 3 : Regular sessions

CHAIRED BY: I. NEUNABER

26/06/2025 14:00

Salle 150

14:00: Impact of shallow conventionally neutral boundary layers on the performance of the IEA 15 MW wind turbine. (ID 8442)

K. NTRELIA[1], S. VANDEWALLE[1], J. MEYERS[1]
[1] Mechanical Engineering, KU Leuven

14:20: Improving the Redistribution of Induced Velocities in BEM under Skewed Conditions (ID 8449)

P. SCHIMPF[1], E. BRANLARD[1], M. LACKNER[1]
[1] University of Massachusetts Amherst

14:40: Validation of Blade Loads for 8+ MW Wind Turbine in Non-Waked and Waked Conditions (ID 8484)

E. BARLAS[1], G. WANKE[1], H. AGGER HOUGAARD[1], N. STAMATOPOULOS[1], D. VELDKAMP[2], O. GöZCü[1]
[1] Ørsted A/S|[2] Goldwind Science & Technology Co., Ltd.

15:00: Fluid-Structure Interaction of Floating Wind Turbines: A Case Study of Underwater Noise of Hywind Tampen Offshore Park (ID 8965)

M. BAKHODAY PASKYABI[1], K. DE JONG[2]

[1] Associate Professor, Geophysical Institute, University of Bergen, Norway | [2] Institute of marine research

RS#03.11: Theme 3 : Regular sessions

CHAIRED BY: C. BRAUD

26/06/2025 16:10

Salle 150

16:10: Improving access to wind turbine research data in the EAWE TestWind Turbine Committee (ID 8480)

S. BARBER[1], Y. MARYKOVSKIY[1], H. JOHANSSON[2]

[1] Eastern Switzerland University of Applied Sciences | [2] Chalmers University of Technology

16:30: windIO v2.0: A New Release for the Common Schema of Wind Energy Systems (ID 8929)

P. BORTOLOTTI[1]

[1] National Renewable Energy Laboratory

16:50: Atmosphere-wind turbine interactions: a comprehensive open-access data base (ID 8676)

C. BRAUD[1]

[1] CNRS

17:10: Data base for flow conditions on wind turbine blades (ID 8491)

A.P. SCHAFFARCZYK[1]

[1] Kiel University of Applied Sciences

17:30: Field measurements of as-built geometry deviations of an 88.4 m wind turbine rotor blade (ID 8936)

M. ROSEMEIER[1], J.N. THERON[1], M. GöRING[2], R. LIECKFELDT[3], T. KLEINSELBECK[3], L. HöNING[1]

[1] Fraunhofer Institute for Wind Energy Systems IWES | [2] Jade University of Applied Sciences | [3] Wind-consult GmbH

RS#03.13: Theme 3 : Regular sessions

CHAIRED BY: N.J. WEI

27/06/2025 08:40

Salle 150

08:40: Reynolds number effects of a pitching wind turbine airfoil in transonic flow (ID 8317)

M.C. VITULANO[1]

[1] TU Delft

09:00: Influence of Kármán Vortex Shedding on an Aerofoil Undergoing One-Shot Pitching Cycles (ID 8370)

Q. MARTINEZ[1], M. MANOLESOS[2], C. JAGADEESH[1], O. YEGANEH[1]

[1] City St. George's, University of London | [2] National Technical University of Athens

09:20: Unsteady aerodynamic response of pitching airfoils represented by Gaussian body forces (ID 8337)

E. TASCHNER[1], G. DESKOS[2], M. KUHN[2], J. VAN WINGERDEN[1], L.'. MARTINEZ-TOSSAS[2]

[1] Delft University of Technology | [2] National Renewable Energy Laboratory

09:40: Exploring the Dynamic Stall Experimentally: Detailed Insights by using an 2D Active Grand High-Speed PIV in a Wind Tunnel (ID 8310)

S. MECKELNBORG[1], T. WESTER[1], J. PEINKE[2], M. HöLLING[1]

[1] Institute of Physics, Carl von Ossietzky Universität Oldenburg, 26129 Oldenburg, Germany / ForWind - Center for Wind Energy Research|[2] Carl von Ossietzky Universitat Oldenburg, School of Mathematics and Science, Institute of Physics, 26129 Oldenburg, G

10:00: Flow Field Analysis Around a Leading-Edge Inflatable Kite Using Stereoscopic PIV and CFD (ID 8389)

J. POLAND[1], E. FRITZ[2], R. SCHMEHL[1]

[1] TU Delft|[2] TNO

RS#03.14: Theme 3 : Regular sessions

CHAIRED BY: E. BRANLARD

27/06/2025 10:50

Salle I

10:50: Lattice Boltzmann Simulations of a Vertical Axis Wind Turbine (ID 8691)

M.O.L. HANSEN[1], N. TROLDBORG[1], A. MEYER-FORSTING[1], N. HORNEFF[1]

[1] DTU Wind & Energy Systems, Roskilde, DK 4000, Denmark

11:10: Verification of a mid-fidelity wind turbine simulation tool based on the unsteady vortex lattice method (ID 8359)

D. SCHUSTER[1], D. MäRTINS[1], H. JAUKEN[1], C. HENTE[1], C.G. GEBHARDT[2], R. ROLFES[1]

[1] Institute of Structural Analysis, Leibniz University Hannover, Forwind, Germany|[2] Bergen Offshore Wind Centre (BOW), University of Bergen, Norway

11:30: The impact of forest character and elevation on wind turbine loads and power generation (ID 8741)

M.M. MOHAMMADI[1], H. OLIVARES-ESPINOSA[1], J. ARNQVIST[2], S. IVANELL[1]

[1] Uppsala University|[2] Uppsala University, RISE Research

RS#03.15: Theme 3 : Regular sessions

CHAIRED BY: W. YU

27/06/2025 10:50

Salle 150

10:50: Field local aerodynamic measurements with an active flap system (ID 8361)

A. GOMEZ GONZALEZ[1], P.B. ENEVOLDSEN[1], A. BARLAS[2], H.A. MADSEN[2]

[1] Siemens Gamesa Renewable Energy|[2] DTU Wind and Energy Systems

11:10: CFD Simulation of a Rotating Wind Turbine Blade with Trailing Edge Flap using Mesh Motion (ID 8457)

R. JAMI[1], D. JOHNSON[1]

[1] University of Waterloo

11:30: Application of a plasma actuator to wind turbine blades and performance improvement (ID 9002)

N. KUBO[1], M. TANAKA[2], H. KAWABATA[3], K. NISHIYAMA[1], M. KAWAMURA[1], M. TAKEYAMA[4], N. WATANABE[4]

[1] National Institute of Advanced Industrial Science and Technology|[2] National Institute of Advanced Industrial Science and Technology and Kyushu University|[3] National Institute of Advanced Industrial Science|[4] Asahi Rubber Inc.

11:50: Application of Co-Flow Jet to a horizontal-axis wind turbine for performance enhancement (ID 8704)

P.F. MELANI[1], F. PAPI[1], F. BALDUZZI[1], D. GUARIGLIA[2], A. BIANCHINI[1]
[1] Università degli Studi di Firenze|[2] Hyper Wind S.r.l.

12:10: Wind Turbine Rotor Design Using Co-Flow Jets (ID 8895)

C. BAK[1], A. FORSTING[1], K. LøNBæK[1], D. GUARIGLIAB[2]
[1] DTU Wind and Energy Systems|[2] Hyper Wind S.r.l.

RS#03.17: Theme 3 : Regular sessions

CHAIRED BY: F. BLONDEL

27/06/2025 14:00

Salle 150

14:00: Adaptive time integration based on an estimated local truncation error in wind turbine simulations (ID 8229)

D. MäRTINS[1], B.A. ROCCIA[2], D. SCHUSTER [3], H. JAUKEN[3], C.G. GEBHARDT[2], R. ROLFES[1]
[1] Institute of Structural Analysis, Leibniz University Hannover, ForWind|[2] University of Bergen, Geophysical Institute and Bergen Offshore Wind Centre (BOW)|[3] Institute of Structural Analysis, Leibniz University Hannover, ForWind,

14:20: A mechanism limiting actuator line performance (ID 8373)

E. WIEGANT[1]
[1] Delft university of technology

14:40: 3D flow organization near incipient stall of a 2D airfoil profile: DDES simulations (ID 8142)

E. GUILMINEAU[1], I. NEUNABER[2], C. BRAUD[1]
[1] CNRS |[2] NTNO

15:00: Integrating Physics-Informed Neural Networks (PINN) into Offshore Wind Turbine Aerodynamics Calculation (ID 8207)

P. CHEN[1], C. LI[1], Z. CHENG[1], J. KIEVIET[2], G. ERFORT[3]
[1] Shanghai Jiao Tong University|[2] Council for Scientific and Industrial Research|[3] University of Stellenbosch

15:20: Accelerated computation of vortex-lattices via fast multipole method and vortex particle approximation (ID 8284)

P. KRABBE[1], H. JAUKEN[1], R. ROLFES[1]
[1] Institute of Structural Analysis, Leibniz University Hannover, ForWind

RS#03.2: Theme 3 : Regular sessions

CHAIRED BY: T. KIM

25/06/2025 10:50

Club Atlantique

10:50: Evaluating new DIC Capabilities on an Offshore Wind Turbine with Comparison to Sensors and Simulations (ID 8084)

A. PRINTEZIS[1]
[1] Leibniz Universität Hannover

11:10: DIC Blade Deformation Measurements on a Multi-Megawatt Wind Turbine in Comparison with Aeroelastic Simulations (ID 8440)
P. WöLK[1], J. PRINTEZIS[1], N. MAROLDT[1], J. SEUME[1]
[1] Leibniz University Hannover

11:30: A simplified model for the aeroelastic stability analysis of vertical-axis wind turbines (ID 8988)
M. KHEIRI[1]
[1] Mechanical, Industrial and Aerospace Engineering, Concordia University, Montreal, Canada

11:50: POD-Based Sparse Stochastic Estimation of Wind Turbine Blades Vibrations (ID 8596)
L. SCHENA[1], W. MUNTERS[1], J. HELSEN[2], M.A. MENDEZ[3]
[1] the von Karman Institute for Fluid Dynamics (VKI); Vrije Universiteit Brussel (VUB)|[2] Vrije Universiteit Brussel|[3] the von Karman Institute for Fluid Dynamics (VKI)

12:10: TurbOEM: Aeroelastic Modeling of Industrial Wind Turbines (ID 8715)
E. SAMZUN[1], M. CAPALDO[1], M. PALLUD[1], T. DE LATAILLADE[1], M. FAJAR[1], P. BORTOLOTTI[2], G. BARTER[2]
[1] Total Energies|[2] NREL

RS#03.3: Theme 3 : Regular sessions

CHAIRED BY: A. BIANCHINI

25/06/2025 14:00

Salle 150

14:00: Recalibrating yaw correction models parameters using vortex simulations for different turbines and inflow conditions (ID 8283)
W. GONCALVES PINTO[1]
[1] IFP Energies nouvelles

14:20: Validation of Wind Turbine Yaw Engineering Models via Actuator Disk/Line Simulations (ID 8138)
H. SUN[1], A. SCIACCHITANO[1], W. YU[1]
[1] TU Delft

14:40: Differences in Modeling Blade- and Inflow-induced Rotor Aerodynamic non-Uniformities (ID 8102)
K. BOORSMA[1], G. SCHEPERS[1], C. GRINDERSLEV[2], M. IMIELA[3], H.A. MADSEN[2], G. PIRRUNG[2], N. SøRENSEN[2]
[1] TNO Wind Energy|[2] Technical University of Denmark |[3] German Aerospace Center

15:00: Wind turbine load evaluation using wind field reconstruction techniques from numerical lidar measurements (ID 8664)
E. SOTO SAGREDO[1], S.J. ANDERSEN[1], . HANNESDóTTIR[1], J.M. RINKER[1]
[1] Danish Technical University

15:20: Wind turbine control strategies in accelerating flow fields (ID 8444)
C. ZENGLER[1], N. TROLDBORG[2], M. GAUNAA[2]
[1] Technical University of Denmark|[2] Technical University of Denmark (DTU)

RS#03.4: Theme 3 : Regular sessions

CHAIRED BY: T. GRASSO

25/06/2025 16:10

Club Atlantique

16:10: Twin Wind Tunnel tests of a very thick flatback airfoil (ID 8482)

K. KELLARIS[1], L. CALZONI[2], A. CROCE[3], M. MANOLESOS[1]

[1] National Technical University of Athens|[2] Politecnico di Milano|[3] Politecnico di Milano

16:30: Spatio-temporal characterization of a full chord scale blade section near incipient separation (ID 8505)

B. HANNA[1], C. BRAUD[2], A. GUIBERT[3]

[1] PHD student|[2] Senior CNRS Researcher |[3] CSTB

16:50: Exploring drag of flatback airfoils under rotating conditions (ID 8273)

G. VENKATARAMAN SWAMINATHAN[1], K. BOORSMA[2], A. KOODLY RAVISHANKARA[2]

[1] TU Delft|[2] TNO

17:10: Transonic flow effects and associated dynamics for a wind turbine airfoil (ID 8648)

A. ADITYA[1], D. DE TAVERNIER[1], F. SCHRIJER[1], B. VAN OUDHEUSDEN[1], D. VON TERZI[1]

[1] TU Delft

17:30: Aerodynamic and aeroacoustic wind tunnel measurements on original wind turbine blade tip including online predictions with machine learning methods (ID 8889)

N. HU[1], A. LE FLOCH[1], A. SURYADI[1], M. HERR[1], M. JöRG[1], P. MüHLMANN[1], R. CZUBERNY[1], A. GOUDARZI[1], T. AHLEFELDT[1], A. BARKLAGE[1], E. YILMAZ[1], B. PESTER[1], K. STAHL[2]

[1] German Aerospace Center (DLR)|[2] University of Siegen

RS#03.5: Theme 3 : Regular sessions

CHAIRED BY: C. NAYERI

25/06/2025 16:10

Salle 150

16:10: Experimental investigation of flapping-induced unsteady aerodynamics on a DU95-W-180 airfoil (ID 8709)

G. POPI[1]

[1] TU Delft

16:30: On the detection of vortex generator noise influence using beamforming in a large aeroacoustic wind tunnel (ID 8124)

M. GELOT[1], E. SLOTH[2], O. LYLLOFF[3], L. CRUZ[4]

[1] Vestas Technology UK|[2] Vestas Wind Systems A/S|[3] DTU Wind and Energy Systems|[4] Vestas Design Center Porto

16:50: An innovative electronic telltale sensor to detect blade load fluctuation precursors (ID 8209)

Q. CARDON[1], C. BRAUD[2], D. VOISIN[3]

[1] BladeSense / LHEEA|[2] LHEEA / CNRS|[3] BladeSense

17:10: Improved TNO CFD model for riblets applied to a wind-turbine airfoil (ID 7662)

K. VIMALAKANTHAN[1], A.M. EAPEN[2], I. BAKHMET[1]

[1] TNO|[2] TU Delft

17:30: The effect of trailing edge vortex generators on flatback airfoils (ID 8227)

K. KELLARIS[1], G. PAPADAKIS[1], M. MANOLESOS[1]

[1] National Technical University of Athens

RS#03.6: Theme 3 : Regular sessions

CHAIRED BY: C. BOTTASSO

26/06/2025 08:40

Salle 150

08:40: Research on Flutter Boundary Prediction Method of Flexible Blades of Ultra-large Wind Turbines (ID 8401)

S. WANG[1], L. MA[2], X. SHEN[1]

[1] School of Mechanical Engineering, Shanghai Jiao Tong University|[2] China Three Gorges Corporation, Wuhan, China

09:00: Investigation of Flutter Characteristics of Floating Wind Turbine Blades under Surge Motion (ID 8192)

L. WEILIANG[1], Z. MINGMING[1], D. YANFEI[1]

[1] Harbin Institute of Technology, Shenzhen

09:20: High-fidelity frequency domain stability analysis of a wind turbine blade section in attached flow (ID 8651)

H. VERDONCK[1], O. HACH[1]

[1] German Aerospace Center (DLR)

09:40: Aeroelastic response of two in-line IEA-15MW wind turbines using Large Eddy Simulations including Coriolis effect (ID 8056)

F. MANGANELLI[1], C. BERNARDI[1], S. LEONARDI[2], S. CHERUBINI[1], P. DE PALMA[1]

[1] Polytechnic University of Bari|[2] The University of Texas at Dallas

10:00: Blade edgewise stability analysis: Verification and Validation (ID 7230)

C. PENG[1], A. TASORA[2]

[1] Goldwind Science & Technology Co., Ltd.|[2] University Of Parma

RS#03.7: Theme 3 : Regular sessions

CHAIRED BY: B. DUBOC

25/06/2025 14:00

Club Atlantique

14:00: Vortex induced vibration from IEA 10MW wind turbine Blade, a code to code comparison (ID 8404)

N. MANELIL[1], L. HÖNING[2], J.N. THERON[2], B. STOEVESANDT[2], B. DUBOC[3], A. AHMED[3], F. HOUTIN-MONGROLLE[3]

[1] Fraunhofer Institute for Wind Energy system, Carl von Ossietzky Universität Oldenburg|[2] Fraunhofer IWES|[3] Siemens Gamesa Renewable Energy

14:20: Impact of fluid and structure models on Stall induced vibrations of a wind turbine blade at standstill (ID 8196)

N. CORTES[1]

[1] Office national d'études et de recherches aérospatiales (ONERA)

14:40: Validation of an engineering model for vortex induced vibration prediction in wind turbine towers (ID 8378)

D. VLASTOS[1]

[1] NATIONAL TECHNICAL UNIVERSITY OF ATHENS

15:00: CFD analysis of vortex induced vibrations on cylinders - numerical parameters sensitivity study. (ID 8390)

D. VLASTOS[1]

[1] NATIONAL TECHNICAL UNIVERSITY OF ATHENS

15:20: Experimental study of vortex induced vibrations on a IEA 15MW tower at high Reynolds numbers (ID 8818)

S. VIMALKUMAR[1], S. MUGGIASCA[2], M. BELLOLI[2], D. DE TAVERNIER[3], D. VON TERZI[3], A. VIRé[3]
[1] Politecnico di Milano, Delft University of Technology|[2] Politecnico di Milano|[3] Delft University of Technology

RS#03.8: Theme 3 : Regular sessions

CHAIRED BY: A.GOMEZ GONZALEZ

26/06/2025 10:50

Salle 150

10:50: Preliminary design of a 15MW low specific power rotor for floating offshore applications (ID 8311)

F. PAPI[1], I. GIULIANI[1], A. BIANCHINI[1]
[1] Università degli Studi di Firenze

11:10: Prediction Model for Stall Characteristics of Airfoils and Its Application in Wind Turbine Airfoil Optimization (ID 7775)

H. YANG[1], Z. LU[1], J. WANG[1], Y. HUANG[1]
[1] Beijing Huairou Laboratory

11:30: Integrated design of airfoils with vortex generators: opportunities and challenges (ID 8950)

F. GRASSO[1]
[1] Vestas Technology Centre Porto

11:50: Investigating metamaterial solutions for vortex-induced vibrations of wind turbine blades (ID 8604)

S. HORCAS[1]
[1] Technical University of Catalonia (UPC)

12:10: Aeorynamic modelling of Wind Turbine Blades Considering using Bending Deformation: A tip Loss Correction Approach (ID 7712)

Y. HUANG[1], J. WANG[1], H. YANG[1]
[1] Huairou Laboratory

RS#03.9: Theme 3 : Regular sessions

CHAIRED BY: J.N. SØRENSEN

26/06/2025 08:40

Club Atlantique

08:40: Predicting the impact of wind turbine noise: an overview of the results of the PIBE project (ID 9018)

D. ECOTIèRE[1], B. COTTé[2], M. ROGER[3], I. SCHMICH[4], F. JUNKER[5]
[1] CEREMA|[2] ENSTA Paris|[3] Ecole Centrale de Lyon|[4] EDF-DTG|[5] EDF-Renewables

09:00: High frequency wind turbine noise prediction tool validation (ID 8510)

A. GIMENO GARCIA[1]
[1] RWTH Aachen University, Chair of Fluid Mechanics and Institute of Aerodynamics

09:20: An ALM coupled Ffowcs Williams-Hawkings acoustic analogy for HAWTs Noise prediction: Application to the MEXICO rotor (ID 8094)

M.N. HAMLAOUI[1], A. AMOURA[1], S. KHELLADI[2], A. SMAILI[1], H. FELLOUAH[3]
[1] National Polytechnic School of Algiers -ENP-|[2] Arts et Métiers Institute of Technology|[3] Université de Sherbrooke, Quebec, Canada

09:40: A polar grBEM implementation suited for individual pitch and dynamic pitching (ID 8344)
G. PIRRUNG[1], C. GRINDERSLEV[1], H. AAGAARD MADSEN[1], N. NøRMARK SøRENSEN[1], A. LI[1], M. GAUNAA[1]
[1] DTU Wind and Energy Systems

10:00: On the impact of polar data on the design of flow control devices for horizontal axis wind turbine rotors (ID 8856)
J.I. ROJAS GREGORIO[1], A. MONTLAUR[2], S. ARIAS[2], B. FUENTES[2]
[1] Universitat Politècnica de Catalunya (UPC BarcelonaTECH)|[2] Universitat Politècnica de Catalunya (UPC)

RS#04.1: Theme 4 : Regular sessions

CHAIRED BY: M. IRIBAS LATOUR

25/06/2025 10:50

Salle KL

10:50: Possibilities and Procedure to Test a Controller at the WINSENT test site (ID 8957)
K. BEHNKE[1], F. HAIZMANN[1], A. RETTENMEIER[1]
[1] Center for Solar Energy and Hydrogen Research Baden-Württemberg (ZSW)

11:10: Extending OpenFAST to Support Multi-Rotor Systems (ID 8799)
J. JONKMAN[1], D. SLAUGHTER[1], A. PLATT[1], H. ROSS[1]
[1] National Renewable Energy Laboratory (NREL)

11:30: Evaluation and Lessons Learned from the Lidar-Assisted Control Summer Games 2024 (ID 8522)
D. SCHLIPF[1], S. WEICH[1], S. RAACH[2], F. GUO[3]
[1] Flensburg University of Applied Sciences|[2] sowento GmbH|[3] Shanghai Jiao Tong University

11:50: Numerical and experimental demonstration of a robust active power control algorithm (ID 8068)
S. TAMARO[1], D. BORTOLIN[1], F.V. MüHLE[1], F. CAMPAGNOLO[1], C.L. BOTTASSO[1]
[1] Technical University of Munich

RS#04.2: Theme 4 : Regular sessions

CHAIRED BY: L. PAO

25/06/2025 14:00

Salle KL

14:00: H∞ and PI Collective Pitch Control of Wind Turbines (ID 8890)
G. HASSAN[1], D. ABOU JAOUDE[1]
[1] American University of Beirut

14:20: Optimizing Wind Turbine Load Reduction: Trade-offs Including Blade Angle Deviation in PIndividual Pitch Control and MPC Collective Pitch Control (ID 8729)
A. DITTMER[1]
[1] German Aerospace Center (DLR)

14:40: Optimization method for wind turbine control parameters (ID 8627)
G. HUWART[1], V. LE CORRE[2]
[1] IFP Energies Nouvelles|[2] GreenWITS

15:00: Reduction of Platform Motions in a Floating Wind Turbine (ID 8425)
S. HUR[1], L. RECALDE-CAMACHO[2], B. LEITHEAD[2]
[1] Kyungpook National University, South Korea|[2] University of Strathclyde

15:20: Designing a Predictive Super-Twisting Sliding Mode Control for Floating Offshore Wind Turbines in Region 2 (ID 8798)
M. MOHAMMADI SHAHIR[1], M. SARBANDI[1], M.R. MOJALLIZADEH[2], M.A. HAMIDA[1], F. PLESTAN[1]
[1] Nantes Université, École Centrale Nantes, CNRS, LS2N, UMR 6004, F-44000 Nantes, France|[2] Arts et Métiers Institute of Technology, LAMPA, F-49035 Angers, France

RS#04.3: Theme 4 : Regular sessions

CHAIRED BY: J. RINKER

25/06/2025 16:10

Salle KL

16:10: Prospects of Lidar-Assisted Optimal Feedforward Control of Wind Turbines (ID 8843)
S. WEICH[1], D. SCHLIPF[1]
[1] Flensburg University of Applied Sciences

16:30: Collective pitch feedforward control study with a continuous-wave nacelle lida (ID 8670)
M. VAN DEN BROEK[1], W. FU[1], D. SCHLIPF[1], S. WHITE[2], M. PITTER[2], S. CHRIS[2]
[1] sowento|[2] ZX Lidars

16:50: An open-source framework for estimating turbulent fields from lidars in real time (ID 8069)
J. RINKER[1]
[1] Technical University of Denmark

17:10: LIDAR-assisted nonlinear output regulation of wind turbines for fatigue load reduction (ID 7685)
R. SCHMID[1]
[1] University of Melbourne

17:30: A closer look at wind turbine yaw controllers (ID 8940)
M. SINNER[1], P. FLEMING[1], E. SIMLEY[1]
[1] NREL

RS#04.4: Theme 4 : Regular sessions

CHAIRED BY: J.-W. VAN WINGERDEN

27/06/2025 08:40

Salle KL

08:40: Data-driven predictive control for a floating wind turbine (ID 8863)
A. MINISTERU[1], A. BUCHNER[1], J. VAN WINGERDEN[1]
[1] Delft University of Technology

09:00: Model-Free Wake Steering Control Using Deep Reinforcement Learning (ID 8511)
M. EBRAHIMI[1], F. BELLINI[1], A. FONTANELLA[1], S. MUGGIASCA[1], B. MARCO[1]
[1] Politecnico di Milano

09:20: Reinforcement learning-based pitch control for generator speed regulation and load mitigation (ID 8435)
M. WANG[1], H. DONG[1], X. ZHAO[1]
[1] University of Warwick

09:40: Probabilistic linear models for data-based design of wind turbine controllers (ID 8408)
I. MIQUELEZ-MADARIAGA[1], R. HAGHI[2], J. ELSO[1], B. MOAVENI[2]
[1] Public University of Navarre|[2] Tufts University

10:00: Estimating Tower Vibrations with Data-Driven Models: Possibility of Optimizing Control Actions to Reduce Loads on Wind Turbine (ID 8199)
J. HEIDARI[1], N. KAYEDPOUR[1], L. VANDEVELDE[1], G. CREVECOEUR[1]
[1] Ghent University

RS#04.5: Theme 4 : Regular sessions

CHAIRED BY: S. MULDERS

27/06/2025 10:50

Salle KL

10:50: A parametric study of load surrogate models for wind farm control applications: how simple is accurate enough? (ID 8672)
A. GUILLORé[1], F. CAMPAGNOLO[1], C.L. BOTTASSO[1]
[1] Wind Energy Institute, Technical University of Munich

11:10: Impact of reduced generator mass for fixed-bottom and floating offshore wind turbine design (ID 8334)
A. DICHOLKAR[1], A. BARLAS[1], A.W. LIO[1], D. VERELST[1], L. ULVGåRD[2]
[1] Technical University of Denmark|[2] Hagnesia Wind AB

11:30: Ultimate loads of upstream and downstream turbines in the presence of wake steering-based wind farm control: preliminary analysis and quantification (ID 8710)
S. CACCIOLA[1], A. CROCE[1]
[1] Politecnico di Milano

11:50: Preventing Supersonic Flow Occurrence in Large-Scale Flexible Wind Turbines Using a Constrained Set-Point Optimization Approach in COFLEXOpt (ID 8616)
G. LAZZERINI[1], J. DELEURAN GRUNNET[2], T. GYBEL HOVGAARD[2], M. MESEGUER SAN MARTIN[2], D. DE TAVERNIER[1]
[1] TU Delft|[2] SEWPG European Innovation Centre

12:10: Steady-State Analysis of the Hybrid-Lambda Rotor (ID 8468)
M. PUSCH[1]
[1] Munich University of Applied Sciences

RS#04.6: Theme 4 : Regular sessions

CHAIRED BY: D. ZALKIND

27/06/2025 14:00

Salle KL

14:00: Improving higher education in wind turbine control through hands-on experiments (ID 8882)
C. BALZANI[1], F. PRIGGE[1]
[1] Leibniz University Hannover

14:20: Improving Industry and Academic Collaboration within Wind Turbine Control Research (ID 8550)
T.G. HOVGAARD[1], M. MESEGUER SAN MARTIN[1], J. GRUNNET[1]
[1] SEWPG European Innovation Centre

14:40: WTCBench: A Standardized Benchmarking Procedure for Wind Turbine Control Solutions (ID 8437)

D. ZALKIND[1], A. GUPTA[2], J. FREDERIK[2], S. MULDERS[3]

[1] National Renewable Energy Laboratory | [2] National Renewable Energy Laboratory (U.S.) | [3] Delft University of Technology

15:00: Coning blade bearings for upwind rotors (ID 8073)

M. STAMMLER[1], T. GERBER[2]

[1] Fraunhofer Institute für Wind Energy Systems IWES | [2] Fraunhofer Institute for Wind Energy Systems IWES

RS#05.1: Theme 5 : Regular sessions

CHAIRED BY: A. EHRMANN, P. CARTRAUD

25/06/2025 10:50

Salle I

10:50: A Fracture Mechanics-Based Approach for Fatigue Life Assessment of Welded Structures: The Role of Real Weld Geometries and Welding Residual Stresses (ID 8689)

A. ARTINOV[1], A. PITTNER[1], M. BAEßLER[1]

[1] Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany

11:10: Evaluation of stresses at welds in jacket structures and their fatigue assessment (ID 8781)

M. VOßBECK[1], N. BAUER[2], K. SCHüRMANN[1], J. BAUMGARTNER[2]

[1] Ramboll Deutschland GmbH | [2] Fraunhofer Institute for Structural Durability and System Reliability LBF

11:30: Enhancing data analytics for dynamic fatigue testing of wind turbine blades: Insights from a recent campaign (ID 8426)

M.K. DHADWAL[1], P. BERRING[1], S.K. NIELSEN[2], C. VAN BEVEREN[3], D. NIELSEN[4], P. QUIRING[5], K. BRANNER[1]

[1] Technical University of Denmark | [2] Blaest A/S, Denmark | [3] LM Wind Power, The Netherlands | [4] R&D Test Systems A/S, Denmark | [5] LM Wind Power, Denmark

11:50: Review of Current Lifetime Extension Practices for Offshore Wind Turbines (ID 8733)

M. HENKEL[1], R. HARRIS[1], J. SøNDERKæR NIELSEN[2]

[1] Ramboll | [2] Aalborg University

RS#05.3: Theme 5 : Regular sessions

CHAIRED BY: M. MUSKULUS, P. CARTRAUD, N. DIMITROV

25/06/2025 16:10

Salle I

16:10: Reduction of computational effort of ring creep simulations via modified sub-modelling approach (ID 8955)

P. BUßKAMP[1], G. JACOBS[1], J. RöDER[1], J. WIGGER[1]

[1] Chair for Wind Power Drives, RWTH Aachen University

16:30: Modelling of roller indent marks on wind turbine bearings (ID 8787)

N. SUDHAKARAN[1], Y. GUO[1], A. BECH ABRAHAMSEN[1]

[1] Technical University of Denmark (DTU)

16:50: Method for experimental quantification of parasitic currents in the HSS bearings of a wind turbine gearbox (ID 8722)
M. ZWEIFFEL[1], J. RöDER[1], A. BACH [2], J. GEORG[1], R. DE DONCKER[2], F. HERZOG[2]
[1] CWD - Chair for Wind Power Drives (RWTH Aachen)|[2] RWTH Aachen University

17:10: Development of a generic large size bearing catalogue for the design of wind turbine main bearing units (ID 7766)
C. HOLLAS[1], G. JACOBS[1], L. SCHMITZ[1], J. RöDER[1]
[1] RWTH Aachen University

17:30: Design of a Test Rig for Planet Carrier Bearing Ring Creep Experiments (ID 8391)
M. RADDATZ[1], G. JACOBS[1], J. RöDER[1], P. BUßKAMP[1]
[1] Chair for Wind Power Drives - RWTH Aachen

RS#05.4: Theme 5 : Regular sessions

CHAIRED BY: N. DIMITROV, H. JAUKEN

26/06/2025 08:40

Salle I

08:40: Monopile Pre-Design Sensitivity Analysis for WTGs Power and Water Depth (ID 8043)
C. KHALIL[1], M. CAPALDO[1], F. GENTIL[1]
[1] TotalEnergies

09:00: Consideration of large displacement and torsional loads in blade design process using simplified methods (ID 8516)
K. BACHAROUDIS[1], P. GREAVES[1], L. DAMKILDE[2]
[1] Offshore Renewable Energy Catapult|[2] Aarhus University, Denmark

09:20: Aeroelastic Modelling of Large Wind Turbines: Towards a Unified OpenFAST-SEAHOWL Approach (ID 8654)
T. DE LATAILLADE[1], J. JONKMAN[2], A. PLATT[2], W. YU[1], M. PALLUD[1]
[1] TotalEnergies|[2] NREL

09:40: Verification of Craig-Bampton Reduction for Jacket Models of Offshore Megastructures (ID 8083)
M. MOATTARI[1], E. GHAFOORI[1], C. HüBLER[2]
[1] Institute for Steel Construction, Leibniz University Hannover |[2] Institute of Structural Mechanics and Design, Technical University of Darmstadt

10:00: Addressing Uncertainty in Offshore Wind Farm Decommissioning Cost Estimates through Discrete Event Simulations: Two Dutch Wind Farm Case Studies (ID 8662)
J. BLOOTHOOFD[1], S. MANCINI[2], H. VAN DER MIJLE MEIJER[2]
[1] TNO|[2] TNO Wind Energy

RS#05.5: Theme 5 : Regular sessions

CHAIRED BY: N.M. HANSEN, A. EHRMANN

26/06/2025 10:50

Salle I

10:50: Tomography to evaluate the corrosion process of steel rebars in low-carbon mortars used for FOWTs (ID 8829)
N. REUGE[1], B. ROMAN[2], M. ALI AHMAD[3], H. RANAIVOMANANA[1]

[1] GeM - Nantes Université|[2] CEA|[3] American University of the Middle East

11:10: Slag-based concrete reinforced by steel fibres for floats of FOWTs: durability and carbon footprint (ID 8820)

N. REUGE[1], L. GUIHéNEUF[2], O. CORNET[3], A. VENTURA[4]

[1] GeM - Nantes Université|[2] CAPACITÉS SAS|[3] Charier TP|[4] Univ Gustave Eiffel - Campus de Nantes

11:30: Durability and microstructural evolution of concrete extracted from a floating offshore wind turbine (ID 8847)

W. FARHAT[1], E. ROZIERE[1], S. BONNET[2], N. CALVET[3], M. MOURIÈS[3], T. SOULARD[4]

[1] Nantes Université, Ecole Centrale Nantes, CNRS, GeM, UMR 6183, F-44000 Nantes, France|[2] Nantes Université, Ecole Centrale Nantes, CNRS, GeM, UMR 6183, F-44600 Saint-Nazaire, France|[3] BW-ideol, La Ciotat, France|[4] Open-C, Nantes, France

11:50: The cyclic behaviour of shallow foundation under eccentric loading – a numerical study (ID 7786)

S. CAO[1], M. ACHMUS[1]

[1] Leibniz University Hannover

RS#05.6: Theme 5 : Regular sessions

CHAIRED BY: S. SCHEFFLER, N.M. HANSEN

26/06/2025 14:00

Salle I

14:00: Relationship between the rain erosion and the radius of curvature at the leading edge of the blade (ID 8303)

A. AIHARA[1], M. TANAKA[1], C. TAKAGI[2], H. KUDO[2]

[1] National Institute of Advanced Industrial Science and Technology|[2] Industrial Technology Institute Fukushima Prefectural Government

14:20: Reliable damping ratio estimation from a 50+ m wind turbine rotor blade for prototype testing in the low-frequency regime (ID 8887)

Y. GOVERS[1], K. GNEBNER[1], P. KOBER[1], G. JELICIC[1]

[1] DLR - German Aerospace Center

14:40: Wind tower flange design, inclination and warping influence, new trends in design vs DNV-ST-0126 requirements (ID 8082)

P. LUTKIEWICZ[1]

[1] DNV AS

15:00: Tall towers for wind turbines - how high can we go? (ID 8810)

M. MUSKULUS[1]

[1] Norwegian University of Science and Technology NTNU

15:20: Design analysis of floating multi-rotor space frames (ID 8962)

S. STöRTENBECKER[1], P. DALHOFF[1], A. KHISRAW[1]

[1] Hamburg University of Applied Sciences (HAW Hamburg)

RS#06.1: Theme 6 : Regular sessions

CHAIRED BY: E. CHATZI, M. GRÄFE

26/06/2025 08:40

Salle D

08:40: Preventive Maintenance Scheduling including Wake Effects: Optimisation Algorithms for Downtime Reduction (ID 8735)
L. FILIPE[1], R. PEREIRA[1], R. SOUSA[2]
[1] WavEC Offshore Renewables|[2] Instituto Superior Tecnico, Univ. de Lisboa, Portugal

09:00: Remote Diagnosis for Power Converter Faults in Wind Turbines Based on Converter Control System Data (ID 8743)
T. LICHTENSTEIN[1], M. HIPPENSTIEL[1]
[1] Fraunhofer Institute for Wind Energy Systems IWES

09:20: Fault Diagnosis in New Wind Farms based on Knowledge from Existing Wind Farms by Generative Domain Adaptation (ID 8297)
S. JONAS[1], A. MEYER[1]
[1] Bern University of Applied Sciences

09:40: An Efficient Condition Monitoring Approach for Wind Turbines using SCADA data (ID 8954)
M.M. KHATIBI[1], S. FAGHIH NIA TORSHIZI[2], E. MOHAMMADI [3], M.R. ASHORY [2]
[1] Modal Analysis Research Laboratory, Faculty of Mechanical Engineering, Semnan University, Semnan, Iran |[2] Modal Analysis Research Laboratory, Faculty of Mechanical Engineering, Semnan University, Semnan, Iran|[3] PhD, Iran University of Science and Techno

10:00: Towards a French Marine Renewable Energy Data Infrastructure (ID 8360)
A. HUGUET[1], E. QUIMBERT[1], A. ROUYER[1], C. BONNET[1], V. BADTS[1], A. PENCREAH[1], C. RENAUD[1], M. CUIF[1]
[1] IFREMER

RS#06.2: Theme 6 : Regular sessions

CHAIRED BY: M.MUSKULUS, F. SCHOEFS

26/06/2025 10:50

Salle D

10:50: Investigating Wake Influence on Wind Turbine Drivetrain Loads Based on Field Measurements (ID 8141)
T. YOSHIOKA[1], K. YOSHIMIZU[2], T. HIRANO[2], Y. TANIYAMA[2], Y. KANDA[3], M. INUI[4], T. UCHIDA[5]
[1] Toshiba Energy Systems & Solutions Corpolation|[2] Toshiba Energy Systems & Solutions Corporation|[3] NSK Ltd|[4] Kanadevia Corporation|[5] Research Institute for Applied Mechanics (RIAM), Kyushu University

11:10: EARS on the challenges of extremes in the power system (ID 8897)
C. MöHRLEN[1], J. ARNQVIST[2], J.U. JøRGENSEN[1], A. GRäSMAN[3], S. RODéN[3], E. DELLWIK[4], P. HURTIG[3]
[1] WEPROG|[2] Uppsala University, RISE Research|[3] AQ Systems|[4] Technical University of Denmark (DTU)

11:30: Remote Quantification of Biofouling on Dynamic Power Cables and Mooring Lines of Floating Wind Turbines (ID 9021)
Z. MAKSASSI[1], B. GARNIER[2], A. OULD EL MOCTAR[2], B. PARREIN[2]
[1] GeM / SATT Ouest Valorisation|[2] Nantes Université

11:50: Modelling and detection of bird and bat collisions with wind turbine blades (ID 8302)
L. CHEUNG[1], C. SEELEY[2], G. CHANG[3], E. ANDERSON[1], S. BAKHMATOVA[2], M. BLAYLOCK[1], E. BODNAR[4], P. CASERTA[1], V. GODINEZ-AZCUAGA[5], R. HALUZA[1], M. HERNANDEZ[1], S. KRAMER[6], J. LEE[4], O. LEY[5], J. LUEVANO[1], K. RESPET[5], S. SCHNEIDER [6], F. SPADA[3]

[1] Sandia National Laboratories|[2] GE Vernova Advanced Research|[3] Integral Consulting|[4] Velvetwire Inc.|[5] Mistras Group|[6] HT Harvey & Associates

12:10: Long term corrosion modelling in Offshore Wind Turbines (ID 8653)

A. KHODAM[1], J.S. NIELSEN[1]

[1] Aalborg University

RS#06.3: Theme 6 : Regular sessions

CHAIRED BY: S. BARBER, L. ZIEGLER

26/06/2025 14:00

Salle D

14:00: Uncertainty of Wind Turbine Reliability Indicators (ID 8498)

C. DORSZEWSKI[1], J. DIECKMANN[1], N. BALARESQUE[2], A. VON FREYBERG[1], A. FISCHER[1]

[1] University of Bremen, Bremen Institute for Metrology, Automation and Quality Science (BIMAQ), Bremen, Germany|[2] Deutsche WindGuard Engineering GmbH, Bremerhaven, Germany

14:20: Uncertainty Quantification of Aerodynamic Characteristics of Wind Turbine Blade Airfoils Under Dynamic Stall (ID 8626)

W. HU[1], T. ZHANG[1], S. WANG[1]

[1] Zhejiang University

14:40: A full investigation on the performance and accuracy of Wind Turbine Power Curve (WTPC) by Nacelle-Mounted Wind Lidar (NMWL) and its uncertainty (ID 8624)

Z. LIANG[1], F. DELBOS[1], A. JEANNIN[1], M. BOQUET[1]

[1] Vaisala

15:00: Reliability-based design optimization of wind turbines considering multi-source uncertainties (ID 8639)

W. HU[1], S. CHENG[1]

[1] Zhejiang University

15:20: Design characteristics and capabilities of the WiValdi Data Management System (ID 8620)

M. JESSEN[1], B. BARZGARAN[1], S. GRAEBER[1]

[1] German Aerospace Center (DLR)

RS#06.4: Theme 6 : Regular sessions

CHAIRED BY: A. LUDOT, F. SCHOEFS

26/06/2025 16:10

Salle D

16:10: Effect of Images' Size and Defects on Machine Learning Classifiers to Detect Erosive Wear in Wind Turbine Blades (ID 8946)

A. OLIVEIRA[1], C. CARVALHO JR.[2], J. SILVA[1], S. GOéS[2], H. SENGER[2], R. TASINATO[1], E. GOMI[1]

[1] University of São Paulo|[2] Federal University of São Carlos

16:30: Enhanced anomaly detection in wind turbine generators using dynamic linear models and machine learning (ID 8543)

C. JACQUET[1], R. PULIKOLLU[2], N. MARX HERMOSO[1], L. HAUS[2]

[1] EPRI Europe DAC|[2] Electrical Power Research Institute

WESC 2025
24 - 27 JUNE | NANTES, FR

Updated on 3 July 2025

RS#07.1: Theme 7 : Regular sessions

CHAIRED BY: Y. LIU, G. GIEBEL

26/06/2025 08:40

Salle E

08:40: Evaluating the potential of floating wind farms in the Mediterranean Sea: can low-specific-power turbines reduce the LCOE and increase the value of energy? (ID 8555)

T. RICCARDO[1], P. FRANCESCO[1], S. FRANCESCO[1], A. BIANCHINI[1]

[1] Università degli Studi di Firenze

09:00: Added value of offshore wind energy around Iberian Peninsula: temporal complementarity with solar PV and onshore wind energy (ID 8971)

N. LóPEZ-FRANCA[1], M.. GAERTNER[1], C. GALLARDO[1], E. SáNCHEZ[1]

[1] University of Castilla-La Mancha

09:20: Design and Simulation of a Continuously Variable Hydraulic Power-Split Drivetrain for Wind Turbines (ID 8375)

P. SEIFERMANN[1], A. DAM[1], J. SCHAAF[1], S. STöRTENBECKER[1], P. DALHOFF[1], T. PETERSEN[2]

[1] University of Applied Sciences Hamburg|[2] None

09:40: Development of a smart tool for vibration analysis and prediction of large synchronous electrical machines (ID 8904)

K. EUSTORGI[1]

[1] Fraunhofer IWES

10:00: System optimization of wind-powered carbon dioxide removal with storage in ocean basalt (ID 8919)

H. NORTON[1], G. AVELLENEDA DOMENE[2], R. FOXALL[2], D. JUNG[2], D. TODD[3], C. CRAWFORD[2]

[1] Wind Energy Institute of Canada|[2] University of Victoria, Institute for Integrated Energy Systems|[3] Pacific Institute for Climate Solutions

RS#07.2: Theme 7 : Regular sessions

CHAIRED BY: A. NEJAD, S. BOURGUET

26/06/2025 10:50

Salle E

10:50: Hybrid Renewable Power Plants for Green Ammonia Production: Optimal Operation and Economic Assessment (ID 8319)

M. GUPTA[1], F. BAIZE-ROCH[2], K. DAS[1]

[1] Technical University of Denmark |[2] École Polytechnique, Paris, France

11:10: Optimizing eFuel Production in Hybrid Renewable Power Plants with Integrated Energy Storage (ID 8323)

M. GRANDIN[1], M. GUPTA[2], J.P. MURCIA LEON[1]

[1] Technical University of Denmark |[2] Technical University of Denmark

11:30: Optimization of flexible and low-carbon energy storage systems at the level of a 1 GW offshore wind farm (ID 8718)

G. PINON[1], M. BERTHELIN[1]

[1] Laboratoire Ondes et Milieux Complexes - Normandie Univ, UNIHAVRE, CNRS, Le Havre, France

11:50: Turbine Integration of Compressed Air Energy Storage (ID 8909)

E. LOTH[1], D. JENNINGS[1]

[1] University of Virginia

RS#07.3: Theme 7 : Regular sessions

CHAIRED BY: D. MÜLLER, G. KARINIOTAKIS

26/06/2025 14:00

Salle E

14:00: A modeling framework for the simulation of grid-integrated wind farms (ID 8081)

F. ZHENG[1], A. ANAND[1], C.L. BOTTASSO[1]

[1] Wind Energy Institute, Technical University of Munich

14:20: Impact of Grid Forming Control on Loads and Lifetime of Wind Turbine Components (ID 8127)

S. BARTHOLOMAY[1], M. EGGERS[1], D. MARTEN[1], C.N. NAYERI[1], S. DIECKERHOFF[1]

[1] TU Berlin

14:40: How can lidar-assisted control contribute to grid support? (ID 8420)

F. GARCHITORENA[1], B. LóPEZ[1], S. PéREZ[2], M. DRAPER[1], D. SCHLIPF[3]

[1] Universidad de la República - Uruguay|[2] sowento GmbH|[3] University of Applied Sciences Flensburg - Germany

15:00: no-show

15:20: Grid Blackstart Restoration Led by Offshore Wind Power Plants (ID 8814)

L. NORIS[1], N.A. CUTULULIS[1], . SABORíO-ROMANO[1], D. MüLLER[1]

[1] Danmarks Tekniske Universitet (DTU)

RS#07.4: Theme 7 : Regular sessions

CHAIRED BY: G. KARINIOTAKIS, J. YAN

26/06/2025 16:10

Salle E

16:10: Impact of recent weather and SCADA data on short-term wind power forecasting: A deep learning approach (ID 8268)

K. BADARINATH[1], H. YAZICIOGLU[1], D. VAN DEN BLEEKEN[2], R. MENG[3], G. SMET[2], J. VAN DEN BERGH[4]

[1] 3E|[2] Royal Meteorological Institute of Belgium|[3] Royal Meteorological Institute of Belgium & Department of Physics and Astronomy, Ghent University|[4] Royal Meteorological Institute of Belgium & M4S, Faculty of Applied Engineering, University of Antwerp

16:30: Integrated forecasting for wind power market participation (ID 8340)

A. VUKOBRAT[1], C. BOTTASSO[1]

[1] Wind Energy Institute, Technical University of Munich

16:50: Extreme Power System Events, Results from a Recent Workshop of IEA Wind Task 51 Forecasting (ID 8923)

G. GIEBEL[1], C. DRAXL[2], H. FRANK[3], J. ZACK[4], G. KARINIOTAKIS[5], J. BROWELL[6], R.J. BESSA[7], D. LENAGHAN[8]

[1] DTU Wind|[2] EPRI|[3] DWD|[4] MESO Inc|[5] Mines Paris – PSL|[6] University of Glasgow|[7] INESC TEC|[8] NESO

17:10: Unlock Data Sharing in Wind Power Forecasting through Privacy-preserving Federated-Learning: Benchmarking of Mixed and Fully Encrypted Frameworks (ID 9010)

L. STIPPEL[1], S. CAMAL[1]

[1] Mines Paris – PSL

17:30: Context-driven adaptive modeling method for ultra short-term wind power forecasting (ID 8050)

Y. LI[1], H. WANG[1], S. HAN[1], L. LI[1], Y. LIU[1]
[1] North China Electric Power University

RS#08.1: Theme 8 : Regular sessions

CHAIRED BY: V. LEROY AND B. AUGIER

26/06/2025 08:40

Salle F

08:40: FLOWTOM project - Floating Offshore Wind Operations and Maintenance: Experimental and numerical comparison (ID 8339)

B. AUGIER[1], K. MEHRING[2], T. COCQUIO[3], L. COSSALTER[3], P.a. FREMONT[4], M. MAK[5]
[1] Ifremer|[2] IFREMER|[3] France Energies Marines|[4] SBM offshore|[5] EDF R&D

09:00: Experimental modeling of a flexible spar platform: how can calibrated numerical models help simplify the test matrix? (ID 8573)

S. HAN[1], F. CASTILLO[2], V. LEROY[1], J. GILLOTEAUX[2], S. DELACROIX[1], S. JAMET[1], F. BONNEFOY[1], B. BOUSCASSE[1]
[1] Nantes Université, École Centrale Nantes, CNRS, LHEEA, UMR 6598, F-44000 Nantes, France|[2] INNOSEA, 11 rue Arthur III, 44200 Nantes, France

09:20: CFD and Experimental Validation of a Wave Event Reconstruction Approach with Focused Gaussian Wave-Groups on a Model Floating Offshore Wind Turbine (ID 8577)

A. DIMAKOPOULOS[1], A. PARADEISIOTIS[2], L. DASKALOTHANASI[1], D. STAGONAS[2]
[1] University of Patras|[2] University of Cyprus

09:40: Design and manufacturing of a 1:70 Froude-scaled rotor of the IEA 22MW reference wind turbine (ID 8725)

F. PIERELLA[1], R.F. MIKKELSEN[1], K. LøNBæK[1], H. BREDMOSE[1]
[1] DTU Wind and Energy Systems

RS#08.2: Theme 8 : Regular sessions

CHAIRED BY: S.Y. HAN

26/06/2025 10:50

Salle F

10:50: Design Wave Events for Floating Offshore Wind Turbines: An Approach for Systematic Description and Reproduction of Critical Responses (ID 8564)

A. PARADEISIOTIS[1], D. STAGONAS[1]
[1] University of Cyprus

11:10: 3D CFD Simulation of Floating Offshore Wind Turbine hydrodynamics using a Cut/Cell Cartesian solver (ID 8738)

J. BOHBOT[1], H. DARLING[2], S. XIE[3], J. SADIQUE[3], D. SCHMIDT[2], A. BORRAS-NADAL[1]
[1] IFP Energies nouvelles|[2] University of Massachusetts Amherst|[3] Convergent Science Inc.

11:30: Advanced Modelling of Floaters for Renewable Energies (ID 8673)

T. QUIDEAU[1], K. DESENCLOS[1], P. GRILLOT[1], C. LE CUNFF[1]
[1] PRINCIPIA

11:50: CFD Modeling of Stochastic Heave Plate motions in Irregular Waves: Focus on Nonlinear interactive forces (ID 8837)
S. ALIYAR[1], H. BREDMOSE[1], H.N. BRUNO HEUTZ[1]
[1] Technical University of Denmark

12:10: On the use of response-conditioned waves to establish design loads and responses for offshore wind turbines (ID 8571)
A. DERMATIS[1], V. LEROY[1], S. HAN[1], G. DUCROZET[1], B. BOUSCASSE[1]
[1] École Centrale de Nantes

RS#08.3: Theme 8 : Regular sessions

CHAIRED BY: J. JONKMAN, M. CAPALDO

26/06/2025 14:00

Salle F

14:00: Integration of dynamic power cables and mooring in floating substation analysis (ID 8811)
T. NYGAARD[1], T. ASYIKIN[2], E. GJOLMESLI[3], D. ULVESTAD[4], G.A. SLINDE[4], A. JOHANSON[2]
[1] Institute for Energy Technology (IFE)|[2] Nexans Norway AS|[3] Nexans norway AS|[4] Aibel AS

14:20: A multiscale finite element modelling approach for the non-linear analysis of a dynamic power cable (ID 8281)
L. ZEIDAN[1], P. CARTRAUD[1], G. MARCKMANN[1], L. STAINIER[1]
[1] Ecole Centrale de Nantes

14:40: On an Efficient Nonlinear Beam Model for Floating Offshore Wind Turbines (ID 8288)
L. MINNE[1], H. JAUKEN[1], R. ROLFES[1]
[1] Institute of Structural Analysis, Leibniz University Hannover, ForWind

15:00: Implementation of Vector Finite Element Method Using Improvement of Precise Time Step Integration Method for Mooring Dynamic Modeling (ID 8520)
D. ZOU[1]
[1] Shantou University

RS#08.4: Theme 8 : Regular sessions

CHAIRED BY: J.C. GILLOTEAUX AND T.A. NYGAARD

26/06/2025 16:10

Salle F

16:10: Design life fatigue estimation of a 15MW floating offshore wind turbine cable system using an adaptive grmethod (ID 8977)
H. WU[1]
[1] University College Dublin, Ireland

16:30: Optimal Control of a Floating Wind Farm Based on Turbine Repositioning (ID 8347)
L. STARINK[1], Z. XIE[1], M. BECKER[1], D. VAN DEN BERG[1], J. VAN WINGERDEN[1]
[1] Delft University of Technology

16:50: Data-driven time series forecasting of angle-of-attack on floating offshore wind turbines (ID 8406)
H.G. BIN MUHAMMAD AMRI[1], J. VAN WINGERDEN[1], A. VIRé[1]
[1] TU Delft

17:10: RingPool Floating Wind Turbine (ID 8913)

E. LOTH[1], K. FLETCHER[1]
[1] University of Virginia

17:30: Techno-economic modelling of floating wind farms (ID 9009)

J. SØRENSEN[1], G. LARSEN[1], A. MONTES[2], D. FOURNELY[2]
[1] DTU Wind and Energy Systems | [2] Copenhagen Energy

RS#09.1: Theme 9 : Regular sessions

CHAIRED BY: G. HÜBNER

27/06/2025 08:40

Salle G

08:40: Modelling the impact on waves and hydrodynamics of an offshore wind farm founded on gravity based structures (ID 8275)

A. EMMANOUIL[1], S. CAIRES[1], F. ZIJL[1], A. CHAFFEY[2]
[1] Stichting Deltares | [2] Xodus Group

09:00: Multi-objective wind farm layout optimization to reduce barrier effects on seabirds (ID 8372)

R. BOS[1], M. VAN REGTEREN[1], A. GYIMESI[2], J. LEEMANS[2]
[1] Eneco | [2] Waardenburg Ecology

09:20: Trophic transfer of aluminium released from galvanic anodes in marine food webs: a modelling case study in the Mediterranean Sea (ID 8503)

V. FAURE[1], T. SEYER[2], D. BăNARU [2], E. ARAIGNOUS [1], N. MICHELET [1], M. DUSSAUZE[1], C. CAPLAT[3], N. NIQUIL [4], G. SAFI [1]
[1] France Energies Marines | [2] UMR 7294 MIO, Université Aix-Marseille (Marseille, France) | [3] MERSEA, Université de Caen Normandie (Caen, France) | [4] UMR CNRS-6143 M2C, Université de Caen Normandie (Caen, France)

09:40: Developing Multiscale Modeling for coupling Life Cycle Performances and Life Cycle Analysis Models to Eco-Design the FOWTs (ID 8905)

J. ATALLAH[1], S. BONNET[1], F. BIGNONNET[1], H. RANAIVOMANANA[1]
[1] Nantes Université, Ecole Centrale Nantes, CNRS, GeM, UMR 6183, F-44600 Saint Nazaire, France

10:00: Design and Development of Multi-Objective U.S. Offshore Wind Energy Farms (ID 8922)

D. KUCHMA[1]
[1] Tufts University

RS#09.2: Theme 9 : Regular sessions

CHAIRED BY: A. IOANNOU

27/06/2025 10:50

Salle G

10:50: Norwegian Energy Policy and the Commons: Re-thinking dynamics between the State, the Market and Civil Society (ID 8354)

V. KNUTSEN[1]
[1] University of Agder

11:10: Public International Law and Offshore Wind-Energy Production: Fields of possibilities and state of constraints (ID 8588)

A. STADLER[1]

[1] Lecturer (Université de Nantes) and researcher (A.S.K.-International Law), Associate Researcher (CRDH– Université Paris II Panthéon Assas), Member of COST Action BlueRights

11:30: Life Cycle Assessment for urban small horizontal wind turbine - case study. (ID 8873)
G. WIDERSKA[1], J. GŁOSEK[1]
[1] Lodz University of Technology

11:50: Offshore Wind Multi-Use: Opportunities in contested Sea Space by the example of the German Bight (ID 8877)
C.L. KöNIG[1], C. WINDT[1], M. DöRENKäMPER[2], B. STOEVESANDT[2], N. GOSEBERG[1]
[1] Technische Universität Braunschweig, Leichtweiß-Institute for Hydraulic Research and Water Resources|[2] Fraunhofer Institute for Wind Energy Systems IWES

12:10: Optimizing Wind Farm Portfolios with Portfolio Benefit Analysis (ID 8252)
M. OPTIS[1]
[1] Veer Renewables

RS#09.3: Theme 9 : Regular sessions

CHAIRED BY: A. IOANNOU, G. HÜBNER

27/06/2025 14:00

Salle G

14:00: Circular Economy of Wind Turbine Machine Elements - Business Case Study (ID 8071)
M. STAMMLER[1], R. MENDOZA AVILA[2]
[1] Fraunhofer IWES|[2] Fraunhofer Institute for Wind Energy Systems IWES

14:20: From Water to Resource: A Multi-Actor Techno-Economic Analysis of Offshore Wind Farm Decommissioning (ID 8591)
J. VETTERS[1], M. LOUIS[1], C. DEMUYTERE[2], G. THOMASSEN[1], S. VAN PASSEL[1]
[1] University of Antwerp|[2] Ghent University

14:40: Economic and design optimisation of a 15MW floating offshore wind platform using time-series forecasting (ID 8945)
C. WHITE[1], V. BENIFLA[2], J. CANDIDO[1]
[1] WavEC Offshore Renewables|[2] University of Rostock

RS#10.1: Theme 10 : Regular sessions

CHAIRED BY: A. BABARIT

27/06/2025 08:40

Salle D

08:40: The effect of the coupled-motion phase difference on the aerodynamics and wake dynamic of the dual-rotor wind turbine (ID 8038)
M. ZHAO[1], K. WANG[1], S. CHEN[1], R. ZHA[1]
[1] School of Ocean Engineering and Technology, Sun Yat-Sen University, & Southern Marine Science and Engineering Guangdong Laboratory (Zhuhai), Zhuhai, 519082, Guandong, China

09:00: Effect of rotor design optimization on performance of stationary unmoored floating offshore wind turbines (ID 8160)
A. BABARIT[1], M. ANDRE[1], V. LEROY[1]
[1] Centrale Nantes

09:20: Design optimisation of 100 kW to 500 kW wind turbine blades for multi-rotor development and innovation (ID 8272)

A. SHEIK HASSAN[1], N. CHANDARANA[1], R. GROH[1], T. MACQUART[1]

[1] University of Bristol

MS#10.1.1: "Voices of DEI in Wind Energy" community

CHAIRED BY: S. BARBER, S. FOGELSTRÖM, J. GOTTSCHALL, D. ZAPPALÁ

26/06/2025 16:10

Salle G