Wind Energy Science Conference 2017
WESC2017

Official programme

List of presentations

Monday 26 June

TIME	TOPIC
	Mini Symposia: Modelling of Wind resources and Siting Parameters – Room S09
10:20	Importance of correct coupling of meso- and micro-scale models for prediction of wind resources – application to the RUNE benchmark, by: A. Peña
10:40	Wind resource assessment in the SEDAR project, by: M. Avila
11:00	Wake effect and energy production assessment with a methodology combining micro- and meso-scale models; comparison with SCADA data from an operating offshore wind farm, by: G. Angot
11:20	Wind resource assessment by means of CFD method with atmospheric stability model, by: S. Shi
11:40	Comparison of FUROW wind flow model with WAsP and OpenFoam on Gaussian hills, by: J. Magdalena
13:00	FUROWAKE: a new wake model for the estimation of wind farm energy production. Application to offshore wind farms, by: E. Baché
13:20	Modelling atmospheric flow over complex terrain using an unsteady-RANS model forced by mesoscale model tendencies, by: B.T. Olsen
13:40	A CFD framework for wind farm simulation with wind turbine modeling over complex terrain, by: M. Avila
14:00	Ryningsnäs Benchmark, a forested site modelled with different micro scale model approaches, by: B. Witha
14:20	Sensitivity analysis and performance evolution of the WRF model, to determine wind potential for the Mut Region in Turkey, by: Y. Ezber
14:40	RANS simulations of flows above forest canopies of different topologies, by: R. Buhr
15:40	Bigger is better. Is it really?, by: A.N. Hahmann
16:00	Downscaling of Wind Resources From Mesoscale Tendencies with URANS, by: R. Chávez Arroyo
16:20	An Open Science Approach for Wind Energy V&V: The GABLS3 Case Study, by: P. Gancarski
16:40	Modified Weibull Scaling for Wind Resource Assessment, by: P.J.M. Clive
17:00	High-resolution Wind Forecasting over Mountainous Terrains using WRF-LES, by: G. Kirkil
17:20	Assessing the sensitivity of the WRF Wind Farm Parameterization, by: J.M. Tomaszewski
	Mini Symposia: Grid integration of wind power – Room S12
10:20	Grid Integration of Wind Power - status and challenges, by: N.A. Cutululis
10:40	Power converters for meshed HVDC grids including offshore wind power plants, by: O. Gomis-Bellmunt
11:00	Grid code testing by Voltage Source Converter, by: O. Carlson
11:20	Analysis of Inertial Response from Wind Turbines, by: J.C. Kuhlmann
11:40	Modeling Offshore Wind Farms and HVDC Grids as a Feedback Control System for Stability Analysis and Controller Design, by: A. Bidadfar
13:00	Very fast transients in land based wind farms, by: T. Abdulahovic
13:20	Dynamic analysis of Kurdistan Electric Network in the presence of high penetration of wind power and determine an appropriate control solution, by: M. Saleh
13:40	Optimal Control of Wind Turbines in Active Distribution Networks, by: M. Altin
14:00	Asymmetrical Fault Analysis at the Offshore Network of HVDC connected Wind Power Plants, by: M. Altin
	Floating Wind Turbines & Substructures – Room S12
15:40	Single Point Mooring enables an unexpected benefit for floating wind turbine, by: M. Guyot
16:00	A Hierarchical Clustering Approach for Jacket Substructures for Offshore Wind Farms according to Location-Dependent Environmental Conditions, by: A. Ehrmann
16:20	The physical and numerical modelling of a catenary mooring system for a floating wind turbine, by: C. Desmond
16:40	Experimental study of the scaled DTU 10 MW TLP floating wind turbine, by: F.J. Madsen
17:00	Comparison between numerical and experimental study of the scaled DTU 10 MW TLP floating wind turbine, by: T.R.L. Nielsen
17:20	Experiences with Froude Scaled Rotors for Model Scale Floating Wind Turbines, by: R.F. Mikkelsen
17:40	Influence of non-linear material behavior on the numerical simulation of axially loaded grouted connections, by: A. Raba
	Rotor Performance & Power Curves – Room S01
10:20	Scattering of power curves of offshore wind turbines – A case study, by: J. Hoerner
10:40	Rotor PBower Curve Simulation and onsite Testing via Wind Estimator, by: G. Zhang
11:00	Practical Comparison of IEC61400-12-1 Site Calibration Correction Methodologies, by: G. Calvo
11:20	Power curve measurement using nacelle lidar estimates of V infinity and its uncertainty, by: A. Borraccino

TIME	TOPIC
	Mini Symposia: Advances in design of large wind turbine rotors – Room S02
10:20	Local buckling, three-dimensional stresses and progressive failure of root transition region of large composite wind turbine blades, by: X. Chen
10:40	Super-Gaussian wind velocity increments and their impact on fatigue loads, by: C.M. Schwarz
11:00	The effects of manufacturing defects in wind turbine blades for durability, damage tolerance and reliability, by: D. Cairns
11:20	Application of magneto-rheological dampers to alleviate fatigue damage of jacket substructures for 20 MW wind turbines, by: W. Njomo Wandji
11:40	Dynamics of lift controlled wind turbine blade, by: V. Jaunet
13:00	Aerodynamic design and positioning of a leading edge slat for a wind turbine blade, by: A. Manso Jaume
13:20	Latest results from the EU project AVATAR: Aerodynamic modelling of 10 MW wind turbines, by: J.G. Schepers
13:40	Design and Analysis of Airfoils for Large Wind Turbine Blades, by: X. Munduate
14:00	Optimal Low-Induction Rotor Design, by: C.L. Kelley
14:20	An improved geometric stiffness model for faster multi-body blade simulations in Bladed, by: W.J. Collier
14:40	Aeroelastic stability and response analysis of bend-twist coupled composite wind turbine blades by considering compressibility effects, by: T. Farsadi
15:00	Benefits of sub-component over full-scale blade testing elaborated on a trailing edge bond line design validation, by: M. Rosemeier
15:20	Verification of numerical modelling of VG flow by comparing to high Re PIV data, by: A. Charalampous
15:40	Optimal wind turbine aeroelastic rotor design with active flaps, by: M.K. McWilliam
16:00	Targeted Controls for a Segmented Ultralight Morphing Rotor, by: D.S. Zalkind
16:20	Load alleviation and upscaling of the INNWIND.EU and AVATAR rotors using automated design procedures, by: L. Sartori
16:40	An Advanced Blade Modelling Approach, by: K. Branner
17:00	From measurements to actionable insights – Calibration and measurement with intensive fiber-optic sensor instrumentation distributed in large rotor blades, by: M. Schmid
17:20	Bi-Axial Fatigue Testing of Large Rotor Blades, by: P. Greaves
17:40	Analyzing wind conditions leading to edge vibration on very large WT blades, by: C. Rodriguez
	Wind Farm Flows – Meeting Room 1 – 1st floor
10:20	Characterizing the coherent structures in large eddy simulations of windfarms, by: M. Zhang
10:40	Real case simulations of offshore wind farm far wakes evaluated by air plane measurements, by: S. Siedersleben
11:00	Characterization of Taiwan Fuhai Offshore Wind farm Wake with Weather Prediction Mode, by: C.Y. Kuo
11:20	Influence of gravity waves on upstream wind speed and power output in a large wind farm under varying stability, by: D. Allaerts
11:40	Assessment of offshore wind park wake characteristics in the German bight using SENTINEL-1 TerraSAR-X, by: B. Djath
13:00	Large scale wind farm wakes and a wind-wave-wake coupled mesoscale modeling system, by: P. Volker
13:20	Wind Farm Blockage and Its Impact on Energy Production, by: J. Bleeg
13:40	Large-eddy Simulation of a Scaled Wind Farm in a Boundary Layer Wind Tunnel, Including the Passive Generation of Turbulence, by: J. Wang
14:00	Interaction between turbine wakes and complex terrain in large-eddy simulations, by: J. Berg
14:20	Turbulent and Entrainment Length Scales in Large Wind Farms, by: S.J. Andersen
	Wind Tunnel Testing – Meeting Room 1 – 1st floor
15:40	The effect of varied aspect ratio on wind tunnel airfoil tests, by: J. Kiefer
16:00	Matching High Reynolds Numbers: The Challenge for Wind Turbine Experiments, by: M.A. Miller
16:20	Reproducing atmospheric like turbulent flows in wind tunnel experiments using active grids, by: L. Kröger
16:40	Test possibilities in the Poul la Cour Tunnel, by: C. Bak
17:00	Experimental Study on the Near Wake Flow Characteristics of Fractal Turbulence Grids, by: H.A. Hazaveha
17:20	Effects of Using Leading Edge Strakes on High Thickness Airfoil Wind Tunnel Testing, by: G. Tescione
	Turbulence & Loads – Room S04
10:20	Wind tunnel investigation of turbulence characteristics in the atmospheric surface layer, by: M.J. Emes
10:40	Predicting velocity space-time correlations in wind farms, by: L. Lukassen
11:00	A numerical efficient parametrization of turbulent wind-turbine flows for LES of different thermal stratifications, by: A. Englberger
11:20	Relating the wind farm power fluctuation spectrum to the space-time spectral properties of a turbulent boundary layer, by: J. Bossuyt
11:40	Investigation of the Atmospheric Boundary Layer Characteristics for the Calculation of Wind Load on Wind Turbine Blades, by: F. Ghanadi
13:00	Impact of turbulent fluctuations and mean shear on power output of a model wind turbine, by: R.J. Hearst
13:20	Analysis of extreme wind events at Høvsøre and the effect on wind turbine loads, by: Á. Hannesdóttir
13:40	Transience statistics for fatigue load assessment, by: P.J.M. Clive
14:00	How does turbulence change approaching the rotor?, by: J. Mann

TIME	TOPIC
	Wind Resource Assessment – Room S08
10:20	Development of a comprehensive data basis of scattering environmental conditions for offshore wind turbines, by: C. Hübler
10:40	Validation of North Sea wind and weather in the WRF meteorological model, by: P.C. Kalverla
11:00	The influence of terrain complexity and measurement setup on the accuracy of ground based Doppler wind lidars, by: T. Klaas
11:20	Offshore winds from a new generation of European satellites, by: M. Badger
11:40	Large Eddy Simulation of the Bolund hill using interior recycling boundary conditions, by: N. Troldborg
13:00	Measurements of the wind turbine induction zone, by: N.G. Nygaard
13:20	Influence of wind field generation method on wind-turbine power production in forest region, by: H. Abedi
13:40	Change in surface wind speed and its implication for wind energy over Taiwan simulated by WRF nested with ECHAM5/MPIOM, by: C.-Y. Lin
14:00	Reconstruction of Atmospheric Flow Field and Wind Resource Estimation based on Proper Orthogonal Decomposition Method, by: T. Sevine
14:20	Validation of Parallel WRF Downscaling Methodology using OpenFOAM, by: E. Leblebici
14:40	Accuracy of coastal wind speed gradients from Synthetic Aperture Radar by comparisons with scanning lidars, by: T.T. Ahsbahs
15:40	The wind speed signature of varying sea surface temperature in the meso-scale model WRF, by: I. Karagali
16:00	Validation of a wind resource assessment CFD model for complex terrain forested sites, by: H. Owen
16:20	Large-eddy simulation study of effects of clearing in forest on wind turbines, by: J. Matsfelt
16:40	Large-Eddy Simulation as a Tool for Site Assessment in Complex Environments, by: L. Böske
17:00	On The Occurrence of Roll Vortices in Wind Resource Assessment for a Complex Terrain Site, by: C. Nwabunike
17:20	Experimental Investigation of the impact of Inflow on the Flow Field Over a Coastal Escarpment, by: H. Hangan
	Fatigue – Room S10
10:20	Friction torque of wind-turbine pitch bearings – comparison of experimental results with available models, by: M. Stammler
10:40	Non-proportional multi-axial stress states and their influence on the fatigue life of trailing edge adhesive joints in wind turbine rotor blades, by: P. Noever-Castelos
11:00	Fatigue of very large high-strength bolting assemblies in wind turbines, by: R. Eichstädt
11:20	Fatigue Assessment of Offshore Wind Energy Converters with Jacket Substructures using Virtual Sensing Method, by: M. Henkel
11:40	FE-Modelling and Analysis of a Hybrid Wind-Turbine Tower for Fatigue Analysis and Remaining Life-Time Prediction, by: A. Emiroglu
13:00	Damage loading distribution in a long array of flexible wind turbines, by: A. Vitsas
13:20	3D imaging of White Etching Cracks in Wind Turbines, by: H.K. Danielsen
13:40	Fatigue and Static Failure of Curved Composite Laminates under Combined Moment/Axial Loading, by: D. Coker
14:00	Fatigue life monitoring of offshore wind turbines, by: W. Weijtjens
14:20	Importance of Wind Shear in Assessment of Wind Turbine Fatigue Loads, by: R.M.M. Slot

Tuesday 27 June

TIME	TOPIC
	Mini Symposia: Design and systems engineering wind turbines and plants – Room S09
10:00	IEA Wind Task 37 System Modeling Framework and Ontology for Wind Turbines and Plants, by: K. Dykes
10:20	Development of layout optimization tool for wind farm in complex terrain: the FarmOpt project, by: W.Z. Shen
10:40	IEA Task 37 3.X MW Land-Based Wind Turbine - Baseline Configuration and Advanced Rotor Designs, by: P. Bortolotti
11:00	Simulation and Optimization of an Airfoil with Leading Edge Slat, by: M. Schramm
11:20	Design driving load cases for a 2.1MW downwind turbine, by: G. Wanke
11:40	Realistic wind conditions for load assessment: alternatives to de-trending of time series, by: N.I. Dimitrov
13:00	OWFgraph: A graph database for the offshore wind farm domain, by: E. Quaeghebeur
13:20	Simulation of a Bayesian Optimization Based Wind Farm Power Maximization Technique Using the Dynamic Wake Meandering Model, by: J. Kazda
13:40	Winglet dynamics: Optimization of rotor design and performance, by: A.A. Chabrowski
14:00	Aerodynamic Design of Optimal Blades for Variable Speed Horizontal Axis Wind Turbines by Using CST Method, BEM Theory and Genetic Algorithm, by: K. Karakas
14:20	Optimization on high-raise wind tower, by: H. Bai
14:40	The Aerodynamic Wind Turbine Design Optimization Case Study for the IEA Task 37 on Wind Energy Systems Engineering, by: M.K. McWilliam
15:00	Lifetime cost evaluation of different wind turbine drive train configurations, by: F. Harzendorf
15:20	Optimization of the flexible hub connection for fatigue load reduction on two-bladed wind turbines, by: B. Luhmann
15:40	An Online Digital Twin for Optimizing Wind Farm Operations, by: V. Vanni
16:00	TOPFARM: framework for coupling models to address wind farm optimization challenges, by: D.R. Verelst
16:20	Robust Design of Wake Steering Considering Directional Uncertainty, by: K. Dykes
16:40	Aerostructural Design of the DTU 10 MW Wind Turbine Rotor Mk 2, by: F. Zahle
	Turbine Plant Control – Room S12
10:20	Dynamic wind power plant simulator for wind farm controller testing, by: E.A. Bossanyi
10:40	A closed-loop wind farm control framework for maximization of wind farm power production, by: M. Vali
11:00	Optimal coordinated control of wind-farm boundary layers in large-eddy simulations: intercomparison between dynamic yaw control and dynamic induction control, by: W. Munters
11:20	Optimal coordinated control of wind-farm boundary layers in large-eddy simulations: analysis of optimal induction control and progress towards practical control strategies, by: J. Meyers
11:40	Can LES be used as online model for real-time wind farm power prediction and control?, by: P. Bauweraerts
13:00	Fatigue loads mitigation in multi-mega-watt wind turbines using output regulation control and LIDAR wind measurements, by: A. Mahdizadeh
13:20	Realistic extreme event simulation of lidar-assisted individual pitch control, by: F. Haizmann
13:40	Measurement and analysis of wind turbine component loads under yaw misalignment, by: K. Dykes
14:00	Multivariable Feedforward Control of Wind Turbines Using Lidar, by: D. Schlipf
	Design & Optimization – Room S01
10:20	Airfoil boundary layer optimization towards HAWT aerodynamic efficiency by Genetic Algorithm, by: Y. Kim
10:40	Comparison of Two Alternative Approaches for the Design of Sub-Scale Models on Very Large Wind Turbines, by: H. Canet
11:00	Design of a Spar for a Fabric-covered Wind Turbine Blade, by: J.-S. Bae
11:20	A New Wind Turbine Blade Optimization Framework, by: T. Macquart
	Economic Aspects – Room S01
13:00	A Dynamic Function for the Energy Return on Investment (EROI) of Wind Energy, by: E. Dupont
13:20	Flexibility from Wind Power Plants: Regulatory Barriers and Business Opportunities in the Nordic Countries, by: K. Skytte
13:40	Comparison of Levelized Cost of Energy of a 10 MW superconducting and magnetic pseudo direct drive generator targeted for the INNWIND.EU reference turbine, by: A.B. Abrahamsen

TIME	TOPIC
	Mini Symposia: Wind Energy Systems Operation and Maintenance – Room S02
10:20	An integrated approach for smart monitoring, inspection and life-cycle assessment of wind turbines, by: B. Barahona
10:40	Use dynamic reliability simulation techniques to optimize maintenance strategies for wind farm OpEx reduction, by: B. Liu
11:00	Advanced Diagnosis of Doubly Fed Induction Generators for Wind Turbines, by: E. Artigao
11:20	Hardware-in-the-loop wind-electric energy conversion emulation system, by: S. Pourkeivannour
11:40	Advanced vibration signal processing on experimental wind turbine gearbox data, by: C. Peeters
13:00	Failure Behaviour of Wind Turbine Components and the Influence of Environmental Conditions, by: M. Reder
13:20	Wind turbine performance monitoring by the use of SCADA data, by: E. González
13:40	Factors influential to offshore maintenance planning – Identifying uncertainties, by: H. Seyr
14:00	Performance Measurement System in Brazilian wind farms, by: M.O.A. González
14:20	Wind turbine machine health assessment and estimate of remaining useful life, by: L. Colone
14:40	Response Deficit Analysis in Wind Farm Performance Monitoring, by: P.J.M. Clive
15:00	Wind Farm Management Models, by: N.Y. Yürüsen
15:40	Optimal maintenance of wind power plants, by: Q. Yu
16:00	Structural monitoring for lifetime extension of offshore wind monopoles: Can strain measurements at one level tell us everything?, by: L. Ziegler
	Mini Symposia: WindFarm2017 – Meeting Room 1 – 1st floor
10:20	Measurements and simulations of wind turbine wakes, by: J.K. Lundquist
10:40	The role of atmospheric turbulence on wind turbine wakes, by: F. Porté-Agel
11:00	Measurement of flow and wakes at wind farms in complex terrain, by: R.J. Barthelmie
11:20	Inflow conditions and wake effects for wind turbines in forested terrain, by: E. Dellwik
11:40	An Overview of US Department of Energy Wind Farm Research, by: P. Moriarty
13:00	Analytical formulation of body forces in actuator disc computations of wind turbines, by: J.N. Sørensen
13:20	Effect of Atmospheric Stability State on Wind Turbine Loads and Near Wake, by: S. Schmitz
13:40	Passive and Semi-active Tuned Mass Dampers for Load Reduction of Offshore Wind Turbines, by: M.A. Lackner
14:00	Validation Framework for Wind Plant Modeling, by: J.W. Naughton
14:20	Wind Farm Control Research at the National Renewable Energy Laboratory, by: P. Fleming
14:40	poster session - 1 min. lightning talks
15:40	Extremum Seeking Control of Wind Turbines and Wind Farms, by: M.A. Rotea
16:00	New directions in wind farm modeling and control, by: D. Gayme
16:20	Closed-Loop Wind Farm Control, by: J.-W. van Wingerden
16:40	Proactive monitoring of an onshore wind farm through LiDAR, SCADA and RANS data, by: G.V. Iungo
	Mini Symposia: Advances in Ducted Rotor Research – Room S04
10:20	Fundamentals of Duct Design, by: P. Jamieson
10:40	Aerodynamic Design of a Diffuser Augmented Wind Turbine, by: H.W.M. Hoeijmakers
11:00	High-Lift Low Reynolds Number Aerofoils With Specified Pressure Drop for Ducted Wind Turbine, by: J. Tang
11:20	Ducted wind turbine optimization: A numerical approach, by: V.V. Dighe
11:40	Diffuser Efficiency on Wind Turbine Performance, by: D.H. Wood
13:00	Design and Performance Parameters of a Ducted Wind Turbine, by: B.T. Helenbrook
13:20	A nonlinear and semi-analytical actuator disk method for ducted wind turbines with hubs of general shape, by: R. Bontempo
13:40	Experimental Validation of a Ducted Wind Turbine Rotor Design Strategy, by: K.D. Visser
14:00	Power Output Performance of Clustered, Diffuser Augmented Wind Turbines - Multi Rotor System Using Wind-Lens Turbines, by: Y. Ohya
14:20	An Attempt to Validate Ducted Turbine Theories, by: S. McLaren-Gow
14:40	Passive and active flow augmentation: from diffusers to multi-rotor machines, by: G.L. de Oliveira
15:00	Investigation on the validity of the classical BEM Theory applied to Diffuser Augmented Free Stream Turbines, by: A.L. Amarante Mesquita

TIME	TOPIC
	Wakes & Vortices – Room S08
10:00	Experimental study on the intermittency of fluid flow in a wind turbine wake, by: I. Neunaber
10:20	Effect of wake on wind turbine noise propagation, by: F. Ghanadi
10:40	Extraction of the wake induction and the angle of attack from experimental results, by: I. Herráez
11:00	"Blind test 5" – The wake behind a yawed wind turbine model, by: F. Mühle
11:20	Comparison between model-predicted and load-estimated wake interactions, by: J. Schreiber
11:40	Parameter Uncertainty Reduction of the Re-calibrated Larsen Wake Model, by: T. Göçmen
13:00	Horns Rev 2 offshore wind farm photo case with wakes observed in 2016, by: C.B. Hasager
13:20	Highly resolved Large-Eddy Simulation of wind turbine wakes, by: P. Bénard
13:40	An improved actuator line technique for LES studies, by: K.O. Dag
14:00	The PALM wind turbine model: An LES tool for modelling wind turbine wakes in the atmospheric boundary layer, by: B. Witha
14:20	Comparing the wakes of two different model wind turbines in yawed condition, by: J. Schottler
14:40	Experimental Investigation of the Effects of Winglets on the Tip Vortex Behavior of a Model Horizontal Axis Wind Turbine using Particle Image Velocimetry, by: Y. Ostovan
15:40	Estimation of wind turbine wake advection speed by means of cross correlation of azimuthal meandering series, by: J.-J. Trujillo
16:00	On the kidney shape of the wake of a HAWT in yaw, by: T.J. Berdowski
16:20	Do wind turbines pose roll hazards to light aircraft?, by: J.M. Tomaszewski
16:40	Tip Vortices in the Actuator LineModel, by: L.A. Martínez-Tossas
	Lidars – Room S10
10:20	Turbulence characterization from nacelle lidars, by: A.P. Diaz
10:40	Atmospheric Boundary Layer Turbulence Measurements Using Specialized Doppler Radar Technology, by: J.B. Duncan Jr.
11:00	Predicting free-stream wind speed in complex terrain with lidar measurements, by: A.R. Meyer Forsting
11:20	Turbulence estimation from a continuous-wave scanning lidar (SpinnerLidar), by: T. K. Mikkelsen
11:40	Learning from Mistakes: Designing Scanning Lidar Atmospheric Experiments, by: N. Vasiljević
13:00	A classical model wind turbine wake "blind test" revisited by remote sensing lidars, by: M. Sjöholm
13:20	OpenLidar in action - Integrating a scanner module into a robust lidar in a national funded research project, by: I. Würth
13:40	Lower Order Modelling of Wind Turbine Inflow with Short-Range Lidars, by: A.P.K. Sekar
14:00	Calibrating lidars using a flywheel, by: M.S. Courtney
14:20	Development of a Dynamic Lidar Uncertainty Framework, by: J.F. Newman
14:40	IEA Wind Task 32: Wind Lidar - Identifying and Mitigating Barriers to using Lidar for Wind Energy Applications, by: A. Clifton
15:40	A novel approach to flow model turbulence validation using a long range pulsed lidar, by: A. Risan
16:00	IEC wind resource assessment with lidars in complex terrain, by: O.E. Orhan
16:20	Velocity linear display (VLD) lidar methods, by: P.J.M. Clive
16:40	Rotor-effective wind speed estimated by a forward-looking lidar, by: D. Held

Wednesday 28 June

TIME	TOPIC
	Mini Symposia: Wind Power Forecasting – Room S09
10:20	The IEA Wind Task 36 on Wind Power Forecasting, by: G. Giebel
10:40	High resolution NWP forecasting at Deutscher Wetterdienst, by: H. Frank
11:00	Systematic errors and correlations in wind/PV forecasts, by: C. Sweeney
11:20	Impact of Targeted Measurements and Next-Generation Prediction Techniques on Short-Term Wind Ramp Forecasting in the tehachapi Wind Resource Are of California, by: J.W. Zack
11:40	The Second U.S. Wind Forecast Improvement Project (WFIP 2), by: W. Shaw
13:00	Comparison of Wind Power Forecasting Results for Onshore and Offshore Wind Farms, by: U. Cali
13:20	Studying various Wind Power Forecasting processes based on Ensemble Prediction Models, by: T. Esteoule
13:40	Short- and medium-range predictions for wind speed wind power for a semicomplex terrain using artificial neural networks and emsemble calibration, by: I. Schicker
14:00	Feature extraction techniques that improve wind power probabilistic forecasting, by: R.J. Bessa
14:20	Short-term power forecast optimization in connection with frontal passages, by: J. Thiesen
14:40	Application of copula vines for modelling spatial dependencies of wind power forecast uncertainty, by: R.J. Bessa
15:20	Improved Wind Power Forecasting Using Turbine Level Data, by: C. Gilbert
15:40	The Impact of Power Curve Estimation on Commercial Wind Power Forecasting Error - An Empirical Analysis, by: G. Goretti
16:00	Short-Term Wind Power Forecasting with Sparse and Adaptive Vector Auto Regression, by: J.W. Messner
16:20	Farm-scale operational wind power forecasting using linear combination of single NWPs-based neural network algorithms, by: O. Vannier
16:40	Robust Forecast Error Correction Methods with Exponential Smoothing applied to Regional Wind Power, by: A. Braun
	Mini Symposia: Exp. Investigations of Wind Resources and siting Parameters – Room S12
10:20	How can we use of seismometers advance the wind energy industry?, by: S.C. Pryor
10:40	Characteristics of Extreme Winds and Simulation Reconstruction of Island-Crossing Typhoons for Taiwan Fuhai Offshore Wind farms, by: C.Y. Kuo
11:00	A Multiple Criteria Surface Model for Evaluating the Reliability of Wind Measurement Data: Application in Optimal Met Mast Sitting in Complex Terrain and Data Assimilation, by: W. Wen
11:20	Perdigão 2017: Multi-lidar wind measurements in complex terrain – Campaign design and preliminary data, by: R. Menke
11:40	Spectral analysis of long term measurements of wind and turbulence from tall masts - land and sea based, by: E.L. Petersen
13:00	The Østerild Balconies Experiment, by: I. Karagali
13:20	Impact of the sea breeze on the vertical wind profile in coastal areas: Comparison between a Mediterranean and a North Sea site, by: A.M. Sempreviva
13:40	Measuring wind resources from a ferry boat: the ferry experiment in NEWA, by: J. Gottschall
14:00	First results from the Kassel forested hill experiment in the New European Wind Atlas, by: D. Callies
14:20	Evolution and properties of Low Level Jet events over the southern North Sea, by: B. With a
14:40	Wind Science and Engineering Test Site in Complex Terrain – Realization Stages and Associated Research Opportunities, by: A. Clifton
15:00	Lighthouse and buoys to measure the offshore wind resource, by: B. Conan
	Mini Symposia: The Socio-technical paradox of wind energy siting – Room S04
10:20	Mapping of wind turbine ownership models in DK: Technical-Regulatory vs Collaborative approaches, by: T. Cronin
10:40	Reconciling wind farms with communities: How and for whom?, by: L.T. Clausen
11:00	Danish Near Shore Wind Energy Case Studies in Law and Practice, by: B. Ram
11:20	Panel discussion
11:40	Panel discussion
13:00	Socio-economic aspects of wind energy, by: C. Desmond
13:20	Wind energy production processes: What matters in Izmir, Turkey?, by: B. Demir
13:40	Wind energy development in Ireland and Scotland and Denmark – a comparison, by: D.P. Rudolph
14:00	Design Considerations in Auctions for Onshore Wind Support, by: E. Rosenlund Soysal
14:20	Panel discussion
14:40	Panel discussion
15:40	Integrated assessment of new wind power plants: optimal allocation and sizing, by: E. Dimitrova
16:00	High Resolution GIS-Based Scenario Analysis of Germany's Wind Power Potential, by: D. Callies
16:20	Panel discussion
16:40	Wrap-Up with audience participation

TIME	TOPIC
	Mini Symposia: Measuring full-scale wakes with lidar – Room S02
10:20	Characterizing wakes in complex terrain with lidar, by: R.J. Barthelmie
10:40	Full-scale wake measurements with long-range lidar at the Perdigão 2017 experiment, by: N. Wildmann
11:00	Wake measurements in an offshore wind farm using dual-Doppler radars, by: N.G. Nygaard
11:20	On the wake meandering, a French wind farm case, by: S. Aubrun
11:40	Field investigation on the influence of yaw misalignment and wind veer on the propagation of a wind turbine wake, by: M. Broom
13:00	Joint lidar-based wake steering campaigns at U.S. National Laboratories, by: P.A. Fleming
13:20	Lidar wake tracking methods for closed-loop wind farm control, by: S. Raach
13:40	Wake measurements inside of an offshore wind farm with three long-range lidars, by: L. Vollmer
14:00	Robust and systematic analysis of lidar data for wake research, by: J.-J. Trujillo
14:20	Different scanning strategies performed with a ground-based LiDAR for the characterization of multiple wind turbine wakes within an onshore wind farm, by: S. El-Asha
14:40	Three-Dimensional Structure of Wind Turbine Wakes as Measured by Scanning Lidar, by: J.K. Lundquist
15:00	3D wake measurements from a scanning wind lidar in combination with a fast wind field reconstruction model, by: T. Mikkelsen
15:20	A comparison of nacelle mounted scanning lidar based measurement methods for the detection and characterization of wind turbine wake direction, by: G. Calvo
	Mini Symposia: WindFarm2017 – Meeting Room 1 – 1st floor
10:20	Poster session
10:40	Poster session
11:00	Poster session
11:20	Poster session
11:40	Poster session
	Aero-Servo-Elasticity – Room S01
10:20	Comparison between a Chimera technique and sliding interfaces for fluid-structure interaction simulations of wind turbines, by: G. Santo
10:40	Reconstruction of simulated nonlinear Wind Turbine Blade Response in a quasi-linear modal space, by: M. Ozan Gözcü
11:00	High-resolution periodic mode shapes identification for wind turbines, by: R. Riva
11:20	Do two-bladed turbines vibrate inherently more than three-bladed turbines?, by: M.H. Hansen
	Icing – Room S01
13:00	Ice detection for smart de-icing of wind turbines, by: V. Berbyuk
13:20	Study on ice accretion computational model of wind turbine based on the direct force immersed boundary method, by: Q. Wang
13:40	Icing wind turbine wake structure analysis based on wind tunnel PIV experiment, by: J. P. Xiao
14:00	Anti-icing/rain strategies using super-hydrophobic foils, by: V. Okulov
14:20	Aerodynamic Effects of Ice Accretion on the NREL S826 Airfoil, by: J. Krøgenes
	Aerodynamics – Room S08
10:20	Numerical Prediction of DU96 Airfoil Trailing-edge Noise using Detached-eddy Simulation, by: K. Cengiz
10:40	Electronic TellTale (E-penon) sensor to detect flow separation on wind-turbine's blades, by: A. Soulier
11:00	Extended Vortex Theory for Blade Element Analysis of HAWTs, by: D. H. Wood
11:20	MIRAS - A Multi-Fidelity Vortex Solver for Wind Turbine Simulations, by: N.R. García
11:40	Simulation of transient gusts on the NREL5 MW wind turbine using CFD, by: A. Länger-Möller
13:00	RANS Computation of 360° Polars for Wind Turbine Airfoils, by: G. Heilers
13:20	An Approach for CFD-based Dynamic Inflow Modelling in BEM, by: M.S. Schneider
13:40	Towards Large-Eddy Simulation of wind turbine airfoils, by: A. Frère
14:00	Numerical airfoil catalogue including 360° airfoil polars and aeroacoustic footprints, by: M. Imiela
14:20	CFD predictions of airfoil deep stall performance using Improved Delayed Detached Eddy Simulation, by: N.S. Sørensen
14:40	Experimental characterization of individual pitch controlled vertical axis wind turbine, by: B.P. LeBlanc
15:40	Improved Roughness Model for 2D Viscous-Inviscid Panel Methods, by: A.S. Olsen
16:00	An Engineering 2D Vortex-based Model for VAWT Aerodynamics, by: M. Gaunaa
16:20	Tip and Root induction for a finite number of blades with reference to BEM, by: X. Munduate
16:40	Investigation on the unsteady flow separation of a very thick wind turbine airfoil, by: L. Zhang

TIME	TOPIC
	Materials – Room S10
10:20	Natural Fibre Reinforced Composites for Tropical Wind Turbines, by: D. Sundar
10:40	Modelling of high cycle fatigue of coated high strength steel bolts, by: M.A. Eder
11:00	A multifunctional metallic surface produced by combined electroplating and deformation, by: T. Yu
11:20	Surface gradient nanostructures produced by high energy shot peening in a gear steel, by: X. Huang
11:40	The importance of heterogeneities in metals, by: D.J. Jensen
13:00	Residual stresses and microstructural heterogeneities on the fatigue lifetime of ductile cast iron, by: Y. Zhang
13:20	X-ray Tomography in DTU Wind Energy, by: S. Fæster
13:40	Evaluation of the fatigue performance of UHPFRC in compression for the design of tall towers, by: C. Loraux
14:00	Influence of curing profile and fibre architecture on the fatigue resistance of composite materials for wind turbine blades, by: L.P. Mikkelsen
14:20	Tensile and fatigue properties of biaxial glass fibre/epoxy/nanocellulose composites, by: B. Madsen

Thursday 29 June

TIME	TOPIC
	Mini Symposia: Wind Power Forecasting – Room S09
09:00	Improving grid safety through flexible weather and power prediction models based on stochastic and physical hybrid methods, by: A. Wesselt
09:20	Influence of wind power curtailments on short-term forecasting, by: D. Jost
09:40	Very short-term wind speed forecast of coastal flow by dual-Doppler scanning lidar, by: L. Valldecabres
10:00	Advanced load prediction by inclusion of accurate forecasting of distributed solar PV installations, by: H.-P. Waldl
10:20	Integration of probabilistic renewable energy forecasting in power system operational planning: a success story, by: R.J. Bessa
10:40	Potentials and possibilities of dynamic line rating, by: T. Kanefendt
11:00	Increasing Transmission Capacities by dynamic line rating based on CFD, by: C. Meissner
11:20	Short-term O&M Risk Management when using Cranes, by: J. Browell
11:40	On the Application of Forecast Uncertainties in the Business Practices of Actors in the Power System Sector, by: C. Möhrlen
	Mini Symposia: Lightning Protection of Wind Turbines – Room S12
09:00	Improved Lightning Protection Concepts - Increasing the electrical conductivity of epoxy resin: Isopropic CFRP WT spars, by: O. Vryonis
09:20	Heat Response of Unipolar Lightning Impulse and DC current component conducted through CFRP Samples used for Wind Turbine Spar Caps, by: T.M. Harrell
09:40	Improved current conducting capability of nanomodified CFRP for lightning protection of wind turbine blades, by: E.C. Senis
10:00	High Current Full Scale Testing as Fundamental Element to Ensure Wind Turbine Reliability, by: S. Vogel
	Grid integration and the Energy System – Room S01
09:00	Offshore windfarm connection meets interconnection; solving legal challenges to an offshore grid, by: C.T. Nieuwenhout
09:20	Wind power in a stable and highly renewable Swiss power supply, by: B. Kruyt
09:40	Needs for Flexibility in Energy Systems Caused by the Increasing Share of Variable Renewable Energy Generation in 2020, 2030 and 2050 Scenarios, by: M. Koivisto
	New Concepts – Room S01
11:00	A Wind Solar Tower Harnessing Sunshine and Wind Energies, by: K. Watanabe
11:20	Control design and optimization for the DOT500 hydraulic wind turbine, by: S.P. Mulders
11:40	Maximizing HAWTs energy capture with a circular disc at hub, by: W.J. Zhu
	Mini Symposia: Anholt Offshore Wind Farm Wake Studies – Room S02
09:00	Introduction to Anholt Wind Farm, by: N.G. Nygaard
09:20	The effect of stability on the coastal gradients at the Anholt wind farm, by: P.J.H. Volker
09:40	Analysis of Anholt offshore wind farm SCADA measurements, by: K.S. Hansen
10:00	Anholt offshore wind farm winds investigated from satellite images, by: C.B. Hasager
11:00	Simulating coastal effects on an offshore wind farm, by: M.P. van der Laan
11:20	On AEP prediction and wake modelling at Anholt, by: A. Peña
11:40	Final discussion, by: all
	Turbine Control – Room S04
09:00	Automatic detection and correction of pitch misalignment, by: M. Bertelè
09:20	Model Predictive Control of Wind Turbines, by: M.N. Sinner
09:40	Active flap controllers applied on the OffshoreWindChina (OWC) 5MW reference wind turbine for Chinese typhoon conditions, by: A. Barlas
10:00	Analysis of Wind Turbine Loading during Short-term Overproduction, by: M. Altin
11:00	Control-assisted detection of inertial and aerodynamic imbalance, by: S. Cacciola
11:20	Optimized activation of individual pitch controller, by: B. Shrestha
11:40	Investigation of the blade mounted lidar use for feedforward individual pitch and trailing edge flaps control in Large-Eddy Simulation, by: R. Ungurán
	Monitoring – Room S08
09:00	Rotor Imbalance Detection from automated 1p analysis and measurement: Real case study during a long period for different large size WTG, by: T. Ferrand
09:20	Long term and continuous monitoring of ocean meteorology mast oscillation, by: C.Y. Kuo
09:40	SCADA-based thrust load estimation of existing offshore wind turbine, by: N. Noppe
10:00	Development, Lessons Learned and Further Improvements of an Optical Wind Turbine Monitoring System, by: S. Lehnhoff
	Drive Train Modelling – Room S08
11:00	Continuous modal behavior estimation of an offshore wind turbine drivetrain in the presents of harmonics, by: N. Gioia
11:20	Multibody Dynamic Modelling of a Wind Turbine Direct Drive Train, by: S. Asadia