

# **8th International Conference on Wind Turbine Noise (WTN 2019)**

Lisbon, Portugal  
12-14 June 2019

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## 8th International Conference on Wind Turbine Noise

Day	Start	Session	Subject	Chair/Moderator
Tuesday	17:00		Reception and Registration to 20:00	
Wednesday EUROPA	09:00		Opening of Conference - Jorge Patricio, President of European Acoustics Association: President of Portuguese Acoustical Society	
	09:10	A	A - Tones and Vibration	Jorge Patricio
	11:20	B	B - Low Frequency and Amplitude Modulation	Payam Ashtiani
	14:00	C	C - Propagation - 1	Kristina Conrady
	16:00	D	D - Propagation 2	Sylvia Broneske
	17:20	E	E - Forum on Propagation	David Ecotiere
Thursday EUROPA	08:30	F	F - Assessment and Compliance	Matthew Cand
	11:00	G	G - Background Noise and Measurement	Pierre Dutilleux
	14:00	H	H - Impact on People - 1	Cecilia Rocha
	16:00	I	I - Impact on People - 2	TBC
	17:00	J	J - FORUM on Impact on People	David Colby
Thursday BRUXELAS	14:00	K	K - Source Prediction - 1	Thomas Carolus
	16:00	L	L - Source Prediction - 2	Wouter van der Velden
	17:40	M	M - FORUM on Source Prediction	Franck Bertagnolio
Thursday	20:00		Conference Dinner - Restaurant Monte Mar	
Friday EUROPA	08:30	N	N - Aerofoil Design	Kathrin Stahl
	10:30	O	O - Trailing Edge Noise Mitigation	Cordula Hornung
	12:10	P	P - FORUM on "Future Design of Low Noise Wind Turbines"	Michaela Herr
	13:50	Q	Q - Regulations	Frits van den Berg
	15:35	R	R - FORUM - "WHO Guidelines for Europe" - Principal Speaker David Michaud	Andy McKenzie
	16:25	S	S - FORUM - "Where Next"	Sabine von Hunerbein
	17:00		Conference Ends	

# 8th International Conference on Wind Turbine Noise

Wednesday 12th June 2019 - EUROPA			Page:
09:00	Opening of Conference - Jorge Patricio, President of European Acoustics Association: President of Portuguese Acoustical Society		
<b>09:10</b>	<b>A - Tones and Vibration</b>	<b>Jorge Patricio</b>	
09:10	A comparison of standardized methods for prominence analysis of tonal components	Kobayashi	2
09:30	Advancements in continuous learning for tonality free turbine design	Gupta	14
09:50	Prominent tones in wind turbine noise - Round robin test of the IEC 61400-11 and ISO/PAS 20065 methods for analyzing tonality content	Sondergaard	27
10:10	Wind Farm Environmental Noise and Vibration Impact Analyses: Background, Construction, Assessment of Final Project Vibration	Brush	46
10:30	Discussion		
10:50	Break		
11:20	<b>B - Low Frequency and Amplitude Modulation</b>	<b>Payam Ashtiani</b>	
11:20	How Critical is Low Frequency Noise for Micrositing?	Sorensen	55
11:40	Amplitude Modulation analysis - now and in the future	Cand	68
12:00	Long-term noise monitoring of wind turbine amplitude modulation	Feist	80
12:20	Time dependent changes in sound pressure levels caused by wind turbines at long distances	Kuhner	94
12:40	Discussion		
13:00	Lunch		
14:00	<b>C - Propagation - 1</b>	<b>Kristina Conrady</b>	
14:00	Measuring and Analyzing the Sound Propagation of Wind Turbines	Martens	112
14:20	Noise propagation at short range farfield position investigated by simultaneous measurements in the nearfield and the farfield.	Christensen	125
14:40	Using Measured Sound Power Inputs for Comparison of Measured Immission Noise Levels and Sound Levels Predicted with ISO 9613-2 for Various Ground Factors	Clark (Ashtiani)	135
15:00	Sensitivity analysis of influential parameters for wind turbine noise	Kayser	145
15:20	Discussion		
15:30	Break		
16:00	<b>D - Propagation 2</b>	<b>Sylvia Broneske</b>	
16:00	A proposal for the prediction of sound pressure levels due to wind turbine operation	Gonzales	158
16:20	Low-level wind maxima and their effect on wind turbine sound	Conrady	165
16:40	Wind turbine noise propagation in flat terrain for wind farm layout optimization frameworks	Sessarego	171
17:00	Discussion		
17:10	Short Break		
17:20	<b>E - Forum on Propagation</b>	<b>David Ecotiere</b>	
18:20	Close		

# 8th International Conference on Wind Turbine Noise

Thursday 13th June 2019 - EUROPA		
<b>08:30</b>	<b>F - Assessment and Compliance</b>	<b>Matthew Cand</b>
08:30	Measurement of wind turbine noise characteristics in receptor position - A new IEC Technical Specification	Broneske 188
08:50	Danish experiences with measuring wind turbine noise at neighbor dwellings.	Egedal 200
09:10	Atmospheric absorption in sound power measurements of wind turbines	Hansen 215
09:30	France - Germany: A Comparison of the Acoustic Assessment Procedures	Dutilleux 231
09:50	Noise Source Location in Wind Turbines	Alloza 244
10:10	Discussion	
10:30	Break	
<b>11:00</b>	<b>G - Background Noise and Measurement</b>	<b>Pierre Dutilleux</b>
11:00	A low wind noise microphone for wind turbine noise	von Hunerbein 254
11:20	Measuring infrasound from wind turbine: the benefits of a wind shielding dome	D'Amico 259
11:40	Is it possible to predict background noise levels from measured meteorological data with machine learning techniques?	Bigot 265
12:00	Does Background Noise Vary with Seasons?	PETIT 273
12:20	A study of background noise levels measured during far-field receptor testing of wind turbine facilities	Halstead 286
12:40	Discussion	
13:00	Lunch	
<b>14:00</b>	<b>H - Impact on People - 1</b>	<b>Cecilia Rocha</b>
14:00	Wind Turbines and Groundwater Contamination: An Analysis	Colby 298
14:20	Human Health Hazard - The Shirley Wind Story	Old 303
14:40	Self-reported health in the vicinity of five wind power areas in Finland	Turunen 322
15:00	Testing the human response to wind turbine emissions	Nelson (Lueker) N/A
15:20	Discussion	
15:30	Break	
<b>16:00</b>	<b>I - Impact on People - 2</b>	<b>TBC</b>
16:00	PIBE : a new French project for predicting the impact of wind turbine noise	Ecotiere 341
16:20	I can still hear it and it's making me ill	Leventhall 347
16:40	Discussion	
16:50	Short Break	
<b>17:00</b>	<b>J - FORUM on Impact on People</b>	<b>David Colby</b>
18:00	Close	

## 8th International Conference on Wind Turbine Noise

Thursday 13th June 2019 - BRUXELAS			
	<b>Plenary in EUROPA until Lunch</b>		
14:00	<b>K - Source Prediction - 1</b>	<b>Thomas Carolus</b>	
14:00	A Brief Study on Noise Propagation of Airfoils from Wind Turbines Using the Lattice Boltzmann Method	Rodriguez	365
14:20	Towards digital wind turbine noise certification	van der Velden	386
14:40	The Quasi-3D TE Rotor Noise Prediction Tool of the PNoise Code	Saab	399
15:00	Analyses of a high fidelity aero-servo-elastic process chain to assess low-frequency emissions from wind turbines	Wenz	416
15:20	Discussion		
15:30	Break		
16:00	<b>L - Source Prediction - 2</b>	<b>Wouter van der Velden</b>	
16:00	Simulation of sound radiation of wind turbines using large-scale finite element models	Graetsch	429
16:20	Airfoil LE Noise prediction supplement for PNoise Code	Martuscelli Faria	442
16:40	Numerical study of aerodynamic radiated noise of a Coflow-Jet Vertical Axis Wind Turbine	Radulescu	455
17:00	A Wind Turbine Noise Code Benchmark - Round 1	Bertagnolio	466
17:20	Discussion		
17:30	Short Break		
17:40	<b>M - FORUM on Source Prediction</b>	<b>Franck Bertagnolio</b>	
18:40	Close		
20:00	Conference Dinner - Restaurant Monte Mar		

# 8th International Conference on Wind Turbine Noise

Friday 5th May 2017 - EUROPA			
<b>08:30</b>	<b>N - Aerofoil Design</b>	<b>Kathrin Stahl</b>	
08:30	Aeroacoustic Optimization of a Small Wind Turbine - Methodology and Experimental Validation	Volkmer	480
08:50	Scales of turbulence on a wind turbine leading edge	Serre	503
09:10	Aeroacoustic Assessment of Wind Turbine Blade Tips	Herr	519
09:30	Development of design guidelines for low noise but high yield wind turbines	Hornung	540
09:50	Discussion		
10:00	Break		
10:30	<b>O - Trailing Edge Noise Mitigation</b>	<b>Cordula Hornung</b>	
10:30	Numerical Investigation of Porous Trailing Edge Noise Reduction Mechanism using lattice-Boltzmann Method	Manegar	552
10:50	Experimental Investigation of Self-Aligning Trailing Edge Serrations for Airfoil Noise Reduction	Stahl	570
11:10	Measurement of sound efficiency of trailing edge serrations (TES) on wind turbines in the Jura mountains.	Falourd	583
11:30	Hydrodynamic Analysis of Trailing Edge Serrations with Blunt and Rounded Edges	Celik	598
11:50	Discussion		
12:00	Short Break		
12:10	<b>P - FORUM on "Future Design of Low Noise Wind Turbines"</b>	<b>Michaela Herr</b>	
13:00	Lunch		
13:50	<b>Q - Regulations</b>	<b>Frits van den Berg</b>	
13:50	Current regulations for the protection against noise from wind turbines in Germany	Bauerdorff	616
14:10	Applying a general noise regulation on Wind Turbines: an administrative interpretation to a specific noise source	Parra	624
14:30	WHO Environmental Noise Guidelines for the European Region conditional recommendation for wind turbine noise in the context of Australian regulations	Delaire	633
14:50	Discussion		
15:05	Break		
15:35	<b>R - FORUM - "WHO Guidelines for Europe" - Principal Speaker David Michaud</b>	<b>Andy McKenzie</b>	
16:25	<b>S - FORUM - "Where Next"</b>	<b>Sabine von Hunerbein</b>	
17:00	Conference Ends		