# WindEurope Electric City 2021

Journal of Physics: Conference Series Volume 2151

Copenhagen, Denmark 23 - 25 November 2021

**Editor:** 

**Michael Muskulus** 

ISBN: 978-1-7138-5122-6

ISSN: 1742-6588

### Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 3.0 International Licence. Licence details: http://creativecommons.org/licenses/by/3.0/.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2022)

For permission requests, please contact the Institute of Physics at the address below.

Institute of Physics Dirac House, Temple Back Bristol BS1 6BE UK

Phone: 44 1 17 929 7481 Fax: 44 1 17 920 0979

techtracking@iop.org

## Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA Phone: 845-758-0400

Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

# TABLE OF CONTENTS

Induced stalled flow due to roughness sensitivity for thick airfoils in modern wind turbines	1
Estimation of rotor and main bearing loads using artificial neural networks	3
Generating long-term sub-hourly wind speed time series by coupling mesoscale models with full-scale spectra	4
The influence of atmospheric stability on wind turbine performance: a quantitative study using measurement from SCADA system and mast	3
Comparison of novel SCADA Data Cleaning Technique for Wind Turbine Electric Pitch System	9
Transferability of site-dependent wind turbine performance predictions using machine learning	0
Artificial intelligence-based condition monitoring and predictive maintenance framework for wind turbines	51
Investigation of the Measurability of Selected Damage to Supporting Structures of Wind Turbines	0'
How do NEWA and ERA5 compare for assessing offshore wind resources and wind farm siting conditions?	32
Developing a long-lasting offshore wind business case towards a Dutch decarbonised energy system by 2050	)3
S Krishna Swamy, I Gonzalez-Aparicio, N Chrysochoidis-Antsos	
Offshore wind farm wake modelling using deep feed forward neural networks for active yaw control and layout optimisation	)1
Deriving an experimental and analytical relation between the core and fiber temperatures of a 3P XLPE cable	4
Manly Callewaert, Roel Vanthillo, Christian Fojtek, Bart Mampaey	
Offshore Wind-to-Hydrogen Production Plant Integrated with an Innovative Hydro-Pneumatic Energy Storage Device	20
J Seumo, KN Farrugia, D Bunagiar, 1 Sant	

How do Humans decide under Wind Power Forecast Uncertainty — an IEA Wind Task 36	
Probabilistic Forecast Games and Experiments initiative	29
Corinna Möhrlen, Gregor Giebel, Ricardo J. Bessa, Nadine Fleischhut	

#### **Author Index**