

TUrbWind 2017

Research and Innovation on Wind Energy
Exploitation in Urban Environment Colloquium

SESSION | Urban Wind Resource & Energy Conversion System

Thursday | June 15th, 2017 | 2 p.m. - 6 p.m.

- 13:30 - 13:50 Registration
- 13:50 - 14:00 Welcome: L. Battisti (chair)
- 14:00 - 14:30 **Key note lecture "Harvesting urban wind energy, a view on the future"**
Gerard van Bussel
Delft University of Technology, NL
- 14:30 - 15:00 **IEAWind Task 27: Lessons learned from small wind in high turbulent sites**
I. Cruz, T. Forsyth
CIEMAT, Wind Advisors Team WAT, ES
- 15:30 - 16:00 **In-service behaviour of building mounted small wind turbines**
M. Peppoloni, K. Leonhartsberger, A. Hirschl, S. Schidler
Institute for Renewable Energy | University of Applied Science Technikum Wien (AU)
- 16:00 - 16:30 Coffee break
- 16:30 - 17:00 **Environmental Influences on SWT Vibrations and Oscillations**
A. Hirschl, M. Peppoloni, K. Leonhartsberger
Institute for Renewable Energy | University of Applied Science Technikum Wien (AU)
- 17:00 - 17:30 **Rooftop siting of a small wind turbine using a hybrid BEM-CFD model**
F. Balduzzi, A. Bianchini, D. Gentiluomo, G. Ferrara, L. Ferrari
Università degli Studi di Firenze, IT
- 17:30 - 18:00 **Experimental and numerical wind-resource assessment of an university campus site**
A. El Bahlouli, J. Bange
University of Tübingen, DE
- 18:00 - 18:30 **Measurements of Urban Gust Factors for Wind Load Determination**
O. Antonio, D.H.Wood
University of Calgary, Canada
- 19:30 Conference dinner

Friday | June 16th, 2017 | 9 a.m. - 4 p.m.

- 09:00 - 09:30 **CFD wind tunnel tests of an open data IPC-VAWT**
I. Bayati, L. Bernini, P. Schito, M. Belloli, A. Zasso
Politecnico di Milano, IT
- 09:30 - 10:00 **Generation of uniform Turbulence profiles in the Wind Tunnel for Urban VAWT testing**
A. Carbó Molina¹, G. Bartoli¹, T. De Troyer²
¹ *Università degli Studi di Firenze, IT* - ² *Vrije Universiteit Brussel, BE*
- 10:00 - 10:30 **Experiences in designing and testing vertical and horizontal axis small wind turbines for urban environment**
D. P. Coiro, F. Scherillo, G. Troise, G. Calise, N. Bizzarrini
University of Naples "Federico II", IT
- 10:30 - 11:00 Coffee break
- 11:00 - 11:30 **Wave Measurements Downstream of Vertical Axis Wind Turbines at Politecnico di Milano: a Critical Review**
G. Persico, V. Dossena, B. Paradiso
Politecnico di Milano, IT
- 11:30 - 12:00 **Design of vertical axis wind turbines: prototype investigation and upscaling**
T. Müller
Lab of Wind Energy Technologies, htw saar University of Applied Sciences, DE
- 12:00 - 12:30 **A review based on evaluation experiences with ten-years activity in VAWT experimental testing**
L. Battisti¹, E. Benini¹, A. Brighenti¹, S. Dell'Anna¹, M. Raciti Castelli¹, V. Dossena², G. Persico², B. Paradiso²
¹ *Università degli Studi di Trento, IT* - ² *Politecnico di Milano, IT*
- 12:30 - 13:30 Lunch break
- 13:30 - 14:00 **Dynamic experimental and numerical analysis of loads for an horizontal axis micro wind turbine**
F. Castellani, M. Becchetti, D. Astolfi, F. Cianetti
Università degli Studi di Perugia, IT
- 14:00 - 14:30 **Small Wind Turbine Performance Assessment for Canada**
A. Medd¹, D.H.Wood^{1,2}
¹ *Wind Energy Institute of Canada* - ² *University of Calgary (Australia)*
- 14:30 - 15:00 **Energy-yield-based optimization of a H-Darrieus wind turbine in skewed flow**
A. Bianchini, F. Balduzzi, G. Ferrara, L. Ferrari
Università degli Studi di Firenze e Pisa, IT
- 15:00 - 15:30 Coffee break
- 15:30 - 16:00 **Numerical and experimental comparison of performance of two stage and helical Savonius wind turbine**
L. B. Kothe, A. P. Petry
Federal University of Rio Grande do Sul (Brazil)
- 16:30 - 17:00 **MPPT with Current Control for a PMSG Small Wind Turbine in a Grid-Connected DC Microgrid**
D. Zammit, C. Spiteri Staines, A. Micallef, M. Apap
University of Malta
- 17:00 - 17:10 Closing: L. Battisti (chair)