IN-VENTO 2018
XV Conference of the Italian Association for Wind Engineering

Napoli, September 9-12, 2018

Preliminary program

Sunday, September 9

10:00-17:00  INVENTour: tasting Napoli
Tour starts from and ends in Piazza del Plebiscito, at the entrance of the Royal Palace

19:00  Icebreaking cocktail
Lega Navale Italiana – Sezione di Napoli
Porticciolo del Molosiglio
Via Ammiraglio Ferdinando Acton
MONDAY, SEPTEMBER 10

Castel dell’Ovo
Via Partenope

08:00 - 09:00  Registration
09:00 - 09:15  Welcome
09:15 - 10:00  Keynote Lecture
    Ted Stathopoulos
    Urban wind energy: a wind engineering and wind energy crossroads
10:00 - 11:00  Session 1 – Wind tunnel techniques
    G. Bordogna, S. Muggiasca, S. Giappino, M. Belloli, J.A. Keuning, R.H.M. Huijsmans, A.P. van ’t Veer
    Wind-tunnel experiments on a large-scale Flettner rotor
    S. Zhou, L. Tan, S. Li
    On effects of Correction Factor for VIV Amplitude from a Prototype Prism and 2D Section Model
    M. Burlando, F. Castellani, M. Becchetti, H. M. El-Batsh, A. Eltayesh
    Experimental and numerical study of the wind tunnel blockage effects on the behaviour of a horizontal axis wind turbine
11:00 - 11:30  Coffee break
11:30 - 13:00  Session 2 – Wind characteristics
    J. D. Holmes
    Extreme wind speed prediction – the Australian experience
    M. Cindori, I. Džijan, F. Jureti, H. Kozmar
    A novel steady RANS model for the computational modeling of the homogeneous atmospheric boundary layer flow over hilly terrain
    E. Cheynet
    Estimation of the vertical wind coherence in an offshore environment
    A. Ferneci
    Wind field variability in complex terrain: Lessons from Hardanger Bridge
    A. Ricci, B. Blocken
    Experimental and Computational analysis of microscale wind conditions in the Port of Amsterdam
    M. Ciano, M. Gioffrè, V. Gusella, M. Grigoriu
    Modeling and simulation of non-stationary thunderstorm outflows
13:00 - 14:00  Lunch
14:00 - 15:45  Session 3 – Wind energy

D. Astolfi, F. Castellani, M. L. Fravolini, S. CAscianelli, L. Terzi
A SCADA-based method for estimating the energy improvement from wind turbine retrofitting

G. Calise, D.P. Coiro, F Scherillo, G. Troise, N. Bizzarrini
Experiences in designing, manufacturing, installation and testing of wind turbines

Mitigation of structural demand to wind turbines: experimental investigation of three control strategies

Design optimization of a reduced model of a wind mill tower for wind tunnel testing

L. Pigolotti, C. Mannini, G. Bartoli
Some advances in the study of classical-flutter-based generators

A. Rezeaiha, H. Montazeri, B. Blocken
Effect of Solidity on Aerodynamic Performance of Vertical Axis Wind Turbines

G. Tomasini, L. Bernini, D. Tarsitano, S. Giappino
Design and experimental optimisation of a cm-scale wind turbine for energy harvesting

15:45 - 16:15  Coffee break

16:15 - 18:00  Session 4 – Aeroelasticity

T. Andrianne, F. Rigo, V. Denoel
VIV response of a suspended sphere nearby the critical Reynolds number

S. Lin, H. Liao, N. Nikitas, Q. Wang
Effects of amplitude on the spectral characteristics of motion-induced force for oscillating 5:1 rectangular cylinder

F. Lupi, H-J. Niemann, R. Hoeffer
A model extension for vortex-induced vibrations

C. Mannini
Numerical investigation of transverse galloping in turbulent flow

S. Muggiasca, S. Giappino, A. Manenti
Aerodynamic instability of cables fitted with pipes

C. Demartino, F. Ricciardelli
Probabilistic assessment of the galloping stability of ice-accrete bridge hangers

F. Rigo, V. Denoel, T. Andrianne
Vortex induced vibrations of rectangular cylinders arranged on a grid

18:15 - 19:30  ANIV Stirring Committee meeting

20:30  ANIV Stirring Committee dinner
Ristorante Pizzeria Ciro a Santa Brigida
Via Santa Brigida 71/73
08:00 - 08:30 Registration

08:30 - 09:15 Keynote Lecture
Allan Larsen
Wind Engineering challenges in the design of a world record suspension bridge

09:15 - 10:45 Session 5 – Wind loads on buildings
G. Manara
Some topics about wind engineering that Curtain Walling design might be longing for in standards
P. Churin, O. Egorychev, O. Poddæva G. Gribach
Design and experimental studies of wind impact to unique buildings
R. Buccolieri, T. Massai, A. Giachetti, F. Quarta, G. Bartoli
The effect of lift-up buildings on wind-induced forces and ventilation in simple urban geometries
F. Rigo, T. Andrianne, V. Denoel
Mixture model in high-order statistics for peak factor estimation on low-rise building
A. Zasso, F. Perotti, L. Rosa, P. Schito, G. Pomaranzi, N. Daniotti
Wind Pressures Distribution on a Porous Double Skin Façade System
L. Amerio, G. Lamberti, A. Zasso, C. Gorlé
Comparison of high resolution pressure peaks in closed and open section wind tunnels

10:45 - 11:15 Coffee break

11:15 - 13:00 Session 6 – Bridges
J. Bogunovic Jakobsen
Motion-dependent forces on streamlined bridge girders and their influencing parameters-observations from wind tunnel buffeting response data
T. Argentiini, S. Omarini, A. Zasso, M. Petrangelii
Aerodynamic tailoring of a bluff deck section subjected to inclined winds due to the complex orography of the construction site
M. Como
On the flutter wind speed of long span suspension bridges
A. Buljac, H. Kozmar, M. Macháek, S. Pospíšil
Self-excited vibrations of bridge deck with single and double wind barriers
M. Cid Montoya, F. Nieto and S. Hernández
On the aerostructural design of long-span cable-stayed bridges: The contribution of parameter variation studies with focus on the deck design
E. Cheynet, J. Bogunovic Jakobsen, J. Snæbjörnsson
Flow distortion recorded by sonic anemometers on a long-span bridge

B. Nicese, C. Mannini, A. M. Marra, G. Bartoli
A critical database for the Strouhal number of bridge decks

13:00 - 14:00  Lunch

14:00 - 15:45  Session 7 – Aerodynamics

G. Hu, K. C. S. Kwok, K. T. Tse
Application of aerodynamic modification on slender structures for wind energy harvesting

A. Giachetti, C. Mannini, G. Bartoli
Experimental study on the aerodynamics of rectangular prisms with a forebody screen

D. M. Moore, C. W. Letchford, M. Amitay
Transitional shear layers on rectangular sections

A. Mariotti, G. Buresti, M. V. Salvetti
Flow separation delay and drag reduction through contoured transverse grooves

T. M. Lystad, A. Fenerci, O. Øiseth
Aerodynamic effect of non-uniform wind profiles for long-span bridges

K. Matsuda, K. Kato, N. Cao, R. Higashimura
Experimental study on the effect of secondary vortices at the trailing edge on motion-induced vortex vibration

S. Giappino, S. Omarini, P. Schito, C. S. Somaschini, M. Belloli, M. Tenni
Cyclist aerodynamics: a comparison between wind tunnel tests and CFD for helmet design

15:45 - 16:15  Coffee break

16:15 - 18:00  Session 8 – Tall buildings

S. Attrill
Stack Effect and Wind Impacts in Tall Buildings

S. Cammelli, H. Nguyen-Sinh, J. Garcia Navarro
Full-scale measurements of the structural response of a 63-storey mixed-use high-rise under wind loading

F. Dorigatti, L. Viviani, J. Kilpatrick, J. Galworthy
Aerodynamic Optimization of Tall Buildings

G. Frison, A. M. Marra, G. Bartoli, R. Scotta
Full-aeroelastic model of CAARC building: iterative design procedure and wind tunnel tests

L. Ierimonti, I. Venanzi, L. Caracoglia, A. L. Materazzi
Life-cycle cost-based wind design of tall buildings

Y. C. Kim, Y. L. Lo, C. H. Chang
Characteristics of unsteady aerodynamic force on tall building
F. Petrini, Z. Wang, A. Giaralis
Simultaneous vibration suppression and energy harvesting in wind excited tall buildings equipped with the tuned mass damper inerter (TMDI)

18:15 - 19:30  ANIV General assembly

20:30  Gala Dinner
Ristorante il Giardino
Calata Ponticello a Marechiaro 19
WEDNESDAY, SEPTEMBER 12

Castel dell’Ovo
Via Partenope

08:00 - 08:30  Registration

08:30 - 09:15  Keynote Lecture

Giovanni Solari
Mixed climatology, non-synoptic phenomena and downburst wind loading

09:15 - 10:45  Session 9 – Wind characteristics

L. Patruno, M. Ricci
Synthetic turbulence generation using spectral methods

D. Romanic, H. Hangan
The interplay between background atmospheric boundary layer winds and downburst outflows. A first physical experiment

M. Burlando, D. Romanic, H. Hangan, G. Solari
Wind tunnel experimentation on stationary downbursts at WindEEE Dome

M. Karami, L. Carassale, H. Hangan, M. Refan
An approximate model for large-scale fluctuations in tornado-like vortices

R. Sasaki, K. Miyashita, R. Yoshie
Field measurement of gas dispersion in the Atsugi area

V. Sepe, F. Rizzo, F. Ricciardelli, A.M. Avossa
Characterization of mean wind profiles and surface roughness assessment from wind LIDAR measurements

10:45 - 11:15  Coffee break

11:15 - 13:00  Session 10 – Wind loads

S. O. Hansen, R. Hoeffer, J. Rees, F. Ricciardelli, P. Spehl
Towards the second generation Eurocodes: evolution of EN1991-1-4 Wind actions

A. Balbi, M. P. Repetto, G. Solari, A. Freda, G. Rotto
Wind effects on containers stability

Y. Uematsu, R. Yamamura
Experimental study of wind loads on domed free roofs

I. Calotescu
Damage from recent thunderstorms in Romania

P. Schito, L. Rosa, A. Zasso
Definition of wind loads on the Riyadh Western Metro Station

M. Damele, M. P. Repetto
Wind-induced fatigue verification standard methods

A. M. Marra, G. Bartoli, C. Mannini
STEELWAR project: wind tunnel tests on automated rack supported warehouses

13:00 - 14:00  Lunch
14:00 - 15:45  Session 11 – Computational Wind Engineering

M. Horvat, L. Bruno, S. Khris, A. Lo Giudice
Computational simulation of windblown sand erosion, transport, and sedimentation around dunes

X. Zheng, H. Montazeri, B. Blocken
Numerical study of wind-induced pressure on a high-rise building with balconies: comparison of LES, RANS and experiments

G. Lamberti, C. Gorlè
Uncertainty quantification for RANS predictions of wind loads on buildings

G. Ferri, A. Chiaracane
Validated numerical simulation of aerodynamic and aeroelastic characteristics of Rhein-crossing bridge in Leverkusen

F. Malizia, H. Montazeri, B. Blocken
A numerical analysis of different approaches for rotation modelling on the aerodynamic drag of a spoked cycling wheel

M. Mulas, R. Zucca
An immersed boundary CFD code for Building and Environment applications

L. Raffaele, L. Bruno
Probabilistic assessment of windblown sand accumulation around railways

15:45 - 16:15  Coffee break

16:15 - 18:00  Session 12 – Offshore wind energy

G. Barbanti, E. Marino, C. Borri
Mooring system optimization for a spar-buoy wind turbine in rough wind and sea conditions

I. Bayati, L. Bernini, A. Facchinetti, A. Fontanella, H. Giberti, A. Zasso, M. Belloli
Hybrid/HIL Testing of Floating Wind Turbines: the LIFES50+ project

A. Buljac, H. Kozmar, W. Yang, A. Kareem
Wind, wave and sea current loads on offshore wind turbines

N. Caterino, G. Pugliano, M. Spizzuoco, U. Robustelli
Feasibility and assessment of real time monitoring systems for smart structural control of wind turbines

L. Riefolo, M. Vardaroglu, A.M. Avossa
Experimental tests on the wave-induced response of a Tension Leg Platform supporting a 5MW wind turbine

A. Mockute, C. Borri, E. Marino, C. Lugni
Wind–wave loading and response of OWT monopiles in rough seas

C. Maienza, A.M. Avossa, F. Ricciardelli, F. Scherillo, C.T. Georgakis
A comparative analysis of construction costs of onshore and shallow- and deep-water offshore wind farms

18:00 - 18:30  Closing ceremony