DETAILED PROGRAMME

Monday, September 26th, 2016

09:00 - 10:00 Keynote lecture by Ahsan Kareem
The Emerging Dynamic of Wind Effects: A Transition from Stationarity, Linearity and Gaussianity

10:00 - 10:30 Coffee break

10:30 - 11:45 Technical session A – Wind Energy 1

- Effects of wind-wave misalignment in the case of nonlinear hydrodynamic loading
  A. Mockute, E. Marino, C. Borri
- Evaluation of gyroscopic effects on HAWTs
  F. Ricciardelli, A.M. Avossa, C. Demartino
- Piezoelectric EH from flow-induced structural vibrations
  G. Biscarini, F. Petrini, K. Gkoumas, F. Bontempi
- Galloping-based piezo-aeroelastic energy harvester: numerical models and wind tunnel experimental tests
  G. Tomasini, S. Giappino
- A novel reduced-order model to study the efficiency of a torsional-flutter-based wind harvester
  L. Caracoglia

11:45 - 13:00 Technical session B – Wind Induced Load and Vibration 1

- Reduced structural models for the analysis of wind loading
  L. Patruno, M. Ricci, S. de Miranda
- Conditional expected static wind loads for structural responses driven by non- Gaussian local pressures
  N. Blaise, T. Andrianne, V. Denoël
- Response of tall building under wind loads: effect of turbulent component
  F. Cluni and M. L. Sebastiani
- Building the Case for Preliminary Analytical Desktop Analysis from a Wind Specialist - a Comparison with Wind Tunnel Testing for Stadio Della Roma
  J. Lankin, J. Munn, C. Pozzuoli
- Simulation of strongly non-Gaussian wind pressures using mixed models
  M. Gioffrè and M. Grigoriu

13:00 - 14:00 *Lunch*

14:00 - 15:30 Technical session C - Wind Climate and Computational Fluid Dynamics 1

- New methodology for determining downburst touchdown location
  D. Romanic, D. Parvu, H. Hangan, G. Solari, M. Burlando
- Vulnerability of urban and rural environment to extreme winds: the February 28 event in Italy
  C. Demartino, A. M. Avossa, F. Ricciardelli
- Numerical modelling of evaporative cooling using water spray systems for heat stress reduction in urban areas
  H. Montazeri, Y. Toparlar, B. Blocken, J.L.M. Hensen
- Pedestrian wind comfort optimization by adjoint CFD model analysis
  I. Kalkman, B. Blocken
- Analysis of the effect of building geometry modifications on pedestrian-level wind speed
  T. van Druenen, T. van Hooff, B. Blocken

- Applying non-conformal grids for LES simulations of convective heat transfer at the facades of a low-rise building
  S. Iousef, H. Montazeri, B. Blocken, P. van Wesemael

15:30 - 16:00 Coffee break

16:00 - 17:15 Technical session D - Computational Fluid Dynamics 2

- Large Eddy Simulation for wind loads assessment on a low-rise building
  L. Patruno, M. Ricci, B. Blocken, S. de Miranda
- Aerodynamic efficiency of a slender transmission tube tower
  V. Melatti, F. Valvona, V. Gattulli
- Experimental and numerical analysis of cyclist drag reduction by trailing motorcycles
  B. Blocken, Y. Toparlar and T. Andrianne
- Windblown sand saltation: a probabilistic approach to sand transport rate
  L. Raffaele, L. Bruno, D. Fransos
- Generation of consistent profiles for the LES of the atmospheric boundary layer: impact of inflow methods and terrain roughness
  R. Vasaturo, I. Kalkman, B. Blocken, P.J.V. van Wesemael

17:15 - 18:30 Technical session E – Performance Based Wind Engineering

- Parametrical study of damage over glass façade using fragility curves
  I. F. Lima Castillo, R. Gómez Martínez, A. Pozos-Estrada, J. A. Escobar Sánchez
- Wind loss estimation in tall buildings accounting for uncertainties in wind load and damage model characterization
  L. Ierimonti, L. Caracoglia, I. Venanzi, A. L. Materazzi
- RMS - based performance thresholds for the wind - induced response of tall buildings by Stochastic Approximation
  G. F. Giaccu, L. Scintu, L. Caracoglia, B. Barbiellini
- Evaluation of European Windstorm Models – An Application to Guy Carpenter's Model Suitability Analysis (MSA)®
  M. Lopeman, G. E. Franco, S. Pucciano, K. Vojak, M. Melsen
- A probabilistic framework to the design of HAWTs subjected to combined wind and seismic actions: preliminary results
  A.M. Avossa, C. Demartino, F. Ricciardelli, M. Ferraioli

19:00 - 21:00 Meeting of the ANIV Steering Committee

19:00 - 21:00 Guided Tour to Marmore Falls

Tuesday, September 27th, 2016

08:30 - 09:30 Keynote lecture by Bert Blocken
Smart cities: A wind engineering perspective

09:30 - 10:30 Technical session F - Wind Induced Load and Vibration 2

- Real wind actions versus design prescriptions: comparison between wind measurements and Italian code prescriptions in different structures of Italian Air Force
  N. Di Fiore, R. Chiodi, C. Demartino
- An approach based on substructures for the estimation of the response of tall buildings under wind loads using an equivalent beam
  F. Cluni, S. Fiorucci, M. Gioffrè, V. Gusella
- Wind effects on Sardinia Radio Telescope (preliminary results)
  G. F. Giaccu, S. Corda, T. Pisanu, F. Buffa, M. Brun
- Pressure coefficients for evaluating wind loads on large roofs: comparison between Database-Assisted Design and Italian standards
  D. Crisman, M. Izzi, S. Noè and L. Caracoglia

10:30 - 11:00 *Coffee break*

11:00 - 13:00 Technical session G - Aerodynamics

- Preliminary investigations on the aerodynamics of super-slender tall buildings
  S. Cammelli, H.N. Sinh
- Numerical and experimental simulation to obtain pressure coefficients over a small scaled cube: Mexican comparative study
  E. Amaya-Gallardo, A. Pozos-Estrada, R. Gómez-Martínez
- Peak factors dependence on wind angles of attack for a hyperbolic paraboloid roof
  F. Rizzo, M. Barbato, V. Sepe
- The results of the experimental campaign on BARC benchmark
  C. Mannini, A. M. Marra, L. Pigolotti, G. Bartoli
- Forces and pressure distributions on building façades with a screen: experimental and numerical two-dimensional studies
  A. Giachetti, C. Mannini, G. Bartoli
- Wind loads on small scale façade louvers: comparison of fiber Bragg grating sensors and differential pressure measurements
  L. Amerio, T. Argentini, L. Bernini, D. Rocchi, L. Rosa
- Aerodynamics of sailing yacht: full scale and wind tunnel tests
  S. Muggiasca, I. Bayati, M. Belloli, P. Schito, A. Vandone, G. Campanardi
- Wind effects induced by high speed train pass-by
  D. Rocchi, G. Tomasini, P. Schito, C. Somaschini

13:00 - 14:00 *Lunch*

14:00 - 15:00 Technical session H - Computational Fluid Dynamics 3

- Effects of computed flow separations on pitch flutter derivatives
  A. Šarkić Glumac, R. Höffer
- Effect of inlet turbulence on the flow over a blunt plate: a numerical study
  G. Vita, H. Hemida, C. Baniotopoulos
- Numerical uncertainties in RANS modeling of urban wind flow: the case study of Livorno city
  A. Ricci, I. Kalkman, B. Blocken, M. Burlando, A. Freda, M.P. Repetto
- Numerical modelling of urban microclimate in a compact urban area: a case study for Rome
  A. Ricci, I. Kalkman, B. Blocken, M. Burlando, A. Freda, M.P. Repetto

15:00 - 16:00 Technical session I - Control and Monitoring 1

- Damage Detection of Wind Turbine Blade using Hybrid Dense Sensor Networks
  A. Downey, F. Ubertini, S. Laflamme, H Sauder and P. Sarkar
- Robust adaptive control of tall buildings based on multiple models
  I. Venanzi, M. L. Fravolini, L. Ierimonti
- Structural monitoring of a small size vertical axis wind turbine
  L. C. Pagnini, M. P. Repetto, A. Freda, G. Piccardo, M. Rosasco
- Long Term Monitoring of Towers – Experiences with Tuned Mass Damper System to reduce wind- induced vibrations
  F. Bottoni - GERB

16:00 - 16:30 *Coffee break*

16:30 - 17:30 Technical session L - Wind Energy 2

- Enhancing performance of wind-energy harvester using fins on a square prism
  G. Hu, K.T. Tse, K.C.S. Kwok
- A numerical study of the effect of the central shaft on the performance of a VAWT
  A. Rezaeiha, I. Kalkman, B. Blocken
- Wind tunnel testing of floating offshore wind turbine: scaling issues and imposed motion test
  I. Bayati, M. Belloli, L. Bernini, A. Zasso
- Wind Tunnel transient aerodynamic performance testing of a small wind turbine
  F. Castellani, D. Astolfi, M. Becchetti, N. Bartolini, L. Scappaticci

17:30 - 18:30 Technical session M - Aeroelasticity 1

- GallAnalyzer: Open Source Toolkit for galloping stability assessment
  C. Demartino, G. Matteoni, C. T. Georgakis
- Non-linear Aerodynamic Damping in Vortex-Induced Vibrations
  F. Lupi, H.-J. Niemann, R. Höffer
- Stochastic stability of a rotational oscillator under gusty winds
  H. Vanvinckenroye, V. Denoël
- Peculiar aspects of rectangular sections subjected to air and water flows
  T. Massai, C. Mannini, A. M. Marra, G. Bartoli

18:30 - 19:00 ANIV General Assembly

20:00 - 22:00 *Social Dinner*

Wednesday, September 28th, 2016

08:30 - 10:45 Special session on footbridges organized by C. Borri and R. Meloni

08:30 - 08:45 Introduction
C. Borri and R. Meloni

08:45 - 09:15 Keynote lecture by R. Benedetti, Benedetti Architects, London (formerly McDowell+Benedetti Architects)
Footbridges as a requalification measure of urban infrastructure

09:15 - 09:45 Aerodynamics of footbridges
G. Bartoli, (CRIACIV/Univ. of Florence)

09:45 - 10:15 Pedestrians & Footbridges
G. Piccardo (Univ. of Genoa)

10:15 - 10:45 Advances on Dynamic Monitoring of Large Civil Structures
F. Magalhães (Univ. of Porto)

10:45 - 11:15 *Coffee break*

11:15 - 12:15 Technical session N - Aeroelasticity 2

- The effects of turbulence on the interference of VIV and galloping for a rectangular cylinder
  C. Mannini, A. M. Marra, T. Massai, G. Bartoli
- Experimental investigations on a flat plate equipped with porous screens undergoing classical flutter oscillations
  L. Pigolotti, C. Mannini, G. Bartoli
- Wind induced vibrations on a pedestrian arch bridge: wind tunnel tests on rigid and sectional models
  T. Argentini, G. Diana, S. Muggiasca, D. Rocchi
- Lock-In due to Crowd and Wind Synchronizations: application to the new Footbridge in Terni
  O. Manfroni

12:15 - 13:15 Technical session O - Control and Monitoring 2

- Fluid viscous dampers for the Isozaki/Allianz Tower in Milan, Italy
  M.G. Castellano, R. Borella, E. Pigouni, S. Infanti
- Sand mitigation along railways: aerodynamic conceptual design and comparative analysis of a new barrier
  L. Bruno, D. Fransos, A. Lo Giudice
- Assessment of different tuned mass-damper-inerter (TMDI) topologies to suppress tall building oscillations in the across-wind direction
  F. Petrini, A. Giaralis
- Combining TMD and TLCD: analytical and experimental studies
  A. Di Matteo, A. Pirrotta and S. Tumminelli

13:15 - 14:15 *Lunch*

14:15 - 15:30 Technical session P - Aeroelasticity 3

- Effect and Aerodynamic Mechanism of Stabilizer on Flutter Stability of Truss-girder Suspension Bridges
  J. Liu, H. Liao, M. Li, H. Mei
- Aerodynamic forces, wake flow and VIV response of a yawed bridge tower
  A. M. Marra, C. Mannini, G. Bartoli
- Wind-induced vibrations on non-circular section cables: application to a new Large Observation Wheel
  M. Belloli, G. Diana, S. Giappino, L. Rosa and S. Muggiasca
- Measurement and identification of damping for the Rio Higuamo Bridge
  G. *Bartoli, C. Mannini, M. de Miranda*
- Wind loads on the tower of wind turbines during installation
  A. Torrielli, R.D. Redd

15:30 - 16:30 Technical session on the "Umbria Gateway" organized by C. Borri and R. Meloni

15:30 - 15:45 Umbria Gateway: the general framework (project development & implementation, supervision of works)
R. Meloni and L. Donati, Comune di Terni

15:45 - 16:00 Structural design of Umbria Gateway: from the initial concept to the final solution
O. Manfroni, M. Peroni, Consulting Engineers

16:00 - 16:15 Wind tunnel tests and wind resistant design of the Umbria Gateway
G. Bartoli, C. Borri, C. Mannini and A. Marra, (CRIACIV/Univ. of Florence)

16:15 - 16:30 In-situ monitoring of Umbria Gateway
M. Gioffré (CRIACIV/Univ. of Perugia)

16:30 - 16:45 Closing ceremony

To follow: Technical visit on site to the Umbria Gateway footbridge.