inVento 2020

online event

September 7th, 2020

Promoted by:

ASSOCIAZIONE NAZIONALE PER L'INGEGNERIA DEL VENTO

Organized by:

POLITECNICO MILANO 1863

IN-VENTO 2020

Due to the Covid-19 contingencies the Chairman of the Organizing Committee and the ANIV Steering Committee decided to cancel the IN-VENTO 2020 Conference scheduled on September 6-9, 2020.

A one-day on-line event, on September 7th, 2020 is replacing the Conference of the Italian Association for Wind Engineering.

The superposition with the regional conferences (e.g. EACWE) suggested not to postpone IN-VENTO 2020 to 2021, scheduling the next IN-VENTO Conference in Lecco, 2022.

Following the spirit of the past meetings, the online event will be an important initiative to offer Wind Engineering prospects for researchers from Italy and abroad.

AIM OF THE MEETING

Focus of the meeting will be a special attention to the emerging contribution of young Wind Engineering researchers, offering the opportunity to the latest Italian PhD defended thesis to be presented by the Authors in the morning meeting and hosting in the afternoon the ANIV Award 2020 Ceremony, with presentation by the Authors of the shortlisted 3 papers.

The IN-VENTO 2020 invited key-note speakers, Catherine Gorle, Derek Kelly and Joachim Reuder, together with Francesco Ricciardelli, member of Eurocode "Wind Actions Annex K Commission", moderated by the event chairman Alberto Zasso will finally polarize the meeting attention to the “New Challenges in Wind-Structure interaction” Panel discussion (see below a detailed insight on that).

The morning on-line event, managed by ANIV young researchers Group, will also host the ANIV-G Meeting. The detailed program of the morning PhD session can be downloaded from the InVento website.

At the conclusion of the afternoon on-line event all the Members of ANIV Association (formally the ones who settled the membership fee) are invited to take part to the Association key moment, i.e. the “ANIV Members Meeting”.

IN-VENTO 2020 Web-Event & ANIV-G Meeting are offered for free. They are part of the actions promoted by ANIV, e.g. ANIV award, new website and Special Interest Groups.
In the “Registration Section” of the InVento event website you will find the Membership Registration Instructions. ANIV warmly welcomes you confirming your membership or becoming a new member and supporting the Association life and activities. Thank you!

IN-VENTO 2020 EVENT AGENDA

ANIV-G PhD Session [9:00 – 13:00]

09:00 – 09:15 | Welcome Address to ANIV-G from the Chairman of the day Alberto Zasso and ANIV President Luca Bruno

09:15 – 10:55 | PhD Session

10:55 – 11:10 | Break

11:10 – 12:25 | PhD Session

10:00 – 13:00 | ANIV-G Meeting

13:00 – 14:00 | Lunch Break

IN-VENTO 2020 Web-Event [14:00 – 18:15]

14:00 – 14:15 | Welcome Address from the Chairman Alberto Zasso and ANIV President Luca Bruno

14:15 – 15:45 | ANIV AWARD2020: presentations of the shortlisted papers

Andrea Giachetti, Two-dimensional study of a rectangular cylinder with a forebody airtight screen at a small distance,
doi: 10.1016/j.jweia.2019.03.015

Tommaso Massai, The effect of angle of attack on flow-induced vibration of low-side-ratio rectangular cylinders,
doi: 10.1016/j.jfluidstructs.2018.07.011

Lorenzo Raffaele, Windblown sand action on civil structures: Definition and probabilistic modelling,
doi: 10.1016/j.engstruct.2018.10.017

15:45 – 16:00 | ANIV AWARD2020 ceremony

16:00 – 16:15 | Break

16:15 – 17:15 | Panel discussion “New Challenges in Wind-Structure interaction”

17:15 – 18:15 | ANIV Members Meeting

PANEL DISCUSSION: *"New Challenges in Wind-Structure Interaction"*

The new emerging technologies are opening a very wide spectrum of applications in the field of constructions: record length floating bridges in complex terrain and sea environment, record slenderness buildings well over 400m height are present in the design pagenda of the 2020 structural engineers. New challenges in Wind-Structure Interaction are as a consequence on the table of the designers. At the same time, the availability of reasonable cost HPC resources and the evolving experience on numerical simulation of the boundary layer-bluff bodies interaction is opening a new challenge: CFD & Wind Tunnel Tests, are they alternative available tools for the designer?

The Panelist will bring us the "flavor" of those new challenges relying on their personal "on the field" experience on the mentioned constructions / science examples. We will also listen to the "Voice of the Codes" bringing us news and ideas emerging from the renovation path recently on its way for Eurocode (and ASCE).

Joachim Reuder is proposing the point of view of the Physics of Atmosphere talking about his experience on wind conditions "out of the codes" but now of emerging importance for the design of the new fjord crossing floating bridges in Norway.

Derek Kelly will offer his direct experience on high rise building constructions with challenging cases moving to slenderness and dynamics out of the usual constructions' boundaries.

Catherine Gorle will be "the voice of CFD" bringing us her experience in playing with HPC CFD for predicting the earth boundary layer interaction with buildings.

Francesco Ricciardelli will offer us the perspective of codes on those new challenges, specifically on the CFD / Wind Tunnel Tests alternatives expected from possible future renovations expected from Eurocode and ASCE 7 codes.

Biography of the Panelists

Catherine Gorlé is an Assistant Professor of Civil and Environmental Engineering at Stanford University. Her research activities focus on the development of predictive computational fluid dynamics (CFD) simulations to support the design of sustainable buildings and cities. Specific topics of interest are: the coupling of large- and small-scale models and experiments to quantify uncertainties related to the variability of boundary conditions, the development of uncertainty quantification methods for low-fidelity models using high-fidelity data, and the use of data assimilation to improve CFD predictions. Catherine received her BSc (2002) and MSc (2005) degrees in Aerospace Engineering from the Delft University of Technology, and her PhD (2010) from the von Karman Institute for Fluid Dynamics in cooperation with the University of Antwerp. She has been the recipient of a Stanford Center for Turbulence Research Postdoctoral Fellowship (2010), a Pegasus Marie Curie Fellowship (2012), and an NSF CAREER award (2018).

Joachim Reuder is Professor in Experimental Meteorology at the Geophysical Institute and the Bergen Offshore Wind Centre (BOW) at the University of Bergen. He has more than 25 years of experience in boundary layer meteorology and is now for more than 10 years deeply involved in atmospheric and oceanic measurements with respect to offshore wind energy deployments. He is also director of the national Norwegian infrastructure OBLO (Offshore Boundary Layer Observatory), that provides access to state-of-the-art instrumentation for met-ocean measurements relevant for offshore wind energy resarch.

Derek Kelly has been in the Wind Engineering industry for more than 23 years. In his undergraduate program at the University of Western Ontario, Derek had the opportunity to be taught by notable professors such as, Allan Davenport, Nick Isyumov and Barry Vickery. In 1998 he joined RWDI as a Technical Coordinator, working as a project engineering, overseeing wind tunnel tests and performing the wind engineering analysis on high-rise towers, stadiums and long-span bridges. During this period Derek also completed his master's degree which he did part-time at McMaster University in Hamilton, Ontario. The subject of his thesis was comparing full scale turbulence properties at the Cooper River Bridge project site, to those modelled in the wind tunnel. In 2005 Derek became a Project Manager, leading projects and working more closely with clients. Throughout this period Derek has worked on some of the tallest buildings in North America and China.
Derek has been a General Manager at RWDI and now sits on RWDI's Board of Directors.

Francesco Ricciardelli received his 5-year degree in Civil Engineering from the University of Napoli Federico II, his Master's degree from the University of Western Ontario and his Ph.D. from the University of Napoli Federico II. He is professor of Structural Engineering at the University of Campania "L. Vanvitelli". Author of 170+ papers most of which in the area of Wind Engineering; Editor in Chief of Wind and Structures, an International Journal; member of the WG for the drafting of the Italian National Research Council Guidelines on Wind Actions; member of CEN-TC250/SC1 (Eurocode 1); member of CEN-TC250/SC1/WG1 (Climatic Actions); convenor of CEN-TC250/SC1/WG1/T2 (Wind Actions); member of CEN-TC250/SC1.T3 (Wind Actions); Team Leader of CEN-TC250/SC1/T6 (Climatic Actions); member of UNI-CT021/SC1 (Actions on Structures). Vice-President of the Italian Association for Wind Engineering. He has thought Wind Engineering courses at the University of Napoli Federico II, at the University of Reggio Calabria and at the Technical University of Denmark. He is member of the Steering Committee of the Inter-University Centre for Building Aerodynamics and Wind Engineering (CRIACIV).