XXXIII A.I.VE.LA.
ANNUAL NATIONAL MEETING

Naples, 11-12 December 2025

FINAL PROGRAMME

THURSDAY, 11th DECEMBER

09.15 *REGISTRATION*

09.45 *WELCOME*

10.00 **TECHNICAL SESSION #1**

Chairman: Dr L. Marchitto, CNR - STEMS

"Experimental thermal analysis of a planar metal hydride hydrogen storage tank under charging and discharging conditions", *L. Sequino, A. Magno, B.M. Vaglieco, S. D'Avino, A. Guida, G. Di Ilio, E. Jannelli, CNR- STEMS*

"Onset Forecasting of Hand–Arm Fatigue via Physics–Informed Machine Learning and Wearable IMU Sensors", *M. Cavacece, La Sapienza University of Rome*

"Bearing fault detection and identification using Feedforward Neural Network (FNN): an application to experimental accelerometer signals from a public dataset", *C. Cosenza, M. Spirto, F. Melluso, P. Malfi, A. Nicolella, S. Savino, V. Niola, University of Naples "Federico II"*

"Micro Gas Turbine Emissions and Vibration: a correlation by a novel nonlinear analysis", *G. Langella, C. Allouis, A. Amoresano, G. Quaremba, University of Naples "Federico II"*

"Investigating Vorticity in Granular Flows through Particle Image Velocimetry and a Neural Particle Method", *P.H. Pai, L. Sarno, Y.C. Tai, H.C. Kan, University of Salerno*

11.40 **TECHNICAL SESSION #2**

Chairman: Dr F. De Gregorio, CIRA

"On the role of the supporting plate in the wake of a μUAV", *G. Longobardo, T. Astarita, F. De Gregorio, CIRA*

"Acoustic Characterization of Co- and Counter-Rotating Propellers: Phase Control and Inflow Effects", *F. Del Duchetto, P. Candeloro, T. Pagliaroli, J. Yin, K.-S. Rossignol, Niccolò Cusano University*

"Aeroacoustic Characterisation of Haystacking Using Wavelet and Matching Pursuit Decomposition", *A. Mascioli, S. Meloni, R. Camussi, I. Zaman, N. Zang, M. Azarpeyvand, Roma Tre University*

"Free flow field measurements of a synthetic jet-controlled sweeping jet", *A. D'Onofrio, G. Paolillo, C. S. Greco, T. Astarita, University of Naples "Federico II"*

13.00 *LUNCH*

14.00 **TECHNICAL SESSION #3**

Chairman: Dr F. Di Felice, CNR-INM

"Nonlinear Coupling of Symmetric and Anti-Symmetric Sloshing Modes under Stochastic and Parametric Excitation", *T. Pagliaroli, F. Cherubini, F. Gambioli, Niccolò Cusano University*

"Left Ventricular Flow Dynamics with a Novel Physiological Transcatheter Mitral Valve Prosthesis", *M. Zannone , E. Torta, D. Pecchio, D. Gallo, U. Morbiducci, Politecnico di Torino*

"Hybrid Physics–Data–Driven Estimation of Vehicle Lateral Dynamics Using Onboard IMU Measurements", *M. Cavacece, University of Rome Tor Vergata*

15.00 **INVITED LECTURE**

"**Prospects of Omnidirectional PIV for Aerodynamic Force Measurements**", *Prof. Fulvio Scarano, Delft University of Technology*

15.30 *COFFEE BREAK*

16.00 **TECHNICAL SESSION #4**

Chairman: Prof. T. Pagliaroli, Niccolò Cusano University

"Non-contact measurements for the safety assessment of long-standing concrete dams: challenges and perspectives", *G. Bolzon, M. Hajjar, C. Nogara, E. Zappa, Politecnico di Milano*

"Evaluating discrete deformations in masonry using natural feature based DIC", *N.P.Thatikonda, D. Baraldi, A. Cecchi, IUAV University of Venice*

"Characterization of defects in polymeric materials using step heating thermography: estimation of geometric parameters and uncertainty", *L. Chiominto, G. D'Emilia, E. Natale, F. Tiberi, University of L'Aquila*

"On the generation of synthetic images for defocus particle tracking", *M. Rossi, University of Bologna*

"Non-invasive Investigation of the Wall Painting of the Roman Villa in the Baia Castle", *M. Andrianakis, V. Tornari, I. Catapano, E. Vannini, A. Chaban, R. Fontana, V. Pagliarulo, C. Saltarelli, M. Paturzo, F. Pagano, S. Carannante, M. E. C. Auditore, V. Di Sarno, A. Rocco, INO-CNR*

17.40 **MANUFACTURERS' PRESENTATIONS**

18.15 **MEMBERS' GENERAL ASSEMBLY**

20.30 *DEPARTURE for GALA DINNER at 'A Fenestella*

FRIDAY, 12th DECEMBER

08.45 *REGISTRATION*

09.00 **TECHNICAL SESSION #5**

Chairman: Prof. R. Camussi, Roma Tre University

"Design and characterization of hydrophobic epoxy based- coatings", *A. Amoresano, V. Nebbioso, S. Roscioli, A. Aronne, University of Naples "Federico II"*

"Experimental study of local turbulent consumption speed in thermodiffusively unstable Bunsen flames", *G. Troiani, P. E. Lapenna, F. Creta, ENEA*

"State-Dependent Interacting Multiple Model-Unscented Kalman Filter for Real-Time Reconstruction of Unmeasured States", *G. Giardiello, A. Gimelli, F. Tufano, University of Naples "Federico II"*

10.00 **TECHNICAL SESSION #6**

Chairman: Dr G. Troiani, ENEA

"Experimental Investigation of Sloshing-Induced Dynamic Effects on a Wing-Box Equipped with FBG Sensors", *M. Bertone, A. Aimasso, V. Madonia, P. Maggiore, M. D. L. Dalla Vedova , Politecnico di Torino*

"Artworks diagnostic by Shearography and 3D scanning", *C. Saltarelli, V. Pagliarulo, M. Paturzo, CNR- ISASI*

"Enhanced BOS on a premixed H2 Flame", *F. Cozzi, Politecnico di Milano*

11.00 **INVITED LECTURE**

"Visualizing Vibrations: From Phase-Based Motion Processing to AI-Driven Full-Field Modal Analysis - Bridging computer vision, signal processing, and AI for next-generation experimental/operational modal analysis", *Dr Francesco Cosco, University of Calabria*

11.30 *COFFEE BREAK*

12.00 **"Giulio Guj" DEGREE PRIZE - Award Ceremony & Presentation by the Winning Candidate**

"Intra- versus supra-annular deployment of the mechanical aortic valve: a fluid-structure-interaction investigation", *Gianlorenzo Granata, Roma Tre University, Gianlorenzo Granata, University of Rome Tor Vergata*

12.30 **TECHNICAL SESSION #7**

Chairman: Prof. M. Rossi, University of Bologna

"Systematic Underestimation of Rectangular Hydrograph Volumes Measured by Pressure Pipe Flowmeters", *L. Lanza, U. Sanfilippo, HEMINA SPA*

"Integrated Non-Intrusive Methods for the Acoustic Characterization of External Noise Sources on Cruise Ships", *J. A. Bocanegra, D. Borelli, C. Schenone, E. Rizzuto, T. Gaggero, L. Mocerino, M. Viscardi, University of Naples "Federico II"*

"Experimental Investigation of Bio-Inspired Geometries for Modulating the Horseshoe Vortex Around a Cylinder", *A. Trotta, S. Meloni, C. Biscarini, G. Falcucci, A. Colagrossi, A. Facci, S. Ubertini, Tuscia University*

"Aerodynamic Characterisation of UAV Subsonic Nozzle Flows", *F. De Gregorio, M. Inverno, S. Palazzo, L. Lazzarini, E. De Paola, A. Talamelli, R. Camussi, K.S. Rossignol, CIRA*

13.50 **TECHNICAL SESSION #8**

Chairman: Prof. M.D.L. Dalla Vedova, Politecnico di Torino

"Refined DIC-based Operational Modal Analysis of Rotating Bladed blisks through Image Reordering and Hybrid Rigid Body Motion Compensation", *D. Mastrodicasa, S. Occhipinti, A. Cesaretti, C. Cardillo, E. Di Lorenzo, B. Peeters, C. M. Firrone, D. Botto, Siemens Industry Software NV*

"Using computer-generated imagery to validate image-based measurement algorithms", *T.Truffarelli, F.Paolucci, R.Marsili, G.Rossi, University of Perugia*

"Detection and Characterization of Damage in Composite Panels via NDI", *S. Coppola, V. Vespini, P. Ferraro, P. Russo, G. Del Prete, CNR - ISASI*

15.00 *FINAL GREETINGS & REFRESHMENTS*

15.30 *END of MEETING*

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