



## AIVELA XXX Annual National Meeting

Niccolò Cusano University

15-16 December 2022

### FINAL PROGRAMME

#### Thursday, 15th December

- 10.00 - 10.20 Registration
- 10.20 - 10.30 Welcome by Prof. E.P. Tomasini, President of AIVELA
- 10.30 - 12.30 **Technical Session #1**  
**Chairman: Prof. F. Patanè, Niccolò Cusano University**
- "Cross-Wavelet Analysis on radiation emitted by the plume of a small size solid rocket motor", E. Martellini, G. Troiani, T. Pagliaroli, Niccolò Cusano University
- "Comparison of video-based algorithms for human kinematics estimation: a preliminary study", L. Ceriola, I. Mileti, M. Donati, F. Patanè, Niccolò Cusano University
- "Droplets size characterization for cold water clouds by means of Generalised Scattering Imaging", G. Ceglia, F. De Gregorio, C.I.R.A. - Italian Aerospace Research Centre
- "Limitations and advantages of second harmonic interferometry for the characterization of EO materials", T. Del Rosso, D. Grando, P. Marsili, F. Giammanco, University of Pavia
- "Metrological issues in the use of mobile mapping systems for planning emergency response", L. Chiominto, G. D'Emilia, A. Gaspari, E. Natale, University of L'Aquila
- "Integrity inspection of materials using ultrasound laser vibrometer and pulsed laser excitation", M. Simonetta, M. Benedetti, G. Giuliani, University of Pavia & Julight Srl
- 12.30 - 13.00 **Invited Lecture**
- "Advances in PIV Applications for Aeroacoustics", by Prof. Daniele Ragni, TU Delft, The Netherlands
- 13.00 - 13.10 **Demo by Instrumentation Manufacturer**
- "Miniature Laser Doppler Velocimeters", by Dr Stefano Somaschi, Luchsinger Srl
- 13.30 - 14.30 Lunch

14.45 - 16.25

## Technical Session #2

*Chairman: Dr F. De Gregorio, C.I.R.A. - Italian Aerospace Research Centre*

"Wireless Inertial Measurement Unit for Multi-Input Multi-Output Model of Motorbike on Road Vibrations", M. Cavacece, S. Strozzi, University of Cassino

"Detection of two phase flow pattern inside horizontal tubes of solar direct steam generation plants by discriminant analysis of pipe vibration", A. Amoresano, G. Langella, P. Iodice, S. Roscioli, University of Naples Federico II

"Sensitivity analysis of FBG sensors for detection of fast temperature changes", A. Aimasso, M. D. L. Dalla Vedova, P. Maggiore, Politecnico di Torino

"A Novel Thermographic Technique to Measure Simultaneously the Thickness and the Temperature of a Semitransparent Film", L. Araneo, R. Clavenna, Politecnico di Milano

"Supercritical water injection in a single cylinder research engine: a PIV study", M. Piras, L. Marchitto, C. Tornatore, University of Naples Federico II & STEMS-CNR

16.25 - 16.45

Coffee break

16.45 - 17.10

## Tutorial by Instrumentation Manufacturer

"DIC Setup & Measurement", by Dr Germano Ragosta, Fluxoptica Srl

17.10 - 18.10

## Technical Session #3

*Chairman: Prof. F. Cozzi, Politecnico di Milano*

"The Noise of Rail Transport", M. Cavacece, University of Cassino

"A multivariate statistical analysis of the noise emitted by an installed propeller", M. Falsi, I. Zaman, S. Meloni, R. Camussi, B. Zang, M. Azarpeyvand, Tuscia University

"Motion measurements, dynamics study and shape reconstruction of a sub-scale parachute in wind tunnel tests through fiducial markers", T. Tocci, L. Villafane Roca, F. Panerai, R. Marsili, G. Rossi, University of Perugia

18.10 - 18.45

## Manufacturers' Presentations

18.45

End of Meeting Day 1

20.30

Dinner at Ristorante Consolini

## Friday, 16th December

- 09.10 - 09.20 *Registration*
- 09.20 - 09.30 *Welcome*
- 09.30 - 10.10 **Invited Lecture**  
"Making waves in vibration measurement with laser Doppler vibrometry" by Prof. Ben Halkon, UTS, Australia
- 10.10 - 11.10 **Technical Session #4**  
*Chairman: Prof. T. Pagliaroli, Niccolò Cusano University*  
"PIV wake survey of a drone propeller for amphibious applications", S. Grizzi, M. Falchi, E. Martellini, G. Aloisio, T. Pagliaroli, CNR-INM  
"Flow field investigation of Confined Coaxial Swirling Jets by Stereo-PIV", F. Cozzi, A. Francabandiera, L. Zampini, Politecnico di Milano  
"Non-contact measurement techniques to study the micro-sized particle adhesion phenomenon", A. Suman, M. Pinelli, University of Ferrara
- 11.10 - 11.30 *Coffee break*
- 11.30 - 11.40 **Tutorial by Instrumentation Manufacturer**  
"Comparison between VIC-EDU, a VIC3D Educational System, and Strain Gauge", by Dr Stefano Somaschi, Luchsinger Srl
- 11.40 - 12.20 **Technical Session #5**  
*Chairman: Prof. R. Camussi, Roma Tre University*  
"On the rotor-rotor interaction noise: a control strategy", T. Pagliaroli, P. Candeloro, F. Del Duchetto, F. De Gregorio, G. Ceglia, Niccolò Cusano University  
"A mode-matching approach for the evaluation of the reflection coefficient of a Kelvin-Helmholtz wave incident to a shock", M. Mancinelli, E. Martini, V. Jaunet, P. Jordan, A. Towne, Y. Gervais, Rome Tre University
- 12.20 - 12.40 **Tutorial by Instrumentation Manufacturer**  
"Ultrasonic Velocity Profile Measurement", by Dr Germano Ragosta, Fluxoptica Srl

12.40 - 13.10

**"Giulio Guj" degree prize - Award Ceremony & Presentation by the Winning Candidate**

**"Experimental and analytical investigation into the installation effects of single propeller systems", by Federico Petricelli**

13.10 - 14.00

**Members' General Assembly**

14.00 -15.30

*Lunch*

15.30 - 15.40

*Final Greetings & End of Meeting*

*Organised with the support of*



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