

## Andrea Ianiro

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### ■ *Research expertise:*

Experimental research in aerodynamics, fluid mechanics and heat transfer in a wide range of conditions from low speed to hypersonic flows. Most recent interests include synthetic jets, flapping wing aerodynamics and wall bounded turbulence. Experimental tools include advanced methods such as IR thermography and Particle Image Velocimetry as well as traditional methods such as hot wire and flow visualization. Analytical tools include modal decomposition for the development of low-order models.

### ■ *Education:*

2012	<i>Ph.D.</i>	Aerospace Engineering, Università degli Studi di Napoli Federico II
2008	<i>M.Sc.</i>	Aerospace Engineering, Università degli Studi di Napoli Federico II
2006	<i>B.Sc.</i>	Aerospace Engineering, Università degli Studi di Napoli Federico II

### ■ *Professional Experience:*

2018- present	<i>Associate Professor</i> , Universidad Carlos III de Madrid Dept. Bioingeniería e Ingeniería Aeroespacial
2013-2018	<i>Visiting Professor</i> , Universidad Carlos III de Madrid Dept. Bioingeniería e Ingeniería Aeroespacial
2012-2013	<i>Post-Doctoral Research Fellow</i> , Università degli Studi di Napoli Federico II Dipartimento di Ingegneria Aerospaziale
2008-2012	<i>PhD Fellow</i> , Università degli Studi di Napoli Federico II Advisors: Prof. Carlomagno and Prof. Cardone

### ■ *Teaching experience*

2015-	<i>Aerospace Engineering, UC3M: Aerospace Propulsion, Propulsion Systems; Master in Plasma Physics and Nuclear Fusion, UC3M: Fluid Dynamics; Master in Aeronautical Engineering, UC3M: Experimental Aerodynamics.</i>
2014-2015	<i>Aerospace Engineering, UC3M: Aerospace Propulsion, Aerospace Propulsion: complement I, Aerospace Vehicles: complement I, Propulsion Systems, Rocket Motors.</i>
2013-2014	<i>Aerospace Engineering, UC3M: Propulsion Systems, Stability and Integrity of Aerospace Structures,</i>
2009-2012	<i>Aerospace Engineering, Italian Air Force Military Academy: Gas Dynamics-Exercises. Mechanical Engineering and Aerospace Engineering Degreeem, UNINA: Teaching assistant of Experimental Fluid Dynamics, Fluid Dynamics and Gas Dynamics,</i>
2008-present	Supervisor of more than 30 bachelor and master thesis projects

### ■ *PhD Students advising*

Carlo Salvatore Greco (2015) – co-supervised with G. Cardone

*Investigation of Synthetic Jets Heat Transfer and Flow Field*

Marco Raiola (Fall 2017) – co-supervised with S. Discetti

*Empirical eigenfunctions: applications in unsteady aerodynamics*

Carlos Sanmiguel Vila (expected to defend in Fall 2018) – co-supervised with S. Discetti

*Turbulent boundary layers under pressure gradients*

Alejandro Güemes Jimenez (in progress) – co-supervised with S. Discetti

*Dynamics of coherent structures in wall-bounded turbulent flows*

### ■ *Academic service and memberships*

Member, elected, of the University Senate of Universidad Carlos III de Madrid (2013-2018)

Founding member of the Association of Italian Researchers in Spain (ARIS)

Member of the International Board of the International Symposia on Flow Visualization (since 2016).

Member of the Scientific Council of the International Centre for Heat and Mass Transfer (2017-19).

Senior Member of the American Institute of Aeronautics and Astronautics (since 2016).

Reviewer of research projects for the Spanish National Evaluation and Foresight Agency (ANEP)

### ■ *Research projects*

2017 TOOLS, For AIRBUS GROUP. (P.I.)

2017 HIDRA, High-Dynamic-Range Measurements in Pipe Flows at High Reynolds Numbers, EuHIT Project. (P.I.)

2017 LargeView, Very-large-scale motions measurement in pipe flows at high Reynolds numbers, EuHIT Project.

2016-2021 COTURB, Coherent Structures in Wall-bounded Turbulence, ERC Advanced Grant, funded by the European Research Council.

2016-2019 CONTRAST, Transferencia de calor por conveccion y estructuras coherentes en capas limites turbulentas. Funded by Spanish Ministry of Economy and Competitiveness. (P.I.)

2016 EI-DEGASS-EUR-20150008 -Desarrollo de sistemas embarcados de generacion de gas inerte para aviones de tamaño medio y medio recorrido. For CESA S.A.

2016 Aerial Refuelling Hose Guillotine Rig Test. For AIRBUS GROUP.

2016 PIV study of a flapping airfoil with an actuated Trailing Edge Flap. For TU Delft (P.I.)

2015-2016 Experiments over a flapping airfoil with an actuated Trailing Edge Flap. For TU Delft (P.I.).

2015 Video recording during aerial refuelling hose guillotine rig tests. For AIRBUS GROUP DEFENCE AND SPACE S.A.U.

2014-2017 Investigación numérica y experimental de la aerodinámica no estacionaria de alas batientes. Funded by Spanish Ministry of Economy and Competitiveness.

2014 Realización de ensayos en arrays de paneles solares en túnel de viento. For ATOS SPAIN, S.A.U.

- 2013-2015      UNC313-4E-2231 Sistema de medida simultánea de flujos 3D y de transferencia de calor en pared en un túnel hidrodinámico. Funded by Spanish Ministry of Economy and Competitiveness.
- 2010-2014      AFDAR (Advanced Flow Diagnostics for Aeronautical Research, FP7/2007-2013, grant agreement No. 265695). <http://www.afdar.eu/>
- 2009-2010      CAST project (Configurazioni Aerotermodinamiche innovative per Sistemi di Trasporto spaziale) funded by the Italian Space Agency

■ *Current scientific collaborations*

Brandenburg University of Technology Cottbus  
 Kungliga Tekniska Högskolan  
 TU Delft  
 University of Bologna  
 University of Bristol  
 University of Naples Federico II  
 Von Karman Institute for Fluid Dynamics

■ *Awards and Recognitions:*

- 2012              “*Rem Soloukhin Gold Hand Award for Young Scientists*”, awarded by the Committee of the XV<sup>th</sup> International Symposium on Flow Visualization.
- 2011              RIS.UM Fellowship from Regione Campania (Italy) funding the period as Guest Researcher in TU Delft (10,000 €).
- 2008              PhD fellowship from Italian Government (60,000 €)

■ *Book:*

S. Discetti, A. Ianiro (Editors), *Experimental Aerodynamics*, Taylor and Francis CRC Press, ISBN 978-1-49-870401-4, in press, 2016.

■ *Journal publications (\* = corresponding author):*

1. A. F. M. Torre, A. Ianiro\*, S. Discetti, G. M. Carlomagno, Evaluation of anisotropic tangential conduction in printed-circuit-board heated-thin-foil heat flux sensors, *International Journal of Heat and Mass Transfer*, 127, 1138-1146, 2018.
2. A. Ianiro\*, K.P. Lynch, D. Violato, G. Cardone, F. Scarano, Organization and dynamics of vortices in multichannel swirling jets, *Journal of Fluid Mechanics*, 843, 180-210, 2018.
3. M. Raiola, S. Discetti, A. Ianiro, F. Samara, F. Avallone, D. Ragni, Smart rotors: a strategy for dynamic stall control by means of an actuated flap, *AIAA Journal*, 56 (4), 1388-1401, 2017.
4. S. Discetti, M. Raiola, A. Ianiro, Estimation of time resolved turbulent fields through correlation of non-time resolved field measurements and time-resolved point measurements, *Experimental Thermal and Fluid Science*, 93, 119-130, 2018.
5. A. Antoranz, A. Ianiro\*, O. Flores, M. Garcia-Villalba, Extended proper orthogonal decomposition of non-homogeneous thermal fields in a turbulent pipe flow, *International Journal of Heat and Mass Transfer*, 118, 1264-1275, 2018.
6. C. S. Greco, G. Paolillo, A. Ianiro, G. Cardone, L. de Luca, Effects of the stroke length and nozzle-to-plate distance on synthetic jet impingement heat transfer, *International Journal of Heat and Mass Transfer*, 117, 1019-1031, 2018.
7. F. Mallor, C. Sanmiguel Vila, A. Ianiro, S. Discetti, Wall-mounted perforated cubes in a boundary layer: local heat transfer enhancement and control, *International Journal of Heat and Mass Transfer*, 117, 498-507, 2018.

8. C. Sanmiguel Vila, R. Örlü, R. Vinuesa, P. Schlatter, A. Ianiro, S. Discetti, Adverse-pressure-gradient effects on turbulent boundary layers: statistics and flow-field organization, *Flow, turbulence and combustion*, 99, 589-612, 2017.
9. R. Vinuesa, R. Örlü, C. Sanmiguel Vila, A. Ianiro, S. Discetti, P. Schlatter, Revisiting history effects in adverse-pressure-gradient turbulent boundary layers, *Flow, turbulence and combustion*, 99, 565-587, 2017.
10. C. Sanmiguel Vila, R. Vinuesa, S. Discetti, A. Ianiro, P. Schlatter, R. Örlü, On the identification of well-behaved turbulent boundary layers. *Journal of Fluid Mechanics*, 822, 109-138, 2017.
11. S. Hoyas, A. Ianiro, M.J. Perez-Quiles, P. Fajardo, On the onset of instabilities in a Bénard-Marangoni problem in an annular domain with temperature gradient, *Thermal Science*, 21-Suppl. 3, S585-S596, 2017.
12. M. Raiola, C.S. Greco, M. Contino, S. Discetti, A. Ianiro\*, Towards enabling time-resolved measurements of turbulent convective heat transfer maps with IR thermography and a heated thin foil, *International Journal of Heat and Mass Transfer*, 108 (A), 199-209, 2017.
13. M. A. Mendez, M. Raiola, A. Masullo, S. Discetti, A. Ianiro, R. Theunissen, J.-M. Buchlin, POD-based background removal for particle image velocimetry, *Experimental Thermal and Fluid Science* 80, 181–192, 2017.
14. M. Raiola, A. Ianiro, S. Discetti, Wake of tandem cylinders near a wall, *Experimental Thermal and Fluid Science* 78, 354-369, 2016.
15. C. Sanmiguel Vila, S. Discetti, G. M. Carlomagno, T. Astarita, A. Ianiro\*, On the onset of horizontal convection, *International Journal of Thermal Sciences* 110, 96-108, 2016.
16. M. Raiola, S. Discetti, A. Ianiro, On PIV random error minimization with optimal POD-based low order reconstruction, *Experiments in Fluids* 56, 75, 2015.
17. G. M. Carlomagno, A. Ianiro\*, Thermo-fluid-dynamics of submerged jets impinging at short nozzle-to-plate distance: a review, *Experimental Thermal and Fluid Science* 58, 15-35, 2014.
18. C.S. Greco, A. Ianiro, G. Cardone, Time and phase average heat transfer in single and twin circular synthetic impinging air jets, *International Journal of Heat and Mass Transfer* 73, 776–788, 2014.
19. G. Cafiero, G. Ceglia, S. Discetti, A. Ianiro, T. Astarita, G. Cardone, On the three-dimensional precessing jet flow past a sudden expansion, *Experiments in Fluids* 55, 1677, 2014.
20. M. Imbriale, A. Ianiro\*, C. Meola, G. Cardone, Convective heat transfer by a row of jets impinging on a concave surface, *International Journal of Thermal Sciences* 75, 153-163, 2014.
21. G. Ceglia, S. Discetti, A. Ianiro, D. Michaelis, T. Astarita, G. Cardone, Three-dimensional organization of the flow structure in a nonreactive model aero engine lean burn injection system, *Experimental Thermal and Fluid Science* 52, 164-173, 2014.
22. C. S. Greco, A. Ianiro, T. Astarita, G. Cardone, On the near field of single and twin circular synthetic air jets, *International Journal of Heat and Fluid Flow* 44, 41-52, 2013.
23. M. Di Clemente, G. Rufolo, A. Ianiro, G. Cardone, Hypersonic test analysis by means of aerothermal coupling methodology and IR thermography, *AIAA Journal* 51, 1755-1769, 2013.
24. S. Discetti, A. Ianiro\*, T. Astarita, G. Cardone, On a novel low cost high accuracy experimental setup for tomographic particle image velocimetry, *Measurement Science and Technology* 24, 075302, 2013.
25. M. Novara, A. Ianiro, F. Scarano, Adaptive interrogation for 3D-PIV, *Measurement Science and Technology* 24, 024012, 2013.
26. R. Giordano, A. Ianiro\*, T. Astarita, G. M. Carlomagno, Flow field and heat transfer on the base surface of a finite circular cylinder in crossflow, *Applied Thermal Engineering* 49, 79-88, 2012.
27. A. Ianiro\*, G. Cardone, Heat transfer rate and uniformity in multichannel swirling impinging jets, *Applied Thermal Engineering* 49, 89-98, 2012.
28. D. Violato, A. Ianiro, G. Cardone, F. Scarano, Three-dimensional vortex dynamics and convective heat transfer in circular and chevron impinging jets, *International Journal of Heat and Fluid Flow* 37, 22–36, 2012.
29. G. Cardone, A. Ianiro, G. dello Iorio, A. Passaro, Temperature Maps Measurements on 3D Surfaces with Infrared Thermography, *Experiments in Fluids* 52, 375-385, 2012.
30. A. Ianiro\*, G. Cardone, Measurement of surface temperature and emissivity with stereo dual-wavelength IR thermography, *Journal of Modern Optics*, 57, 1708-1715, 2010.

■ *Reviewer of international journals:*

Applied Optics, Applied Thermal Engineering, ASME Journal of Vibration and Acoustics, Boundary Layer Meteorology, Composites Part B: Engineering, European Journal of Mechanics B/Fluids, Experimental Heat Transfer, Experimental Thermal and Fluid Science, Heat Transfer Engineering, Heat Transfer Research, Infrared Physics & Technology, International Communications in Heat and Mass Transfer, International Journal of Heat and Mass Transfer, International Journal of Rotating Machinery, International Journal of Thermal Sciences, Journal of Applied Fluid Mechanics, Journal of Modern Optics, Journal of the Brazilian Society of Mechanical Sciences and Engineering, Journal of Heat Transfer – Transactions of the ASME, Journal of Turbulence, Measurement, Measurement Science and Technology, Physical Review Fluids, Quantitative InfraRed Thermography Journal, Thermal Science

■ *Invited and Keynote presentations:*

1. A. Ianiro, Advanced Techniques for the Investigation of Flow Field and Heat Transfer in impinging Jets, June 2016, The 17th International Symposium on Flow Visualization
2. A. Ianiro, Advanced techniques for the investigation of flow field and heat transfer in impinging jets, Feb 2016, KTH Mechanics, Stockholm
3. S. Discetti, A. Ianiro, An intensive and practise-oriented short-course on Particle Image Velocimetry, KTH Mechanics. Course for Master and Doctoral Students
4. G. M. Carlomagno, A. Ianiro, Jet impingement heat transfer: historical perspective and recent developments, Academic Session in Memory of Theodore von Kármán held on the 50<sup>th</sup> Anniversary of his Death 1963-2013, 7<sup>th</sup> May 2013, Brussels – Belgium.
5. M. Imbriale, A. Ianiro, C. Meola, G. Cardone, Visualization of the Heat transfer on a wing leading edge surface internally impinged by a row of air jets, 15<sup>th</sup> International Symposium on Flow Visualization, 24-28 June 2012, Minsk – Belarus.
6. A. Ianiro, D. Violato, F. Scarano, G. Cardone, Three dimensional features in swirling impinging jets, 15<sup>th</sup> International Symposium on Flow Visualization, 24-28 June 2012, Minsk – Belarus.

■ *Conference contributions:*

1. S. Discetti, M. Raiola, A. Ianiro, Estimation of time-resolved flow fields using simultaneous non-time resolved field measurements and time-resolved point measurements, 2nd Workshop on Data Assimilation and CFD Processing Techniques for PIV and LPT, December 13-14, 2017, Delft - The Netherlands
2. M. Raiola, S. Discetti, A. Ianiro, A data-driven decomposition approach to model aerodynamic forces on flapping airfoils. 70th Annual Meeting of the APS Division of Fluid Dynamics, November 19-21, 2017, Denver – USA
3. S. Discetti, C. Sanmiguel Vila, M. Raiola, J. Serpieri, R. Örlü, L. Mascotelli, T. Fiorini, G. Bellani, A. Talamelli, A. Ianiro, Very-large-scale motion measurements in pipe flows at high Reynolds numbers. 16th European Turbulence Conference, August 21-24, 2017, Stockholm, Sweden
4. C. Sanmiguel Vila, S. Discetti, R. Vinuesa, R. Örlü, A. Ianiro, P. Schlatter, Single Pixel PIV study of Adverse-Pressure-gradient Turbulent Boundary Layers. 16th European Turbulence Conference, August 21-24, 2017, Stockholm - Sweden
5. S. Discetti, M. Raiola, A. Ianiro, An algebraic approach for the integration of non-time resolved field measurements and time-resolved point measurements for dynamic estimation of flow fields, 12th International Symposium on Particle Image Velocimetry, June 18-22, 2017, Busan - Korea
6. S. Discetti, A. Ianiro, T. Astarita, High resolution full Reynolds stress tensor with ensemble stereoscopic PTV, 12th International Symposium on Particle Image Velocimetry, June 18-22, 2017, Busan - Korea
7. R. Örlü, R. Vinuesa, C. Sanmiguel Vila, A. Bobke, S. Discetti, A. Ianiro, P. Schlatter, Towards Canonical Adverse Pressure Gradient Turbulent Boundary Layers – Experiments And Simulations, Tenth International Symposium on Turbulence and Shear Flow Phenomena, July 6-9, 2017, Chicago - USA
8. R. Örlü, R. Vinuesa, P. Schlatter, C. Sanmiguel Vila, S. Discetti, A. Ianiro, Re-assessment of canonical and non-canonical adverse-pressure-gradient turbulent boundary layers, 9th World

- Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, June 11-15 2017, Foz do Iguazu – Brasil
9. S. Discetti, M. Raiola, A. Ianiro, Dynamic estimation of flow fields through correlation of non-time resolved field measurements and time-resolved point measurements, 9th World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, June 11-15 2017, Foz do Iguazu – Brasil
  10. F. Mallor, C. Sanmiguel Vila, A. Ianiro, S. Discetti, Wall-mounted perforated obstacles: heat transfer enhancement and control opportunities, 9th World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, June 11-15 2017, Foz do Iguazu – Brasil
  11. M. Raiola, S. Discetti, A. Ianiro, Modelling forces and flow features in flapping wings: a POD based approach, 69th Annual Meeting of the APS Division of Fluid Dynamics, November 20-22 2016, Portland – USA.
  12. M. Raiola, A. Ianiro, S. Discetti, M. Moriche, O. Flores, M. García-Villalba, Flow over flapping airfoils: qualitative and quantitative comparison between experiments and simulations, 11th European Fluid Mechanics Conference, September 13-16 2016, Sevilla - Spain.
  13. C. Sanmiguel Vila, R. Örlü, R. Vinuesa, A. Ianiro, S. Discetti, P. Schlatter, Wind tunnel studies of history effects in turbulent boundary layers, 11th European Fluid Mechanics Conference, September 13-16 2016, Sevilla - Spain.
  14. M. Raiola, P. Moral, S. Discetti, A. Ianiro, Modal decomposition of flow features in flapping wings and modes contribution to forces, 11th European Fluid Mechanics Conference, September 13-16 2016, Sevilla - Spain.
  15. M. Raiola, S. Discetti, A. Ianiro, T. Gillebaart, D. Ragni, S. Navalkar, G. van Kuik, J. W. van Wingerden, Smart rotor: control of dynamic loads on a rotor blade, 11th European Fluid Mechanics Conference, September 13-16 2016, Sevilla - Spain.
  16. R. Örlü, C. Sanmiguel Vila, R. Vinuesa, A. Bobke, S. Discetti, A. Ianiro, P. Schlatter, On the canonical development of adverse-pressure-gradient turbulent boundary layers, iTi Conference on Turbulence VII. September 7- 9, 2016, Bertinoro - Italy.
  17. C. Sanmiguel Vila, R. Vinuesa, S. Discetti, A. Ianiro, P. Schlatter, R. Örlü, Identifying well-behaved turbulent boundary layers, iTi Conference on Turbulence VII. September 7- 9, 2016, Bertinoro - Italy.
  18. R. Örlü, R. Vinuesa, C. Sanmiguel Vila, A. Bobke, S. Discetti, A. Ianiro, P. Schlatter, History effects in adverse pressure gradient turbulent boundary layers, International Symposium on Near-Wall Flows: Transition and Turbulence RIMS, June 20-22 2016, Kyoto - Japan.
  19. R. Örlü, C. Sanmiguel Vila, R. Vinuesa, S. Discetti, A. Ianiro, P. Schlatter, Revisiting tripping effects in low-Reynolds number turbulent boundary layers, 11th International ERCOFTAC Symposium on Engineering Turbulence Modelling and Measurements, September 21-23 2016, Palermo - Italy.
  20. M. Raiola, S. Discetti, A. Ianiro, Low order modeling of forces and flow features in flapping wings, 34th AIAA Applied Aerodynamics Conference (p. 3555). <http://arc.aiaa.org/doi/abs/10.2514/6.2016-4242>
  21. M. Raiola, A. Ianiro, S. Discetti, T. Gillebaart, D. Ragni, G. van Kuik, J. W. van Wingerden, Smart rotor: controlling dynamic stall by means of an actuated flap, 8th AIAA Flow Control Conference (p. 4242). <http://arc.aiaa.org/doi/abs/10.2514/6.2016-3555>
  22. M. Raiola, S. Discetti, A. Ianiro, Low order modeling of forces and flow features in flapping wings, 17th International Symposium on Flow Visualization, June 19-22 2016, Gatlinburg - USA.
  23. A. Ianiro, K. P. Lynch, G. Cardone, F. Scarano, Flow patterns in a round jet impinging at short nozzle-to-plate distance, 10<sup>th</sup> Pacific Symposium on Flow Visualization and Image Processing, 15 -18 June 2015, Naples – Italy.
  24. C. Sanmiguel, T. Astarita, G. M. Carlomagno, S. Discetti, A. Ianiro, An experimental study on the onset of the horizontal convection, 10<sup>th</sup> Pacific Symposium on Flow Visualization and Image Processing, 15 -18 June 2015, Naples – Italy.
  25. M. Raiola, A. Ianiro, S. Discetti, PIV measurements in the wake of two circular cylinders in tandem configuration with ground effect, 10<sup>th</sup> Pacific Symposium on Flow Visualization and Image Processing, 15 -18 June 2015, Naples – Italy.
  26. C.S. Greco, A. Ianiro, G. Cardone, IR Experimental investigation on twin synthetic impinging jets heat transfer behavior, QIRT 2014, 7-11 July 2014, Bordeaux – France.

27. M. Raiola, S. Discetti, A. Ianiro, On the suppression of PIV measurement noise with a POD based filter, 17<sup>th</sup> International Symposium on Applications of Laser Techniques to Fluid Mechanics, 7-10 July 2014, Lisbon – Portugal.
28. C.S. Greco, A. Ianiro, G. Cardone, Heat transfer in twin circular synthetic impinging air jets, Eurotherm Seminar n° 96 on Convective Heat Transfer Enhancement, 17-19 September 2013, Brussels – Belgium.
29. G. Cafiero, G. Ceglia, S. Discetti, A. Ianiro, T. Astarita, G. Cardone, The three-dimensional swirling flow past a sudden expansion, PIV 2013 Conference, 1-3 July 2013, Delft – The Netherlands.
30. G. Ceglia, S. Discetti, A. Ianiro, D. Michaelis, T. Astarita, G. Cardone, Tomographic PIV measurements of the flow at the exit of an aero engine swirling injector with radial entry, PIV 2013 Conference, 1-3 July 2013, Delft – The Netherlands.
31. G. Cafiero, G. Ceglia, S. Discetti, A. Ianiro, T. Astarita, G. Cardone, The three-dimensional swirling flow past a sudden expansion, 8<sup>th</sup> World Conference on Experimental Heat Transfer, Fluid Mechanics, and Thermodynamics, 16 – 20 June 2013, Lisbon – Portugal.
32. G. Ceglia, S. Discetti, A. Ianiro, D. Michaelis, T. Astarita, G. Cardone, Three-dimensional organization of flow structures at the exit of an aero-engine double swirling injector, 8<sup>th</sup> World Conference on Experimental Heat Transfer, Fluid Mechanics, and Thermodynamics, 16 – 20 June 2013, Lisbon – Portugal.
33. A. Ianiro, G. Cardone, Simultaneous measurement of temperature and emissivity with stereo dual wavelength thermography, SPIE Optics+Photonics 2012 Infrared Remote Sensing and Instrumentation XX, 12 - 16 August, 2012, San Diego – California.
34. S. Discetti, A. Ianiro, T. Astarita, G. Cardone, On the development of a novel low cost high accuracy experimental setup for Tomographic Particle Image Velocimetry, 16<sup>th</sup> International Symposium on Applications of Laser Techniques to Fluid Mechanics, 9-12 July 2012, Lisbon – Portugal.
35. C. S. Greco, A. Ianiro, M. Imbriale, T. Astarita, G. Cardone, PIV measurements in twin synthetic jets, 15<sup>th</sup> International Symposium on Flow Visualization, 24-28 June 2012, Minsk – Belarus.
36. M. Imbriale, A. Ianiro, C. Meola, G. Cardone, Visualization of the Heat transfer on a wing leading edge surface internally impinged by a row of air jets, 15<sup>th</sup> International Symposium on Flow Visualization, 24-28 June 2012, Minsk – Belarus.
37. A. Ianiro, D. Violato, F. Scarano, G. Cardone, Three dimensional features in swirling impinging jets, 15<sup>th</sup> International Symposium on Flow Visualization, 24-28 June 2012, Minsk – Belarus.
38. M. Imbriale, A. Ianiro, C. Meola and G. Cardone, IR thermography in heat transfer measurements on a wing leading edge surface internally impinged by a row of air jets, QIRT 2012, 11-14 June 2012, Naples – Italy.
39. A. Ianiro, D. Violato, G. Cardone, F. Scarano, Time-resolved tomographic measurements in swirling jets, DFD11 Meeting of the American Physical Society, 20–22 November 2011 Baltimore – USA.
40. D. Violato, A. Ianiro, G. Cardone, F. Scarano, Investigation on Circular and Chevron Impinging Jets by IR Thermography and Time-Resolved Tomographic PIV, ASME-JSME-KSME Joint Fluids Engineering Conference 2011 (AJK2011-FED), July 24 - 29, 2011. Hamamatsu – Japan.
41. M. Novara, A. Ianiro, F. Scarano, Adaptive interrogation for 3D-PIV, 9<sup>th</sup> International Symposium On Particle Image Velocimetry – PIV'11, 21-23 July 2011 Kobe – Japan.
42. A. Ianiro, G. Cardone, G. M. Carlomagno, Convective heat transfer in swirling impinging jets, 5<sup>th</sup> International Conference on Vortex Flow and Vortex Methods, 8-10 November 2010, Caserta – Italy.
43. A. Ianiro, G. Cardone, M. Di Clemente, G. Rufolo, Comparison between experimental IR measurements and numerical prediction in hypersonic flows, QIRT 2010, 27-30 July 2010, Quebec City – Canada.
44. A. Ianiro, G. Cardone, G. M. Carlomagno, IR wall heat transfer in swirling impinging jets, QIRT 2010, 27-30 July 2010, Quebec City – Canada.
45. A. Ianiro, G. Cardone, Heat transfer measurements in swirling impinging jets, ASME-ATI-UIT Conference on Thermal and Environmental Issues in Energy Systems, 16 – 19 May 2010, Sorrento – Italy.

46. A. Ianiro, T. Astarita, G. M. Carlomagno, Heat transfer on the base surface of a finite circular cylinder in crossflow, ASME-ATI-UIT Conference on Thermal and Environmental Issues in Energy Systems, 16 – 19 May 2010, Sorrento – Italy.
47. M. Di Clemente, G. Rufolo, A. Ianiro, G. Cardone, Aerothermal Coupling Methodology for the Rebuilding of a Plasma Wind Tunnel Test and Comparison with an Advanced Infrared Measurement Technique, 16<sup>th</sup> AIAA/DLR/DGLR International Space Planes and Hypersonic Systems and Technologies Conference, October 19-22, 2009, Bremen – Germany.
48. A. Ianiro, G. Cardone, Measurement of Surface Temperature and Emissivity with Dual-Colour Stereo Thermography, 10<sup>th</sup> International Workshop on Advanced Infrared Technology and Applications, September 8 - 11, 2009, Florence – Italy.
49. D. Cannoletta, G. Iazzetta, M. Lagarese, A. Della rocca, D. Scalvini, A. Ianiro, Fuel tanks explosion protection system flight test and new frontiers, XIX Congresso Nazionale AIDAA, September 17-21, 2007, Forlì – Italy.