



Stefano Discetti

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Current position

2018-present Associate Professor, *Universidad Carlos III de Madrid*
Bioengineering and Aerospace Engineering Department

Research expertise

Experimental investigation of turbulent flows, development of non-intrusive measurement techniques, low order modelling of turbulent flows, unsteady aerodynamics

Education

2010-2013 **PhD** in Aerospace and Naval Engineering
Università degli Studi di Napoli Federico II
Thesis: *Tomographic Particle Image Velocimetry – Developments and applications to turbulent flows*

2007-2009 **MSc** in Aerospace Engineering (*with honors*)
Università degli Studi di Napoli Federico II
Thesis: *Advanced algorithms for PIV analysis*

2004-2007 **BSc** in Aerospace Engineering (*with honors*)
Università degli Studi di Napoli Federico II
Thesis: *Temperature measurements with IR thermography in the plasma wind tunnel Scirocco (CIRA)*

Former professional experience

2013-2018 Visiting Professor at Universidad Carlos III de Madrid – Bioengineering and Aerospace Engineering Department

2013 Post-doctoral research fellow at Università degli Studi di Napoli Federico II - Industrial Engineering Department (Aerospace Section)

2010-2013 PhD student at University of Naples “Federico II” - Aerospace Engineering Department

2012 Research Assistant at Arizona State University – School for Engineering of Matter, Transport and Energy

2010 Guest Researcher at Arizona State University – School for Engineering of Matter, Transport and Energy

2007 Internship at CIRA (Italian Centre for Aerospace Research)
Supervisor: Dr. A. Del Vecchio.
Investigation topic: 3D Temperature measurements with IR thermography in hypersonic wind tunnel

Research projects

- ◆ *TOOLS. AIRBUS*. P.I. **Stefano Discetti** & Andrea Ianiro. Grant period: 10/2017-06/2018.
- ◆ *LargeView, Very-large-scale motions measurement in pipe flows at high Reynolds numbers*. EuHIT. Grant period: 01/2017. P.I. **Stefano Discetti**

- ◆ *HIDRA, High-Dynamic-Range Measurements in Pipe Flows at High Reynolds Numbers*. EuHIT. Grant period: 03/2017. P.I. Andrea Ianiro
- ◆ *E!-DEGASS-EUR-20150008 -Desarrollo de sistemas embarcados de generacion de gas inerte para aviones de tamaño medio y medio recorrido*. CESA S.A. P.I. Pablo Fajardo
- ◆ *CONTRAST: Transferencia de calor por convección y estructuras coherentes en capas límites turbulentas*. Spanish Ministry of Economy and Competitiveness. Grant period: 12/2016-12/2019. P.I. **Stefano Discetti** & Andrea Ianiro
- ◆ *COTURB: Coherent Structures in Wall-bounded Turbulence*. Funded by European Community. Grant period: 01/02/2016-31/01/2021. P.I. Javier Jimenez
- ◆ *PIV study of a flapping airfoil with an actuated Trailing Edge Flap*. Funded by TU Delft. Grant period: 05/2016-09/2016. P.I. **Stefano Discetti** & Andrea Ianiro
- ◆ *Experiments over a flapping airfoil with an actuated Trailing Edge Flap*. Funded by TU Delft. Grant period: 09/2015-02/2016. P.I. Andrea Ianiro
- ◆ *Video recording during aerial refuelling hose guillotine rig tests*. Funded by Airbus Defense and Space. Grant period: 16/11/2015-31/12/2015. P.I. Pablo Fajardo
- ◆ *Realización de ensayos en arrays de paneles solares en túnel de viento*. Funded by ATOS SPAIN, S.A.U. Grant period: 06/2014-08/2014. P.I. Pablo Fajardo
- ◆ *Sistema de medida simultánea de flujos 3D y de transferencia de calor en pared en un túnel hidrodinámico*, grant UNC313-4E-2231 of the Spanish Ministry of Economy and Competitiveness. Grant period: 01/2013-12/2015. P.I. Javier Rodriguez
- ◆ *Unsteady aerodynamics of flapping wings*, grant TRA2013-41103 of the Spanish Ministry of Economy and Competitiveness. Grant period: 01/2014-12/2016. P.I. Manuel Garcia-Villalba, Oscar Flores
- ◆ *Tomographic PIV for multiplane measurements in Richtmyer-Meshkov flows at the LANL shock tube facility*, funded by DOE/LANL, Contract No. 79419-001-09. P.I: Ronald J. Adrian.
- ◆ *Advanced Flow Diagnostics for Aeronautical Research (AFDAR)*, funded by the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement No.265695 (www.afdar.eu). P.I: Fulvio Scarano

PhD Students advising

Gioacchino Cafiero

Università degli Studi di Napoli Federico II (co-supervised with Prof. T. Astarita)
Three-dimensional organization and heat transfer of jets with fractal generated turbulence
Defended on 30th May 2016

Marco Raiola

Universidad Carlos III de Madrid (co-supervised with Dr. A. Ianiro)
Empirical eigenfunctions: applications in unsteady aerodynamics
Defended on 20th December 2017

Carlos Sanmiguel Vila

Universidad Carlos III de Madrid (co-supervised with Dr. A. Ianiro)
Turbulent boundary layers with pressure gradients
Expected graduation in 2018

Alejandro Güemes Jimenez

Universidad Carlos III de Madrid (co-supervised with Dr. A. Ianiro)
Dynamics of coherent structures in wall-bounded turbulent flows
Expected graduation in 2020

Teaching experience

2014-2016

Member of the academic committee of the degree in Aerospace Engineering at Universidad Carlos III de Madrid

2014-present	Lecturer in the Master in Aeronautical Engineering at Universidad Carlos III de Madrid of the class: Propulsion systems: performance and design (6 ECTS) Experimental Aerodynamics (3 ECTS) – since a.y. 2015/2016
2014-present	Lecturer in the Master in Plasma Physics and Nuclear Fusion (Erasmus Mundus Programme: European Master of Science in Nuclear Fusion and Engineering Physics) of the class: Fluid dynamics (6 ECTS)
2013-present	Lecturer in the degree in Aerospace Engineering at Universidad Carlos III de Madrid of the classes: Aircraft Systems (3 ECTS) Turbomachinery Design (6 ECTS) Mechanics of Flight (6 ECTS) – a.y. 2013/14 to 2014/15 Aerospace propulsion: complement II (6 ECTS) – a.y. 2014/15
2010-present	Co-advisor of more than 25 students on B.S. and M.Sc. graduation thesis.
2010-2013	In charge of the practical lessons and member of the exam commission in the degree in Aerospace Engineering for the classes of: Gasdinamica (Gas Dynamics) - (6 ECTS) Aerodinamica Sperimentale (Experimental Aerodynamics) - (6 ECTS) in the degree in Mechanical Engineering for the classes of: Fluidodinamica (Fluid Dynamics) - (6 ECTS) in the Master in Aerospace Engineering for the classes of: Complementi di Gasdinamica (Advanced Gas Dynamics) - (9 ECTS)

Fellowships, awards and recognitions

2016	Spanish national accreditation - Profesor Titular de Universidad.
2012	Awarded by the Committee of the <i>11th International Conference on Quantitative InfraRed Thermography</i> (QIRT 2012) with the “Student Award” in recognition of the excellent contributions in the field of IR Thermography measurements
2010	Awarded with a fellowship “CampaniAerospace” (2010) to spend a period of 4 months at Arizona State University, Tempe, USA as a visiting researcher under the supervision of Prof. R. J. Adrian
2010	First classified, and awarded with scholarship, in the admission concourse for XXV PhD course in Aerospace Engineering, Università degli Studi di Napoli Federico II
2009	Awarded with ADISU Fellowship for MSc accomplishment
2008	Awarded with “Premio Mazzoleni”, as best graduated student for the Academic Year 2006/2007 among the engineering students of the Università degli Studi di Napoli Federico II
2007	Awarded with ADISU Fellowship for B.S. Degree
2005	Awarded with “Premio Ingegneria”, during “Galassia Gutenberg” manifestation, promoted by Sezione Editori and Sezione Ingegneria of “Unione Industriali di Napoli”, as best student for the Academic Year 2004/2005 among engineering students of Università degli Studi di Napoli Federico II

Books

S. Discetti, A. Ianiro (Editors), (2017) *Experimental Aerodynamics*, Taylor and Francis CRC Press, ISBN 978-1-49-870401-4.

Seminars and invited/keynote presentations:

1. Discetti S (2017) Estimation of turbulent flow fields from non-time resolved data with Extended POD. *International Workshop on Complex Turbulent Flows*, November 27-28, Tangier (Morocco)
2. Discetti S (2017) Brief survey of existing 3D PIV techniques. *3D PIV course, 12th International Symposium on Particle Image Velocimetry*, June 18-22, Busan (Korea)

3. Discetti S (2017) Working principles of Tomographic PIV. *3D PIV course, 12th International Symposium on Particle Image Velocimetry*, June 18-22, Busan (Korea)
4. Discetti S, Sanmiguel Vila C, Ianiro A, Vinuesa R, Schlatter P, Örlü R (2017) Adverse-pressure-gradient turbulent boundary layers: flow organization and high-resolution statistics. *12th International Symposium on Particle Image Velocimetry June 18-22, Busan (Korea)*
5. Discetti S, Ianiro A (2016) An intensive and practise-oriented short-course on Particle Image Velocimetry. *PhD course. KTH Royal Institute of Technology. February 1st-5th, Stockholm (Sweden)*
6. Discetti S (2015) Tomographic PIV short course. *10th Pacific Symposium of Flow Visualization and image processing*, June 19th 2015, Naples (Italy) http://www.psfvip10.unina.it/pdf/TOMOPIV_SC.pdf
7. Discetti S, Astarita T (2014) PIV Challenge: main results of test cases C and D. *4th International PIV Challenge*, July 5th 2014, Lisbon (Portugal) <http://www.pivchallenge.org/pivchallenge4.html>
8. Discetti S (2014) Tomographic Particle Image Velocimetry: recent developments and applications to turbulent flow measurements. *Aeronautic Turbulence Seminars*, January 30th 2014, Imperial College London (UK), website: <http://www3.imperial.ac.uk/tmfc/seminars>

Peer-reviewed publications:

1. Discetti S, Coletti F (2018). Volumetric velocimetry for fluid flows. *Measurement Science and Technology*, in press, doi: <https://doi.org/10.1088/1361-6501/aaa571>
2. Discetti S, Raiola M, Ianiro A (2018) Estimation of time-resolved turbulent fields through correlation of non-time-resolved field measurements and time-resolved point measurements, *Experimental Thermal and Fluid Science*, in press, doi: <https://doi.org/10.1016/j.expthermflusci.2017.12.011>
3. Mallor F, Sanmiguel Vila C, Ianiro A, Discetti S (2018). Wall-mounted perforated cubes in a boundary layer: Local heat transfer enhancement and control. *International Journal of Heat and Mass Transfer*, 117, 498-507. doi: <https://doi.org/10.1016/j.ijheatmasstransfer.2017.10.027>
4. Raiola, M., Discetti, S., Ianiro, A., Samara, F., Avallone, F., & Ragni, D. (2017). Smart Rotors: Dynamic-Stall Load Control by Means of an Actuated Flap. *AIAA Journal*, 1-14, doi: <https://doi.org/10.2514/1.J056342>
5. Sanmiguel Vila C, Örlü R, Vinuesa R, Schlatter P, Ianiro A, Discetti S (2017) Adverse-pressure-gradient effects on turbulent boundary layers: statistics and flow-field organization, *Flow, turbulence and combustion*, 99, 589-612, doi: <https://doi.org/10.1007/s10494-017-9869-z>
6. Vinuesa R, Örlü R, Sanmiguel Vila C, Ianiro A, Discetti S, Schlatter P (2017) Revisiting history effects in adverse-pressure-gradient turbulent boundary layers, *Flow, turbulence and combustion*, 99, 565-587, doi: <https://doi.org/10.1007/s10494-017-9845-7>
7. Sanmiguel Vila C, Vinuesa R, Discetti S, Ianiro A, Schlatter P, Örlü R (2017) On the identification of well-behaved turbulent boundary layers. *Journal of Fluid Mechanics*, 822, 109-138. doi: <https://doi.org/10.1017/jfm.2017.258>
8. Raiola M, Greco CS, Contino M, Discetti S, Ianiro A (2017) 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. doi: [doi:10.1016/j.ijheatmasstransfer.2016.12.002](https://doi.org/10.1016/j.ijheatmasstransfer.2016.12.002)
9. Mendez MA, Raiola M, Masullo A, Discetti S, Ianiro A, Theunissen R, Buchlin JM (2017). POD-based background removal for particle image velocimetry. *Experimental Thermal and Fluid Science*, 80, 181-192. doi: [doi:10.1016/j.expthermflusci.2016.08.021](https://doi.org/10.1016/j.expthermflusci.2016.08.021)
10. Agüera N, Cafiero G, Astarita T, Discetti S (2016). Ensemble 3D PTV for high resolution turbulent statistics. *Measurement Science and Technology*, 27(12), 124011. doi: [doi:10.1088/0957-0233/27/12/124011](https://doi.org/10.1088/0957-0233/27/12/124011)
11. Castrillo, G., Cafiero, G., Discetti, S., & Astarita, T. (2016). Blob-enhanced reconstruction technique. *Measurement Science and Technology*, 27(9), 094011. doi: [doi:10.1088/0957-0233/27/9/094011](https://doi.org/10.1088/0957-0233/27/9/094011)
12. Vila CS, Discetti S, Carlomagno GM, Astarita T, Ianiro A (2016). On the onset of horizontal convection. *International Journal of Thermal Sciences*, 110, 96-108. doi: [doi:10.1016/j.ijthermalsci.2016.06.019](https://doi.org/10.1016/j.ijthermalsci.2016.06.019)
13. Cafiero G, Greco CS, Astarita T, Discetti S (2016). Flow field features of fractal impinging jets at short nozzle to plate distances. *Experimental Thermal and Fluid Science*, 78, 334-344. doi: [doi:10.1016/j.expthermflusci.2016.06.009](https://doi.org/10.1016/j.expthermflusci.2016.06.009)

14. Raiola M, Ianiro A, Discetti S (2016). Wake of tandem cylinders near a wall. *Experimental Thermal and Fluid Science*, 78, 354-369. [doi:10.1016/j.expthermflusci.2016.06.003](https://doi.org/10.1016/j.expthermflusci.2016.06.003)
15. Kähler CJ, Astarita T, Vlachos PP, Sakakibara J, Hain R, Discetti S, La Foy R, Cierpka C (2016). Main results of the 4th International PIV Challenge. *Experiments in Fluids*, 57(6), 1-71. [doi: 10.1007/s00348-016-2173-1](https://doi.org/10.1007/s00348-016-2173-1)
16. Cafiero G, Discetti S, Astarita T (2015). Flow field topology of submerged jets with fractal generated turbulence. *Physics of Fluids (1994-present)*, 27(11), 115103. [doi:10.1063/1.4935185](https://doi.org/10.1063/1.4935185)
17. Raiola M, Discetti S, Ianiro A (2015) On PIV random error minimization with optimal POD-based low order reconstruction. *Experiments in Fluids* 56:75 [doi:10.1007/s00348-015-1940-8](https://doi.org/10.1007/s00348-015-1940-8), ISSN 0723-4864.
18. Avallone F, Discetti S, Astarita T, Cardone G (2015) Convergence enhancement of single-pixel PIV with symmetric double correlation. *Experiments in Fluids* 56:71 [doi: 10.1007/s00348-015-1938-2](https://doi.org/10.1007/s00348-015-1938-2) , ISSN 0723-4864.
19. Cafiero G, Discetti S, Astarita T (2014) Heat transfer enhancement of impinging jets with fractal-generated turbulence. *International Journal of Heat and Mass Transfer* 75:173-183 [doi:10.1016/j.ijheatmasstransfer.2014.03.049](https://doi.org/10.1016/j.ijheatmasstransfer.2014.03.049), ISSN 0017-9310.
20. Discetti S, Astarita T (2014) On the detrimental effect of increasing the number of cameras on self-calibration for Tomographic PIV. *Measurement Science and Technology*. 25:084001 [doi:10.1088/0957-0233/25/8/084001](https://doi.org/10.1088/0957-0233/25/8/084001), ISSN 0957-0233.
21. Cafiero G, Ceglia G, Discetti S, Ianiro A, Astarita T, Cardone G (2014) On the three-dimensional precessing jet flow past a sudden expansion. *Experiments in Fluids* 55:1677 [doi:10.1007/s00348-014-1677-9](https://doi.org/10.1007/s00348-014-1677-9), ISSN 0723-4864.
22. Ceglia G, Discetti S, Ianiro A, Michaelis D, Astarita T, Cardone G (2014) Three-dimensional organization of the flow structure in a non-reactive model aero engine lean burn injection system. *Experimental Thermal and Fluid Science* 52:164-173 [doi:10.1016/j.expthermflusci.2013.09.007](https://doi.org/10.1016/j.expthermflusci.2013.09.007), ISSN 0894-1777.
23. Discetti S, Ziskin IB, Astarita T, Adrian RJ, Prestridge K (2013) PIV measurements of anisotropy and inhomogeneity in decaying fractal generated turbulence. *Fluid Dynamics Research* 45:061401 [doi:10.1088/0169-5983/45/6/061401](https://doi.org/10.1088/0169-5983/45/6/061401), ISSN 1873-7005.
24. Discetti S, Ianiro A, Astarita T, Cardone G (2013) On a novel low-cost high accuracy experimental setup for tomographic particle image velocimetry. *Measurement Science and Technology* 24:075302 [doi:10.1088/0957-0233/24/7/075302](https://doi.org/10.1088/0957-0233/24/7/075302), ISSN 0957-0233.
25. Discetti S, Natale A, Astarita T (2013) Spatial Filtering Improved Tomographic PIV. *Experiments in Fluids* 54(4):1505-1517, [doi:10.1007/s00348-013-1505-7](https://doi.org/10.1007/s00348-013-1505-7), ISSN 0723-4864.
26. Discetti S, Adrian RJ (2012) High accuracy measurement of magnification for monocular PIV. *Measurement Science and Technology* 23:117001 [doi:10.1088/0957-0233/23/11/117001](https://doi.org/10.1088/0957-0233/23/11/117001), ISSN 0957-0233.
27. Discetti S, Astarita T (2012) Fast 3D PIV with direct sparse cross-correlations. *Experiments in Fluids* 53(5):1437-1451, [doi:10.1007/s00348-012-1370-9](https://doi.org/10.1007/s00348-012-1370-9), ISSN 0723-4864.
28. Discetti S, Astarita T (2012) A fast multi-resolution approach to tomographic PIV. *Experiments in Fluids* 52(3):765-777, [doi:10.1007/s00348-011-1119-x](https://doi.org/10.1007/s00348-011-1119-x), ISSN 0723-4864.
29. Carlomagno GM, Discetti S, Astarita T (2011) Experimental assessment of a new heat flux sensor for measuring convective heat transfer coefficients. *QIRT Journal*, vol 8:37-49, [doi:10.3166/qirt.8.37-49](https://doi.org/10.3166/qirt.8.37-49), ISSN 1768-6733.

Contributions in conferences:

1. Discetti S, Raiola M, Ianiro A (2017) 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, Delft (The Netherlands)
2. Raiola M, Discetti S, Ianiro A (2017) 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, Denver (USA)
3. Discetti S, Sanmiguel Vila C, Raiola M, Serpieri J, Örlü R, Mascotelli L, Fiorini T, Bellani G, Talamelli A, Ianiro A (2017) Very-Large-Scale motion measurements in pipe flows at high Reynolds numbers. 16th European Turbulence Conference. August 21-24, Stockholm (Sweden).

4. Sanmiguel Vila C, Discetti S, Vinuesa R, Ianiro A, Schlatter P, Örlü R (2017) Single Pixel PIV Study Of Adverse-Pressure-Gradient Turbulent Boundary Layers. 16th European Turbulence Conference. August 21-24, Stockholm (Sweden).
5. Örlü R, Vinuesa R, Sanmiguel Vila C, Bobke A, Discetti S, Ianiro A, Schlatter P (2017) Towards Canonical Adverse Pressure Gradient Turbulent Boundary Layers – Experiments And Simulations. Tenth International Symposium on Turbulence and Shear Flow Phenomena, July 6-9, Chicago (IL, USA).
6. Discetti S, Raiola M, Ianiro A (2017) 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, Busan (Korea).
7. Castrillo G, Ianiro A, Astarita T, Discetti S (2017) High resolution full Reynolds stress tensor with ensemble stereoscopic PTV. 12th International Symposium on Particle Image Velocimetry, June 18-22, Busan (Korea).
8. Örlü R, Vinuesa R, Schlatter P, Sanmiguel Vila C, Discetti S, Ianiro A (2017) 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, Foz do Iguazu (Brasil).
9. Discetti S, Raiola M, Ianiro A (2017) 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, Foz do Iguazu (Brasil).
10. Mallor F, Sanmiguel Vila C, Ianiro A, Discetti S (2017) Wall-mounted perforated obstacles: heat transfer enhancement and control opportunities. 9th World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, June 11- 15, Foz do Iguazu (Brasil).
11. Raiola M, Discetti S, Ianiro A (2016) 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, Portland (USA).
12. Raiola M, Ianiro A, Discetti S, Moriche M, Flores O, García-Villalba M (2016). Flow over flapping airfoils: qualitative and quantitative comparison between experiments and simulations. 11th European Fluid Mechanics Conference, September 13-16, Sevilla (Spain).
13. Sanmiguel Vila C, Örlü R, Vinuesa R, Ianiro A, Discetti S, Schlatter P (2016) Wind tunnel studies of history effects in turbulent boundary layers. 11th European Fluid Mechanics Conference, September 13-16, Sevilla (Spain).
14. Raiola M, Moral P, Discetti S, Ianiro A (2016) Modal decomposition of flow features in flapping wings and modes contribution to forces. 11th European Fluid Mechanics Conference, September 13-16, Sevilla (Spain).
15. Raiola M, Discetti S, Ianiro A, Gillebaart T, Ragni D, Navalkar S, van Kuik G, van Wingerden JW (2016) Smart rotor: control of dynamic loads on a rotor blade. 11th European Fluid Mechanics Conference, September 13-16, Sevilla (Spain).
16. Örlü R, Sanmiguel Vila C, Vinuesa R, Bobke A, Discetti S, Ianiro A, Schlatter P (2016) On the canonical development of adverse-pressure-gradient turbulent boundary layers. iTi Conference on Turbulence VII. September 7- 9, 2016, Bertinoro (Italy).
17. Sanmiguel Vila C, Vinuesa R, Discetti S, Ianiro A, Schlatter P, Örlü P (2016) Identifying well-behaved turbulent boundary layers. iTi Conference on Turbulence VII. September 7- 9, 2016, Bertinoro (Italy).
18. Örlü R, Vinuesa R, Sanmiguel Vila C, Bobke A, Discetti S, Ianiro A, Schlatter P (2016) History effects in adverse pressure gradient turbulent boundary layers. International Symposium on Near-Wall Flows: Transition and Turbulence RIMS, June 20-22, Kyoto (Japan).
19. Örlü R, Sanmiguel Vila C, Vinuesa R, Discetti S, Ianiro A, Schlatter P (2016) Revisiting tripping effects in low-Reynolds number turbulent boundary layers. 11th International ERCOFTAC Symposium on Engineering Turbulence Modelling and Measurements. September 21-23, Palermo (Italy).
20. Raiola M, Moral P, Discetti S, Ianiro A (2016). Low order modeling of forces and flow features in flapping wings. In 34th AIAA Applied Aerodynamics Conference (p. 3555). <http://arc.aiaa.org/doi/abs/10.2514/6.2016-4242>
21. Raiola M, Ianiro A, Discetti S, Gillebaart T, Ragni D, van Kuik G, van Wingerden J W (2016). Smart rotor: controlling dynamic stall by means of an actuated flap. In 8th AIAA Flow Control Conference (p. 4242). <http://arc.aiaa.org/doi/abs/10.2514/6.2016-3555>

22. Raiola M, Discetti S, Ianiro A (2016). Low order modeling of forces and flow features in flapping wings. 17th International Symposium on Flow Visualization, Gatlinburg June 19-22 2016.
23. Discetti S, Agüera N, Cafiero G, Astarita T (2015) Ensemble PTV for high resolution turbulent statistics. 11th International Symposium on Particle Image Velocimetry PIV 15, September 14th-16th, Santa Barbara (USA)
24. Castrillo G, Discetti S, Astarita T (2015) Blob-enhanced Tomographic PIV. 11th International Symposium on Particle Image Velocimetry PIV 15, September 14th-16th, Santa Barbara (USA)
25. Cafiero G, Discetti S, Astarita T (2015) Flow field characterization of round jets with fractal grid inserts. 11th International Symposium on Particle Image Velocimetry PIV 15, September 14th-16th, Santa Barbara (USA)
26. Discetti S, Cafiero G, Astarita T (2015) Impinging jets with fractal grids: heat transfer and flow topology. 10th Pacific Symposium of Flow Visualization and image processing, June 15th-19th, Naples (Italy) http://www.psfvip10.unina.it/Ebook/web/papers/152_PSFVIP10.pdf
27. Raiola M, Ianiro A, Discetti S (2015) PIV measurements in the wake of two circular cylinders in tandem configuration with ground effect. 10th Pacific Symposium of Flow Visualization and image processing, June 15th-19th, Naples (Italy) http://www.psfvip10.unina.it/Ebook/web/papers/103_PSFVIP10.pdf
28. Cafiero G, Discetti S, Astarita T (2015) Large coherent structures in fractal jets. 10th Pacific Symposium of Flow Visualization and image processing, June 15th-19th, Naples (Italy) http://www.psfvip10.unina.it/Ebook/web/papers/005_PSFVIP10.pdf
29. Sanmiguel C, Astarita T, Carlomagno GM, Discetti S, Ianiro A (2015) An experimental study on the onset of the horizontal convection. 10th Pacific Symposium of Flow Visualization and image processing, June 15th-19th, Naples (Italy) http://www.psfvip10.unina.it/Ebook/web/papers/225_PSFVIP10.pdf
30. Cafiero G, Discetti S, Astarita T (2014) Flow field features of impinging jets with fractal grids. 67th Annual Meeting of the Division of Fluid Dynamics of the American Physical Society, November 23th-25th, San Francisco (USA)
31. Cafiero G, Discetti S, Astarita T (2014) Experimental analysis of the performance of fractal stirrers for impinging jets heat transfer enhancement. 10th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, July 14th -16th, Orlando (USA)
32. Cafiero G, Discetti S, Astarita T (2014) Flow field features of the near-wake of jets with fractal inserts. 17th International Symposium on Applications of Laser Techniques to Fluid Mechanics, July 7th-10th, Lisbon (Portugal), http://lctes.dem.ist.utl.pt/lxaser/lxaser2014/finalworks2014/papers/03.6_2_112paper.pdf
33. Raiola M, Discetti S, Ianiro A (2014) On the suppression of PIV measurement noise with a POD based filter. 17th International Symposium on Applications of Laser Techniques to Fluid Mechanics, July 7th-10th, Lisbon (Portugal), http://lctes.dem.ist.utl.pt/lxaser/lxaser2014/finalworks2014/papers/04.5_4_247paper.pdf
34. Novara M, Tokarev M, Discetti S, Thomas L, Atkinson C, Scarano F (2014) A comparative study of tomographic PIV methods. Workshop Advanced Flow Diagnostics in Aeronautical Research. February 18th-19th, Lille (France)
35. Discetti S, Astarita T (2014) Effect of poorly discretized weighting windows in cross-correlation for 3D PIV. Workshop Advanced Flow Diagnostics in Aeronautical Research. February 18th-19th, Lille (France)
36. Cafiero G, Discetti S, Astarita T (2014) Fractal turbulence generation for impinging heat transfer enhancement. 3rd EPSRC-ERCOFTAC Workshop. Turbulent flows generated/designed in multiscale/fractal ways: fundamentals and applications. Imperial College London. 27th-28th March, London (UK)
37. Cafiero G, Ceglia G, Discetti S, Ianiro A, Astarita T, Cardone G (2013) The three-dimensional precessing jet flow past a sudden expansion. 22nd Italian Association of Aeronautics and Astronautics Conference, September 9th-12th, Naples (Italy).
38. Ceglia G, Discetti S, Ianiro A, Michaelis D, Astarita T, Cardone G (2013) On 3D flow structures in a non-reactive model aero engine lean burn injection system. 22nd Italian Association of Aeronautics and Astronautics Conference, September 9th-12th, Naples (Italy).
39. Cafiero G, Ceglia G, Discetti S, Ianiro A, Astarita T, Cardone G (2013) The three-dimensional swirling flow past a sudden expansion. 10th International Symposium on Particle Image Velocimetry, July 1st-

- 3rd 2013, Delft (The Netherlands), http://repository.tudelft.nl/assets/uuid:8b112e30-61cb-4b00-9e65-b0752e9490c1/A088_Cafiero_et_al.pdf.
40. Ceglia G, Discetti S, Ianiro A, Michaelis D, Astarita T, Cardone G (2013) Tomographic PIV measurements of the flow at the exit of an aero engine swirling injector with radial entry. *10th International Symposium on Particle Image Velocimetry*, July 1st-3rd 2013, Delft (The Netherlands), http://repository.tudelft.nl/assets/uuid:1889c09e-b373-49be-8bf7-80b9367acd41/A087_fullpaper_Ceglia.pdf.
 41. Ding L, Discetti S, Adrian RJ, Gogigeni S (2013) Multiple-pulse PIV: numerical evaluation and experimental validation. *10th International Symposium on Particle Image Velocimetry*, July 1st-3rd 2013, Delft (The Netherlands), http://repository.tudelft.nl/assets/uuid:00bfb82c-3159-464e-b3e5-6f40cdec9359/A115_L._Ding_et_al._PIV13_full_manuscript.pdf.
 42. Discetti S, Astarita T (2013) Stability of single image self-calibration for tomographic PIV. *10th International Symposium on Particle Image Velocimetry*, July 1st-3rd 2013, Delft (The Netherlands), http://repository.tudelft.nl/assets/uuid:d9a5be9d-b5c8-433e-a529-ee4d9f5ef56e/A006_Discetti_FullPaper.pdf.
 43. Ceglia G, Discetti S, Ianiro A, Michaelis D, Astarita T, Cardone G (2013) Three-dimensional organization of flow structures at the exit of an aero-engine double swirling injector, *8th World Congress on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics*, June 16th-20th 2013, Lisbon (Portugal).
 44. Discetti S, Astarita T (2012) Effect of poor discretization in weighted cross-correlation for 3D PIV. *16th International Symposium on application of laser techniques to fluid mechanics*, July 9th-12th 2012, Lisbon (Portugal), http://lces.dem.ist.utl.pt/lxaser/lxaser2012/upload/27_paper_gexidy.pdf.
 45. Discetti S, Ianiro A, Astarita T, Cardone G (2012) On the development of a novel low cost high accuracy experimental setup for Tomographic Particle Image Velocimetry. *16th International Symposium on application of laser techniques to fluid mechanics*, July 9th-12th 2012, Lisbon (Portugal), http://lces.dem.ist.utl.pt/lxaser/lxaser2012/upload/232_paper_sqivqm.pdf.
 46. Ceglia G, Discetti S (2012) An experimental analysis in horizontal convection with IR thermography. *11th International Conference on Quantitative InfraRed Thermography*, June 11th-14th, Naples (Italy), <http://qirt.gel.ulaval.ca/archives/qirt2012/papers/QIRT-2012-324.pdf>.
 47. Discetti S, Ziskin IB, Adrian RJ, Prestridge K (2012) PIV study of fractal grid turbulence. *2nd UK-Japan bilateral workshop on turbulent flows generated/designed in multiscale/fractal ways: fundamental and applications*, March 26th-27th 2012, Imperial College, London (UK), abstract: <https://workspace.imperial.ac.uk/tmfc/Public/UK-JAPAN2012/workshop2012.pdf>.
 48. Discetti S, Astarita T (2011) Assessment of Spatial filtering Improved TomoPIV. *Forum on recent developments in Volume reconstruction techniques applied to 3D fluid and solid mechanics*, November 28th – December 1st 2011, Poitiers (France).
 49. Discetti S, Astarita T (2011) Fast multi-resolution 3D PIV with direct correlations and sparse arrays. *Forum on recent developments in Volume reconstruction techniques applied to 3D fluid and solid mechanics*, November 28th – December 1st 2011, Poitiers (France).
 50. Discetti S, Astarita T, Carlomagno GM (2011) Horizontal natural convection: a PIV study. *7th International Symposium on Stratified Flows*, August 22-26th 2011, Rome (Italy).
 51. Discetti S, Astarita T (2011) Spatial filtering Improved Tomographic PIV. *9th International Symposium on Particle Image Velocimetry PIV '11*, July 21-23th 2011, Kobe (Japan).
 52. Discetti S, Astarita T (2011) Fast Multi-resolution 3D PIV. *9th International Symposium on Particle Image Velocimetry PIV '11*, July 21-23th 2011, Kobe (Japan).
 53. Discetti S, Ziskin IB, Adrian RJ, Prestridge K (2011) PIV study of fractal grid turbulence. *9th International Symposium on Particle Image Velocimetry PIV '11*, July 21-23th 2011, Kobe (Japan).
 54. Discetti S (2010) PIV investigation of horizontal natural convection. *5th International Conference on Vortex Flows and Vortex Models*, November 7-10th 2010, Caserta (Italy).
 55. Carlomagno GM, Discetti S, Astarita T (2010) Experimental assessment of a new technique for measuring heat transfer coefficients. *10th International Conference on Quantitative InfraRed Thermography*, July 27-30th 2010, Quebec City (Canada), <http://qirt.gel.ulaval.ca/archives/qirt2010/papers/QIRT%202010-031.pdf>.
 56. Discetti S, Astarita T (2010) Acceleration of Tomo-PIV by multigrid reconstruction schemes. *15th International Symposium on Applications of Laser Techniques to Fluid Mechanics*, July 5-8th 2010,

Lisbon (Portugal), http://lces.dem.ist.utl.pt/lxaser/lxaser2010/upload/1571_wrcwsy_3.7.3.Full_1571.pdf.

57. Carlomagno GM, Discetti S, Astarita T (2010) A novel technique for measuring convective heat transfer coefficients. *Proc. of ASME-ATI-UIT 2010 Conference on Thermal and Environmental Issues in Energy Systems*, May 16-19th 2010, Sorrento (Italy).
58. Discetti S (2010) On a rapid algorithm for PIV image processing. *VI AIAA-Pegasus Student Conference*, April 28-30th 2010, Seville (Spain), abstract: http://www.esi2.us.es/~pegasus/doc/Conference_papers_details.doc.

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Applied Mathematical Modelling
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Conference service

Member of the scientific committee of the 12th International Symposium on Particle Image Velocimetry PIV 2017 (Busan, Korea)
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