

Curriculum Vitae

Matteo Mancinelli, Ph.D.

Employment History

- 2024 – Present ■ **Researcher (RTDb)**, Department of Civil Engineering, Computer Science and Aeronautical Technologies, Università Roma Tre, Rome, Italy.
- 2022 – 2024 ■ **Researcher (RTDa)**, Department of Civil Engineering, Computer Science and Aeronautical Technologies, Università degli Studi Roma Tre, Rome, Italy.
- 2020 – 2022 ■ **Researcher**, Centre National de la Recherche Scientifique, Institut Pprime (Département Fluides Thermique et Combustion), Poitiers, France.
- 2019 – 2020 ■ **Post-doctoral research fellow**, Université de Poitiers, Institut Pprime (Département Fluides Thermique et Combustion), Poitiers, France.
- 2017 – 2019 ■ **Post-doctoral research fellow**, Centre National d'Études Spatiales, Institut Pprime (Département Fluides Thermique et Combustion), Poitiers, France.
- 2017 ■ **Post-doctoral research fellow**, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.
- 2014 – 2017 ■ **Ph.D. student**, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.
- 2013 ■ **Continuous and coordinated contractual relationship**, *Development of time-frequency analysis techniques based on wavelet transform for data processing in turbulent jets*, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.
- 2012 – 2013 ■ **Intern**, Department of Acoustics and Environment, Airbus Operations S.A.S., Toulouse, France.

Education & Training

- 2017 – 2018 ■ **Hydrodynamic stability**, École Nationale Supérieure de Mécanique et Aérotechnique, Poitiers, France.
- 2014 – 2016 ■ **Ph.D., Mechanical and Industrial Engineering *cum laude***, Department of Engineering, Università degli Studi Roma Tre.
Thesis title: *Experimental investigation of compressible and incompressible jet aeroacoustics in free and installed configurations through advanced time-frequency analysis*.
- 2010 – 2013 ■ **Master Science, Aeronautical Engineering *cum laude***, Department of Engineering, Università degli Studi Roma Tre.
Thesis title: *Jet aeroacoustics: analysis of large-scale EXEJET2 experimental tests including pylon and wing model effects*.
- 2006 – 2010 ■ **Bachelor Science, Mechanical and Industrial Engineering**, Department of Engineering, Università degli Studi Roma Tre.
Thesis title: *Aerodynamic characterisation of a low-speed jet*.

Research Publications

Journal Articles

- 1 R. Camussi, M. Mancinelli, and E. de Paola, “Matching pursuit decomposition and stochastic modelling of pressure fluctuations in the near field of compressible subsonic jets”, *Appl. Acoustics* **255**, 111524 (2027).

- 2 M. Mancinelli, L. D. Antonuzzi, F. Giannetti, F. Petrosino, and R. Camussi, "Exploring jet-plate interaction effects on screech generation", *Experiments in Fluids* **67**, 41 (2026).
- 3 A. Zarri, B. O. Cakir, J. De Decker, A. Viladegut, G. Grossir, J. Christophe, C. Schram, and M. Mancinelli, "Shock-cell structure and associated broadband noise in supersonic dual-stream jets", *AIAA Journal*, 1–13 (2026).
- 4 R. Camussi, M. Mancinelli, and E. De Paola, "On the application of matching pursuit decomposition to jet noise data", *International Journal of Aeroacoustics* **24**, 568–588 (2025).
- 5 M. Mancinelli, D. Audiffred, E. Martini, P. Jordan, A. V. G. Cavalieri, and A. Lebedev, "Linear reactive control of jet installation noise", *Journal of Fluid Mechanics* **1017**, A8 (2025).
- 6 M. Mancinelli, P. Jordan, and A. Lebedev, "Real-time estimation of jet-surface interaction noise", *Flow, Turbulence and Combustion* **113**, 579–599 (2024).
- 7 M. Mancinelli, E. Martini, V. Jaunet, P. Jordan, A. Towne, and Y. Gervais, "Reflection and transmission of a kelvin–helmholtz wave incident on a shock in a jet", *Journal of Fluid Mechanics* **954**, A9 (2023).
- 8 M. N. Stavropoulos, M. Mancinelli, P. Jordan, V. Jaunet, J. Weightman, D. M. Edgington-Mitchell, and P. A. S. Nogueira, "The axisymmetric screech tones of round twin jets examined via linear stability theory", *Journal of Fluid Mechanics* **965**, A11 (2023).
- 9 M. Mancinelli, E. Martini, V. Jaunet, and P. Jordan, "Including acoustic modes in the vortex-sheet eigenbasis of a jet", *The Journal of the Acoustical Society of America* **151**, 852–860 (2022).
- 10 P. A. S. Nogueira, V. Jaunet, M. Mancinelli, P. Jordan, and D. M. Edgington-Mitchell, "Closure mechanism of the a1 and a2 modes in jet screech", *Journal of Fluid Mechanics* **936**, A10 (2022).
- 11 M. Mancinelli, V. Jaunet, P. Jordan, and A. Towne, "A complex-valued resonance model for axisymmetric screech tones in supersonic jets", *Journal of Fluid Mechanics* **928**, A32 (2021).
- 12 S. Meloni, R. Camussi, A. Di Marco, and M. Mancinelli, "Single and multivariate statistics of jet-induced pressure fluctuations over an infinite plate", *Applied Sciences* **10**, 4605 (2020).
- 13 S. Meloni, A. Di Marco, M. Mancinelli, and R. Camussi, "Experimental investigation of jet-induced wall pressure fluctuations over a tangential flat plate at two reynolds numbers", *Scientific Reports* **10**, 9140 (2020).
- 14 S. Meloni, M. Mancinelli, R. Camussi, and J. Huber, "Wall-pressure fluctuations induced by a compressible jet in installed configuration", *AIAA Journal* **58**, 2991–3000 (2020).
- 15 M. Mancinelli, V. Jaunet, P. Jordan, and A. Towne, "Screech-tone prediction using upstream-travelling jet modes", *Experiments in Fluids* **60**, 1–9 (2019).
- 16 S. Meloni, A. Di Marco, M. Mancinelli, and R. Camussi, "Wall-pressure fluctuations induced by a compressible jet flow over a flat plate at different mach numbers", *Experiments in Fluids* **60**, 1–11 (2019).
- 17 M. Mancinelli and R. Camussi, "Acceleration and wall pressure fluctuations generated by an incompressible jet in installed configuration", *Comptes Rendus. Mécanique* **346**, 919–931 (2018).
- 18 M. Mancinelli, T. Pagliaroli, R. Camussi, and T. Castelain, "On the hydrodynamic and acoustic nature of pressure proper orthogonal decomposition modes in the near field of a compressible jet", *Journal of Fluid Mechanics* **836**, 998–1008 (2018).
- 19 T. Pagliaroli, M. Mancinelli, G. Troiani, U. Iemma, and R. Camussi, "Fourier and wavelet analyses of intermittent and resonant pressure components in a slot burner", *Journal of Sound and Vibration* **413**, 205–224 (2018).
- 20 R. Camussi, M. Mancinelli, and A. Di Marco, "Intermittency and stochastic modeling of hydrodynamic pressure fluctuations in the near field of compressible jets", *International Journal of Heat and Fluid Flow* **68**, 180–188 (2017).

- 21 M. Mancinelli, A. Di Marco, and R. Camussi, "Multivariate and conditioned statistics of velocity and wall pressure fluctuations induced by a jet interacting with a flat plate", *Journal of Fluid Mechanics* **823**, 134–165 (2017).
- 22 M. Mancinelli, T. Pagliaroli, A. Di Marco, R. Camussi, and T. Castelain, "Wavelet decomposition of hydrodynamic and acoustic pressures in the near field of the jet", *Journal of Fluid Mechanics* **813**, 716–749 (2017).
- 23 A. Di Marco, M. Mancinelli, and R. Camussi, "Flow-induced pressure fluctuations of a moderate reynolds number jet interacting with a tangential flat plate", *Advances in aircraft and spacecraft science* **3**, 243 (2016).
- 24 A. Di Marco, M. Mancinelli, and R. Camussi, "Pressure and velocity measurements of an incompressible moderate reynolds number jet interacting with a tangential flat plate", *Journal of Fluid Mechanics* **770**, 247–272 (2015).

Conference Proceedings

- 1 M. Mancinelli, G. Paggiarini, E. Rossi, E. Martini, P. Jordan, and R. Camussi, "Using flexible nozzle to reduce jet noise", in *32nd Aiaa/ceas aeroacoustics conference* (2026), p. 3542.
- 2 G. Paggiarini, E. Martini, and M. Mancinelli, "Exploring wall properties modification for reduction of acoustic emissions of a boundary layer", in *32nd Aiaa/ceas aeroacoustics conference* (2026), p. 3497.
- 3 L. D. Antonuzzi, M. Mancinelli, F. Petrosino, M. Barbarino, and F. Giannetti, "Effects of jet installation on screeching tone generation", in *Conference of the italian association of theoretical and applied mechanics* (Springer, 2024), pp. 769–776.
- 4 D. Audiffred, M. Mancinelli, A. Cavalieri, E. Martini, and P. Jordan, "Experimental control of jet installation noise", in *30th aiaa/ceas aeroacoustics conference* (2024) (2024), p. 3314.
- 5 P. Beltra, V. Jaunet, G. Lehnasch, and M. Mancinelli, "Impact of surrounding environment on impinging supersonic jets resonances and their hysteretical behavior", in *Inter-noise*, Vol. 270, 8 (Institute of Noise Control Engineering, 2024), pp. 3721–3731.
- 6 M. Mancinelli, R. Camussi, and V. Jaunet, "An experimental investigation of the resonance appearance in an impinging jet", in *30th aiaa/ceas aeroacoustics conference* (2024) (2024), p. 3374.
- 7 M. Mancinelli, S. Meloni, and R. Camussi, "Jet-plate interaction in a supersonic screeching jet", in *30th aiaa/ceas aeroacoustics conference* (2024) (2024), p. 3145.
- 8 A. Zarri, J. De Decker, B. O. Cakir, A. Viladegut, G. Grossir, J. Christophe, C. Schram, and M. Mancinelli, "Investigation on noise and flow characteristics of supersonic dual-stream co-axial convergent-divergent jets", in *30th aiaa/ceas aeroacoustics conference* (2024) (2024), p. 3034.
- 9 M. Falsi, I. Zaman, M. Mancinelli, S. Meloni, R. Camussi, B. Zang, and M. Azarpeyvand, "Experimental investigation of the noise emitted by two different propellers ingesting a planar boundary layer", in *Materials research proceedings, aidaa* (2023).
- 10 M. Mancinelli, S. Meloni, and R. Camussi, "An experimental investigation of the interaction between a supersonic jet and a flat plate", in *Proceedings of the international congress on sound and vibration* (2023).
- 11 S. Meloni, M. Mancinelli, R. Camussi, and C. Bogey, "The effects of inner boundary layer thickness on the near pressure field of a subsonic jet", in *10th convention of the european acoustics association (EDP Sciences, 2023)*, pp. 5957–5962.
- 12 S. Meloni, R. Camussi, M. Mancinelli, and C. Bogey, "A parametric analysis of the effect of the jet initial conditions on the wavelet-decomposed near-field acoustic pressure", in *Aiaa aviation 2023 forum* (2023), p. 4289.

- 13 M. Mancinelli, P. Jordan, A. Lebedev, and R. Kari, "Exploring flexible trailing edge properties to reduce installed jet noise in a jet-plate configuration", in 28th aiaa/ceas aeroacoustics 2022 conference (2022), p. 2872.
- 14 M. Mancinelli, P. Jordan, A. Lebedev, and R. Kari, "Real-time jet-plate interaction noise estimation based on near-field sensor readings", in 28th aiaa/ceas aeroacoustics 2022 conference (2022), p. 2871.
- 15 M. Mancinelli, E. Martini, V. Jaunet, and P. Jordan, "Can we describe acoustic eigenmodes with a vortex sheet in a jet?", in 28th aiaa/ceas aeroacoustics 2022 conference (2022), p. 3070.
- 16 M. Stavropoulos, M. Mancinelli, P. Jordan, V. Jaunet, D. M. Edgington-Mitchell, and P. Nogueira, "Analysis of axisymmetric screech tones in round twin-jets using linear stability theory", in 28th aiaa/ceas aeroacoustics 2022 conference (2022), p. 3071.
- 17 M. Stavropoulos, M. Mancinelli, P. Jordan, V. Jaunet, D. M. Edgington-Mitchell, and P. Nogueira, "Understanding twin-jet screech using a vortex-sheet model", in Aiaa aviation 2021 forum (2021), p. 2249.
- 18 P. Nogueira, M. Mancinelli, V. Jaunet, D. Eysseric, P. Jordan, and D. Edgington-Mitchell, "The importance of the shock-cell structure in the a1 and a2 jet screeching modes", in Aps division of fluid dynamics meeting abstracts (2020), E03-007.
- 19 V. Jaunet, M. Mancinelli, P. Jordan, A. Towne, D. M. Edgington-Mitchell, G. Lehnasch, and S. Girard, "Dynamics of round jet impingement", in 25th aiaa/ceas aeroacoustics conference (2019), p. 2769.
- 20 M. Mancinelli, V. Jaunet, P. Jordan, A. Towne, and S. Girard, "Reflection coefficients and screech-tone prediction in supersonic jets", in 25th aiaa/ceas aeroacoustics conference (2019), p. 2522.
- 21 S. Meloni, A. Di Marco, R. Camussi, and M. Mancinelli, "Parametric characterization of wall pressure fluctuations induced by a compressible jet flow interacting with a flat plate", in 25th aiaa/ceas aeroacoustics conference (2019), p. 2711.
- 22 M. Mancinelli and R. Camussi, "An experimental investigation of the wall pressure field induced by a low and moderate mach numbers jet on a tangential flat plate", in 2018 aiaa/ceas aeroacoustics conference (2018), p. 3616.
- 23 M. Mancinelli, T. Pagliaroli, R. Camussi, and T. Castelain, "On the interpretation of pressure pod modes in the near field of a subsonic jet in terms of hydrodynamic and acoustic pressures", in 2018 aiaa/ceas aeroacoustics conference (2018), p. 2979.
- 24 R. Camussi, M. Mancinelli, and D. M. A., "Application of time-frequency decompositions in jet aeroacoustics", in Aimeta 2017 - proceedings of the 23rd conference of the italian association of theoretical and applied mechanics (2017).
- 25 M. Mancinelli, A. Di Marco, and R. Camussi, "Cross-statistical and wavelet analysis of velocity and wall-pressure fields in jet-surface interaction", in 22nd aiaa/ceas aeroacoustics conference (2016), p. 2861.
- 26 M. Mancinelli, T. Pagliaroli, A. Di Marco, R. Camussi, T. Castelain, and O. Leon, "Hydrodynamic and acoustic wavelet-based separation of the near-field pressure of a compressible jet", in 22nd aiaa/ceas aeroacoustics conference (2016), p. 2864.
- 27 T. Pagliaroli, M. Mancinelli, R. Camussi, and G. Troiani, "Aeroacoustic study of a slotted burner", in 22nd aiaa/ceas aeroacoustics conference (2016), p. 2829.
- 28 M. Mancinelli, A. Di Marco, and R. Camussi, "Flat plate installation effects on velocity and wall pressure fields generated by an incompressible jet", in Euronoise conference (2015), pp. 375-380.

Research Grants

- 2026 – 2030  **CNRS IRP, FLEXJET** (*Leveraging surface FLEXibility for passive control of installed JET noise*), Centre National de la Recherche Scientifique, France.

Institutional Positions

- 2024 – Present  **Quality control manager of research activities**, Department of Civil Engineering, Computer Science and Aeronautical Technologies, Università Roma Tre.
-  **Spokesman and promoter for public engagement activities**, Department of Civil Engineering, Computer Science and Aeronautical Technologies, Università Roma Tre.

Teaching activity

- 2025 – Present  **Lecturer**, Aerospace Propulsion, M. Sc. in Aerospace Engineering, Department of Civil Engineering Computer Science and Aeronautical Technologies, Università Roma Tre, Rome, Italy.
-  **Lecturer**, Fundamentals of Aerospace Engineering, M. Sc. in Aerospace Engineering, Department of Civil Engineering Computer Science and Aeronautical Technologies, Università Roma Tre, Rome, Italy.
-  **Supervisor**, 1 Ph.D. student, Department of Civil Engineering Computer Science and Aeronautical Technologies, Università Roma Tre, Rome, Italy.
-  **Supervisor**, 7 B. Sc. students, Department of Civil Engineering Computer Science and Aeronautical Technologies, Università Roma Tre, Rome, Italy.
- 2024 – Present  **Lecturer**, Aeronautic propulsive systems, B. Sc. in Aeronautical Engineering, Department of Civil Engineering Computer Science and Aeronautical Technologies, Università Roma Tre, Rome, Italy.
- 2022 – Present  **Lecturer**, Jet noise, Ph.D. in Methodologies and Models for Sustainable Engineering, Department of Civil Engineering Computer Science and Aeronautical Technologies, Università Roma Tre, Rome, Italy.
-  **Co-supervisor**, 1 Ph.D. student, Department of Civil Engineering Computer Science and Aeronautical Technologies, Università degli Studi Roma Tre, Rome, Italy.
-  **Supervisor**, 5 M. Sc. students, Department of Civil Engineering Computer Science and Aeronautical Technologies, Università degli Studi Roma Tre, Rome, Italy.
- 2022 – 2025  **Lecturer**, Thermofluid-dynamics of propulsive systems, M. Sc. in Aeronautical Engineering, Department of Civil Engineering Computer Science and Aeronautical Technologies, Università degli Studi Roma Tre, Rome, Italy.
- 2016 – 2017  **Assistant lecturer**, Laboratory of Aeronautics, B. Sc. in Mechanical and Industrial Engineering, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.
- 2014 – 2017  **Co-supervisor**, 3 M. Sc. students, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.
-  **Co-supervisor**, 11 B. Sc. students, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.
-  **Assistant lecturer**, Aerodynamics, M. Sc. in Aeronautical Engineering, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.

Teaching activity (continued)

- **Assistant lecturer**, Thermofluid-dynamics of propulsive systems, M. Sc. in Aeronautical Engineering, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.
- **Assistant lecturer**, Laboratory of Aerodynamics and Aeroacoustics, M. Sc. in Aeronautical Engineering, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.

Miscellaneous Experience

Invited lecturer

- 2026 ■ **Leveraging flexibility to reduce jet noise?**, *Roy K. Amiet Memorial Symposium*, Future challenges in aeroacoustics, Università degli Studi di Napoli Federico II, 6-8 September, Naples, Italy.
- **Passive and reactive control of jet installation noise**, *Flow control*, Lecture series, Von Karman Institute for Fluid Dynamics, 23-27 February, Brussels, Belgium.
- 2025 ■ **Coherent-structure identification and modelling: applications to free and installed jets**, *Advanced post-processing techniques for fluid dynamics*, Lecture series, European Academy of Aeroacoustics (EA2), Politecnico di Torino, 16-18 July, Turin, Italy.

Certifications

- 2021-Present ■ **Associate professor qualification**, Italy.
- **Associate professor qualification**, France.

Work experience

- 2016 ■ **Continuous and coordinated contractual relationship**, *Support to data analysis and writing of the final deliverable of FP7 EU project EASIER (JTICS-2013-02-GRA-05-008)*, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.
- 2015 ■ **Continuous and coordinated contractual relationship**, *Support to the business management and scientific report write-up of FP7 EU project AEROTRANET2 (FP7-PEOPLE-2012-ITN)*, Department of Engineering, Università degli Studi Roma Tre, Rome, Italy.

Awards and Achievements

- 2017 ■ **Research fellowship**, Direction des Lanceurs, Centre National d'Études Spatiales, Paris, France.
- 2015 ■ **Best Paper and presentation award**, EURONOISE Conference, European Acoustic Association, Maastricht, Netherlands, 2015.

International conference organisation and chairmanship

- 2025 ■ **Chairman**, "Jets and free shear flows" session, 2nd European Fluid Dynamics Conference, Dublin, Ireland
- 2024 ■ **Chairperson and organiser**, SIG39 ERCOFTAC conference "Coherent structures in aeroacoustics", Rome, Italy
- **Organisation committee**, 30th AIAA/CEAS Aeroacoustics Conference, Rome, Italy.
- 2023 ■ **Chairman and organiser**, "Jet noise" session, FORUM ACUSTICUM Conference, Turin, Italy.
- 2022 ■ **Chairman**, "Jet noise" session, 28th AIAA/CEAS Aeroacoustics Conference, Southampton, UK.
- 2019 ■ **Chairman**, "Jet noise" session, 25th AIAA/CEAS Aeroacoustics Conference, Delft, Netherlands.

Miscellaneous Experience (continued)

Visiting researcher

- 2024  **Institut Pprime**, Poitiers, France.
- 2023  **Institut Pprime**, Poitiers, France.
-  **Von Karman Institute for Fluid Dynamics**, Brussels, Belgium.

Participation to EU research projects

- 2022-Present  **ENODISE**, Horizon 2020 grant agreement No. 860103.
- 2020-2023  **DJINN**, Horizon 2020 grant Agreement No. 861438.
- 2014-2017  **JERONIMO**, ACP2-GA-2012-314692.

Reviewing activity

- 2017-Present  **Reviewer**, Journal of Fluid Mechanics, European Journal of Mechanics B/Fluids, Physical Review Fluids, Physics of Fluids, Journal of Propulsion and Power, AIAA Journal, Experiments in Fluids, Flow Turbulence and Combustion.

Skills

- Languages  **Italian**, Mother tongue.
English, listening C1, reading C1, writing C1, spoken production C1, spoken interaction C1.
French, listening C1, reading C1, writing C1, spoken production C1, spoken interaction C1.
- Digital  Matlab, $\text{\LaTeX}$, Microsoft Office.
- Driving license  B.
- Supervision  Supervisor of one Ph.D. student, Co-supervisor of one Ph.D. student, supervisor of M.Sc. and B.Sc. students.
- Communication  Speaker/presenter to international conferences and EU project meetings.