

Curriculum vitae

PERSONAL DETAILS

Family name, First name: Bischetti, Manuela

ORCID: 0000-0002-4314-021X

URL for website: <https://adlibitum.oats.inaf.it/manuela.bischetti/index-bischetti.html>

• Education and key qualifications

21/12/2018 **PhD** in Astronomy, Astrophysics and Space Science with distinction (excellent cum laude) and with European Label recognition
Physics Department, Università di Roma Tor Vergata, Rome, Italy
Supervisor: Dr. F. Fiore

2013-2015 **Master** in Astronomy and Astrophysics (110/110)
Physics Department, Università di Roma La Sapienza, Rome, Italy

• Current position

01/03/2026 – Ongoing Tenure Track Researcher (RTT)
Dipartimento di Fisica, Università di Pisa, Pisa, Italy

• Previous positions

01/10/2025 – 28/02/2026 Researcher (TD)
Istituto Nazionale di Astrofisica (INAF), Osservatorio Astronomico di Trieste (OATs). ERC Synergy program RECAP

01/10/2022 – 30/09/2025 Researcher (RTDa)
Università di Trieste (UniTs), Trieste, Italy

01/01/2020 – 30/09/2022 Postdoctoral Researcher
INAF OATs, Trieste, Italy

01/01/2019 – 31/12/2019 Postdoctoral Researcher
INAF, Osservatorio Astronomico di Roma (OAR), Rome, Italy

• Research activity at other Italian and International institutes

15/04/2024 – ongoing Research appointment (Incarico di Ricerca) at INAF OATs, as part of INAF PRIN 2022 project BIG-z, in collaboration with Dr. F. Fiore

10/10/2024-30/10/2024 Visiting researcher at Scuola Normale Superiore (SNS), Pisa, Italy
As part of ERC Starting Grant project “WINDs in Galaxies (WINGS)” in collaboration with Dr. S. Carniani

01/04/2017-30/10/2017 Visiting research student at Kavli Institute for Cosmology Cambridge (KICC), Cambridge, UK
As part of ERC Advanced Grant project “Star formation quenching and feedback in galaxies throughout the cosmic epochs (QUENCH)” in collaboration with Prof. R. Maiolino

RESEARCH ACHIEVEMENTS AND PEER RECOGNITION

Publications summary (source NASA ADS, March 2026):

- **88 refereed** (+3 in press) **publications** in professional, peer-reviewed journals
- **3992 citations** (**h-index = 35**)
- **10 publications as first author**, including one in *Nature* and one in *Nature News & Views*
- 644 citations as first author
- 13 publications as second or third author

- 36 publications do not involve my PhD supervisor

List of first-author publications in peer-reviewed journals

- Bischetti et al. (2025), ALMA reveals bright circumgalactic emission and a biconical outflow in $z\sim 6.4$ quasar PSOJ183+05, *ApJL*, 990, L31
- Bischetti et al. (2024), Multiphase Black-hole Feedback and a Bright [CII] Halo in a Lo-BAL Quasar at $z\sim 6.6$, *ApJ*, 970, 9.
- Bischetti et al. (2023), The fraction and kinematics of broad absorption line quasars across cosmic time, *ApJ*, 952, 44.
- Bischetti et al. (2022), Suppression of black-hole growth by strong outflows at redshifts 5.8-6.6, *Nature*, 605, 244.
- Bischetti et al. (2021), The WISSH quasars project IX. Cold gas content and environment of luminous QSOs at $z\sim 2.4-4.7$, *A&A*, 645, A33.
- Bischetti et al. (2019b), Widespread evidence of [CII] outflows in the early Universe, *A&A* 630, A59.
- Bischetti et al. (2019a), The gentle monster PDS 456. The kpc-scale molecular outflow and its implications for QSO feedback, *A&A* 628, A118.
- Bischetti et al. (2018), The assembly of a giant galaxy around a $z=4.4$ hyper-luminous QSO, *A&A* 617, A82.
- Bischetti et al. (2017), Powerful ionised outflows in the most luminous quasars, *A&A* 598, A122.

Science Communications

- Bischetti et al. (2025), *Black hole flings out clumps of gas*, *Nat*, 641, 1104B, invited article to Nature News & Views

Publications as co-author in peer-reviewed journals

- Parente et al. 2026, *The Drivers of Cosmic Dust Temperature Evolution*, arXiv:2603.04505, *A&A* in press
- Rowlands et al. 2026, *E-XQR-30: evidence for an increase in the ionization state of metal absorbers from $z \sim 6$ to $z \sim 2$* , *MNRAS*, 546, 1
- Brazzini et al. 2026, *The Little Blue and Red Dots Rosetta Stones: Non-Gaussian broad lines, hot dust, and X-ray weakness*, arXiv:2601.22214, *A&A* in press
- Parente, **Bischetti** et al. 2026, High- z [OI] emission lines: COLDSIM simulations and ALMA observations, *A&A*, 705, A39
- Ilha et al. 2026, *Connecting outflows with radio emission in active galactic nuclei at cosmic noon*, *A&A*, 704, A293
- Welsh et al. 2025, *The clustering of C IV and Si IV at the end of reionization: A perspective from the E-XQR-30 survey*, *A&A*, 703, A274
- Degli Agosti et al. 2025, *The WISSH quasar project: XII. X-ray view of the most luminous quasi-stellar objects at Cosmic Noon*, *A&A*, 702, A114
- Belladitta et al. 2025, *Discovery and characterization of 25 new quasars at $4.6 < z < 6.9$ from wide-field multi-band surveys*, *A&A*, 699, A355
- Kakkad et al. 2025, *JWST MIRI/MRS observations of hot molecular gas in an AGN host galaxy at Cosmic Noon*, *MNRAS*, 541, 3534
- Zhu et al. 2025, *Nuclear Winds Drive Large-Scale Cold Gas Outflows in Quasars during the Reionization Epoch*, arXiv:2504.02305, *ApJ* in press
- Brazzini, D'Odorico, **Bischetti** et al. 2025, *Multi-phase investigation of outflows in the circumgalactic and interstellar media of luminous quasars at $z\sim 5$* , *A&A*, 698, A145
- Pensabene et al. 2025, *ALMA survey of a massive node of the Cosmic Web at $z \sim 3$: II. A dynamically cold and massive disk galaxy in the proximity of a hyper-luminous quasar*, *A&A*, 701, A120
- Fei et al. 2025, *Assessing the Dark Matter Content of Two Quasar Host Galaxies at $z \sim 6$ through Gas Kinematics*, *ApJ*, 980, 1
- Salvestrini et al. 2025, *Molecular gas and dust properties in $z>7$ quasar hosts*, *A&A*, 695, 23

- Saccheo et al. 2025, *HYPERION: broad-band X-ray-to-near-infrared emission of Quasars in the first billion years of the Universe*, A&A, 693, 157
- Qin et al. 2025, *Percent-level timing of reionisation: Self-consistent, implicit-likelihood inference from XQR-30+ Ly α forest data*, PASA, 42, 49
- Jiang et al. 2024, *No Redshift Evolution in the Fe II/Mg II Flux Ratios of Quasars across Cosmic Time*, ApJ, 975, 214
- Tortosa et al. 2024, *HYPERION. Shedding light on the first luminous quasars: A correlation between UV disc winds and X-ray continuum*, A&A, 691, A235
- Bertola et al. 2024, *KASHz+SUPER: Evidence of cold molecular gas depletion in AGN hosts at cosmic noon*, A&A, 691, A178
- Tozzi et al. 2024, *Fast and furious at $z \sim 2$: Obscured type-2 active nuclei host faster ionised winds than type-1 systems*, A&A, vol. 690, A141
- Lee et al. 2024, *Atacama Large Aperture Submillimeter Telescope (AtLAST) science: The hidden circumgalactic medium*, ORE, 4, 117L
- Tripodi et al. 2024, *HYPERION. Coevolution of supermassive black holes and galaxies at $z > 6$ and the build-up of massive galaxies*, A&A, vol. 689, A220
- Zanchettin et al. 2024, *The Resolved Star Formation Law in NGC 7469 from JWST, ALMA, and VLA*, ApJ, vol. 970, 75
- Travascio, Piconcelli, **Bischetti** et al. 2024, *MUSE view of PDS 456: Kiloparsec-scale wind, extended ionized gas, and close environment*, A&A, vol. 868, A250
- Tripodi et al. 2024, *HYPERION. Interacting companion and outflow in the most luminous $z > 6$ quasar*, A&A, vol. 682, A54
- Grazian et al. 2024, *What Are the Pillars of Reionization? Revising the AGN Luminosity Function at $z \sim 5$* , ApJ, vol. 974, 84
- Zhu et al. 2024, *Damping wing-like features in the stacked Ly α forest: Potential neutral hydrogen islands at $z < 6$* , MNRAS, vol. 533, p. 49-56
- Sebastian et al. 2024, *E-XQR-30: The evolution of Mg II, C II, and O I across $2 < z < 6$* , MNRAS, vol. 540, p. 1829-1848
- Sodini et al. 2024, *Evidence of Pop III stars' chemical signature in neutral gas at $z \sim 6$* , A&A, vol. 687, A314
- Calderone et al. 2024, *Boost recall in quasi-stellar object selection from highly imbalanced photometric datasets*, A&A, vol. 683, A34
- Davies et al. 2024, *Constraints on the Evolution of the Ionizing Background and Ionizing Photon Mean Free Path at the End of Reionization*, ApJ, vol. 965, 134
- Gianolli et al. 2024, *Supermassive Black Hole Winds in X-rays: SUBWAYS. III. A population study on ultra-fast outflows*, A&A, vol. 687, A235
- Salomé et al. 2023, *Star formation efficiency and AGN feedback in narrow-line Seyfert I galaxies with fast X-ray nuclear winds*, MNRAS, vol. 524, p. 3130-3145
- Saccheo et al. 2023, *The WISSH quasars project XI. The mean Spectral Energy Distribution and Bolometric Corrections of the most luminous quasars*, A&A, vol. 671, A34
- Tripodi et al. 2023, *Accurate Dust Temperature and Star Formation Rate in the Most Luminous $z > 6$ Quasar in the Hyperluminous Quasars at the Epoch of Reionization (HYPERION) Sample*, ApJL, vol. 946, L45
- Feruglio et al. 2023, *First Constraints on Dense Molecular Gas at $z = 7.5149$ from the Quasar Pōniuāena*, ApJ, vol. 945, L10
- Zanchettin et al. 2023, *NGC 2992: Interplay between the multiphase disc, wind, and radio bubbles*, A&A, 679, A88
- Tripodi et al. 2023, *Dynamical signature of a stellar bulge in a quasar-host galaxy at $z \simeq 6$* , A&A, vol. 671, A44

- Tripodi et al. 2023, ALMA unveils an outflow and a stellar bulge in an isolated $z \sim 6$ QSO, *MmSAI*, 94, 240
- Audibert et al. 2023, *Jet-induced molecular gas excitation and turbulence in the Teacup*, *A&A*, vol. 671, L12
- Matzeu et al. 2023, *Supermassive Black Hole Winds in X-rays: SUBWAYS I. Ultra-fast outflows in QSOs beyond the local Universe*, *A&A*, vol. 670, A182
- Fiore, Ferrara, **Bischetti** et al. (2023), *Dusty winds clear JWST super-early galaxies*, *ApJL*, 943, p. 1-5
- Grazian et al. 2023, *Crossing the Rubicon of Reionization with $z \sim 5$ QSOs*, *ApJ*, vol. 955, 60
- D'Odorico et al. 2023, *XQR-30: The ultimate XSHOOTER quasar sample at the reionization epoch*, *MNRAS*, vol. 523, p. 1399-1420
- Davies et al. 2023, *Examining the decline in the C iv content of the Universe over $4.3 < z < 6.3$ using the E-XQR-30 sample*, *MNRAS*, vol. 521, p. 314-331
- Zappacosta et al. 2023, *HYPERluminous quasars at the Epoch of Reionization (HYPERION): A new regime for the X-ray nuclear properties of the first quasars*, *A&A*, vol. 678, A201
- Kakkad et al. 2023, *SUPER VII. morphology and kinematics of H α emission in AGN host galaxies at cosmic noon using SINFONI*, *MNRAS*, vol. 520, p. 5783-5802
- Satyavolu et al. 2023, *New quasar proximity zone size measurements at $z \sim 6$ using the enlarged XQR-30 sample*, *MNRAS*, vol. 522, p. 4918-4933
- Mazzucchelli, **Bischetti** et al. 2023, *XQR-30: Black hole masses and accretion rates of 42 $z \gtrsim 6$ quasars*, *ApJ*, vol. 676, A71
- Nicastro et al. 2023, *X-Ray Detection of the Galaxy's Missing Baryons in the Circumgalactic Medium of L^* Galaxies*, *ApJL*, vol. 955, L21
- Zhu et al. 2023, *Probing Ultralate Reionization: Direct Measurements of the Mean Free Path over $5 < z < 6$* , *ApJ*, vol. 955, 115
- Davies et al. 2023, *The XQR-30 Metal Absorber Catalog: 778 Absorption Systems Spanning $2 < z < 6.5$* , *MNRAS*, vol. 521, p. 289-313
- Ramos Almeida, **Bischetti** et al. 2022, *The diverse cold molecular gas contents, morphologies and kinematics of type-2 quasars as seen by ALMA*, *A&A*, vol. 658, A155
- Tripodi et al. 2022, *Weighting the black hole and host galaxy growth in a $z \sim 6$ QSO*, *A&A*, 665, A107
- Lai et al. 2022, *Chemical abundance of $z \sim 6$ quasar broad-line regions in the XQR-30 sample*, *MNRAS*, vol. 513, p. 1801-1819
- Zhu et al. 2022, *Long Dark Gaps in the Ly β Forest at $z < 6$: Evidence of Ultra-late Reionization from XQR-30 Spectra*, *ApJ*, vol. 932, 76
- Laurenti et al. 2022, *X-ray spectroscopic survey of highly accreting AGN*, *A&A*, vol. 657, A57
- Vietri et al. 2022, *The WISSH quasars project X. Discovery of a powerful and variable ultra-fast outflow in a $z=3.6$ quasar*. *A&A*, vol. 668, A87
- Bosman et al. 2022, *Hydrogen reionization ends by $z = 5.3$: Lyman- α optical depth measured by the XQR-30 sample*, *MNRAS*, vol. 514, p. 55-76
- Chen et al. 2022, *Measuring the Density Fields around Bright Quasars at $z \sim 6$ with XQR-30 Spectra*, *ApJ*, vol. 931, 29
- Cicone et al. 2021, *The first image of a molecular halo out to $r \sim 200$ kpc (SUPER VI)*, *A&A*, vol. 645, L8
- Lamperti et al. 2021, *SUPER V. ALMA continuum observations of $z \sim 2$ AGN and the elusive evidence of outflows influencing star-formation*. *A&A*, 645, A90.
- Circosta et al. 2021, *SUPER. IV. CO($J = 3-2$) properties of active galactic nucleus hosts at cosmic noon revealed by ALMA*. *A&A*, vol. 646, A96
- Saturni et al. 2021, *Catching dual AGN activity and kiloparsec-scale outflows in IRAS 20210+1121*, *A&A*, vol. 645, A154
- Zanchettin, Feruglio, **Bischetti** et al. 2021, *The IBISCO survey: I. Multiphase discs and winds in the Seyfert galaxy Markarian 509*. *A&A*, vol. 655, A25

- Feruglio, Fabbiano, **Bischetti** et al. 2020, *Multiphase Gas Flows in the Nearby Seyfert Galaxy ESO428-G014*. Paper I, ApJ, vol. 890, 29F
- Vietri et al. 2020, *SUPER III. Broad Line Region properties of AGN at $z \sim 2$* , A&A, vol. 644A, 175V
- Travascio et al. 2020, *Multiple AGN activity during the BCG assembly of XDCP0044.0-2033 at $z \sim 1.6$* , MNRAS, vol. 498, 2719T
- Kakkad et al. 2020, *SUPER II. Spatially resolved ionised gas kinematics and scaling relations in $z \sim 2$ AGN host galaxies*, A&A, vol. 642A, 147K
- Zappacosta et al. 2020, *The WISSH quasars project VII. The impact of extreme radiative field in the accretion disc and X-ray corona interplay*, A&A, vol. 635L, 5Z
- Travascio et al. 2020, *The WISSH quasars project VIII. Outflows and metals in the circum-galactic medium around the hyper-luminous $z \sim 3.6$ quasar J1538+08*, A&A vol. 635A, 157T
- Rojas et al. 2019, *BAT AGN Spectroscopic Survey - XIX. Type 1 versus type 2 AGN dichotomy from the point of view of ionized outflows*, MNRAS, vol. 491, 5867R
- Feruglio et al. 2018, *The dense molecular gas in the $z \sim 6$ QSO SDSS J231038.88+185519.7 resolved by ALMA*, MNRAS, vol. 410, pp.1703-1724
- Feruglio, Ferrara, **Bischetti** et al. 2017, *On the discovery of the fast molecular gas in the UFO/BAL quasar APM08279+5255 at $z=3.912$* , A&A, vol. 608, A30
- Vietri, Piconcelli, Bischetti et al. (2018), *The WISSH Quasars Project IV. BLR versus kpc-scale winds*, A&A, vol. 617, A81
- Saturni, Bischetti et al. 2018. *The rest-frame UV-to-optical spectroscopy of APM08279+5255 - BAL classification and black hole mass estimates*, A&A, vol. 617, A118
- Circosta et al. 2018, *SUPER I. Toward an unbiased study of ionized outflows in $z \sim 2$ active galactic nuclei: survey overview and sample characterisation*, A&A, vol. 620, A82
- Fiore et al. 2017, *AGN wind scaling relations and the co-evolution of black holes and galaxies*, A&A, vol. 601, A143
- Duras et al. 2017, *The WISSH quasars project. II. Giant star nurseries in hyper-luminous quasars*, A&A, vol. 604, A67
- Martocchia et al. 2017, *X-ray properties of hyper-luminous quasars*, A&A, vol. 608, A51

Telescope Proposals on a competitive basis and Experience

With a proven track record in securing highly competitive telescope **observing time as PI (~140 hours) and Co-I (>650 hours)** across a broad range of facilities, I have developed extensive expertise in designing and executing observational programs. My experience spans interferometric surveys of galaxies and active galactic nuclei (AGN) with SKA precursors, in synergy with multi-wavelength spectroscopic and photometric observations. The main focus is on (i) evolution and formation of galaxies and AGN; (ii) interstellar and circumgalactic medium of distant galaxies. This includes leveraging state-of-the-art instruments such as ALMA, NOEMA, JVLA, LOFAR, GMRT, JWST, VLT/MUSE and VLT/KMOS.

Proposals based-on SKA precursors and state-of-the-art interferometers

- **ALMA:** Program 2024.1.00469.S, 15 hours, “*Investigating the physical properties and origin of an extended [CII] halo at $z \sim 6$* ” (PI)
Program 2019.1.00590.S, 6 hours, “*Building the spatially resolved CO SLED of the most luminous QSO in the local Universe*” (PI)
- **ACA:** Program ID 2023.1.00879.S of 10 hours. “*Detecting $z \sim 2$ heating of the circumgalactic medium via SZ effect with ALMA and ACA*” (PI)
- **JVLA:** Program VLA/25A-098, 16 hours, “*Anchoring the CO SLED of a luminous and radio-quiet quasar host-galaxy at $z \sim 3$* ” (PI)
Program VLA/18A-028, 21.5 hours, “*Molecular gas content and star-formation efficiency in hyper-luminous QSOs*” (PI)

Program VLA/25B-199, 18.3 hours, “*Measuring Cold Gas Content in the Galaxy with the Most Energetic Quasar Outflow*” (co-I)

Program VLA/25B-271, 8.0 hours, “*Unveiling the radio emission in titan quasars at the Reionization Epoch*” (co-I)

Program VLA/24A-197, VLA/23A-076, VLA/22A-253, 63.0 hours, “*Investigating the radio properties of the most luminous quasars in the Universe*” (co-I)

Program VLA/21A-253, 45.6 hours, “*Verifying molecular gas depletion in AGN hosts at $z\sim 2$* ” (co-I)

- **NOEMA:** Program W21DG of 10 hours. “*Building the CO SLED of the most luminous QSOs at Cosmic noon*” (PI)

Programs S25CA, W24DL, 8 hours, “*Cold Molecular Gas in the Galaxy with the Most Energetic Quasar Outflow*” (co-I)

Program S25BU, 30 hours, “*Examining the Cold Molecular Gas in the Host Galaxies of Windy Quasars*” (co-I)

Programs S23CX, W23DB, W21ED, 72.1 hours, “*H₂ reservoirs and gas-to-dust ratio in QSO host galaxies at $z>6$* ” (co-I)

Programs S17BW, W17DT, 24 hours, “*Molecular gas reservoirs in hyper-luminous QSOs at the Cosmic Noon*” (co-I)

Program 176-16, 67.1 hours, “*IBISCO: a CO survey in an unbiased sample of local AGN*” (co-I)

- **LOFAR:** Synergy program of LoTSS DR3 Survey. “*Identification of WISSH quasars in LoTSS*” (co-PI)
Key projects collaboration program “*LOFAR view of the most luminous quasars at cosmic noon*” (co-I)
Key projects collaboration program “*The IBISCO nearby galaxies seen by LOFAR*” (co-I)
- **LOFAR 2.0 Ultra Deep Observation (LUDO)** program of 3200 hours, targeting Euclid Deep North Field (co-I)
- **GMRT:** Program 45_019, 120 hours, “*Investigating the radio properties of the most luminous quasars in the MHz regime*” (co-I)

Other proposals as PI

- **JWST** Cycle-3 GO program ID 5192 of 7 hours with the Near Infrared Spectrograph (NIRSpec), IFU mode. “*The first multi-scale and multi-phase characterization of black hole feedback*”
- **VLT/MUSE** program 112.25KR of 10 hours. “*Probing the halo assembly around the most massive black holes*”
- **VLT/KMOS** program 115.283E.002 of 7 hours. “*VLT observations of the most energetic outflows in the universe*”
- **LBT:** program IT-2021B-031, 8 hours, “*An atlas of stellar mass distributions and morphologies in an unbiased sample of local AGN hosts. Program IT-2023B-030, 24 hours, “The missing epoch of quasar evolution: probing nuclear regions and black-hole winds at $z\sim 5$* ”
- **TNG** program A44TAC_36, 12.5 hours. “*An atlas of optical stellar mass distributions and morphologies in an unbiased sample of local AGN hosts*”
- **ESO Rapid Eye Mount**, DDT proposal, 7 hours. “*Near-IR SED of the hyper-luminous $z=3.5$ quasar J1555+1003*”

Other proposals and experience

- I have personally **carried out observations** at the Institut de Radioastronomie Millimetrique (IRAM) – 30m **radiotelescope**, for a total of 70 hours, Pico Veleta, Spain (2017-2018)
- I am co-I of more than 50 successful observing proposals over a wide range of facilities and instruments, including JWST, VLT/MUSE, VLT/KMOS, VLT/ERIS, VLT/X-Shooter, LBT, Chandra, XMM-Newton.

Peer recognition

I) Invited presentations at Conferences and Research Institutes

Since 2019 I have been invited to give 18 presentations at international conferences and 11 Colloquia, on the topics of *Co-evolution of Galaxies and AGN* and *High-redshift galaxies and their environment*.

Invited talks

- [Quasar 101](#): an introduction to quasars, Institute for Fundamental Physics of the Universe (IFPU), Trieste, IT (Feb 2026)
- [BlackHoleWeather: Toward a Unified Theory of Feeding and Feedback](#), University of Modena & Reggio Emilia, Sexten, IT (Dec 2025)
- [Highly Accreting Supermassive Black Holes Across All Cosmic Times](#), ESO Chile, Santiago, CH (Dec 2025)
- [The multiscale environment of AGN across cosmic time](#), Max Planck Institute for Astrophysics, Ringberg Castle, Bavaria, DE (Nov 2025)
- [European Astronomical Society Annual Meeting 2025](#), Symposium *Quasar spectroscopy dissecting the Reionization epoch: XQR-30 and beyond*, Cork, IR (June 2025)
- [Luminous quasars as laboratories for the formation and evolution of SMBH/galaxy systems](#), IFPU, Trieste, IT (June 2025)
- [Quasar 2025](#), Università di Bologna, INAF and Accademia delle Scienze di Bologna, Bologna, IT (May 2025)
- [Exploring the Enigma of First Stars and Galaxies in the era of JWST](#), Sexten Center for Astrophysics, Sexten, IT (Jan 2025)
- [XVth Italian meeting on AGN](#), Università di Padova, Padova, IT (Sep 2024)
- [What Matter\(s\) Around Galaxies 2024](#), Università di Milano Bicocca, Varenna, IT (June 2024)
- [Where the Circum Galactic Medium meets the galaxy environment](#), IFPU, Trieste, IT (May 2024)
- [Galaxy Formation in Hangzhou: Observations and Physics of AGN Feedback](#), Zhejiang University and Shanghai Astronomical Observatory, Hangzhou, PRC (Oct 2023)
- [The problematic existence of massive black holes in the early Universe](#), IFPU, Trieste, IT (Oct 2023)
- [HSC meeting 2023](#), Università di Bologna and Accademia delle Scienze di Bologna, Bologna, IT (May 2023)
- [COSPAR 44th Scientific Assembly](#), Athens, GR (Jul 2022)
- [Multiphase AGN feeding and feedback II meeting](#), Sexten Center for Astrophysics, Sexten, IT (Jun 2022)
- [HACK100: Past, Present and Future of Astrophysical Spectroscopy](#), INAF, Trieste, IT (Jun 2022)
- [European Astronomical Society Annual Meeting 2021](#), Symposium *Quasars at the reionization epoch*, Leiden, NL (Jul 2021)
- Instituto de Astrofísica de Canarias, [YAGN rendezvous](#), Tenerife, ES (Sep 2019)

Colloquia

- Scuola Normale Superiore Pisa, [Cosmotalk](#), Pisa, IT (Nov and Mar 2024)
- Università di Milano Bicocca, [Astro-Bicocca seminars](#), Milan, IT (Feb 2024)
- Complutense University Madrid, [IPARCOS seminars](#), Madrid, ES (Feb 2024)
- Institute for Fundamental Physics of the Universe (IFPU), Trieste, IT (May 2024)
- Institute for Fundamental Physics of the Universe (IFPU), Trieste, IT (Oct 2022)
- European Space Observatory (ESO) Garching, [Galaxy Evolution Coffee seminars](#), Garching, DE (May 2022)
- INAF Osservatorio Astronomico di Roma, Rome, IT (May 2022)
- Max Planck Institute für Astrophysics, MPIA [Galaxy Coffee seminars](#), Heidelberg, DE (May 2022)
- INAF Osservatorio Astronomico di Trieste, Trieste, IT (Jul 2021)
- [Instituto de Astrofísica de Canarias](#), Tenerife, ES (May 2021)
- University of Sao Paulo AIG/USP, [AGN Webinars](#), Sao Paulo, BR (Nov 2021)

Contributed presentations

Since 2016, I have participated with 19 contributed talks in 16 conferences, including:

CRISOL 25: galaxy origins in the JWST era (May 2025, Toledo, ES); *The Origin and Evolution of Supermassive Black Holes* (July 2024, Sexten, IT); *AGN Winds on the Chesapeake* (June 2023, Chesapeake, Virginia, USA); *AGN XIV: The Renaissance of Black Holes and Galaxies* (May 2022, Firenze, IT); IRAM conference *Multi-line Diagnostics of the Interstellar Medium* (April 2022, Nice, FR); *SAZERAC-Quasars During Reionisation* (Dec 2022, virtual); *Epoch of Galaxy Quenching* (Sep 2020 Cambridge, UK); *ALMABO19-Views on the ISM in galaxies in the ALMA era* (Sep 2019, Bologna, IT); *Extremely Big Eyes on the Early Universe* (Sep 2019, Roma, IT); 3 talks at *EWASS 2019* (June 2019, Lyon, FR); *Supermassive Black Holes: Environment and Evolution* (June 2019, Corfù, GR); AU symposium 352: *Uncovering early galaxy evolution in the ALMA and JWST era* (June 2019, Viana do Castelo, PT); *AGN XIII* (Oct 2018, Milano, IT); *Birth, life and fate of massive galaxies and their central beating heart* (Sep 2018, Favignana, IT); *Are AGN special?* (Aug 2018 Durham, UK); *EWASS 2017*, (June 2017, Prague, CZ); *AGN XII* (Sep 2016, Napoli, IT); *Super Eddington* (Sep 2016, Arbatax, IT)

II) Awards, Grants and Recognitions

- 10/03/2025 **Abilitazione Scientifica Nazionale** II Fascia, national academic field 02/C1, Italian MUR
- 21/02/2025 **Successful outcome in Step 1 evaluation of the ERC-2025 Starting Grant** selection process, invitation to the Step 2 interview. Proposal n° 101219935 GAME “Gas hAlos in Massive Early galaxies” as PI
- 03/02/2025 **Employment offer** as an **HPC Scientific Application Engineer at CINECA** for the optimization and implementation of numerical and cosmological simulations, and for the development of machine learning applications on HPC clusters (Declined)
- 10/03/2025 **Research grant as co-PI**, program *IBISCO*, Agenzia Spaziale Italiana ASI (114,477 €)
- 01/04/2023 **Research grant as PI** of program *Physics-Department-Microgrants2023 Hyper-gal*, Regione Friuli Venezia Giulia (5,000 €)
- 13/01/2022 **Research grant as PI** of program *Mini-feedback*, INAF Minigrants (17,300 €)
- 06/10/2023 **Premio Giovani Ricercatori 2023**, category Astrophysics and Space. National competition funded by the Italian national research council, Gruppo 2003 association for Scientific Research (2,000 €)
- 14/06/2022 Membership of the International Astronomical Union (IAU)

OTHER CONTRIBUTIONS TO THE RESEARCH COMMUNITY

I) Responsibility and coordination of research teams in international collaborations

I am either leader or collaborator in the international projects and collaborations outlined below, in which I manage research funds, coordinate teams of colleagues, define work schedules, organize regular meetings to identify work strategies, best practices, and to validate achievements. During the past years, I designed new and innovative research projects aimed at enhancing the scientific impact and at maximizing the data exploitation within these collaborations.

- 2025** - ERC Starting Grant GAME – *Gas hAlos in Massive Early galaxies*. I am **creator and PI of the project**. 60 months project, research team including 5 dedicated researchers in addition to the PI, budget 1,480,850 €. Successful outcome in Step 1 evaluation of the ERC-2025 Starting Grant selection process, invitation to the Step 2 interview.
- 2025** - ASI project *IBISCO: feedback and obscuration in local AGN*. I am **co-PI and leader of Work Package (WP) 2** “Analysis and interpretation of radio interferometric data”(114,477 €).
- 2024** - ERC Starting Grant *WINGS – Winds in galaxies* (PI S. Carniani, SNS). Contributor to WP “*JWST and ALMA spectroscopy of gas flows in $z>6$ quasars*”. I am the first author of publication “*Multi-phase nuclear flows and implications for galaxy-evolution*”, in preparation.
- 2024** - *REQUIEM: The cosmic ecosystem of the first QSOs and galaxies* (based on an ESO VLT/MUSE program (PI E. P. Farina, Gemini, HI). **Scientific leader** of project “*Multi-phase structure of gaseous halos at $z>6$* ” based on the synergy with JWST and ALMA data.
- 2023** - *BIG-z - Building the Giants: accretion, feedback and assembly in $z>6$ quasars* (INAF PRIN 2022, PI F. Fiore). **Leader of WP** “*Near-infrared and radio properties of $z>6$ quasars*”. First author of a publication dedicated to studying absorption gas outflows in early galaxies, and of a publication related to the identification of high- z quasars in dual systems using radio continuum maps (in prep.)
- 2022** - *HIPER - High resolution Investigation of Feedback Processes with ERIS* IFU (VLT/ERIS GTO program, PI G. Cresci, INAF OA). Contributor to the design of the observing campaign and best-targets identification.
- 2022** - Vera C. Rubin Observatory Legacy Survey of Space and Time (LSST) Corporation, *AGN Science Collaboration*, In-kind Contribution ITA-INA-2 (PI A. Bongiorno). **Leader of AGN Survey Task Force**. Owner of LSST data rights. WP contributor “*Mock observations of high redshift active galaxies for the optimization of LSST survey and its synergy with Euclid mission*”.
- 2021** - *XQR-30 - The Ultimate X-shooter legacy survey of Quasars at the Reionization epoch*, (based on an ESO VLT/X-shooter Large Program, PI V. D’Odorico, INAF OATs). **Scientific leader** of project “*Gas flows at Cosmic dawn*” of Work Package *Quasars and their environment*. WP contributor “*Data reduction & repository*” with focus on radio data. First(second) author of 3(1) publications.

- 2021 - ERDF program [QSOFEED](#) - *Multiphase census of black-hole feedback in nearby quasars* (PI C. R. Almeida, IAC Tenerife, ES). **Leader** of WP “*Analysis and interpretation of multi-antenna configuration ALMA data*”. Second author and co-author of two publications.
- 2017- ERC Advanced Grant [QUENCH](#) (PI R. Maiolino, KICC Cambridge, UK). Main contributor of WP “*Galactic outflows - Ejective mode*”, WP contributor “*Data reduction*”. First author of a publication dedicated to studying gas large-scale gas flows at $z > 6$.
- 2017- [SUPER](#) - *SINFONI Survey for Unveiling the Physics and the Effect of Radiative feedback* (based on ESO VLT/SINFONI Large Program, PI V. Mainieri, ESO Garching, DE). WP contributor “*Analysis and interpretation of millimeter data*”, WP contributor “*Data reduction*”. Co-author of 7 publications.
- 2017- [BLACKOUT](#) (PRIN INAF 2017, PI F. Fiore) - *Black hole Outflows and the Baryon Life Cycle of Galaxies*. **Leader** of WP “*Feedback at the formation epoch of the largest black holes and galaxies*”. Co-leader of WP “*Local laboratories for interstellar medium and black-hole physics*”. Contributor to Task “*Data reduction and analysis of near-IR and millimeter data*”. First-author of 4, second/third author in 3 publications.

Scientific collaborations and working groups

I am actively involved in international scientific collaborations focused on the study of the distant Universe, active galaxies and the **future of radio**, uv-optical, and far-infrared **astronomy**. I hold key roles in working groups and core committees, where I contribute to identifying the key scientific drivers that will shape the design of future observatories and advance our understanding of cosmic evolution.

Current memberships:

- **SKAO** (*Square Kilometer Array Observatory*), **Core committee member**, Extragalactic Spectral Lines working group (17/07/2024 -)
- **LOFAR LoTSS**, member of the Very Long Baseline Interferometry working group. **Co-I of LOFAR2.0 Ultra Deep Observation** (LUDO) 3200 hours survey of the Euclid Deep Field North (14/07/2023 -)
- **AtLAST** (*Toward an Atacama Large Aperture Submillimeter Telescope project*), science team member, working group *Distant Universe and Cosmology* (16/12/2022 -)
- **ALMA2040** (*Transformational science with a (sub-)mm interferometer in the 2040s*) science team member, *High-z Universe* and *AGN* working groups (01/02/2025 -)
- **LSST AGN Science Collaboration**, **Leader of AGN Survey – follow up Task Force** (07/05/2025 -)
- **ELT/ANDES** (*ArmazoNes high Dispersion Echelle Spectrograph*), Italian science team member, working group *Galaxies and IGM* (21/02/2025 -)
- **PRIMA** (*The Probe far-Infrared Mission for Astrophysics*), science team member, working groups *Galaxy Evolution* and *AGN across cosmic time* (03/03/2025 -)

II) Teaching & Supervision

I have extensive experience in teaching and student supervision at various academic levels, from undergraduate to PhD. Over the past three academic years, I have coordinated and delivered a master's course in radio astronomy. I have supervised 4 thesis projects based-on the exploitation of data from LOFAR and ALMA. Additionally, I have supervised 8 internships and I have mentored PhD students and postdocs from UniTs, International School for Advanced Studies (SISSA), and INAF, providing scientific guidance galaxies and supermassive black holes in the early Universe.

Teaching

- **Co-Lecturer** of bachelor degree course *Fisica Generale 1* at the Mechanical Engineer Department of UniPi (10 hours, AA 2025/2026)
- **Co-Lecturer** of bachelor degree course *Laboratorio 2* at the Physics Department of Unipi (10 hours, AA 2025/2026)
- **Co-Lecturer** of master degree course **Detection Techniques: from Lab to Space** at the Physics Department of UniPI (20 hours, AA 2025/2026)
- **Lecturer and Coordinator** of the master degree course *Radioastronomia* (6 CFU) at the Physics Department of UniTs, part of the *Astrofisica e Cosmologia* curriculum. Delivered 48 hours of in-person lectures per year (AY 2022/2023, 2023/2024, 2024/2025)

Student supervision

- **Master's thesis supervision:** K. Cescon (AY 2023/2024), M. Sfreddo (AY 2024/2025), C. Trombino (AY 2025/2026), M. Stocco (AY 2025/2026), A. Valentini (AY 2025/2026), Physics Department of UniTs, .
- **Bachelor's thesis supervisor:** A. Valentini (AY 2023/2024), Physics Department of UniTs.
- **Curricular internships:**
 - Master students (5 CFU): K. Cescon (AY 2023/2024), M. Sfreddo (AY 2024/2025), C. Trombino (AY 2025/2026), M. Stocco (AY 2025/2026), A. Valentini (AY 2025/2026), Physics Department of UniTs.
 - Bachelor students (3 CFU): P. Maggi (AY 2022/2023), A. Valentini (AY 2023/2024), E. Caporin (AY 2023/2024), G. Fior (AY 2023/2024), G. Sokolic (AY 2023/2024), Physics Department of UniTs.

PhD and Postdoc Mentoring

- Co-supervision of 6 PhD students and early-career researchers:
 - **UniTs:** M. Brazzini, R. Tripodi
 - **SISSA:** M. V. Zanchettin
 - **INAF:** F. Salvestrini, A. Travascio, B. Musiimenta
 - **ESO Chile:** A. F. Rojas

III) Professional Service

Peer-Review & Evaluation

- **Referee for peer-reviewed scientific journals:** *Nature*, *Nature Astronomy*, *The Astrophysical Journal*, *The Monthly Notices of the Royal Astronomical Society*, *Astronomy & Astrophysics*, *Publications of the Astronomical Society of Australia* (2019 -)
- **Expert evaluator for the Horizon Europe Marie Skłodowska-Curie Actions Postdoctoral Fellowship** (27/09/2024 -)

Observing time Allocation Committees

- **Expert panel member** to the Observing Programmes Committees for ESO (periods P115, P116), for the Large Binocular Telescope and Telescopio Nazionale Galileo (2025 -), external panel member for the ALMA Proposal Review Committee (2026 -) and for the Large Binocular Telescope and Telescopio Nazionale Galileo (2020 – 2025)
- **Reviewer** for ALMA and ESO distributed peer reviewer (2019 -)

Conferences and Workshops Organization

- **Scientific Organizing Committee (SOC) member and co-chair** of two Symposia at international conferences:
 - [S6](#) at the EAS Annual Meeting 2026 (29 June - 3 July 2026, Lausanne, CH)
 - [SS27](#) at the European Astronomical Society (EAS) Annual Meeting 2025 (23-27 June 2025, Cork, IR)
 - [S6](#) at the EAS Annual Meeting 2022 (27 June - 1 July 2022, Valencia, ES)
- I am **Local Organizing Committee (LOC) member** of Focus Week meeting *Luminous quasars as laboratories for the formation and evolution of SMBH/galaxy systems* on 9-13 June 2025 at IFPU, Trieste, IT
- I was a **LOC member** of Symposium [The X-ray Universe](#) at the European Space Agency meeting 2017, 6-9 June 2017, Rome, IT

Academic & Institutional Service

- **Member of the Physics Department Council** at UniTs since 01/10/2022
- **Member of four Master's Degree Examination Committee**, Physics Department, Units (AY 2022/2023, 2023/2024, 2024/2025)
- **Master's thesis Co-examiner** – students L. Sgatti (AY 2023/2024) and E. Pepe (AY 2024/2025), Physics Department, Units
- **Organizer** of the Postdocs and PhDs Seminar series at INAF OATs, supporting students and early-career researchers

IV) Formation and Training events

I have participated in numerous specialized training programs covering *radio astronomy with SKA and its precursors, radio interferometry*, high-performance computing, data management. These courses and workshops have strengthened my expertise in computational astrophysics, data reduction techniques, and the scientific exploitation of state-of-the-art radio and infrared telescopes.

- ALMA Data Handling Workshop, Italian ARC, Bologna, Feb 2016
- 9th IRAM millimetre interferometry school, IRAM, Grenoble, Oct 2016
- 5th LOFAR school, Netherlands Institute for Radio Astronomy, ASTRON, Dwingeloo, Sep 2018
- LOFAR DATA Working Group: Data Reduction Hands On, INAF OATs, Trieste, Jan 2019
- The first Italian LOFAR school 2019, INAF-Istituto di Radio Astronomia IRA, Bologna, Jun 2019
- ALMA I-TRAIN with the European ARC Network (11 remote training sessions), Dec 2020 - Feb 2022
- New Eyes on the Universe - SKA/ngVLA, Vancouver, CA, May 2023
- First Science Results from JWST, Space Telescope Science Institute, Baltimore, USA, Dec 2022
- JWST Workshop, European Space Astronomy Centre, Madrid, ES, Oct 2017

Advanced Training in Interferometry

I have attended several dedicated training sessions in IRAM and Institut de Planétologie et d'Astrophysique (IPAG) Grenoble headquarters on the subject of aperture synthesis and millimetre interferometry, led by Dr. Roberto Neri (IRAM) and Prof. Cecilia Ceccarelli (IPAG)

High-Performance Computing (HPC) and Data Management applied to wide-field galaxy surveys

- Computing and High Performance Computing in Astronomy and Astrophysics school, Centro Nazionale delle Ricerche, Bologna, 24 June – 05 July 2024
- Fundamentals of Data Management Plan and Data Models in Astrophysics, INAF USC VIII, 25-26 January 2024

V) Outreach Service

I regularly engage in outreach initiatives aimed at young people, women, and the general public through my University and the Astronomical Observatory of Trieste, a selection is given below:

- Seminar at UniTs, Physics Department – *Cosmo on Air: Astrofisica dell' Universo Freddo e delle Prime Galassie nell'Era di SKA* (30 May 2025)
- Seminar at UniTs, Physics Department - Waves of Trieste, *Un viaggio nell'universo delle onde radio* (16 May 2025)
- Scientific conference at Circolo Culturale Astronomico di Farra d'Isonzo, *Luce dal cosmo - esplorando l'Universo oltre il visibile* (Apr 2025)
- Presentations at VIVA MARGA, *La culla delle stelle - Come l'astrofisica moderna studia le regioni più fredde dell'Universo*. School Competition, for the Centenary of UniTs and initiatives aimed at engaging young people with STEM disciplines (Nov 2023- May 2024)
- Mini-talk at *UniTS in Barcolana 55 - Scrutare le profondità del Cosmo nelle onde radio* (05 Oct 2023)
- I have been a lecturer and a guide for astronomical observations at *HACK100 - Trieste celebrates the astronomer Margherita Hack* (2022)
- I have contributed to the exhibition *Women in the city of knowledge*, Trieste (2022)
- I have participated with presentations and experiments to SHARPER Research night, Trieste (2021)
- Lecturer at *Women in Science-Science is for everyone*, European Science Night, INAF, Rome (2019)

VI) TV & Press Coverage

- Interview at *Fuori TG*, Italian national television (RAI3), *Women in science* (2023)
- Interviews on *Il Messaggero*, Italian newspaper on [Young italian researcher awarded by Gruppo 2003 scientist: we are the future \(2023\)](#) and on *Il Piccolo*, Trieste local newspaper, for the scientific column *Oltre il Giardino* (2021-2023)
- Interview on *RADAR and TALOS*, Italian broadcasts, about the *discovery of black-hole outflows in the 1 Gyr old Universe* (2022) and the *early growth of massive galaxies* (2020)
- Web articles:
 - *Inverse* journal, [Distant quasars reveal a process that capped the first black holes growth](#) (2022)
 - *Vice* journal, [Ancient Black Holes Have Revealed a Mystery at the Edge of Time and Space](#) (2022)
 - 12 press releases and articles on INAF media webpage, Trieste University, Cambridge University and Scuola Normale Superiore websites (2017-2024)