

## PERSONAL INFORMATION

## Federica Ricci

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Sex F | Date of birth 11/06/1989 | Nationality Italian

## RESEARCH INTEREST

## Research topics

AGN/galaxy coevolution, BH-host scaling relations, AGN feedback, AGN molecular outflows, AGN evolution, radio-loud AGN, multi-wavelength AGN surveys

## WORK EXPERIENCE

03/2022 - Today

## Researcher (Ricercatrice TD-A)

Dipartimento di Matematica e Fisica, Università degli studi Roma Tre, Roma, Italia

12/2022 - Today

## Associata INAF-OAR (Roma)

12/2020 - 11/2022

## Associata INAF-OAS (Bologna)

10/2020 - 02/2022

## Postdoc (Assegnista di Ricerca)

Dipartimento di Fisica e Astronomia, Università di Bologna, via Gobetti 93/2, 40129, Bologna, Italy

- "Probing the effect of BH winds on AGN host galaxies gas reservoirs" inside the BLACKOUT project. Data reduction, analysis and interpretation of ALMA data of high-z AGN with outflows in ionised phase and evidence of depleted molecular gas and of molecular outflows.
  - One paper as 1st author in preparation.
- Sponsor: Prof. M. Brusa

03/2018 - 09/2020

## Fondecyt postdoctoral fellow

Instituto de Astrofísica and Centro de Astroingeniería, Facultad de Física, Pontificia Universidad Católica de Chile, Casilla 306, Santiago 22, Chile

- Unveil the black hole mass – host galaxy connection in obscured accreting supermassive black holes, 3-year project.
  - One paper as 1st author submitted (BASS XXIX, to appear in ApJS special issue);
  - One paper as 1st author in preparation;
  - Col of other BASS papers (5 published or in press + 3 submitted);
  - One paper as 3rd author published (A&A, Duras+20 *Universal bolometric corrections for active galactic nuclei over seven luminosity decades*)
  - PI of followup NIR spectroscopic proposals and local expert observer for the BASS collaboration
- Sponsor: Prof. E. Treister

07/2017 – 10/2017

## Postdoc

Harvard-Smithsonian Astrophysical Observatory, Cambridge, Boston, USA

- Multi-wavelength study (radio, optical, X-ray) on multiple scales (from the nucleus up to ~500 kpc) of kinetic feedback in action in 3C 196.1, a hybrid morphology radio galaxy, the BCG (brightest cluster galaxy) of a galaxy cluster.
  - One 1st author paper published on an international refereed journal (ApJ, Ricci+18: *Stormy weather in 3C 196.1*)
  - Col of other 3C Chandra snapshot survey papers (4 published)
- Collaborators: Dr. R. Kraft, Dr. L. Lovisari & Dr. W. Forman
- Sponsor: Dr. W. Forman, Prof. F. Massaro

#### 06/2017 Visiting Postdoc

Istituto di Radioastronomia (IRA), Bologna, Italy

- Data reduction and analysis of VLA observations of 3CR radiogalaxies observed in the Chandra snapshot survey.
  - One paper published on an international refereed journal (ApJS, Stuardi+18 *The 3CR Chandra Snapshot Survey: Extragalactic Radio Sources with Redshifts between 1 and 1.5*).
- Collaborators: Dr. E. Liuzzo & Prof. F. Massaro

#### 03/2017 – 05/2017 Unpaid Postdoctoral Associate

European Southern Observatory (ESO), Santiago, Chile

- Black hole – host connection in local obscured AGN. Morphological bulge-disc decomposition of mid- infrared emission of local samples of hard X-ray selected AGN employing GALFIT.
  - One 1st author paper published on international refereed journal (MNRAS Letter, Ricci+17c *Detection of faint broad emission lines in type 2 AGNs - III*)
  - One as 2nd author published on international refereed journal (Sani+18 *NGC1275*)
- Collaborators: Dr. E. Sani & Prof. F. La Franca
- Sponsor: Dr. E. Sani

#### 03/2017 – 02/2018 Unpaid Postdoctoral Associate

Dipartimento di Matematica e Fisica, Università degli studi Roma Tre, Roma, Italia

- Spectroscopic data reduction and analysis of optical and near-infrared spectra of AGN
- Sponsor: Prof. F. La Franca

### EDUCATION AND TRAINING

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#### 01/2014-02/2017 PhD in Physics - XXIX cycle

Dipartimento di Matematica e Fisica, Università degli studi Roma Tre, Roma, Italia

- Thesis: The role of AGN in galaxy evolution
  - Three 1st autor papers published as part of my PhD on international refereed journals (AJ Ricci+15, A&A Ricci+17a *Novel calibrations of virial black hole mass estimators in active galaxies based on X-ray luminosity and optical/NIR emission lines* and MNRAS Ricci+17b)
  - One 2nd author paper as part of my PhD thesis published (MNRAS letter, Onori+17b *Detection of faint broad emission lines in type 2 AGN: II*)
  - One 3rd author paper as part of my PhD thesis published on international refereed journal (MNRAS Onori+17a *Detection of faint broad emission lines in type 2 AGN: I*)
  - One 3rd author paper related to the topic (but not presented in my PhD thesis) published on a refereed journal (La Franca+16 *Detection of Faint BLR Components in the Starburst/Seyfert Galaxy NGC 6221*)
  - PI of one NIR spectroscopic proposal
- Supervisor: Prof. F. La Franca, Co-supervisors: Prof. F. Shankar & Prof. F. Massaro

#### 03/2015-04/2015 Visiting student

Department of Physics and Astronomy, University of Southampton, Southampton, UK

- The goal of the appointment was to perform a statistical demographic study of hard X-ray selected AGN using deep Chandra and COSMOS Legacy data. These X-ray samples, matched also with optical and UV selected AGN samples, were used to determine the evolution of the luminosity function of the ionizing AGN population up to  $z = 6$ , to constrain the role of the AGN in the hydrogen reionization.
  - One 1st author refereed paper (as part of my PhD thesis) has been published on an international journal (MNRAS, Ricci+17b *Constraining the UV emissivity of AGN*).
- Collaborators: Prof. S. Shankar & Dr. F. Civano

08/2014-10/2014

Visiting student

Harvard-Smithsonian Astrophysical Observatory, Cambridge, Boston, USA

- The goal of the project was the spectroscopic classification of unidentified gamma-ray sources observed by the Fermi satellite.
  - This collaboration (still ongoing) has led to a 1st author refereed paper as part of my PhD thesis (AJ, Ricci+15 *Optical spectroscopic observations of gamma-ray blazar candidates IV*)
  - Series of papers as Col (13 published),
  - PI of optical spectroscopic followup proposals, expert observer for several nights
- Collaborators: Dr. R. D'Abrusco & Prof. F. Massaro
- Sponsor: G. Fabbiano, Prof. F. Massaro

2011-2013

Master of Science in Physics

Dipartimento di Matematica e Fisica, Università degli studi Roma Tre, Roma, Italia

- Thesis: The measure of the AGN2 black hole mass with NIR spectroscopy
  - the work done during the master thesis ended up in one of the first publications done during my PhD with one paper published on MNRAS as 3rd author (La Franca+15 *Extending Virial Black Hole Mass Estimates to Low-Luminosity or Obscured AGN*)
- Supervisor: Prof. F. La Franca
- Grade: 110/110 cum laude

2008-2011

Bachelor of Science in Physics

Dipartimento di Matematica e Fisica, Università degli studi Roma Tre, Roma, Italia

- Supervisor: Prof. F. La Franca
- Grade: 110/110 cum laude

Mother tongue

Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C2	C2	C1	C2
Spanish	C1	C1	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user  
[Common European Framework of Reference for Languages](#)

Communication skills

- Excellent communication skills gained through several invited seminars as speaker and university lectures
- Excellent capacity of working in teams gained through participation to scientific collaborations

Organisational / managerial skills

- Excellent skills in setting and respecting deadlines, setting and meeting objectives, creating programs work, work in groups, prepare scientific documentation, identify and solve problems
- Excellent networking capacity
- Excellent work flexibility gained through several research periods spent abroad during the PhD and postdoc
- Independent work (2018-2020 PI of a 3-year research project)
- Independent fund management (responsible of my FONDECYT fellowship budget for collaboration, traveling, conferences etc.)
- Leader of the near-infrared spectroscopic data reduction and analysis of the BASS survey (Swift/BAT AGN Spectroscopic Survey, [www.bass-survey.com](http://www.bass-survey.com))
- Good command of OS: Mac OS, Unix, Windows
- Good command of softwares for astronomical data visualization (DS9, atv, ftools, Aladin), reduction (IDL, Reflex, IRAF/Pyraf, CASA, SAS, CIAO) and analysis (IDL, Python, XSPEC, SHERPA), from radio to optical/near-infrared to X-ray.
- Good command of software tools to inspect data bases (Topcat, fv)
- Good command of serial commanding languages (IDL, Python)
- Good command of office suite (word processor, spread sheet, presentation software), e.g. TEX/Latex, Word/Pages, Open Office, Google spread sheets/Excel/Numbers, Beamer/Power Point/Keynote.

Driving licence

B

RESEARCH

Publications

58 refereed publications, 6 as first author, in peer reviewed journals, including AJ, A&A, ApJ, ApJL, ApJS, MNRAS (updated Nov 2022).  
Author of 2 papers submitted to international journals.

Projects

- Probing the effect of AGN feedback on galaxies' gas reservoirs at  $z \sim 1.5$  by using ALMA millimeters observations of obscured AGN in XMM-COSMOS. In charge of the ALMA data reduction and analysis. PRIN-MIUR funded project (BLACKOUT, PI. Fiore)
- FONDECYT postdoc project number 3180506: Unveiling the black hole mass - host galaxy connection in obscured accreting supermassive black holes across cosmic time (PI. F. Ricci)
- BASS is on FIRE: NIR spectroscopic follow up of BAT selected local AGN. Contribution inside the BASS collaboration:
  - in charge of the NIR data reduction acquired at Magellan/FIRE;
  - local expert observer for several NIR and optical spectroscopic runs in Chilean observatories (>50 hrs)
- The Chandra Survey of Extragalactic Sources in the 3CR Catalog: characterization of X-ray diffuse emission of 3CR radiogalaxies (Chandra, XMM-Newton, Swift) and multi-wavelength follow up of peculiar sources
- Association and optical classification of unidentified Fermi sources as blazars using WISE colors. Preparation and coordination of optical spectroscopic follow up runs, with several visiting and remote observations (> 120 hrs)
- Euclid AGN WP:
  - contribution to development of Python sub-packages to simulate AGN demography accessible to future instrument like Euclid, specifically making use of the radio - X-ray probability distribution function
  - contribution to the creation of stacked NIR spectra to understand Euclid future performances
- ChANGES (Chilean AGN/Galaxy Extragalactic 4MOST Survey)
  - Reduction/analysis team: Develop and implement strategies/software to extract AGN information. Generate realistic 4MOST-like mock AGN spectra to understand completeness and biases in AGN properties.
  - Science team: AGN physics, demography and evolution.

## TECHNICAL SKILLS

## Job-related skills

- Fundraiser: winner of a grant awarded through the Chilean research agency to support collaboration, traveling, and participation to conferences. Winner of several postdoc fellowships.
- Proposals:
  - **PI of 13 proposals accepted** in several international facilities - updated: May 2023  
LBT/MODS (0.2hrs) Chandra (AO22 48ks), Magellan/FIRE (1+2+2 n), VLT/FORS2 (6.4 hrs ESO P106), Blanco/COSMOS (2.5+3 n), NTT/EFOSC2 (3+3 n), ESO P104,105), XMM-Newton (AO17, AO18 94+97 ks), LBT/LUCI (13.5 hrs)
  - **Co-Investigator of 50 accepted proposals** - updated May 2023
    - + optical/NIR spectroscopy ground-based 6.5-8 m telescopes: >390 hrs
    - + optical spectroscopy ground-based 3.5-4 m telescopes: >345 hrs
    - + optical/NIR IFU ground-based 6.5-8 m telescopes (MUSE-ERIS): >100 hrs
    - + Multi band opt/NIR photometry ground-based 6.5-8 m telescope: 92 hrs
    - + Multi band opt/nir photometry ground-based 4m telescope: >200 hrs
    - + Space-based X-ray observations (Chandra, XMM): 763 ks + 2 CCT proposals
- Expert observer, with 12 visiting and remote observing runs at Magellan and SOAR, >230 hrs (updated July 2021).
- Data analysis:
  - + Firehose (IDL-based), reflex, IRAF/Pyraf, MIDAS software tools to reduce and analyse near-infrared and optical spectra of AGN.
  - + Reduction of VLA (bands L,C,X) and ALMA (ACA, 12-m array) data using CASA and Python.
  - + Image visualization and analysis with ds9 and Python.
  - + Table visualization and cross match with Topcat and IDL.
  - + Multi Gaussian one-dimensional fitting performed with Python pyspeckit package and IDL-based MPFIT.
  - + Stellar absorption fitting using Python ppxf package.
  - + Two dimensional isophotal fitting performed with GALFIT, Sherpa.
  - + X-ray data reduction and analysis performed with CIAO, SAS and XSPEC.
  - + X-ray surface brightness profile fit using IDL-based MPFIT.
  - + Linear regression fit with IDL-based linmix\_err (Bayesian), fitexy (symmetric regression).
  - + Use of statistical tests (e.g., F-test, KS etc.).
- Some experience with mentoring students (Kayleigh Richards, Southampton; supervisor: Prof. F. Shankar).

- Proposal (PI)
13. LBT 2022-2023 LBT/MODS 0.2 hours: *Spectroscopy of the changing-look-AGN 1ES 1927+654: are we witnessing the birth of a jet?*
  12. Chandra Cycle 24 48ks: *Dissecting the stormy weather in 3C 196.1*
  11. CNTAC2020B Magellan/FIRE 2 nights: *Peering into the hidden BLR: constraining the virial factor in obscured X-ray selected local AGN*
  10. CNTAC2020B Blanco/COSMOS 3 nights: *Continuing the census of unidentified Fermi gamma-ray sources*
  9. ESO P106 VLT/FORS2 6.4 hours: *Peering into the hidden BLR: constraining the virial factor in obscured X-ray selected maser AGN*
  8. CNTAC2020A Blanco/COSMOS 2.5 nights: *Continuing the census of unidentified Fermi gamma-ray sources*
  7. CNTAC2020A Magellan/FIRE 2 nights: *Peering into the hidden BLR: constraining the virial factor in obscured X-ray selected local AGN*
  6. ESO P105 NTT/EFOSC 3 nights: *Continuing the census of unidentified Fermi gamma-ray sources*
  5. ESO P104 NTT/EFOSC 3 nights: *Continuing the census of unidentified Fermi gamma-ray sources*
  4. CNTAC2019A Magellan/FIRE 1 night: *The BASS is on FIRE: Near-IR spectroscopy of hard X-ray selected AGN in the local Universe*
  3. XMM-Newton AO18 94ks (joint Chandra 48 ks): *Echoes of powerful outbursts in 3C 196.1 with XMM-Newton and Chandra*
  2. XMM-Newton AO17 97ks (joint Chandra 40 ks): *Hunt for echoes of powerful outbursts in the BCG 3C 196.1: a XMM-Newton + Chandra look*
  1. LBT 2016-2017 LBT/LUCI 13.5 hrs: *The first measures of the BH mass in local AGN2: probing the extremes of the Eddington ratio distribution*
- Proposal (Col)
- 2023
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50. VST ESO P111, PI: Paolillo, *Toward next-generation time-domain surveys: census and properties of AGN in the LSST Deep Drilling Fields*
  49. LBT 2022-2023 DDT, PI: La Franca, LBT/MODS, 0.3hrs: *Quasi Simultaneous DDT XMM+NTT observations of the changing look AGN B2 0917+23*
  48. ESO P111 DDT, PI: La Franca, NTT/EFOSC2, 35m: *Simultaneous DDT XMM+NTT observations of the changing look AGN B2 0917+23*
  47. ESO P111, PI: Cresci, VLT/ERIS, 18hrs: *HIPER (High resolution Investigation of Feedback Processes with ERIs)*
  46. ESO P111, PI: Vito, VLT/HAWK-I, 4hrs: *One HAWK-I to find 'em: identifying galaxies around a  $z=6.5$  QSO to study its large-scale environment*
  45. ESO P111, PI: Marchesi, NTT/SOFI, 6hrs: *Outside the halo: Tracking the Mpc-scale structure of a  $z\sim 1.7$  protocluster with SoFI*
  44. TNG47, PI: La Franca, TNG/DOLORES, 12hrs: *Discovering the nature of the elusive new population of changing look AGN*
  43. XMM-Newton AO22, PI: Koss, 27ks: *A Detailed X-ray Study of the 230 pc Dual AGN in UGC 4211*
- 2022
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42. LBT 2022-2023, PI: Piconcelli, LBT/LUCI, 7hrs: *Shedding light on intriguing broad-line W1W2-dropout quasars*
  41. CNTAC2022A, PI: Congiu, Magellan/IMACS+Fourstar, 3nights: *Probing the large-scale environment of the first obscured QSO candidate at  $z>6$  hosted in a merging system*
  40. ESO P109, PI: Treister, VLT/MUSE, 33hrs NFM +4.4hrs WFM: *The Nuclear Regions of Coalescing Major Galaxy Mergers Dissected with MUSE NFM*
  39. ESO P109, PI: Trakhtenbrot, VLT/XSH, 30.7 hrs: *A Complete Census of SMBHs in Nearby Powerful Obscured Swift-BAT AGN*
- 2021
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38. LBT 2021-2022, PI: Vito, LBT/LBC 8 hrs: *A foreground galaxy group toward the X-ray variable QSO J1641 at  $z=6.047$  hinting at gravitational lensing*
  37. ESO P108, PI: Venturi, VLT/MUSE 16 hrs: *Unveiling the mystery of turbulent gas perpendicular to low-power radio jets in Seyferts*
  36. ESO P108, PI: Trakhtenbrot, VLT/XSH 36.1 hrs: *A Complete Census of SMBHs in Nearby Powerful Obscured Swift-BAT AGN*
  35. ESO P108, PI: Vito, VLT/XSH, 11 hrs: *Probing nuclear winds in a peculiarly X-ray weak QSO at  $z=6.515$*
  34. CNTAC2021A, PI: Venturi, Magellan/FIRE+MagE, 2 nights: *Unveiling ongoing star-formation inside the galactic outflow of NGC4945*

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- 2020
33. ESO P106, PI: Vito, VLT/XSH, 11 hrs: *Probing nuclear winds in a peculiar X-ray weak QSO at  $z=6.515$*
  32. ESO P106, PI: Trakhtenbrot, VLT/XSH, 38.7 hrs: *A Complete Census of SMBHs in Nearby Powerful Obscured Swift-BAT AGN*
  31. Chandra cycle 22, PI: Massaro, GO 186ks: *Hidden treasures in the 3CR Extragalactic catalog*
  30. Chandra cycle 22, PI: Missaglia, GO 200ks: *Investigating the X-ray extended emission around the radio galaxy 3C 297*
  29. CNTAC2020A, PI: Vito, Magellan/FIRE 2 nights: *The physical properties of a galaxy system hosting the first heavily obscured QSO candidate at  $z > 6$*
  28. CNTAC2020A, PI: Vito, Magellan/IMACS+Fourstar 2 nights: *The environment of an obscured QSO pair at  $z>6$*
  27. CNTAC2020A, PI: Vito, Magellan/FIRE 2 nights: *The first optical narrow line QSO candidate at  $z>6$  from the SHELLQ survey*
  26. CNTAC2020A, PI: Treister, MPG/GROND 3 nights: *GROND Multiwavelength SEDs of Swift/BAT-selected BASS AGN in Major Galaxy Mergers*
  25. CNTAC2020B, PI: C. Ricci, Magellan/MagE 2 nights: *A Complete Census of SMBHs in Nearby Powerful Obscured Swift-BAT AGN*
  24. NOAO-Fermi Joint proposal cycle 13, PI: Massaro, *An optical perspective of the unknown gamma-ray sky*  
Telescopes: SOAR/KPNO/Blanco, >30 nights including also NOAO-Fermi Joint proposal cycles 9,10,11,12 (see below)
  23. Yale time 2020A, PI: Balokovic, primary Col: F. Ricci, Magellan/FIRE 1.5 nights: *Infrared spectroscopy of peculiar X-ray selected AGN*
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- 2019
22. ESO P105, PI: Trakhtenbrot, VLT/XSH, 40.7 hrs: *BAT AGN Spectroscopic Survey (BASS) - A Complete Census of SMBHs in Nearby Powerful Obscured AGN*
  21. ESO P104, PI: Treister, VLT/MUSE, 14 hrs: *The Nuclear Regions of Nearby Dual AGN at the Highest Resolution with MUSE NFM*
  20. ESO P104, PI: Treister, VLT/MUSE, 24 hrs: *High Resolution Kinematics in the Nuclear Region of (U)LIRGs across the Merging Sequence*
  19. ESO P104, PI: Trakhtenbrot, VLT/XSH, 55 hrs: *BAT AGN Spectroscopic Survey (BASS) - A Complete Census of SMBHs in Nearby Powerful Obscured AGN*
  18. Chandra cycle 21, PI: Massaro, 188ks: *Xraying the unknown 3CR Extragalactic sky*
  17. CNTAC2019A, PI: Treister, MPG/GROND 3 nights: *GROND Multiwavelength SEDs of Swift/BAT-selected BASS AGN in Major Galaxy Mergers*
  16. CNTAC2019A, PI: C. Ricci, SOAR 4 nights: *A Complete Census of SMBHs in Nearby Powerful Obscured Swift-BAT AGN*
  15. CNTAC2019A, PI: C. Ricci, Magellan/MagE 2 nights: *A Complete Census of SMBHs in Nearby Powerful Obscured Swift-BAT AGN*
  14. CNTAC2019B, PI: Vito, Magellan/IMACS MOS, 3 nights: *Unveiling the processes of early SMBH assembly: toward a robust high-redshift AGN X-ray luminosity function*
  13. NOAO-Fermi Joint proposal cycle 12, PI: Massaro *Hunting gamma-ray blazars with optical spectroscopic observations*
  12. Yale time 2019A, PI: Balokovic, primary Col: F. Ricci, Magellan/FIRE 1.5 nights: *Infrared spectroscopy of peculiar X-ray selected AGN*
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- 2018
11. Chandra cycle 20, PI: Massaro, GO 162ks: *Completing the Chandra Extragalactic 3CR Survey*
  10. Chandra cycle 20, PI: Massaro, CCT: *X-ray surveying radio-loud active galaxies and their large scale environments*
  9. Chandra cycle 20, PI: Koss, CCT: *C-BASS: A Chandra Legacy Survey of AGN at the Highest Spatial Resolutions*
  8. LBT 2018-2019, PI: Bianchi, 20 hrs: *The smallest central accreting BHs in low mass galaxies*
  7. NOAO-Fermi Joint proposal cycle 11, PI: Massaro: *The Optical Spectroscopic campaign of gamma-ray blazar candidates: 10 yrs after the FERMI launch*
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- 2017
6. LBT 2016-2017, PI: Zappacosta, LBT/LUCI 0.33 hrs + LBT/MODS 0.1 hrs: *Probing variable gas motions in the hyperluminous quasar SDSSJ1521+5202*
  5. NOAO-Fermi Joint proposal cycle 10, PI: Massaro: *Completing the optical Spectroscopic campaign of the gamma-ray blazar candidates*
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- 2016
4. ESO P97, PI: Zappacosta, VLT/XSH 2hrs: *The puzzling variable line shifts in hyperluminous quasars*
  3. NOAO-Fermi Joint proposal cycle 9, PI: Massaro: *Continuing the optical Spectroscopic campaign of the gamma-ray blazar candidates*

- 2015 \_\_\_\_\_  
 2. Yale time 2015A, PI: Massaro, SOAR 3 nights: *Completing the optical spectroscopic campaign of candidate counterparts for the unidentified gamma-ray sources*
- 2014 \_\_\_\_\_  
 1. ESO P93, PI: Onori, VLT/XSH 8 hrs: *The first measure of the local density of the Low Mass Black Holes via NIR spectroscopy of AGN2*

TEACHING

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| <p>Didattica<br/>A.A. 2022-2023</p>                                                                    | <ul style="list-style-type: none"> <li>▪ PhD course “Evoluzione delle Galassie ad alto redshift” 3CFU offered in the PhD degree in Physics of the Department of Mathematics and Physics, University Roma Tre</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         |
| <p>Didattica<br/>A.A. 2022-2023</p>                                                                    | <ul style="list-style-type: none"> <li>▪ “Laboratorio di Astrofisica” 6CFU offered during the Bachelor course in Physics of the Department of Mathematics and Physics, University Roma Tre</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                           |
| <p>Didattica<br/>A.A. 2021-2022</p>                                                                    | <ul style="list-style-type: none"> <li>▪ PhD course “Evoluzione delle Galassie ad alto redshift” 3CFU offered in the PhD degree in Physics of the Department of Mathematics and Physics, University Roma Tre</li> </ul>                                                                                                                                                                                                                                                                                                                                                                         |
| <p>Didattica integrativa<br/>A.A. 2020-2021</p>                                                        | <ul style="list-style-type: none"> <li>▪ 20 hours as tutor for supporting the course “Laboratorio di Astrofisica” 6CFU offered during the Bachelor course in Physics of the Department of Mathematics and Physics, University Roma Tre</li> <li>▪ Responsible: Dr. E. Bernieri</li> </ul>                                                                                                                                                                                                                                                                                                       |
| <p>Didattica<br/>A.A. 2020-2021</p>                                                                    | <ul style="list-style-type: none"> <li>▪ I have held half of the PhD course “Evoluzione delle Galassie ad alto redshift” 3CFU offered in the PhD degree in Physics of the Department of Mathematics and Physics, University Roma Tre</li> <li>▪ Responsible: Prof. F. La Franca</li> </ul>                                                                                                                                                                                                                                                                                                      |
| <p>Didattica integrativa<br/>A.A. 2014-2015</p>                                                        | <ul style="list-style-type: none"> <li>▪ 50 hours as tutor for supporting the class “Fisica Generale II” (General Physics second module, classic electromagnetism theory in vacuum and in matter) 12 CFU, offered in the Bachelor degree in Physics of the Department of Physics, University Roma Tre</li> <li>▪ Responsible: Prof. G. Matt.</li> </ul>                                                                                                                                                                                                                                         |
| <p>Borsista del Laboratorio di<br/>Fisica<br/>A.A. 2011-2012<br/>A.A. 2010-2011<br/>A.A. 2009-2010</p> | <ul style="list-style-type: none"> <li>▪ Teaching support for the laboratory activities of the courses for the Bachelor degree in Physics, Optics and Optometry, and Geology, offered at the Department of Physics, University Roma Tre.<br/>As part of the duties, during these three academic years I have also taken part to the to the preparation of numerous outreach activities (such as Open Days, Giornata di Vita Universitaria, Notte dei Ricercatori, Masterclasses etc) held both at the University of Roma Tre and in Frascati</li> <li>▪ Responsible: Dr. F. Paolucci</li> </ul> |

## Service for the community

- 05/2023: funder and co-organizer of the DAJE (Digest AGN Journal Event) meeting, a monthly meeting of the AGN community working in Rome
- 12/2022: reviewer for the proposals TNG AO47 (INAF time)
- 12/2018: LOC of the TORUS2018 meeting, Puerto Varas (CL)
- 06/2019 - 09/2020: IA Postdoc representative
- 11/2019: Review editor for Extragalactic Astronomy for the Frontiers in Astronomy and Space Science Journal
- 07/2021: Co-organizer of the FAME (Friday AGN MEetings), bi-weekly meetings of the Bologna IRA/INAF/DIFA Extragalactic AGN and Galaxies Group.

## Conferences (as speaker)

- 05/2023 HSC Meeting 2023: HYPERION, WISSH and Friends, Bologna (IT). Talk: *AGN molecular outflows at the golden epoch of galaxy evolution*
- 05/2022 Active Galactic Nuclei XIV: The Renaissance of Black Holes and Galaxies, Florence (IT). Talk: *Molecular outflows and gas content of two obscured AGN at the golden epoch of galaxy evolution*
- 12/2020 Supermassive Black holes, Chile (online). Talk: *Peering into the hidden BLR: constraining the virial factor in obscured X-ray selected local AGN*
- 09/2019: The 3C Extragalactic radio sky survey: legacy of the third Cambridge catalogue, Turin (IT). Talk: *Stormy weather in 3C 196.1: Nuclear Outbursts and Merger Events Shape the Environment of the Hybrid Radio Galaxy 3C 196*.
- 09/2018: CLUSTER2, Napoli (IT). Talk: *Stormy weather in 3C 196.1: an hybrid morphology radio galaxy nuclear outburst shapes the environment of the surrounding cluster ICM*
- 08/2018: Are AGN Special? Durham (UK). Talk: *The role of AGN in the hydrogen reionization or are AGN special for the hydrogen reionization?*
- 07/2018: The early growth of Supermassive Black Holes, Sexten (IT). Talk: *The M<sub>bh</sub> – galaxy scaling relations in the local Universe: what is the role of type 2 AGN*
- 11/2017: Galaxy Evolution & Environment, Arcetri (IT). Talk: *The BH mass - galaxy scaling relations in the local Universe: what is the role of type 2 AGN?*
- 09/2016: Active Galactic Nuclei 12: a Multi-Messenger perspective, Naples (IT). Talk: *The BH mass - K-bulge luminosity relation in type 2 AGN*
- 08/2016: Hidden Monsters: Obscured AGN and Connections to Galaxy Evolution, Dartmouth (USA). Talk: *The BH mass - K-bulge luminosity relation in type 2 AGN*
- 07/2016: Active Galactic Nuclei: what's in a name?, Garching (GER). Talk: *The BH mass - Kbulge luminosity relation in type 2 AGN*
- 06/2016: Hot spots in the XMM sky: Cosmology from X-ray to Radio, Mykonos (GR). Talk: *Constraining the UV emissivity of AGN throughout cosmic time via X-ray surveys*
- 09/2015: Demographics and Environment of AGN from Multi-Wavelength Surveys, Chania (GR). Talk: *AGN feedback: kinetic and radiative efficiencies*
- 06/2014: The Unquiet Universe, Cefalu` (IT). Talk: *Looking for the broad emission lines in AGN2 with deep NIR spectroscopy and the measure of the mass of Intermediate Mass BH*

## Seminars (invited)

- 12/2022: Physics Colloquium Rm3, Roma (IT) "AGN molecular outflows at the golden epoch of galaxy evolution"
- 10/2020: Astrophysics Talk UniBO, Bologna (IT)
- 09/2020: ALMA-JAO Colloquium, Santiago (CL)
- 10/2018: Departamento de Física, Universidad de Chile, Santiago (CL)
- 10/2018: Facultad de Ingeniería y Ciencias, Universidad Diego Portales, Santiago (CL)
- 11/2017: Osservatorio Astronomico di Brera, INAF, Milano (IT)
- 11/2017: Osservatorio Astronomico di Roma, INAF, Monte Porzio Catone RM (IT)
- 09/2017: CfA High Energy Astrophysics Division, Harvard-Smithsonian Astrophysical Observatory, Cambridge (USA)
- 06/2017: Colloquium at Osservatorio di Radioastronomia, INAF, Bologna (IT)
- 05/2017: ESO TMT, Santiago (CL)
- 05/2017: Instituto de Astrofísica, Facultad de Física, Pontificia Universidad Católica de Chile, Santiago (CL)
- 10/2014: CfA High Energy Astrophysics Division, Harvard-Smithsonian Astrophysical Observatory, Cambridge (USA)
- 09/2014: CfA High Energy Astrophysics Division, Harvard-Smithsonian Astrophysical Observatory, Cambridge (USA)

- Honours and awards**
- Culture della Materia (Roma Tre University, A.A. 2020-2021 / 2022-2023)
  - Associatura INAF-OAS (2020 - 2022)
  - FONDECYT fellowship – 3 years independent postdoctoral fellowship awarded through Chilean public research agency. The project has been awarded 8<sup>th</sup> over 26 successful applications in the Astronomy, Cosmology and Particles Group (success rate 40%)
  - FONDECYT grant: 13.5 Million CLP (corresponding to 19.5 kUSD, 3 years) to foster collaborations and support traveling, conferences, workshop participation
  - ESO fellowship (declined)
  - PhD scholarship (40k EUR, 3 years)
- Workshops**
- 07/2020 BASS annual (online) workshop. Talk (invited) *The NIR view of the BLR*
  - 04/2020 ALMA Community Day Event at the JAO, Santiago
  - 05/2019: SMBH: Formation and Growth in Conce, Concepcion (CL). Talk: *Looking through FIRE: NIR spectra of BASS AGN*
  - 03/2019 ALMA Community Day Event at the JAO, Santiago
  - 01/2019 BASS workshop in Gainesville, Florida (USA) Talk: *Unveiling the BH mass - host galaxy connection in obscured accreting supermassive black holes*
  - 12/2018 Basal/CATA UC annual workshop, Majadas de Pirque, Pirque (CL)
  - 09/2018: PUC-KIAA Bilateral Workshop, Santiago (CL). Talk (invited): *The role of AGN in the hydrogen reionization*
  - 03/2018: Local hard X-ray selected AGN across the multi-wavelength spectrum, Santiago (CL). Talk (invited): *The BH mass - galaxy scaling relations in the local Universe: what is the role of type 2 AGN?*
  - 05/2015 JWST workshop: User training in JWST Data Analysis, Space Telescope Science Institute, Baltimore (USA)
  - 11/2013 ESO ALMA workshop: ALMA Community Days: Preparing for Cycle 2, ESO Headquarters, Garching (GER)
- PhD Schools**
- 10/2015 ESO school F. Lucchin: Science and Technology with E-ELT, Fondazione E. Maiorana, Erice (IT)
  - 11/2014 XXVI Canary Islands Winter School of Astrophysics “Bayesian Astrophysics”, Instituto de Astrofísica de Canarias, Tenerife (ES)
  - 06/2014 Severo Ochoa School: Exploiting Extragalactic Surveys in the era of Large Telescope, Universidad de La Laguna, Tenerife (ES)
- Memberships**
- BASS survey member
  - Euclid survey member (AGN WP9)
  - ChANGES (Chilean AGN/Galaxy Extragalactic 4MOST Survey): color+variability-selected AGN
  - Athena WG: Formation and Growth of the earliest SMBH
  - Athena WG: Understanding the buildup of SMBH and galaxies
  - SPICA
- References** Prof. M. Brusa, Prof. E. Treister; Prof. F. La Franca
- Bibliometric indexes** 1705 total citations, 158 on first author papers, h-index 22, m-index 2.75, according to SAO/NASA ADS (updated 05/2023).

 ANNEXES
 

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La sottoscritta, consapevole che – ai sensi dell’art. 76 del D.P.R. 445/2000 – le dichiarazioni mendaci, la falsità negli atti e l’uso di atti falsi sono puniti ai sensi del codice penale e delle leggi speciali, dichiara che le informazioni rispondono a verità.

Luogo e data: Roma 29/05/2023

FIRMA: FEDERICA RICCI