

## Prof. Myriam Gitti's short CV

### Education :

**2003** : PhD in Astronomy, University of Bologna; Supervisor: Prof. G. Setti

**1999** : Laurea in Astronomy *magna cum laude*, University of Bologna; Supervisor: Prof. G. Setti

### Fellowships and Career History :

**since 2019** : Associate Professor, Dept. of Physics and Astronomy - University of Bologna

**since 2013** : Research Associate at INAF-IRA with appointment of collaboration without remuneration

**2013-2019** : Assistant Professor, Dept. of Physics and Astronomy - University of Bologna

**2011-2013** : Post-doc, Dept. of Physics and Astronomy - University of Bologna

**2010-2011** : Post-doc, INAF - Astronomical Observatory of Bologna & SAO Research Associate (USA)

**2008-2010** : Visiting Scientist, Harvard-Smithsonian Center for Astrophysics (MA, USA)

**2008-2009** : Post-doc, Dept. of Astronomy - University of Bologna

**2006-2008** : Post-doc, INAF - Astronomical Observatory of Bologna

**2005-2006** : Post-doc, Dept. of Physics & Astronomy, Ohio University (OH, USA)

**2003-2005** : Post-doc, Institute of Astrophysics, University of Innsbruck (Austria)

### Main Research Interests :

Properties and evolution of clusters and groups of galaxies derived from multi-wavelength observations: radio-mode AGN feedback (radio bubbles / X-ray cavities) and diffuse radio emission (mini-halos) in cool cores, thermal intra-cluster medium, reacceleration of relativistic particles. Extragalactic radioastronomy and synergy with extragalactic high-energy astrophysics. Future radio and X-ray facilities.

### Main Scientific Activity :

- About 70 papers in peer reviewed international journals, of which 16 as first author ( $h$ -index=24, source: ADS)
- About 30 talks at international conferences and seminars/colloquia

### Main Professional Activities :

Referee for Nature (since 2020); member of the Final Exam Board of the Two Year Master (Laurea Magistrale) in Astrophysics and Cosmology, University of Bologna (since 2020); member of the Chandra Peer Review (pundit in 2020, cluster panelist in 2008); co-author of “Advancing Astrophysics with the Square Kilometre Array” (2015) and “Italian SKA White Book” (2013); member of ATHENA Science Working Groups (2015); referee for the GMRT and e-MERLIN/VLBI TACs; referee for ApJ, MNRAS and A&A journals (since 2007, 3-4 papers/yr).

### Academic Teaching Experience and Student Supervision :

- Chair of the following courses at the University of Bologna (120 h/AY, since 2016): “*Multiwavelength Astrophysics Laboratory (radio module)*”, Laurea Magistrale in Astrophysics and Cosmology; “*Physics Experimentations 2 (module 2)*”, Laurea in Astronomy; “*Astronomy*”, Laurea in Natural Sciences.
- Assistant Lecturer of the course “*Galaxy clusters*”, Laurea Magistrale in Astrophysics and Cosmology at the University of Bologna (since 2014).
- Lecturer for Doctoral Degree Program (University of Bologna, 2019; University of Cagliari, 2007).
- Thesis supervision at the University of Bologna: 2 PhD, 13 Laurea Magistrale, 1 Laurea.

### Approved Observing Proposals as Scientific P.I. at Competitive Facilities :

- “*A BCG with offset cooling: is the AGN feeding-feedback cycle broken in A2495?*” [2020], 130 ks Chandra
- “*Studying AGN feeding and feedback in the most quenched cool core cluster*” [2019], 420 ks Chandra (LP)
- “*Searching for a supermassive black hole pair in the dumbbell BCG of A 3670*” [2014], 3 h JVLA
- “*The mystery of the 'Kite' radio source in A 2626*” [2014], 3.5 h JVLA
- “*Is there a Binary Black Hole system in the BCG of RBS 797 ?*” [2013], 18 h EVN
- “*Is there a Supermassive Binary Black Hole System in the BCG of RBS 797 ?*” [2013], 9 h VLBA
- “*Investigating AGN feedback in cool cores detected in H $\alpha$* ” [2009-2010], 62 ks Chandra + 21 h JVLA
- “*Solving the puzzle of the peculiar radio source in the cool core cluster A2626*” [2008], 19 h VLA
- “*Relativistic Plasma and ICM in CF Clusters analyzed through Radio Mini-Halos*” [2006], 26 h VLA
- “*AGN Feedback and Star Formation in the Cooling Flow Cluster RBS 797*” [2006], 31 ks XMM

**Selected Scientific Publications** ( $h$ -index=24, first-author  $h$ -index=13, about 2000 citations; source: ADS) :

1. "Detection of a radio-filled X-ray cavity within the interstellar medium of NGC 5141", Macconi D., Grandi P., **Gitti M.**, Vignali C., Torresi E., Brighenti F., A&A, 660, 32 (2022)
2. "The Deepest Chandra View of RBS 797: Evidence for Two Pairs of Equidistant X-ray Cavities", Ubertosi F., **Gitti M.**, Brighenti F., Brunetti G., McDonald M., et al., ApJ, 923, L25 (2021)
3. "Constraining the AGN duty cycle in the cool-core cluster MS 0735.6+7421 with LOFAR data", Biava N., Brienza M., Bonafede A., **Gitti M.**, Bonnassieux E., et al., A&A, 650, A170 (2021)
4. "A Chandra study of Abell 795 - a sloshing cluster with an FR0 radio galaxy at its centre", Ubertosi F., **Gitti M.**, Torresi E., Brighenti F., Grandi P., MNRAS, 503, 4627 (2021)
5. "Radio and X-ray connection in radio mini-halos: Implications for hadronic models", Ignesti A., Brunetti G., **Gitti M.**, Giacintucci S. A&A, 640, A37 (2020)
6. "GASP XXI: A jellyfish galaxy as an astrophysical laboratory of the baryonic cycle", Poggianti B. M., Ignesti A., **Gitti M.**, et. al., ApJ 887, 155 (2019)
7. "A BCG with Offset Cooling: Is the AGN Feedback Cycle Broken in A2495?", Pasini T., **Gitti M.**, Brighenti F., et al., ApJ, 885, 111 (2019)
8. "Radio-continuum surveys with SKA and LOFAR: a first look at the perspectives for radio mini-halos", **Gitti M.**, Brunetti G., Cassano R., Etori S., A&A, 617, A11 (2018)
9. "ALMA Observations of Molecular Clouds in Three Group-centered Elliptical Galaxies: NGC 5846, NGC 4636, and NGC 5044", Temi P., Amblard A., **Gitti M.**, et al., ApJ, 858, 17 (2018)
10. "The mystery of the "Kite" radio source in Abell 2626: Insights from new Chandra observations", Ignesti A., **Gitti M.**, Brunetti G., et al., A&A, 610, A89 (2018)
11. "Discovery of a fourth arc in Abell 2626 at 610 MHz with the GMRT: spectral properties and possibilities for the origin", Kale, R., & **Gitti M.**, MNRAS, 466, L19 (2017)
12. "Do radio mini-halos and AGN heating in cool-core clusters have a common origin?", Bravi L., **Gitti M.**, Brunetti G., MNRAS, 455, L41 (2016)
13. "The SKA view of cool-core clusters: evolution of radio mini-halos and AGN feedback", **Gitti M.**, Tozzi P., Brunetti G., et al., in "Advancing Astrophysics with the SKA", PoS(AASKA14)076 (2015)
14. "A candidate supermassive binary black hole system in the brightest cluster galaxy of RBS 797", **Gitti M.**, Giroletti M., Giovannini G., Feretti L., Liuzzo E., A&A, 557, L14 (2013)
15. "The puzzling radio source in the cool core cluster A 2626 ", **Gitti M.**, MNRAS, 436, L84 (2013)
16. "A Chandra - VLA investigation of the X-ray cavity system and radio mini-halo in the galaxy cluster RBS 797", Doria A., **Gitti M.**, Etori S., et al., ApJ, 753, 47 (2012)
17. "Evidence for AGN Feedback in Galaxy Clusters and Groups", invited review, **Gitti M.**, Brighenti F., McNamara B., Advances in Astronomy, vol. 2012, p.1 (2012)
18. "A Chandra Study of the Large-Scale Shock and Cool Filaments in Hydra A: Evidence for Substantial Gas Dredge-Up by the Central Outburst", **Gitti M.**, Nulsen P., David L., McNamara B., Wise M., ApJ, 732, 13 (2011)
19. "Cavities and shocks in the galaxy group HCG 62 as revealed by Chandra, XMM and GMRT data", **Gitti M.**, O'Sullivan E., Giacintucci S., et al., ApJ, 714, 758 (2010)
20. "Direct Evidence for Outflow of Metal-Enriched Gas along the Radio Jets of Hydra A", Kirkpatrick C., **Gitti M.**, Cavagnolo K., McNamara B., David L., Nulsen P., Wise M., 707, L69 (2009)
21. "Cosmological Effects of Powerful AGN Outbursts in Galaxy Clusters: Insights from an XMM-Newton Observation of MS 0735+7421", **Gitti M.**, McNamara B., Nulsen P., Wise M., ApJ, 660, 1118 (2007)
22. "Multifrequency VLA radio observations of the X-ray cavity cluster of galaxies RBS 797: evidence for differently oriented jets ", **Gitti M.**, Feretti L. & Schindler S., A&A, 448, 853 (2006)
23. "Particle acceleration in cooling flow clusters of galaxies: the case of Abell 2626", **Gitti M.**, Brunetti G., Feretti L., Setti G., A&A, 417, 1 (2004)
24. "Modeling the interaction between ICM and relativistic plasma in cooling flows: the case of the Perseus Cluster", **Gitti M.**, Brunetti G., Setti G., A&A, 386, 456 (2002)

Date: October 27th, 2022

Myriam Gitti

