

Dr Paolo Tozzi

Curriculum Vitæ

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Address

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Personal Data

Date of birth: 4th of September, 1968.

Place of birth: Florence, Italy.

Citizenship: Italian.

Foreign languages: English, Spanish.

Scientific Interests

Thermodynamical and chemical properties of the IntraCluster Medium:
X-ray observations and data analysis; semianalytical models; hydro-
dynamical simulations.

Observational cosmology: the X–ray background; X-ray surveys; AGN for-
mation and evolution; properties of Clusters of Galaxies.

Cosmological parameters and Large Scale Structure of the Universe.

Structures formation in the Early Universe, Reionization, the End of the
Dark Ages.

Theory of the Mass function of Cosmic Structures.

Academic Studies

February 1993 Degree in Physics at the II University of Rome “Tor Vergata”, defending a thesis in Astrophysics entitled “*Evolution of Clusters of Galaxies*”, supervisor Professor A. Cavaliere, with the final mark of 110/110 *cum laude*.

October 1993 Entrance in the PhD curriculum at the II University of Rome “Tor Vergata”.

October 1993 – October 1997 PhD courses at the II University of Rome. In 1995-1996, I froze out my fellowship to accomplish military duties.

February 1998 PhD thesis under the supervision of Professor A. Cavaliere, entitled: “*Cosmic Structures formation: from Galaxies to Clusters of Galaxies*”.

June 2003 Prize “Dott. Giuseppe Borgia” from the Accademia dei Lincei, for published works in Astronomy.

Professional Positions

March–August 1998 Research Assistant at the Space Telescope Science Institute, supervisor P. Madau.

September 1998 – February 1999 Grant from the Osservatorio Astronomico di Roma, to work on “*Galaxy Evolution at intermediate redshifts*”. The research is developed at the Department of Physics and Astronomy of the Johns Hopkins University, Baltimore.

September 1998 – August 1999 Postdoc fellows at the Department of Physics and Astronomy of the Johns Hopkins University, Baltimore. Working on X-ray emission from clusters on Galaxies, and on the data reduction of the Chandra Deep Field, PI R. Giacconi.

September 1999 – Starts the activity as a permanent researcher at the Osservatorio Astronomico di Trieste.

July 2009 – “Primo Ricercatore” at INAF – Osservatorio Astronomico di Trieste.

Experience in training young scientists

2001-2002 – PhD Lectures on “*X-ray Astronomy: Theory and Observations*” at the Observatory of Trieste and the University of Rome III

2002-2006 Lectures on “*Structures Formation*” at the University of Trieste as a part of the course in Stellar Physics,

2005-2006 Training of three undergraduate students at the Observatory of Trieste (“tirocinio”)

2006-2007 Supervisor of the Master degree Thesis of two students at the University of Trieste

2007 Supervisor of the Diploma Thesis of two students at the University of Trieste

2007-2008-2009-2010 Lectures on “*X-ray astronomy*” at the University of Trieste, as a part of the course in Observational Astrophysics

May 2008 Lectures on “*X-ray astronomy*” and on “*X-ray data reduction and Analysis*” at the PhD school of the Beijing Normal University (China)

2009-2010 Supervisor of the PhD thesis of two students at the University of Trieste

Popular Science

Twelve popular talks in Italy and abroad.

Two articles on popular scientific magazines (in italian)

Collaboration with national tv Rai 3 for three different scientific programs (2008-2009)

Dr. Paolo Tozzi
Selected Refereed publications

More than 80 papers published on refereed Journals, and about 70 papers published on conference proceedings. Among the refereed papers:

1. Rosati, P., Tozzi, P., Gobat, R., Santos, J.S., Nonino, M., Demarco, R., Lidman, C., Mullis, C.R., Strazzullo, V., Boeringer, H., Fassbender, R., Tanaka, M., Dawson, K., Jee, J., Ford, H., Lamer, G., & Schwobe, A. 2009, “*Multi-wavelength study of XMMU J2235.3-2557: the most massive galaxy cluster at $z > 1$* ”, A&A, 508, 583
2. Tozzi, P., Mainieri, V., Rosati, P., Padovani, P., Kellerman, K., Fomalont, E., Miller, N., Shaver, P., Brandt, N., Lehmer, B., Norman, C., Giacconi, R., Hasinger, G., Nonino, M., & Szokoly, G. 2009, *The VLA survey of the Chandra Deep Field South III: X-ray spectral properties of Radio sources*, ApJ, 698, 740
3. Padovani, P., Mainieri, V., Tozzi, P., Kellerman, K., Fomalont, E., Miller, N., Shaver, & Kelly, J. 2008 *The VLA Survey of the Chandra Deep Field South. IV. Source Population*, ApJ in press, arXiv:0812.2997
4. Bignamini, A., Tozzi, P., Borgani, S., Ettori, S., & Rosati, P. 2008, *ICM properties and AGN distribution in high- z RCS clusters*, A&A, 489, 967
5. Santos, J.S., Rosati, P., Tozzi, P., Boehringer, H., Ettori, S. & Bignamini, A. 2008, *Searching for Cool Core Clusters at High Redshift*, A&A, 483, 35
6. Balestra, I., Tozzi, P., Ettori, S., Rosati, P., Borgani, S., Mainieri, V., Norman, C. & Viola, M. 2007, *Tracing the evolution in the Iron content of the ICM*, A&A, 462, 429
7. Tozzi, P., Gilli, R., Mainieri, V., Norman, C., Risaliti, G., Rosati, P., Bergeron, J., Borgani, S., Giacconi, R., Hasinger, H., Nonino, M., Streblyanska, A., Szokoly, G., Wang, J.X., & Zheng, W. 2006, “*X-ray Spectral Properties of Sources in the 1Ms Survey of the Chandra Deep Field South*”, A&A, 451, 457

8. Ettori, S., Tozzi, P., Rosati, P. & Borgani, S. 2004, “*Scaling laws in X-ray Galaxy Clusters at redshift between 0.4 and 1.3*”, A&A, 417, 13
9. Rosati, P., Tozzi, P., Ettori, S., Mainieri, V., Demarco, R., Stanford, A., Lidman, C., Nonino, M., Borgani, S., Della Ceca, R., Holden, B.P., Eisenhardt, P., Norman, C. 2004, “*Chandra and XMM-Newton Observation of RDCS 1252.9-2927, a Massive Cluster at $z=1.24$* ”, AJ, 127, 230
10. Tozzi, P., Rosati, P., Ettori, S., Borgani, S., Mainieri, V., & Norman, C. 2003, “*Iron abundance of the ICM at high redshift*”, ApJ, 593, 705
11. Ettori, S., Tozzi, P., Rosati, P. 2003, “*Constraining the cosmological parameters with the gas mass fraction in local and $z > 0.7$ galaxy clusters*”, A&A, 398, 879
12. Stern, D., Tozzi, P., Stanford, S.A., Rosati, P., Holden, B., P., Eisenhardt, P., Elston, R., Wu, K.L., Connolly, A., Spinrad, H., Dawson, S., Dey, A., Chaffee, F.H. 2002, “*SPICES II. Optical and Near-Infrared Identifications of Faint X-Ray Sources from Deep Chandra Observations of Lynx*”, AJ, 123, 2223
13. Rosati, P., Tozzi, P., Giacconi, R., Gilli, R., Hasinger, G., Kewley, L., Mainieri, V., Nonino, M., Norman, C., Szokoly, G., Wang, J.X., Zirm, A., Bergeron, J., Borgani, S., Gilmozzi, R., Grogin, N., Koekemoer, A., Schreier, E., and Zheng, W. 2002, “*The Chandra Deep Field South: the 1 Million Second Exposure*”, ApJ, 566, 667
14. P. Tozzi, P. Rosati, M. Nonino, J. Bergeron, S. Borgani, R. Gilli, R. Gilmozzi, G. Hasinger, N. Grogin, L. Kewley, A. Koekemoer, C. Norman, E. Schreier, P. Shaver, G. Szokoly, J.X. Wang, W. Zheng, A. Zirm, R. Giacconi 2001, “*New Results from the X-ray and Optical Survey of the Chandra Deep Field South: The 300ks Exposure*”, ApJ, 562, 42
15. S. Borgani, P. Rosati, P. Tozzi, S.A. Stanford, P.E. Eisenhardt, C. Lidman, B. Holden, R. Della Ceca, C. Norman, G. Squires 2001, “*Measuring Ω_m with the ROSAT Deep Cluster Survey*”, ApJ, 561, 13
16. Tozzi, P., & Norman, C. 2001, “*The Evolution of X-ray Clusters and the Entropy of the Intra Cluster Medium*”, ApJ, 546, 63

17. Tozzi, P., Scharf, C., & Norman, C. 2000, “*Detection of the Entropy of the Intergalactic Medium: Accretion Shocks in Clusters, Adiabatic Cores in Groups*”, ApJ, 542, 106
18. Tozzi, P., Madau, P., Meiksin, A., & Rees, J.M., 2000, “*Radio Signatures of HI at high redshifts: Mapping the End of the Dark Age*”, ApJ, 528, 597
19. Borgani, S., Rosati, P., Tozzi, P., Norman, C. 1999, “*Cosmological constraints from the ROSAT Deep Cluster Survey*”, ApJ, 517, 40
20. Cavaliere, A., Menci, N., Tozzi, P., 1997, “*The Luminosity–Temperature Relation for Groups and Clusters of Galaxies*”, ApJL, 484, L21
21. Governato, F., Tozzi, P., Cavaliere, A., 1996, “*Small Groups of Galaxies: a Clue to a Critical Universe*”, ApJ, 458, 18

Observing Proposals

Seven approved Chandra proposals as CoI

Seven approved XMM-Newton proposals as CoI

Eleven approved ESO-VLT proposal as CoI

Three ASI/INAF projects on X-ray astronomy approved for four years as local PI

Seminars, Conferences

42 seminars in several international Institutes.

40 contributed talks and 6 invited talks at international conferences.