CURRICULUM VITAE

Michael R. García
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60 Garden St.
Cambridge, MA 02138

Education

Ph.D. Harvard University 1987, Astronomy
M.A. Harvard University 1982 Astronomy
B.S. MIT 1978 Earth and Planetary Sciences, concentration in Physics

Positions Held

Constellation-X SAO Science Lead, 9/03-present
Mission Planning Scientist, AXAF Science Center, 9/94-9/03
Project Scientist, Einstein Data Center, 10/91-9/94
Acting Project Scientist, Einstein Data Center, 2/91-10/91
Archive Scientist, Einstein Data Center, 2/90-2/91
Instrument Scientist, AXAF High Resolution Camera, 8/87-2/90

Professional Duties, Advisory Committees

Member CfA Director Search Advisory Committee, 6/03-4/04
Editor of Proceedings for COSPAR 34th Assembly, "Next Generation X-ray Observatories", Houston TX, Oct. 2002.
Chairman of Science Organizing Committee for "Two Years of Science with Chandra" Symposium, Washington DC, Sept 5-7 2001.
Reviewer for: NSF, NASA/ADP, GINGA, ASCA, CfA TAC, Harvard Astro 98
Referee for: *Ap.J., A&A, NATURE, PASJ, AJ*
NATURE News and Views contributor
Member HST/DADS (Data Archive and Distribution System) Users Committee 1991-1993
Member NASA/HEASARC (High Energy Archive Science Research Center) Users Committee 1991-1994
Member NASA/SOMOWG (Science Operations Management Operations Working Group) Advisory Committee 1994-1995

Post-Docs Supervised/Hosted:

Dr. Albert Kong, Croucher Fellowship, 2001-2003
Dr. Benjamin Williams, NASA Grants, 2002-present
Dr. Danny Steeghs, Clay Fellowship, 2003-present
Dr. Manuel Perez-Torres, NASA Grants, 2003-present
Dr. Roberto Soria, Marie Curie Fellowship, 2004-present

Awards

Smithsonian Institution Special Achievement Award 2001

NASA Group Achievement Award (Chandra) 2000
Smithsonian Institution Special Achievement Award 2000
NASA Group Achievement Award (Chandra Operations Team) 2000
Smithsonian Institution Special Achievement Award 1997
Smithsonian Institution Special Achievement Award 1995
NASA Group Achievement Award (ROSAT) 1991
Smithsonian Institution Fellowship 1985-1987
National Science Foundation Fellow 1982-1985
Harvard University Fellow 1981-1982

Professional Societies

American Astronomical Society
AAS HEAD Member

Research Topics

Multiwavelength studies of low-mass x-ray binaries, gamma-ray bursters, x-ray instrumentation, scientific data systems, symbiotic stars, RS CVn stars.

Studies of Low-Mass X-ray Binaries: Multi-wavelength studies of Low-Mass X-ray Binaries, concentrating on X-ray, IR, and optical wavelengths, but including radio and UV wavelengths. Comparisons of Black Hole and Neutron Star X-ray transients and advection dominated models. Studies of the XRB population and nuclear Black Hole in M31. Optical and X-ray follow-up of Gamma-Ray Bursters.

X-ray Instrumentation: Design and testing components of the AXAF High Resolution Camera (HRC), including acquisition and testing of new micro-channel plates, and optimizing instrumental sensitivity. Design and testing of ROSAT HRI, concentrating on the UV/Ion shields; analysis of in-flight calibration of ROSAT HRI. Design and testing of the Energetic X-ray Imaging Telescope Experiment (EXITE). Designing and programming the data acquisition system (based on a μVAX II).

Scientific Data Systems: Production and distribution of CDROMs containing Einstein HRI data and IPC Slew Survey, including software and documentation for its analysis. Design and development of network based systems to distribution of all Einstein data. As Einstein Data Center Project Scientist, responsible supervisor for 20+ employees and $2M/year budget.

Measurement of radial velocity curves in Symbiotic Stars: This project was the first (successful) attempt to measure the orbital parameters of a number of Symbiotic Stars. The number of orbital periods known has been nearly doubled. It was shown that the entire class can be understood with a binary model, and differences in the individual stars can be understood in terms of their newly determined orbital parameters.

X-ray studies of RS CVn stars: The discovery of hard X-ray flares in RS CVn variables was reported in the 1980 García *et al.* article. This discovery solved a long standing question in X-ray astronomy about the origin of the 'high galactic latitude transients'. They are caused by flares in RS CVn stars.

Research Grants

2005-2007 –NASA/Chandra(AO6)/HST PI, "M31* - The Nearest ExtraGalactic Supermassive Black Hole", $70k
2003-2005 –NASA/Chandra(AO5)/HST PI, "Black Hole Transients in M31", $80k
2003-2005 –NASA/Chandra(AO5)/HST PI, "MultiWavelength Study of Cen X-4", $50k
2001-2002 –NASA/Chandra(AO3) PI, "Black Hole Transients in M31", $100k
2001-2002 –NASA/Chandra(A03)/HST Co-I, "Multiwavelength Study of XTE J1118+480", $50k
2001-2006 –NASA/LTSA PI, "The Nearest Black Holes", $270k
2001-2006 –NASA/LTSA co-I, "SuperSoft X-ray Sources" (R. DeStefano PI), $500k
2000-2001 –NASA/HST(c10)/Chandra PI, "Black Hole Transients in M31", $120K
2000-2001 –NASA/Chandra(AO2)/HST PI, "Do Quiescent Black Hole Accretion Disks Accrete?", $60K
2000-2001 –NASA/Chandra(A02) co-I, "XTE J1118+480, a DD/TOO Proposal", $20K
1999-2000 –NASA/HST/DD 8553, PI, "A Bright X-ray Transient in M31", $25K
1994-1999 –NASA UV/VIS, PI, "Searching for Black Holes", $160K
1993-1994 –ROSAT, PI "The Lightcuve of 4U2129+47 in a Low State", $15K
1993-1994 –ROSAT, Co-I on 3 other proposals
1991-1992 –ADP, PI "Simultaneous IUE/ROSAT Observations of EXO0748-67", $30K
1991-1991 –ROSAT, Co-I, "ROSAT Observations of the X-ray Binary HD 154791"
1990-1991 –ROSAT, PI "Observations of the X-ray Triple 4U2129+47",$20K
1990-1991 – IUE Co-I, – "Simultaneous IUE/ROSAT Observations of Atoll Low-Mass X-ray Binaries"
1990-1991 –ROSAT, Co-I "X-ray Observations of the Eclipsing Millisecond Pulsar"
1990-1991 –ROSAT, Co-I "ROSAT Selected Area Survey - Eridanus"
1990-1991 –ROSAT, Co-I on 3 other proposals
1989-1990 – IUE Co-I, – "Simultaneous X-ray/UV Observations of Cyg X-2"
1986 – EXOSAT Co-I, "Simultaneous X-ray and Radio Observations of GX13+1"

An ADS Search shows 213 publications to date (7/2003)

Refereed Publications

MMT Observations of the Black-Hole Candidate XTE J1118+480 near and in Quiescence M. A. P. Torres, P. J. Callanan, M. R. Garcia, P. Zhao, S. Laycock, 2004, submitted to ApJ

Multiwavelength Spectrum of the Black Hole XTE J1118+480 in Quiescence, McClintock, Jeffrey E.; Narayan, Ramesh; Garcia, Michael R.; Orosz, Jerome A.; Remillard, Ronald A.; Murray, Stephen S. 2003 ApJ 593, 435

A Synoptic X-ray Study of M31 with the Chandra-HRC, Benjamin F. Williams, Michael R. Garcia, Albert K. H. Kong, Frank A. Primini, A. R. King, Stephen S. Murray, submitted to ApJ, astro-ph/0306421

Supersoft X-ray Sources in M31, R. Di Stefano, A.K.H. Kong, F.A. Primini, M.R. Garcia, P. Barmby, P. Massey, P.W. Hodge, B.F. Williams, S.S. Murrary, S. Curry, T.A. Russo, submitted to ApJ, astro-ph/0306440

Resolved Jets and Long Period Black Hole X-ray Novae, M.R. Garcia (1), J. M. Miller (1), J. E. McClintock (1), A. R. King (2), J. Orosz (3) 2003 ApJ, 591, 388

Time-resolved Spectroscopy of the M15 X-ray Binary AC211/X2127+119; M.A.P.Torres (1), P. J. Callanan (1), M. R. Garcia 2003, MNRAS 341, 1231

Discovery of Radio/X-Ray/Optical-resolved Supernova Remnants in the Center of the Andromeda Galaxy, Kong, A. K. H.; Sjouwerman, L. O.; Williams, B. F.; Garcia, M. R.; Dickel, J. R. 2003 ApJ ApJ, 590L, 21

Dynamical Evidence for a Black Hole in the Microquasar XTE J1550-564, Orosz, JA, Groot, PJ, van der Klis, M., McClintock, JE, Garcia, MR, Zhao, P, Jain, RK, Bailyn, CD, and Remillard, RA., 2001, Accepted to ApJ, astro-ph/0112101

X-ray Point Sources in The Central Region of M31 as seen by Chandra, Kong, AKH, Garcia, MR, Primini, FA, Murray, SS, DiStefano, R, and McClintock, JE submitted to ApJ astro-ph/0203243

Chandra and HST Observations of M31* and M31 X-ray Transients, Garcia, MR, Kong, AKH, Primini, FA, Murray, SS, DiStefano, R, and McClintock, JE 2001 in prep

The X-ray Spectra of Black Hole X-ray Novae in Quiescence as Measured by *Chandra*, Kong, McClintock, Murray, Barret 2001, submitted to ApJ, astro-ph/0111134

A Black Hole in the Superluminal Source SAX J1819.3-2525 (V4641 Sgr), Orosz, Jerome A.; Kuulkers, Erik; van der Klis, Michiel; McClintock, Jeffrey E.; Garcia, Michael R.; Callanan, Paul J.; Bailyn, Charles D.; Jain, Raj K.; Remillard, Ronald A., 2001 ApJ...555..489O

Modeling the Low State Spectrum of the X-ray Nova XTE J1118+480, A. Esin, McClintock, Drake, Garcia, Hynes, Haswell, Marshall, and Muno, 2001, accepted for ApJ, 2001ApJ...555..483E 555.

Complete and Simultaneous Spectral Observations of the Black Hole XTE J1118+480, McClintock, Haswell, Garcia, Drake, Hynes, Marshall, Muno, Chaty, Garnavich, Groot, Lewin, Mauche, Miller, Pooley, Shrader, Vrtilek, 2001 ApJ, 555, 477M

New Evidence for Black Hole Event Horizons from Chandra, Michael R. Garcia, Jeffrey E. McClintockm Ramesh Narayan, Paul Callanan, Stephen S. Murray, 2001ApJ...553L..47G

Bright X-Ray Sources in M31 Globular Clusters, R. DiStefano, A.K.H. Kong, M. Garcia, P. Barmby, J. Greiner, S.S. Murray, F.A. Primini 2001 ApJ in press, astroph/0106254

A Black Hole of > 6 $M_\odot$ in the X-ray Nova XTE J1118+480, J. E. McClintock M. R. Garcia, N. Caldwell, E. E. Falco, P. M. Garnavich, P. Zhao, 2001ApJ...551L.147M

Optical Spectral Monitoring of XTE J1118+480 in Outburst - I. Evidence for a Precessing Accretion Disk, MAP Torres, PJ Callanan, MR Garcia, P Garnavich, Z Balog, P Berlind, M Brown, M Calkins, and A Mahdavi, 2002ApJ...569..423

A New Way to Detect Massive Black Holes in Galaxies, Accepted for ApJ Letters, De Stefano, Greiner, Garcia, Murray, 2001ApJ...551L..37D

Optical and X-ray Observations of Aql X-1 for a Complete Outburst Cycle, RK Jain, CD Bailyn, MR Garcia, and AM Levine, submitted to ApJ Feb 2001.

Observation of X-ray Lines from a Gamma-Ray Burst (GRB991216): Evidence of Moving

Ejecta from the Progenitor; Piro, Garmire, Garcia, Stratta, Costa, Feroci, Meszaros, and Vietri, 2000Sci...290..955P

The X-Ray Afterglow of GRB 000926 Observed by BeppoSAX and Chandra: A Mildly Collimated Fireball in a Dense Medium? Piro, L.; Garmire, G.; Garcia, M. R.; etal 2001ApJ...558..442P

RJK Observations of the Optical Afterglow of GRB991216, P.M. Garnavich, S. Jha, M.A. Pahre, K.Z. Stanek, R.P. Kirshner, M.R. Garcia, A.H. Szentgyorgyi, and J.L. Tony, 2000ApJ...543...61G

A First Look at M31 with Chandra, M.R. Garcia, S.S. Murray, F.A. Primini, W. Forman, C. Jones, 2000, ApJ Lett 537 L23.

A Search for the IR Counterpart to the black hole Candidate 4U1630-47, P.J. Callanan, J. F. McCarthy, M.R. Garcia, 2000, A&A, 355, 1049C

Two Neutron Star SXT in Quiescence, 4U2129+47 and EXO 0748-676, M. R. Garcia and P. J. Callanan 1999, AJ 118, 1390.

Black Hole and Neutron Star Transients in Quiescence, K. Menou, A.A. Esin, R. Narayan, M.R. Garcia, J.P. Lasota, and J.E. McClintock, 1999, ApJ 520, 276.

Aql X-1 in Outburst and Quiescence, M.R. Garcia, P. Callanan, J. McCarthy, K. Eriksen, R. Hjellming, 1999, ApJ 518, 422

The Rapid Decay of the Optical Emission from GRB 980326 and Its Possible Implications, P.J. Groot et. al, 1998, ApJ, 502, 123.

Power-Law Decays in the Optical Counterparts of GRB 970228 and GRB 970508, M. R. Garcia, P. Callanan, D. Moraru, J. E. McClintock, C. Hergenrother, E. Tollestrup, S. Willner, C. R. Robinson, C. Kouveliotou and J. van Paradijs, 1998, ApJ Letters, 500, L105.

Advection Dominated Accretion and Black Hole Event Horizons, R. Narayan, M.R. Garcia, and J.E. McClintock, ApJ Lett 1997, 478 L79

On the Mass of the Black Hole in GS2000+25, P. Callanan, M. Garcia, A. Filippenko, I. McLean and H. Teplitz, 1996 ApJL 470, L57.

Observations of the X-ray Nova GRO J0422+32: III: A Low Inclination X-ray Nova Paul J. Callanan, Michael R. Garcia, Jeffrey E. M^{c}Clintock, Ping Zhao, 1996 ApJ 461 351.

Observations of the X-ray Nova GRO J0422+32: II : Optical Spectra Approaching Quiescence, 1995, Michael R. Garcia, Paul J. Callanan, Jeffrey E. McClintock, Ping Zhao, 1996 ApJ 460 932.

Observations of the X-ray Nova GRO J0422+32: I: Outburst and the Decay to Quiescence, 1995, P.J. Callanan, M. R. Garcia, J. E. McClintock, P. Zhao, R.A. Remillard, C. D. Bailyn, J.A. Orosz, B.A. Harmon, W.S. Paciesas, Ap.J., 441, 786.

The Evolution of the Symbiotic Binary System AG Draconis, 1995, J. Mikolajewska, S. J. Kenyon, M.R. Garcia, R. S. Polidan, 1995, A.J. 109, 1289

X-ray Emission from 4U2129+47 (=V1727 Cyg) in Quiescence, 1994, M. R. Garcia, *Ap.J.* **435**, 407.

X-ray Observations of the Eclipsing MSP 1957+20, 1992, A. Fruchter, J. Bookbinder, M. Garcia, *Nature*, **359**, 303.

The Infrared Counterpart of GX13+1, M. R. Garcia, J. Grindlay, C. Bailyn, J. Pipher, M. Shure, A.J. **103** 1325, 1992

On the Nature of the Symbiotic Star CI Cygni, S. Kenyon, N. Oliversen, J. Mikolajewska,

M. Mikolajewski, R. Stencel, M. Garcia, and C. Anderson, 1991, AJ 101, 637.

Does Tidal Capture Produce Cataclysmic Variables?, Charles D. Bailyn, Jonathan E. Grindlay, and Michael R. Garcia, 1990, *Ap. J. Lett.* **357**, L35.

X-ray Burster is Theory Buster, Michael Garcia, 1990, *Nature News and Views*, **347**, 513.

Four X-ray Selected Cataclysmic Variables in the Galactic Plane, P. Hertz, C. Bailyn, J. Grindlay, M. Garcia, H. Cohn, and P. Lugger, 1990, *Ap. J.* **364**, 251-258.

When Seven's a Crowd, Charles Bailyn and Michael Garcia, 1990, *Nature News and Views*, **343** 120.

Is 4U2129+47 (= V1727 Cygnus) a Triple System?, M.R. Garcia, C.D. Bailyn, J.E. Grindlay, and L.A. Molnar, 1989, *Ap.J. Letters* **341**, L75.

IUE Observations of Cyg X-2: Ultraviolet Results From a Multiwavelength Campaign, S.D. Vrtilek, J.C. Raymond, M.R. Garcia, F.W. Verbunt, G.R. Hasinger, and M. Kurster,*Astronomy and Astrophysics*, **235**, 162. 1990.

Outflow from the Outer Lagrangian Point: Observations and Models of 4U2127+12 in M15, C. D. Bailyn, M. R. García, and J. E. Grindlay, 1989 *Ap.J.* **344**, 786 1989.

Spectroscopic Orbits of Symbiotics Stars, II. TX Canum Venaticorum, S. J. Kenyon and M. R. García, 1988 *Astron. J.*., **97**, 194.

SAS 3 and Einstein Observations of the 11 Minute Orbital Period of the Globular Cluster X-ray Source 4U1820-30, E. H. Morgan, R. A. Remillard, and M. R. García, 1988, *Ap.J.*, **324**, 851.

Simultaneous X-ray and Radio Observations of GX13+1, García, M. R., Molnar, L.A., Grindlay, J.E., Stella, L., White, N. E., and Seaquist, E.A, 1988, *Ap.J.*, **328**, 552.

Discovery of an X-ray Burst from 4U2129+47, García, M.R., and Grindlay, J.E., 1987, *Ap.J. Letters*, **313**, L59.

Development of the EXITE detector: A new Imaging Detector for 20-300 keV Astronomy, García, M.R., Grindlay, J.E., Burg, R.I., Murray, S.S., Flanagan, J.W., 1986, IEEE Transactions on Nuclear Science, **33**, 735

The Energetic X-ray Imaging Telescope Experiment (EXITE), Grindlay, J.E., García, M.R., Burg, R.I., and Murray, S.S., 1986, IEEE Transactions on Nuclear Science, **33**, 750

Spectroscopic Orbits of Symbiotic Stars: Preliminary Results, García, M.R., 1986, *Astr. J.*, **91**, 1400

Spectroscopic Orbits of Symbiotic Stars, I. The Recurrent Nova T Coronae Borealis, Kenyon, S.S., and García, M.R., 1986, *Astr. J.*, **91**, 125

Identification of Two Hard X-ray Sources with Be Stars, Steiner, J.E., Ferrara, A., García, M. Patterson, J., Schwartz, D.A., Warwick, R.S., Watson, M.G., and McClintock, J.E., 1984, *Ap.J.*, **280**, 688

Discovery of an Unusual M-Giant X-ray System: HD 154791 = 2A1704+241, García, M., Baliunas, S.L., Doxsey, R., Elvis, M., Fabbiano, G., Koenigsberger, G., Patterson, J., Schwartz, D., Swank, J., Watson, M.G., 1983, *Ap.J.*, **267**, 291

Identification of the Fast, High Galactic Latitude Transient A0000+28 with the RS CVn System HD 224085, Schwartz, D.A., García, M., Ralph, E., Doxsey, R.E., Johnston, M.D., Lawrence, A., McHardy, I.M., Pye, J.P., 1981, *MNRAS*, **196**, 95

Optical Identification of H0123+075 and 4U1137-65: Hard X-ray Emission from RS CVn Systems, García, M., Baliunas, S.L., Conroy, M., Johnston, M.D., Ralph, E., Roberts, W., Schwartz, D.A., Tonry, J., 1980, *Ap.J. (Letters)*, **240**, L107

Published Conference Proceedings

The Constellation-X Mission: Science Overview and Mission Concept, M.R. Garcia, H. Tananbaum, J. Bookbinder, N. White, R. Petre, K. Weaver, 2004, presented at 'Space 2004', AIAA, San Diego, CA

"The Next Generation of X-ray Observatories", proceedings of COSPAR 2002, Houston TX, published in Advances in Space Research, 2004, ed. M. R. Garcia

Two Years of the X-ray Sky in M31, Kong, Garcia, Primini, DiStefano, Murray 2002, to be published in "New Visions of the X-ray Universe in the XMM-Newton and Chandra Era", astro-ph/0202065

X-ray Novae and the Evidence for Black Hole Event Horizons, Ramesh Narayan, Michael R. Garcia, Jeffrey E. McClintock 2001; Invited review, to appear in Proc. IX Marcel Grossmann Meeting, eds. V. Gurzadyan, R. Jantzen and R. Ruffini, Singapore: World Scientific, astro-ph/0107387

Chandra Imaging of M31, M.R. Garcia S.S. Murray, F.A. Primini, W.R. Forman, C. Jones 2000, In Proceedings of IAUS 205 "Galaxies at the Highest Angular Resolution", ed. R. Schilizzi, published by PASP. **Invited Talk**

Chandra Observations of M31 and their Implications for its ISM, Primini, Garcia, Murray, Forman, Jones, and McClintock, in "The Interstellar Medium in M31 and M33, Proceedings 232 WE-Heraeus-Seminar", eds. Berkhuijsen and Beck

"Doppler Tomography of AC211", XX, P. Callanan, M. Garcia, in "ASTRO TOMOGRAPHY : An international workshop on indirect imaging", July 2000

"Keck K-Band Observations of Low Mass X-ray Binaries", P.J. Callanan, A.V. Filippenko, and M.R. Garcia, Astrophysics Letters Comm., proceedings of "X-ray Astronomy 1999", http://www.tesre.bo.cnr.it/bo99/bo999_report.html

"Black Hole Event Horizons and X-ray Nova Luminosities - Update", M.R. Garcia, J.E. McClintock, R. Narayan, P. J. Callanan, 1997, to appear in the Proceedings of the 13th NAW on CVs, editors: S. Howell, E. Kuulkers, and C. Woodward

"Using The Tycho Output Catalog For AXAF: Guiding And Aspect Reconstruction For Half-Arcsecond X-Ray Images", P.J. Green, T.A. Aldcroft, M.R. Garcia, P. Slane, & J. Vrtilek, 1997, in Proceedings of the Hipparcos Symposium, ed. M. A. Perryman, (ESA SP-402), in press.

"Optical and IR Observations of Aql X-1", M. R. Garcia, P. C. Callanan, 1996, in "Accretion Phenomenon and Related Outflows", Proceedings of IAUC 163, Eds D.T. Wickramasinghe, G.V. Bicknell, L. Ferrario, ASP Conf. Series, pg 705.

"The X-ray Nova GRO J0422+32 in Decline and Quiescence", M.R. Garcia, P.J. Callanan, J.E. McClintock, P. Zhao, 1995, Proceedings IAUC 158, CVs and Related Objects, Eds. A. Evans and J. H. Wood, Kluwer Press, pg 399.

"Recreating Einstein Level 1 Background Maps in IRAF", D. van Stone, J. McDowell, M. R. Garcia, 1994, ADASS III

"CD-ROM In *and Out* of Astronomy", M. R. Garcia, 1994, in "Workshop on Databases for Galactic Structure", ed. A.G.D. Philip, B. Hauck and A.R. Upgren, L. Davis Press, Schenectady:NY, held at Swathmore College, 1993, p. 9.

"Definition of a Distribution Format for X-ray Data, M. Conroy", M.R. Garcia, E.G.

Mandel, J. Roll, and D.M. Worrall, 1992, in "Astronomical Data Analysis and Software Systems 1", ed Worrall, Beimesderfer, and Barnes, ASP Conf. Series 25, page 17.

"The Einstein On-Line System", T. Karakashnian, D.E. Harris, M.R. Garcia, G. Fabbiano, J.M. Flanagan, and C.P. Stern, 1992 in "Astronomical Data Analysis and Software Systems 1", ed Worrall, Beimesderfer, and Barnes, ASP Conf. Series 25, page 44.

"Distributed X-ray Data and Distributed Analysis Tools", D. Plummer, J. Schachkter, M. Elvis, M. Garcia, and M. Conroy, 1992 in "Astronomical Data Analysis and Software Systems 1", ed Worrall, Beimesderfer, and Barnes, ASP Conf. Series 25, page 62.

"The Possible X-ray Triple 4U2129+47 = V1727 Cyg", 1989, Michael R. Garcia, to appear in *Proceedings* 23rd *ESLAB Symposium*, Bologna, Italy, ESA SP-296, 151.

"Low Noise Microchannel Plates Detectors for X-ray Astronomy", M.R. Garcia, H.J. Chappell, S.S. Murray, W.B. Feller, G.W. Fraser, 1989, SPIE **1140**,*Proceedings ECO 2.*, ed. H. Benattar, pgs. 101-105.

"Low Noise Microchannel Plates", W.B. Feller, L.M. Cook, G.W. Fraser, J.F. Pearson, S.S. Murray, M.R. Garcia, 1989 *Proc. SPIE* **1072-13**, in press.

"X-ray Spectral Variations of Low-Mass X-ray Binaries", M. R. García, 1989, in *Timing Neutron Stars*, ed H. Ogelman and E.P.J, van den Heuvel, Kluser Academic Publishers, pgs. 257-266.

"Orbital Radial Velocity Curves of Symbiotic Stars", M. R. García and S. J. Kenyon, 1988 in the proceedings of IAUC 103, *The Symbiotic Phenomenon*, ed. J. Mikolajewska *et al.*, pg. 27.

Abstracts for talks, posters and IAU, ATEL, GCN Circulars

ATEL 384, "Faint X-ray Outburst in XTE J1118+480", R. Remillard (MIT), M. Garcia, M. A. P. Torres, D. Steeghs (SAO), 12 Jan 2005

"Constellation-X Mission Design and Technology Update", M. Garcia and the Con-X Team, at "From the Big Bang to Black Holes" held at Stanford Linear Accelerator Center,Stanford University, 12-15 May 2004

GCN 2502 "GRB031220(=H2976): Observation with the Chandra X-ray Observatory" M. De Pasquale, B. Gendre, L. Piro, E. Costa, M. Feroci, M. Garcia, L. A. Antonell, G. Garmire, G. Ricker, Dec 28 2003

ATEL 205, "Precise X-ray position of A1744-36 (=XTE J1748-361?)" J. McClintock (CfA), S. Murray (CfA), M. Garcia (CfA) and P. Jonker (IoA), 8 Nov 2003

ATEL 104, "Magnitudes of X-ray Nova XTE J1650-500 in Quiescence", M. Garcia and B. Wilkes, 10 Aug 2002

ATEL 87, "Optical Counterpart of the Millisecond Pulsar XTE J1751-305", A.K.H. Kong, P. Challis, M.R. Garcia and R. Kirshner (Harvard-Smithsonian Center for Astrophysics), 17 Apr 2002

ATEL 83, "X-ray Transients in M31", M. Garcia, A. Kong, S. Murray, F. Primini, P. Kaaret J.McClintock and R. DiStefano, 8 Feb 2002

ATEL 79, "X-ray Transients in M31", M. Garcia, A. Kong, S. Murray, F. Primini, J.McClintock and R. DiStefano, 10 Dec 2001

ATEL 76, "X-ray Transients in M31", A. Kong, M. Garcia, S. Murray, F. Primini, J.McClintock and R. DiStefano, 12 Sept 2001

IAUC 7542, "XTE J1118+480", McClintock, J.; Garcia, M.; Zhao, P.; Caldwell, N.; Falco, E., 2000 Dec 12

GCN 836, "GRB000926: X-ray afterglow by Chandra X-ray Observatory" G. Garmire, A. Garmire, L. Piro, and M. R. Garcia, 2000 Oct 06

IAUC 7498, "X-ray Transient in M32", Garcia etal 2000 Sept 30

IAUC 7496, "V 1333 Aql = Aql X-1", R. Jain, C. Bailyn, M. Garcia, etal, 2000 Sept 26

IAUC 7494, "XTE J1859+226", P. Zhao, M. Garcia, J. McClintock, 2000 Sept 25

IAUC 7466, "XTE J1859+226", M. Garcia, J. McClintock, P. Callanan, A.V. FIlippenko, 2000 July 26

ATEL 59, "Mini-outburst of Aql X-1" R. Jain, C. Bailyn and P. Coppi, M. Garcia, A. Levine, J. Orosz, P. Lu, and J. Espinoza and D. Gonzalez , 2000 July 10

IAUC 7429, "V1333 Aquilae", R. Jain et al., 2000 May 25

IAUC 7423, "V1333 Aquilae", R. Jain et al., 2000 May 12

"Chandra Observations of M31", Garcia, M.; Murray, S.; Primini, F.; McClintock, J.; Forman, W.; Jones, C.; 2000, BAAS 196, 3420G

vsnet-alert 4603, "S-wave in XTE J1118+480 HeII 4686", M. Garcia, J. McClintock, W. Brown, M. Pahre, April 10, 2000

IAUC 7392, "XTE J1118+480 Spectroscopy and Photometry" , M. Garcia, W. Brown, M. Pahre, and J. McClintock, P. Callanan, P. Garnavich, April 3, 2000

GCN 544, "Chandra Observations of GRB000210 X-ray Afterglow", Michael Garcia, Luigi Piro, Gordon Garmire, and Joy Nichols, Feb 11, 2000.

"Chandra X-ray Observatory Observation of the Nucleus of M31", S.S. Murray, M.R. Garcia, F.A. Primini, R. Kraft, 1999, BAAS 195.2006M.

"AL Comae, Not So Red Afterall; Photometry and Spectroscopy of a Very Faint TOAD.", Francisco Galvan, Michael Garcia, Paul Callanan, 1999, BAAS 195.3610G.

GCN 500, "Chandra observation of the X-ray afterglow of GRB991216", L. Piro, G. Garmire, M. Garcia and the CXC team, F. Marshall & T. Takeshima, Dec 19, 1999.

GCN 495, "GRB991216 Optical and IR observations", P. Garnavich, S. Jha, K. Stanek, M. Pahre, M. Garcia, A. Szentgyorgyi and J. Tonry, Dec 18, 1999

GCN 476, "GRB 991216, optical observations" S. Jha, R. Kirshner, K. Stanek, P. Garnavich, M. Garcia, A. Szentgyorgyi, and J. Tonry, Dec 17, 1999.

GCN 469, "GRB991216, infrared observations", P. Garnavich, K. Stanek, M. Garcia, S. Jha and A. Szentgyorgyi, Dec 17, 1999.

IAUC 7291, "X-ray Transient in M31", S.S. Murray, M. R. Garcia and F.A. Primini, 1999

IAUC 7284, "XTE J1859+226", Chaty *et al.*, 1999

IAUC 7271, "GM Sgr", M. R. Garcia and J. E. McClintock, P. J. Callanan, 1999

Astronomers Telegram 50, "Optical and near-IR observations of XTE J1859+226", Hynes *et al.*, 1999

IAUC 7219, "GX 17+2", Callanan, P. J.; Filippenko, A. V.: Garcia, M. R., 1999

IAUC 7161, "V1333 Aql", R Jain, C. Bailyn, Garcia, M. M. Garcia, K. Rines, 1999

Astronomers Telegram 41, "Optical Outburst of AQL X-1", Jain, R.; Bailyn, C.; Garcia, M.; Rines, K.; Levine, A.; Espinoza, J.; Gonzalez, D., 1999

GCN Circular 302, "GRB990506 Optical Obseravtions", P. M. Garnavich, K. Z. Stanek and M. R. Garcia

GCN Circular 215, "GRB 990123 Optical Observations", Garnavich, Jha, Stanek and

Garcia
IAUC 7086, 1999 Jan 15, “V1333 Aql = Aql X-1 = Two Stars”, P.J. Callanan, A.V. Filippenko, M.R. Garcia
Zhao, P., McClintock, J.E., and Garcia, M.R., Remillard, R.A., “Is GRO J0422+32 still active?”, 1998, Bull. Am. Astro. Soc. 193
Traub, W., Millan-Gabet, R. and Garcia, M.R., “CI Cam: Observations of the Dust Envelope Diameter?”, 1998, Bull. Am. Astro. Soc. 193
M. R. Garcia, P. J. Callanan, J. McCarthy, W. Traub, R. Millan-Gabet, P. Vaisanen, and M. Marengo, “ XTE J0421+32 = CI Cam -or- The April Fools Nova = Iron Star”, 19th Texas Relatavisitc Astrophyscis Symposium, Dec 1998
Morgan, W., and Garcia, M.R., “Position and X-ray Variability of 2A 1704+241”, 1998, Bull. Am. Astro. Soc. 193
IAUC 7022, 1998 Sept 29, “XTE J1946+274”, Parvis Ghavamian and Michael Garcia
IAUC 6933, 1998 June 5, “XTE J2012+381 IR Observations”, P. Callanan, J. McCarthy, M. R. Garcia, J. E. McClintock
IAUC 6931, 1998 June 4, “XTE J2012+381 and F-Star”, M. R. Garcia, J. E. McClintock, E. Barton, and P. Callanan
IAUC 6922, 1998 May 29, “XTE J2012+381 is not M-giant”, M. R. Garcia, J. E. McClintock, P. Berlind, E. Barton, and P. Callanan
IAUC 6865, 1998 April 6, “XTEJ0421+56 = CI CAM”, M. R. Garcia, P. Berlind, E. Barton, J.E. McClintock, P.J. Callanan and J. McCarthy.
IAUC 6792, 1997 Dec 19, “GRB 971214”, M. R. Garcia, A. Muench, E. Tollestrup, P.J. Callanan and J. McCarthy.
IAUC 6735, 1997 Sept 5, “GRB 970828”, K. Z. Stanek, M. R. Garcia, and M. Krockenberger.
“A search for the IR counterpart of 4U 1630-47”, Paul Callanan, Amaya Gaztelu-Sanchez, and Michael Garcia, Poster presented at the IAU, Kyoto, Japan, August 1997
“The K-band lightcurve of GRO J1655-40”, Paul Callanan and Michael Garcia, Poster presented at the IAU Kyoto, Japan, August 1997
“IR Photometry of the Relativistic Jet Sources GRO 1915+105 and GRO J1655-40”, P. J. Callanan and M. R. Garcia, 1996 IAUC 163, Accretion Phenomenon, Port Douglas, Australia
“The 1997 and 1996 Outbursts of Aql X-1: Evidence for an ADAF in a Neutron Star SXT?”, M.R. Garcia and P.J. Callanan, Poster presented at the 13th NAW on CVs, Jackson Hole, WY, July 1997.
IAUC 6721, 1997 Aug 22, “GRB970815”, K.Z. Stanek, DD Sasselov, M.R. Garcia and C.R. Robinson
“Update on GRB”, 1997 May 21, talk for New England Regional QSO Meeting, Haystack MA
“Quiescent and Outburst State X-ray Observations of Aquila X-1”, C.R. Robinson, B.A. Harmon, W.S. Paciesas, S.N. Zhang, M. Tavani, Y. Tanaka, F. Nagase, K. Asai, M. Garcia, B.C. Rubin, C.A. Wilson, M.L. McCollough, S. Dieters, P. Kaaret & E. Ford, presented at the ASCA Cherry Blossom Festival, Washington DC, April 1997
IAUC 6661, 1997 May 15, “GRB970508”, Garcia, Moraru, McClintock, Robinson, Kouveliotou, van Paradijs

IAUC 6558, Feb 13 1997, "V1333 Aql= Aql X-1", A. Levine, B. Thomas, M. Garcia, P. Berlind, P. Callanan

"ROSAT Spectrum and Lightcurve of 4U2129+47 in Quiescence", Jan 1996 AAS Poster, M.R. Garcia, P. Callanan

IAUC 6106, 20 Nov 1994, "V1333 Aql= Aql X-1", M. Garcia, P. Callanan, J. McClintock, P. Zhao

IAUC 6096, 15 Oct 1994, "EXO1846-031", J.Grindlay , P.Zhao, M.Garcia.

"Spectroscopy and Photometry of the Black Hole Candidate GRO/J0422+32 Near Quiescence", M.R. Garcia, P. Callanan, J. McClintock, P. Zhao, 1994, IAU Symposium 165, poster 165.BH.63.

IAUC 5929, 4 February 1994, "GRO J0422+32", P. Zhao, P. Callanan, M. Garcia, and J. McClintock

"Optical Spectroscopy and Photometry of the Black Hole Candidate J0422+32 Near Quiescence", M.R. Garcia, P.C. Callanan, J.E. McClintock, and P. Zhao, BAAS 25, 1381, 1994

IAUC 5907, 15 December 1993, "GRO J0422+32", P. Zhao, P. Callanan, M. Garcia, and J. McClintock

IAUC 5901, 9 December 1993, "GRO J0422+32", P. Zhao, P. Callanan, M. Garcia, and J. McClintock

IAUC 5879, 14 October 1993, "GRO J0422+32", P. Zhao, P. Callanan, M. Garcia, and J. McClintock

"Optical Observations of the X-ray Nova J0422+32", 1993, Zhao, P., Callanan, M. Garcia, M, McClintock, J. Remillard, RA, Silber, A. in proceedings of The Evolution of X-ray Binaries, Oct 1993 College Park, MD

IAUC 5860, 11 Sept 93, "GRO J0422+32" P. Zhao, P. Callanan, M. Garcia, and J. McClintock

"X-ray and Optical Observations of 4U2129+47 = V1727Cyg in a Low State" M.R. Garcia, 1993, BAAS 24, 1553, 1992

IAUC 5578, August 1992, "Possible Turn-on of 4U2129+47=V1727 Cyg", M. Garcia , J. Grindlay, C. Bailyn

"Is 4U2129+47 (= V1727 Cygnus) a Triple System?", M.R. Garcia, C.D. Bailyn, J.E. Grindlay, J.E. McClintock, and L.A. Molnar, 1989, BAAS.

IAUC 4489, 1987, "Nova Vulpeculae 1987", Horine, E., García, M., and Schild, R.

"X-ray period of 4U1820-30", García,M.R., Burg,R.I., and Grindlay,J.E., 1986, IAUC 4259

IAUC 4489, 1987, "A Refined Period for 4U1820-30, Morgan,E.H., Remillard,R.A.", Priedhorshy,W., Stella,L., White,N.E., and Garcia,M.R., 1986, IAUC 4261

"Multiwavelength Observations of GX13+1", Garcia, M.R., Stella,L., Grindlay, J.E., and Seaquist, E.A., 1986, poster presented at workshop 'Accretion onto Compact Objects', Tenerife, Spain, April 1986.

"Mass Accretion Rate vs. X-ray Luminosity in Low-Mass X-ray Binaries", M. R. Garcia, 1987, BAAS

"Spectral Variability of Low-Mass X-ray Binaries", M. R. Garcia, 1987, BAAS

"Orbital Radial Velocity curves of Symbiotic Stars", Garcia, M.R., 1985, BAAS, **17**, 519

"Discovery of the First X-ray Burst from 4U2129+47", Garcia, M.R., and Grindlay, J.E., 1985, BAAS, **17**, 565

"Optical Identification of 2A1704+214 with the M0III Star HD154791", Garcia, M., Baliunas, S.L., Elvis, M., Fabbiano, G., Patterson, J., Schwartz, D.A., Watson, M., Doxsey, R., 1981, BAAS, **26**, 570

"Precise Locations of HEAO-1 X-ray Sources", Schwartz, D.A., Garcia, M., Patterson, J., Ralph, E., Roberts, W., Doxsey, R., Johnston, M.D., Wood, K., Meekins, J., Yentis, D., Bleach, R., 1981, BAAS, **13**, 558

"Discovery of Two X-ray Emitting Be Stars with the HEAO-1 Scanning Modulation Collimator", Schwartz, D.A., Ferrara, A., Garcia, M., Patterson, J., Steiner, J., Doxsey, R., Johnston, M.D., McClintock, J., Remillard, R., McHardy, I., Pye, J.P., Warwick, R.S., Watson, M. 1981, BAAS, **13**, 834

"Locations of Unidentified X-ray Sources with the HEAO-1 Scanning Modulation Collimator", Garcia, M., Conroy, M., Doxsey, R., Griffiths, R.E., Johnston, M., Ralph, E., Roberts, W., Schwartz, D.A., 1980, BAAS, **12**, 527

"A Tale of Three Periods: The White Dwarf X-ray and Optical Pulsar H2252-035", Patterson, J., and Garcia, M., 1980, BAAS, **12**, 840

"Precise Location of 3A2352+28: The High Galactic Latitude Transient A0000+28", Schwartz, D.A., Garcia, M., Conroy, M., Ralph, E., Roberts, W., Griffiths, R.E., Johnston, M., McHardy, I., Lawrence, A., Pye, J., 1980, BAAS, **12**, 513

"X-ray Locations of U Gem and a Transient Source near Cas A as determined with the HEAO-1 Scanning Modulation Collimator", Conroy, M., Fabbiano, G., Garcia, M.,Ralph, E., Roberts, W., Schwartz, D.A., Johnston, M., 1979, BAAS, **11**, 464

"Location of H1743-322 and H0632+18 Determined with the Scanning Modulation Collimator on HEAO-1", Garcia, M., Conroy, M., Griffiths, R.E., Ralph, E., Roberts, W., Schwartz, D.A., 1979, BAAS, **11**, 447

"Locations of Variable X-ray Sources near Southern Clusters of Galaxies using the Scanning Modulation Collimator on HEAO-1", Schwartz, D.A., Conroy, M., Garcia, M., Ralph, E., Roberts, W., Schwarz, J., Doxsey, R., Johnston, M., 1979, BAAS, **11**, 459

Digital Publications

"The EINSTEIN Observatory Database of IPC Images in Event List Format", A. Prestwich, J. McDowell, D. Plummer, K. Manning, and M. Garcia, Smithsonian Astrophysical Observatory, 1992

"The EINSTEIN Observatory Database of HRI X-ray Images in Event List Format", D. Plummer, K. Manning, S. Romaine, F. Primini and M. Garcia, Smithsonian Astrophysical Observatory, 1992

"The EINSTEIN Observatory IPC Slew Survey", D. Plummer, J. Schachter, M. Garcia, and M. Elvis, Smithsonian Astrophysical Observatory, 1991

"The EINSTEIN Observatory Database of HRI X-ray Images", M. R. Garcia, J.D. McSweeney, T. Karakashian, J. Thurman, F.A. Primini, B.J. Wilkes, and M. Elvis, Smithsonian Astrophysical Observatory, 1990

Invited Talks, Symposia, Colloquia

"Latest Results from NASA: Chandra X-ray Observtory", Talk at National Science Teachers Association meeting, Dallas TX, April 1 2004.

"Smithsonian Science Day: Searching for Black Holes", Talk at National Science Teachers Association meeting, Dallas TX, April 1 2004.

"The NEXT Nearest Black Holes: Chandra and HST Observations of M31", Open University Colloquim, Milton Keynes England, Dec 21 2004.

"SAO Involvement in the Constellation X-ray Mission", presentation to CFA Visitin Committee, June 21 2004

"SAO High Energy Division Activities", presentation to CFA Visitin Committee, June 21 2004

"Constellation-X Update",New England Regional Quasar Meeting, Boston College, May 26 2004

Sept 17 2003, "Resolved Jets and Long Period Black Hole X-ray Novae", talk at Four Years of Science with Chandra, MSFC, Alabama.

Feb 24 2003, "The Nearest Black Holes", Colloquim at NMSU (Las Cruces) Astronomy Department.

Apr 26 2002, "Chandra Synoptic Observations of M31 (aka The Next Nearest Black Holes", MIT/CSR lunch talk.

Apr 13 2002, "Chandra Synoptic Observations of M31", AAS/HEAD meeting talk (Session X.11)

Feb 13 2002, "Chandra Observations of Very BLACK Black Holes", U Mass Lowell Physics Department Colloquium.

Oct 11 2001, "Chandra Observations of Very BLACK Black Holes", Tufts University Physics Colloquium.

Sept 6 2001, "Black Hole Transients and Nucleus of M31", at 'Two Years of Science with Chandra', Washington DC, Invited Talk.

July 30 2001, "New Evidence for Black Hole Event Horizons from Chandra", Open University Astronomy Seminar

July 19 2001, "New Evidence for Black Hole Event Horizons from Chandra", Bristol University Astronomy/Physics Lunch Talk

July 17 2001, "New Evidence for Black Hole Event Horizons from Chandra", Southampton University Astronomy Seminar

July 12 2001, "New Evidence for Black Hole Event Horizons from Chandra", Leicseter University Astronomy/Physics Seminar

July 10 2001, "New Evidence for Black Hole Event Horizons from Chandra", St. Andrews University Astronomy/Physics Lunch Talk

Apr 27 2001, "New Evidence for Event Horizons from Chandra", MSFC/NSSTC Colloquim

Mar 28 2001, "The Darkest Black Holes", SAO/HEAD Lunch Talk

Mar 19 2001, "The Nearest Black Holes", GSFC/LHEA Colloquim

Jan 2001, "New Evidence from Chandra for Event Horizons Surrounding Black Holes", AAS Press Conference, chandra.harvard.edu/press/01_releases/press_011101.html. Appeared on NYT from page (Jan 12, 2001), on BBC Word Service news (Jan 12, 2001), and on BBC 'Science in Action' weekly radio show (Jan 15, 2001)

August 2000, "Chandra Imaging of M31", M.R. Garcia S.S. Murray, F.A. Primini, W.R. Forman, C. Jones 2000, at IAUS 205 "Galaxies at the Highest Angular Resolution", Invited Talk

Jan 2000, "The Cool Nucleus of M31", AAS Press Conference on Chandra First Results,

http://chandra.harvard.edu/press/00_releases/press_011400m31.html
January 2000, American Association of Physics Teachers, “New Results from Chandra: A ’Local’ View”
October 1997, Irish Astronomical Society, “X-ray Astronomy with AXAF”
May 1993, Swathmore Large Astronomical Databases: “The Einstein CD-ROM Archive”, Invited Talk
August 1994, SIGCAT 94 Federal Showcase: “The Einstein CD-ROM Archive”
September 1989, Bologna X-ray Astronomy Symposium: “Is 4U2129+47 a Triple System?”

Popular Articles and Talks

“Meet the Observers”, an interactive travelling display produced by SAO, premire at Boston Museum of Science Sept 2002
Nov 2001, Portable Planetarium Show “The Reasons for the Seasons” Penn Brook Grade 4
Oct 1999 - Present, “Project ASTRO” at Newbury Elementry School 3rd Grade, once/month
Dec 1998, Portable Planetarium Show for Perley Grade 1
Summer 1998, CfA Public Night Lecture, “Black Holes and Event Horizons”
February 1997, Boston Amateur Telescope Makers, “Black Holes and Event Horizons”
September 1996, Triton Regional High School, “An Astronomy Tour of the WWW”
“AXAF Navigation”, for a New York Times Television show on Navigation, to be on The Learning Channel, Fall 1997
“X-ray Nova and Event Horizons”, AAS Press Release, appeared on CNN “Technology Today” Jan 1997; on Discovery Channel “Science Update” Jan 1997
“Advection Dominated Accretion and Black Hole Event Horizons”, Current Science, V73, pg242, Aug 1997 **(Cover Article)**
“Advection Dominated Accretion and Black Hole Event Horizons”, Bull Astron. Soc. India, 1997
“A Close Encounter with Comet Hyakutake”, Georgetown Record, April 25 1996.

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