

# M. Angela Osterman

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## Education

- Ph.D. Astronomy** Georgia State University 2006  
Advisor: Dr. H. Richard Miller  
Thesis: *Multiwavelength Variability and Optical Microvariability Investigations of X-ray and Radio Selected Blazars*
- M.S. Physics** Georgia State University 2002  
Advisor: Dr. Paul J. Wiita  
Project: *Modelling the Evolution of the Power and Size of FR II Galaxies of the Quasar Era and Examining the role of these Galaxies in Triggering Star Formation in the Early Universe*
- B.S. Physics, highest honors** Georgia Institute of Technology 2000

## Research

- Ph.D. Thesis** 2000–2006  
Carrying out research centered on analyzing the multiwavelength behavior of 4 blazars. Investigating the similarities and differences in the behavior of X-ray vs. radio selected blazars. Gathering high time resolution data of selected objects in order to examine optical microvariability. Performing and teaching data reduction using IRAF scripts and differential photometry using IDL programs.
- M.S. Project** 2001–2002  
Explored recently published models of the evolution of FR II radio galaxies. Wrote extensive C programs using Monte Carlo techniques to generate simulated samples of FR II radio galaxies of varying initial powers and redshifts, and to numerically model the evolution of the size and power of those galaxies. Compared the results of the models to observational results.

**Teaching Experience**

- Astronomy Lab Co-Coordinator** 2004–2005  
 Taught ASTR 1010 & 1020 labs. Redesigned, updated, and distributed classroom lab exercises. Recorded minutes during weekly Teaching Asst. meetings and noted suggestions for further lab improvement. Collected and organized lab student evaluations to give feedback to TAs.
- Astronomy Lecture Instructor** 2003  
 Taught a freshman level Solar System Astronomy course to approx. 70 students. Prepared lecture notes and class presentations based on Astronomy Today (4th ed.), current space missions and results, popular misconceptions, and emphasizing difficult concepts. Prepared 4 in-class exams, assigned out-of-class reports on past planetary exploration missions, and assigned homework problems stressing basic astronomical equations. Designed a special project for the graduate level education majors asking them to design a two week astronomy curriculum for elementary, middle, or high school students. Created and regularly updated a website for the students including class notes on special topics, exam dates, and the syllabus.
- Graduate Teaching Assistant** 2000–2005  
 Taught ASTR 1010 & 1020 labs to 22 sections of 10 – 25 students. Graded and returned labs to students each week. Organized evening observing opportunities.

**Awards**

- Outstanding Graduate Teaching Assistant Award 2005

**Observing Experience**

- Cerro Tololo Inter-American Observatory 2006  
 Yale 1.0-m Telescope, Y4KCam CCD Imager, 10 nights  
 (P.I.: M. A. Osterman; Co-I.: H. R. Miller)
- Cerro Tololo Inter-American Observatory 2004  
 CTIO 0.9-m Telescope, CFCCD Imager, 11 nights  
 (P.I.: M. A. Osterman; Co-I.: H. R. Miller)
- Lowell Observatory 2000–2005  
 Perkins 1.8-m Telescope, PRISM CCD Imager, 27 nights  
 Hall 1.1-m Telescope, SITe CCD Imager, 9 nights

## Public Outreach

Hard Labor Creek Observatory, Georgia State University Co-hosted more than 12 public open houses	2000–2006
Atlanta Astronomy Club Invited Speaker	2005
Astronomy Club at Georgia State University Treasurer	2002–2005
Georgia Science Olympiad Co-developed and managed Astronomy events for 7 <sup>th</sup> and 8 <sup>th</sup> grade students	2000–2001

## Programming Experience

IRAF, IDL, Fortran, C, C++, Unix (primarily Linux), HTML

## References

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Dr. Douglas R. Gies, Professor of Astronomy  
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**Publications**

1. Osterman, M. A., Miller, H. R., Campbell, A. M., Marshall, K., McFarland, J. P., Aller, H., Aller, M., Fried, R. E., Kurtanidze, O. M., Nikolashvili, M. G., Tornikoski, M., & Valtaoja, E. *Multiwavelength Observations of the Extreme X-ray-selected BL Lacertae Object PG 1553+11 (1ES 1553+113)*. 2006, AJ, 132, 873–882.
2. Ryle, W. T., Osterman, M. A., & Miller, H. R. *Optical Variability of the Blazar PKS 2155-304*. Blazar Variability Workshop II: Entering the GLAST Era, Eds.: Miller, H. R., Marshall, K., Webb, J. R., & Aller, M. F. 2006, ASPC, 350, 63–66.
3. Osterman, M. A., Miller, H. R., Marshall, K., Aller, H., Aller, M., Fried, R., Kurtanidze, O., & Tornikoski, M. *Analysis of Simultaneous Observations of the BL Lac Object PG 1553+11 in the Radio, Optical, and X-ray Regimes*. Blazar Variability Workshop II: Entering the GLAST Era, Eds.: Miller, H. R., Marshall, K., Webb, J. R., & Aller, M. F. 2006, ASPC, 350, 18–21.
4. Barai, P., Gopal-Krishna, Osterman, M. A., & Wiita, P. J. *Expansion of radio galaxies in a cosmologically evolving medium: Possible implications for the cosmic star-formation history*. 2004, BASI, 32, 385–394.
5. Barai, P., Gies, D. R., Choi, E., Das, V., Deo, R., Huang, W., Marshall, K., McSwain, M. V., Ogden, C., Osterman, M. A., Riddle, R. L., Seymour, J. L., Jr., Wingert, D. W., Kaye, A. B., & Peters, G. J. *Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei*. 2004, ApJ, 608, 989–1000.
6. Gopal-Krishna, Wiita, P. J., & Osterman, M. A. *Radio galaxies and the star formation history of the universe*. Active Galactic Nuclei: from Central Engine to Host Galaxy, Eds.: Combes, C.F. & Shlosman, I. 2003, ASPC, 290, 319–322.

**Abstracts**

1. Osterman, M. A., Miller, H. R., Marshall, K., Ryle, W. T., Aller, H., Aller, M., & Wagner, S. *Simultaneous Multiwavelength Observations of PKS 2155-304*. 2005, AAS, 207, 14111.
2. Osterman, M. A., Miller, H. R., Aller, H., Aller, M., Kurtanidze, O., & Tornikoski, M. *Results and Discussion of Simultaneous Monitoring of the BL Lac Object PG 1553+11 in the Radio, Optical, and X-ray Regimes*. 2003, AAS, 203, 7903.
3. Ruiz, B., Grundstrom, E., Marshall, K., McFarland, J. P., McSwain, M. V., Osterman, M. A., & Veerabathina, N. *Urban Astronomy: The Astronomy Club at Georgia State University*. 2003, AAS, 203, 1911.
4. Barai, P., Gies, D. R., Choi, E., Das, V., Deo, R. P., Huang, W., Marshall, K., McSwain, M. V., Ogden, C., Osterman, M. A., Riddle, R. L., Seymour, J. L., Jr., Wingert, D. W., Kaye, A. B., & Peters, G. J. *Mass and Angular Momentum Transfer in the Massive Algol Binary RY Persei*. 2003, AAS, 203, 1213.
5. Osterman, M. A., Wiita, P. J., Barai, P., & Gopal-Krishna. *Modeling the Evolution of Radio Galaxies of the Quasar Era and the Role of these Galaxies in Triggering Star Formation*. 2003, AAS, 202, 4201.
6. Wiita, P. J., Gopal-Krishna, Kulkarni, V. K., & Osterman, A. *Triggering of Extensive Star and Galaxy Formation by Radio Galaxy Lobes*. 2001, AAS, 199, 18805.