

Dr. Tabettha Suzanne Boyajian

Georgia State University
Department of Physics and Astronomy
Post Office Box 4106
Atlanta, GA 30302-4106
USA

Office: 404-413-6022
Fax: 404-413-5481
Cell: 404-849-4848
Email: tabetha@chara.gsu.edu
URL: www.chara.gsu.edu/~tabetha

Current Position:

- Hubble Postdoctoral Fellow, The CHARA Array, Georgia State University, Atlanta, GA

Education:

- Doctor of Philosophy, Astronomy, Georgia State University, 2009, Advisor: Dr. Harold A. McAlister
- Masters in Science, Physics, Georgia State University, 2005, Advisor: Dr. Douglas R. Gies
- Bachelor in Science, Physics with Concentration in Astronomy, College of Charleston, 2003, Advisor: Dr. James E. Neff

Areas of Specialization and Interest:

- Optical/IR interferometry, stellar diameters, stellar spectroscopy, binary stars, astrometry, stellar ages and evolution, asteroseismology, fundamental properties of stars

Research Experience:

- Refereed publication summary: 6 first author and 6 co-author journal articles
- Doctoral:
 - Optical interferometry of single and binary stars
 - Observing experience approx. 60 nights at the CHARA Array interferometer
- Masters:
 - Optical spectroscopy of early-type binary and Be stars
 - Ultraviolet spectroscopy of early-type binary stars and mass loss rates of early-type stars
 - Observing experience approx. 20 nights at Kitt Peak National Observatory's 2.1m and coude feed telescopes
- Undergraduate:
 - Ultraviolet spectroscopy of late-type binary stars
- Additional research experience includes:
 - Multi-wavelength flux calibrated photometry analysis and modeling
 - Radio astronomy: pulsar searches around spectroscopic binaries
 - X-ray astronomy: detection of accreting or quiescent neutron star companions, highly energetic interacting binary systems
 - Stellar modeling: experienced with stellar atmosphere codes such as *ATLAS* and *TLUSTY*; stellar evolution codes such as *Victoria-Regina*, *Yonsei-Yale*, *Dartmouth*, and *Padova*; stellar simulations of n-body scattering/evolution code of *STARLAB*
 - Refurbishing and maintenance of 0.4-meter telescope at College of Charleston
 - Development of software tools for robotic observations on 0.5-meter telescope located at University of the Virgin Islands

Refereed Publications:

1. McSwain, M. V., De Becker, M., Roberts, M. S. E., **Boyajian, T. S.**, Gies, D.R., Grundstrom, E. D., Aragona, C., Marsh, A. N., Roettenbacher, R. M. “Multiwavelength Observations of the Runaway Binary HD 15137”, to appear in *The Astronomical Journal*, 2010 (arXiv:0912.5133)
2. **Boyajian, T. S.**, McAlister, H. A., Cantrell, J. R., Gies, D. R., ten Brummelaar, T. A., Farrington, C., Goldfinger, P. J., Sturmann, L., Sturmann, J., Turner, N. H., Ridgway, S. 2009, “Angular Diameters of Hyades Giants with the CHARA Array”, *The Astrophysical Journal*, 691, 1243
3. Aragona, C., McSwain, M. V., Grundstrom, E. D., Marsh, A. N., Roettenbacher, R. M., Hessler, K. M., **Boyajian, T. S.**, Ray, P. S. 2009, “The Orbits of the γ -Ray Binaries LS I +61 303 and LS 5039”, *The Astrophysical Journal*, 698, 514
4. Raghavan, D., McAlister, H. A., Torres, G., Latham, D. W., Mason, B. D., **Boyajian, T. S.**, Baines, E. K., Williams, S. J., ten Brummelaar, T. A., Farrington, C. D., Ridgway, S. T., Sturmann, L., Sturmann, J., Turner, N. H. 2009, “The Visual Orbit of the 1.1-day Spectroscopic Binary σ^2 Coronae Borealis from Interferometry at the CHARA Array”, *The Astrophysical Journal*, 690, 394
5. **Boyajian, T. S.**, Mc Alister, H. A., Baines, E. K., Gies, D. R., Henry, T., Jao, W., O'Brien, D., Raghavan, D., Touhami, T., ten Brummelaar, T. A., Farrington, C., Goldfinger, P. J., Sturmann, L., Sturmann, J., Turner, N., H., & Ridgway, S. 2008, “Angular Diameters of the G Subdwarf μ Cassiopeiae A and the K Dwarfs σ Draconis and HR 511 from Interferometric Measurements with the CHARA Array”, *The Astrophysical Journal*, 683, 424
6. **Boyajian, T. S.**, Gies, D. R., Dunn, J. P., Farrington, C. D., Grundstrom, E. D., Huang, W., McSwain, M. V., Williams, S. J., Wingert, D. W., Fullerton, A. W., & Bolton, C. T. 2007, “The Long-Period, Massive Binaries HD 37366 and HD 54662: Potential Targets for Long-Baseline Optical Interferometry”, *The Astrophysical Journal*, 664, 1121
7. **Boyajian, T. S.**, Gies, D. R., Baines, E. K., Barai, P., Grundstrom, E. D., McSwain, M.V., Parks, J. R., Riddle, R. L., Ryle, W. T., & Wingert, D.W. 2007, “Radial Velocities of Six OB Stars”, *The Publications of the Astronomical Society of the Pacific*, 119, 742
8. Grundstrom, E. D., **Boyajian, T. S.**, Finch, C., Gies, D. R., Huang, W., McSwain, M. V., O'Brien, D. P., Riddle, R. L., Trippe, M. L., Williams, S. J., Wingert, D. W., & Zaballa, R. A. 2007, “Joint H-alpha and X-ray Observations of Massive X-ray Binaries III. The Be X-ray Binaries HDE 245770 = A 0535 +26 and X Persei”, *The Astrophysical Journal*, 660, 1398
9. McSwain, M. V., Ransom, S. M., **Boyajian, T. S.**, Grundstrom, E. D., & Roberts, M. S. E. 2007, “Runaway Massive Binaries and Cluster Ejection Scenarios”, *The Astrophysical Journal*, 660, 740
10. McSwain, M. V., **Boyajian, T. S.**, Grundstrom, E. D., & Gies, D. R. 2007, “A Spectroscopic Study of Field and Runaway OB Stars”, *The Astrophysical Journal*, 655, 473
11. **Boyajian, T. S.**, Gies, D. R., Helsel, M. E., Kaye, A. B., McSwain, M. V., Riddle, R. L., & Wingert, D. W. 2006, “The B-Supergiant Components of the Double-Lined Binary HD1383”, *The Astrophysical Journal*, 646, 1209
12. **Boyajian, T. S.**, Beaulieu, T. D., Gies, D. R., Grundstrom, E., Huang, W., McSwain, M. V., Riddle, R. L., Wingert, D. W., & De Becker, M. 2005, “The Massive Runaway Stars HD14633 and HD15137”, *The Astrophysical Journal*, 621, 978

Abstracts and Presentations:

1. **Boyajian, T. S.**, von Braun, K., van Belle, G., ten Brummelaar, T., Ciardi, D., Farrington, C., Goldfinger, P., López-Morales, M., McAlister, H., Ridgway, S. 2010, “Fundamental Properties of Low Mass Stars”, *American Astronomical Society Meeting (AAS#215, 424.21)*
2. Touhami, Y., Gies, D. R., Richardson, N. D., Schaefer, G. H., **Boyajian, T. S.**, Williams, S. J., Grundstrom, E. D., McSwain, V. M., Clemens, D. P., Taylor, B. 2010, “Spectral Energy Distributions

- of Bright Be Stars and Other Massive Stars”, *American Astronomical Society Meeting* (AAS#215, 428.17)
3. Grundstrom, E., **Boyajian, T. S.**, Garcia, E., Gies, D. R., Williams, S. J., Wingert, D. W. 2010, “Spectroscopic H γ Survey of Field Be Stars: 2004-2009”, *American Astronomical Society Meeting* (AAS#215, 428.04)
 4. Grundstrom, E., Aragona, C., **Boyajian, T. S.**, Gies, D. R., Marsh, A. N., McSwain, M. V., Roettenbacher, R. M., Williams, S. J., Wingert, D. W. 2009, “Spectroscopic H α Survey of Field Be Stars: 2004-2008”, *American Astronomical Society Meeting* (AAS#214, 431.06)
 5. Richardson, N., Gies, D., Ridgway, S., **Boyajian, T.**, Aufdenberg, J. P., Ireland, M., Schaefer, G., CHARA 2009, “Angular Diameters, Temperatures, And Luminosities Of Massive Stars: Prospects For Sim-lite”, *American Astronomical Society Meeting* (AAS#214, 411.10)
 6. **Boyajian, T. S.**, 2008, “Sizing Up the Stars: Main Sequence Stellar Diameters with the CHARA Array”, *IAU Symposium 258: The Ages of Stars*
 7. **Boyajian, T. S.**, McAlister, H. A. 2008, “The First Direct Measurement to the Diameter of a Population II Star; Observationally Determined Fundamental Properties of μ Cas A with the CHARA Array”, *American Astronomical Society Meeting* (AAS#211, 57.15)
 8. **Boyajian, T. S.** 2006, “The Runaway Stars HD 14633 and HD 15137”, Georgia Regional Astronomers Meeting, invited talk
 9. McSwain, M. V., Ransom, S. M., **Boyajian, T. S.**, Grundstrom, E. D., Roberts, M. S. E. 2006, “The Ejection of Massive Runaway Binaries”, *IAU Symposium 240: Binary Stars as Critical Tools and Tests in Contemporary Astrophysics*
 10. Grundstrom, E. D., Gies, D. R., **Boyajian, T. S.**, Williams, S. J., Wingert, D. W. 2006, “Be Star Spectra: Disk Variability and Radial Velocity Variations”, *American Astronomical Society Meeting* (AAS#209, 81.04)
 11. McSwain, M. V., **Boyajian, T. S.**, Grundstrom, E., Gies, D. R. 2005, “A Search for Quiet Massive X-ray Binaries”, *American Astronomical Society Meeting* (AAS#207, 114.02)
 12. **Boyajian, T. S.**, Neff, J. E., Woehrman, M. E. 2003, “Ultraviolet Spectral Images of EI Eri and HD 199178”, *American Astronomical Society Meeting* (AAS#202, 32.04)
 13. Neff, J. E. et al. 2004, “The Virgin Islands telescope: history and status”, *Astronomische Nachrichten*, 325, 669

Observing Experience:

- Interferometry: ~60 nights with the CHARA Array
- Spectroscopy: ~20 nights at KPNO coudé feed telescope/2.1 meter telescope

Teaching Experience:

- Teaching Assistant, Introductory Astronomy Laboratory, Georgia State University, 8/03-5/08. Lectured and demonstrated new techniques, graded laboratory assignments. Contact: Dr. John Wilson, Department of Physics and Astronomy, Georgia State University
- Teaching Assistant, Introductory Astronomy Laboratory, College of Charleston, 8/00-5/03. Demonstrated laboratory techniques and assisted students in laboratory routines. Contact: Dr. John Hakkila, Department of Physics and Astronomy, College of Charleston
- Tutor in Mathematics, Physics, and Astronomy

Professional Affiliations:

- Society of Physics Students (SPS) member since 2000
- American Astronomical Society (AAS) sponsored member since 2003

Honors:

- Recipient, Hubble Postdoctoral Fellowship, administered for NASA by the Space Telescope Science Institute, September 2009
- Recipient, Outstanding Advanced Graduate Student Award in Astronomy, GSU College of Arts and Sciences Honors Program, April 2008
- Recipient, Outstanding Graduate Assistant Teaching Award, GSU Center for Teaching and Learning, and GSU College of Arts and Sciences Honors Program, April 2006
- Recipient, Departmental Honors in Physics, College of Charleston, May 2003
- Inducted into Golden Key National Honors Society, College of Charleston, 2002

Grants and Study Abroad/Travel:

- American Astronomical Society (AAS) meeting, Winter 2010, Winter 2008, Summer 2003
- International Astronomical Union Symposium 258: "Ages of Stars", Fall 2008
- SIM Science Studies Workshop, Fall 2008
- Yale Astrometry Workshop, Yale University, Summer 2005
- Michelson Summer Workshop (MSW), Caltech, Summer 2005, Summer 2006
- United States Particle Accelerator School (USPAS), Yale University, Summer 2002

References:

- Harold McAlister, PhD
 - Regents' Professor, Georgia State University; Director, Center for High Angular Resolution Astronomy, Georgia State University; Director & Chief Executive Officer, Mount Wilson Institute, 404-413-5480, hal@chara.gsu.edu
- Douglas Gies, PhD
 - Graduate Director, Department of Physics and Astronomy, Georgia State University, 404-413-6021, gies@chara.gsu.edu
- M. Virginia McSwain, PhD
 - Assistant Professor of Physics, Lehigh University, 610-758-5322, mcswain@Lehigh.EDU
- James Neff, PhD
 - Associate Professor, Department of Physics and Astronomy, College of Charleston, 843-953-5325, neffj@cofc.edu
- Gerard van Belle, PhD
 - Astronomer, European Southern Observatory, Garching, Germany, +49 89.32.00.65.46, gerard.van.belle@eso.org