Kenneth W. Cavagnolo
Curriculum Vitae

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Education	**Michigan State University**	2005 - Present
	Ph.D. Astrophysics, Expected August 2008	
	Thesis Title: "Virialization, Entropy, and Feedback in Clusters of Galaxies"	
	Thesis Advisors: Dr. Megan Donahue & Dr. G. Mark Voit	
	Michigan State University	2002 - 2005
	M.S. Astrophysics	
	Georgia Institute of Technology	1998 - 2002
	B.S. Physics *Cum Laude*	

Research Experience	**Graduate Research Assistant**	2003 - Present
	Supervisor: Dr. Megan Donahue, *Mich. St. Univ.*	
	Studying clusters of galaxies via their X-ray properties to investigate feedback mechanisms, galaxy evolution, and the process of cluster virialization.	
	Graduate Research Assistant	2002 - 2003
	Supervisor: Dr. Jack Baldwin, *Mich. St. Univ.*	
	Analyzing echelle spectra for use in studies of s-process abundances in planetary nebulae.	
	Undergraduate Research Assistant	2000 - 2002
	Supervisor: Dr. James Sowell, *Georgia Tech*	
	Obtaining orbital solution for the eclipsing Algol binary ET Tau via UBV light curves and spectroscopic radial velocity curves.	

Research Interests

- Galaxy Cluster Evolution
- Galaxy Formation
- Feedback Mechanisms in Galaxy Clusters
- Large Scale Structure Formation and Cosmology

Teaching Experience	**Substitute Instructor**	Fall 2006
	Course: "Visions of the Universe"	
	Gave lectures covering stellar evolution, supernovae, white dwarves, neutron stars, and black holes.	

Physics Tutor Summer 2003
Course: "Introductory Honors Physics I & II"
Tutored physics students taking introductory physics courses such as
classical mechanics, optics, and electromagnetism.

Graduate Teaching Assistant 2002 - 2003
Course: "Visions of the Universe"
Directed and supervised laboratories for non-calculus based
astronomy course.

Honors
- College of Natural Science Dissertation Fellow — 2007 - Present
- American Astronomical Society Member — 2002 - Present
- American Physical Society Member — 2002 - Present
- Sigma Pi Sigma National Honor Society — 2001 - Present
- NASA Center for Astronomy Education Participant — 2007
- Dean's List, Georgia Tech — 1998-2002

Scientific Skills
- Profound skills in reducing and analyzing data taken with *Chandra* X-ray Telescope.
- Extensive experience with customizing and debugging `CIAO` and `CALDB`.
- Familiarity with multiwavelength analysis packages: `AIPS`, `IRAF`, and `PyRAF`.
- Fluent in Perl, IDL, LaTeX and HTML.
- Working knowledge of Bash, C, csh, Flash, Fortran, MySQL, Supermongo, and Tcl.
- Mastery of multiple computing architectures: DOS, Linux, Macintosh, and Windows.
- Expert of computer troubleshooting, maintenance, and system construction.

References
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Dr. G. Mark Voit
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Dr. Jack Baldwin
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Personal Interests
- Academic: environmental sciences, "Cradle2Cradle" design, and urban planning.
- Athletics: triathlons, baseball, and everything Georgia Tech.
- Hobbies: reading, building model airplanes, and raising bonsai trees.