KENNETH W. CAVAGNOLO
CURRICULUM VITAE

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Michigan State University
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Education

Michigan State University 2005 - Present
Ph.D. Astrophysics, Expected August 2008
Thesis Title: "Virialization, Entropy, & Feedback in Clusters of Galaxies"
Advisors: Dr. Megan Donahue & Dr. G. Mark Voit

Michigan State University 2002 - 2005
M.S. Astrophysics, *Magna Cum Laude*
Dissertation Title: "Entropy Profiles of Cooling Flow Clusters"
Advisor: Dr. Megan Donahue

Georgia Institute of Technology 1998 - 2002
B.S. Physics, *Magna Cum Laude*
Senior Thesis: "Analysis of the Eclipsing Binary ET Tau"
Advisor: Dr. James Sowell

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

- Feedback Mechanisms in Galaxy Clusters
- Galaxy Cluster Evolution
- Galaxy Formation
- Large Scale Structure Formation and Cosmology
- Supermassive Black Holes
- AGN Accretion Physics

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
- 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 C, 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

Dr. Megan Donahue
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Dr. G. Mark Voit
(517)-355-9200 ext. 2419
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Michigan State University

Dr. Jack Baldwin
(517)-355-9200 ext. 2411
baldwin@pa.msu.edu
Michigan State University

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.