

January 24, 2008

The Planning Center Inc.
Human Resources
1580 Metro Drive
Costa Mesa, CA 92626

To whom it may concern:

Please accept the attached resumé for the Environmental Scientist/CEQA Planner opening advertised at The Planning Center website. I consider myself a “smart generalist” and have a sincere passion for environmental sciences and renewable energy research. I am currently an Astrophysics Ph.D. student at Michigan State University who is looking to follow his heart by pursuing a career in the development of, and investment in, sustainable end-user plans, systems, and products. I have not specifically studied in these areas, but my academic and research records demonstrate my proclivity for grasping, abstracting, and manipulating complex concepts and mental constructs. When given the opportunity, I’ve excelled at every intellectual and real-world endeavor thus far.

I am a valuable workplace asset for any development group because of my extensive experience with analyzing complex data, innovative technical skills, and ability to collaboratively, and independently, advance a group’s research objectives. I feel The Planning Center is an ideal fit for someone like me: someone that is creative, motivated, and has that entrepreneurial spirit. The Planning Center’s investment and planning goals will benefit from my addition. I have dedicated considerable time and effort over the last five years to making private investment in clean energy technology, materials development, and systems deployment. I am now eager to make an intellectual and tangible contribution to the field, and there is no better place to do this than as a part of the forward-thinking, cutting-edge efforts of The Planning Center.

Please contact me if there is any further information I can provide as you review my application. Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Ken Cavagnolo", written over a light gray rectangular background.

Kenneth W. Cavagnolo

KENNETH W. CAVAGNOLO

RESUMÉ

Office Address

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 Department of Physics & Astronomy
 3265 Biomedical Physical Sciences Building
 East Lansing, MI 48824-2320

Contact Information

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 Lansing, MI 48912
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 E-mail: kencavagnolo@gmail.com
 Web: www.pa.msu.edu/people/cavagnolo/

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

- Renewable Energy
- Sustainable Growth
- Closed Loop Manufacturing
- Environmental Policy
- Global Climate Change

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	<ul style="list-style-type: none"> • Profound skills in reducing and analyzing data taken with <i>Chandra</i> 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 (517)-355-9200 ext. 2418 donahue@pa.msu.edu Michigan State University	
	DR. G. MARK VOIT (517)-355-9200 ext. 2419 voit@pa.msu.edu Michigan State University	
	DR. JACK BALDWIN (517)-355-9200 ext. 2411 baldwin@pa.msu.edu Michigan State University	

First Author Refereed Papers	<p><i>“X-ray and Entropy Scaling Relations in Galaxy Clusters”</i> Cavagnolo, Kenneth W.; Voit, G. Mark; and Donahue, Megan 2008, in prep. for Astrophysical Journal</p> <p><i>“Feedback Mechanisms in Galaxy Clusters and Alteration of ICM Entropy”</i> Cavagnolo, Kenneth W.; Donahue, Megan; and Voit, G. Mark 2008, in prep. for Astrophysical Journal</p> <p><i>“Star Formation in BCGs: Resurrecting Conduction”</i> Cavagnolo, Kenneth W.; Donahue, Megan; and Voit, G. Mark 2008, near Astrophysical Journal Letters submission</p> <p><i>“Athenaeum of Galaxy Cluster Entropy Profiles”</i> Cavagnolo, Kenneth W.; Donahue, Megan; Voit, G. Mark; and Sun, Ming 2007, Astrophysical Journal Supplement submitted</p> <p><i>“X-ray Band Dependence of X-ray Temperatures in Galaxy Clusters”</i> Cavagnolo, Kenneth W.; Donahue, Megan; Voit, G. Mark; and Sun, Ming 2007, Astrophysical Journal submitted</p>
Other Refereed Papers	<p><i>“Star Formation, Radio Sources, Cooling X-Ray Gas and Galaxy Interactions in the Brightest Cluster Galaxy in 2A0335+096”</i> Donahue, Megan; Sun, Ming; O’Dea, Christopher P.; Voit, G. Mark; Cavagnolo, Kenneth W. 2007AJ....134...14D</p> <p><i>“Entropy Profiles in the Cores of Cooling Flow Clusters of Galaxies”</i> Donahue, Megan; Horner, Donald J.; Cavagnolo, Kenneth W.; Voit, G. Mark 2006ApJ...643..730D</p> <p><i>“s-Process Abundances in Planetary Nebulae”</i> Sharpee, Brian; Zhang, Yong; Williams, Robert; Pellegrini, Eric; Cavagnolo, Kenneth; Baldwin, Jack A.; Phillips, Mark; Liu, Xiao-Wei 2007ApJ...659.1265S</p>
Presented Work & Talks	<p>INVITED TALK: <i>“The Effect of Cluster Feedback on High-Precision Cosmology”</i> Feb. 2008 – NASA National Space Science and Technology Center, UAH-Huntsville</p> <p>INVITED TALK: <i>“Understanding Feedback in Galaxy Clusters”</i> Jan. 2008 Center for Study of Cosmic Evolution Seminar, Michigan State University</p> <p>INVITED TALK: <i>“Band Dependence of X-ray Temperatures”</i> Oct. 2007 University of Michigan Astrophysics Seminar</p> <p>POSTER: <i>“The Entropy-Feedback Connection and Quantifying Cluster Virialization”</i> Cavagnolo, Kenneth W.; Donahue, Megan; Voit, G. Mark; and Sun, Ming 2007 Eight Years of Science with Chandra Symposium</p> <p>POSTER: <i>“Chandra Studies of Dark Matter and Galaxy Formation: Signatures from the Intracluster Medium”</i></p>

Donahue, Megan; Sun, M.; **Cavagnolo, K.**; Voit, G.
[2006 Winter Meeting of the American Astronomical Society](#)

PROCEEDING: “*Abundances of s-process elements in planetary nebulae: Br, Kr & Xe*”
Zhang, Y.; Williams, R.; Pellegrini, E.; **Cavagnolo, K.**; Baldwin, J. A.; Sharpee, B.;
Phillips, M.; Liu, X.-W.
[2006 IAU Symposium](#)

POSTER: “*Studies of Entropy Distributions in X-ray Luminous Clusters of Galaxies*”
Cavagnolo, K. W.; Donahue, M. E.; Voit, G. M.; Sun, M.; Evrard, A. E.
[2005 Winter Meeting of the American Astronomical Society](#)

POSTER: “*Entropy Distributions in the Cores of Nearby X-ray Luminous Clusters of Galaxies*”
Cavagnolo, K. W.; Donahue, M. E.; Voit, G. M.; Horner, D. J.; Evrard, A. E.
[2004 Winter Meeting of the American Astronomical Society](#)

POSTER: “*Radio-Free Cluster Cooling Flows*”
Donahue, M. E.; Voit, G. M.; **Cavagnolo, K.**
[2004 Winter Meeting of the American Astronomical Society](#)

**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.