

## Kenneth W. Cavagnolo Curriculum Vitae

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<b>Education</b>	Michigan State University Ph.D., Astronomy & Astrophysics	2005 – 2008
	Michigan State University M.S., Astronomy & Astrophysics, <i>magna cum laude</i>	2002 – 2005
	Georgia Institute of Technology B.S., Physics, <i>magna cum laude</i>	1998 – 2002
<b>Research Experience</b>	Opales Postdoctoral Fellow Supervisor: Chiara Ferrari, <i>Obs. Côte d'Azur</i>	2010 – Present
	UW Postdoctoral Fellow Supervisor: Brian McNamara, <i>Univ. of Waterloo</i>	2008 – 2010
	Graduate Research Assistant Supervisor: Megan Donahue, <i>Mich. St. Univ.</i>	2003 – 2008
	Graduate Research Assistant Supervisor: Jack Baldwin, <i>Mich. St. Univ.</i>	2002 – 2003
	Undergraduate Research Assistant Supervisor: James Sowell, <i>Geor. Inst. of Tech.</i>	2000 – 2002
<b>Research Program &amp; Interests</b>	My research program is focused on better understanding the physics of the intracluster and intra-group medium, and the role of feedback from active galactic nuclei & quasars on the formation and evolution of galaxies, galaxy groups, and galaxy clusters.	
	Specific areas of interest: <ul style="list-style-type: none"> <li>• Cosmic magnetic fields</li> <li>• Non-thermal galaxy cluster emission</li> <li>• Black hole accretion physics</li> <li>• Relativistic jets</li> <li>• Cosmological studies of structure formation</li> </ul>	
<b>Honors</b>	• Referee for ApJ, ApJL, AJ, CanTAC, & MNRAS	2008 – Present
	• Sherwood K. Haynes Award for Outstanding Graduate Student	2008
	• MSU College of Natural Science Dissertation Fellow	2007 – 2008
	• ΣΞ National Scientific Research Society Member	2009 – Present
	• ΣΠΣ National Physics Honor Society Member	2001 – Present
	• American Astronomical Society Member	2002 – Present

	<ul style="list-style-type: none"> <li>• American Physical Society Member</li> <li>• LOFAR Consortium Member</li> <li>• Perimeter Institute Black Hole Reading Group Member</li> <li>• Dean's List, Georgia Inst. of Tech.</li> </ul>	2002 – Present 2010 – Present 2009 – 2010 1998 – 2002
<b>Scientific Skills</b>	<ul style="list-style-type: none"> <li>• Expert of radio and X-ray data analysis &amp; interpretation</li> <li>• Extensive experience analyzing infrared, optical, UV, and gamma-ray data</li> <li>• Mastery of AIPS, CASA, CIAO, IRAF, OSA, and SAS analysis software</li> <li>• Fluent in HTML, IDL, <math>\text{\LaTeX}</math>, and PERL programming languages</li> <li>• Familiar with C, FORTRAN, MYSQL, PYTHON, SUPERMONGO, and TCL</li> <li>• Command of DOS, Linux, Macintosh, and Windows computing architectures</li> <li>• Skillful in computer maintenance, construction, and troubleshooting</li> </ul>	
<b>Observing Experience</b>	Very Long Baseline Array (VLBA) 12 hours observing IRAS 09104+4109  Giant Metrewave Radio Telescope (GMRT) 60 hours observing 15 galaxy clusters  Chandra X-ray Observatory (CXO) 21 hour queued observation of IRAS 09104+4109  Very Large Array Radio Telescope (VLA) 39 hours observing 13 giant ellipticals	TBD   Jan. 2010  Jan. 2009  Dec. 2008
<b>Accepted Proposals &amp; Grants</b>	VLBA Cycle 10, PI Imaging the Misdirected QSO of IRAS 09104+4109  GMRT Cycle 17–19, Co-I Power and Particle Content of Extragalactic Radio Sources I–III PI: Somak Raychaudhury, <i>Univ. Birmingham</i>  GMRT Cycle 17, Co-I Morphology of Steepest Spectrum Radio Sources in Galaxy Cluster Cores PI: Alastair Edge, <i>Durham Univ.</i>  NOAO Cycle 2008A, 2009A/B, & 2010A, Co-I Normalization and scatter of the $M - T$ relation for supermassive galaxy clusters PI: Rachel Mandelbaum, <i>Princeton Univ.</i>  GMRT Cycle 16, Co-I Content of Giant Cavities in the IGM of Galaxy Clusters PI: Somak Raychaudhury, <i>Univ. Birmingham</i>  CXO Cycle 10, PI IRAS 09104+4109: An Extreme Brightest Cluster Galaxy  CXO Cycle 10, Co-I Conduction and Multiphase Structure in the ICM PI: Mark Voit, <i>Mich. St. Univ.</i>	2010  2009 – 2010  2009  2008 – 2010  2008  2008  2008

	Spitzer Cycle 5, Co-I Star Formation and AGN Feedback in BCGs PI: Megan Donahue, <i>Mich. St. Univ.</i>	2008
	Spitzer Cycle 5, Co-I Infrared Properties of a Control Sample of Brightest Cluster Galaxies PI: Megan Donahue, <i>Mich. St. Univ.</i>	2008
	NSF Grant, Co-I Star Formation in the Universe's Largest Galaxies PI: Mark Voit, <i>Mich. St. Univ.</i>	2008
	CXO Cycle 9, Co-I Quantifying Cluster Temperature Substructure PI: Mark Voit, <i>Mich. St. Univ.</i>	2007
	VLA A-configuration Cycle, Co-I Radio Feedback in Clusters and Galaxies PI: Brian McNamara, <i>Univ. Waterloo</i>	2007
<b>Students Advised</b>	Clif Kirkpatrick, Ph.D. candidate, <i>Univ. Waterloo</i> The 2-Dimensional metal abundance distributions in galaxy clusters	2008 – 2010
	Mina Rohanizadegan, Ph.D. candidate, <i>Univ. Waterloo</i> Understanding SMBH accretion and spin	2008 – 2010
	Jason King, Undergraduate research, <i>Univ. Waterloo</i> Quantifying scatter in the $P_{\text{jet}}-P_{\text{radio}}$ relation	2010
	Brad Whuiska, Undergraduate research, <i>Univ. Waterloo</i> Finding the largest galactic cores in the <i>HST</i> archive	2009
	Rob Myers, Undergraduate research, <i>Univ. Waterloo</i> In search of galaxy cluster radio galaxies in the 400 deg <sup>2</sup> Survey	2009
<b>Outreach</b>	Non-thermal Phenomena in Colliding Galaxy Clusters Conference Local Organizing Committee	2010
	International Year of Astronomy Organized observing nights, talks, and workshops in Waterloo, ON	2009
<b>Teaching Experience</b>	Substitute Instructor Course: "Visions of the Universe"	Fall 2006
	Honors Physics Tutor Course: "Introductory Honors Physics I & II"	Summer 2003
	Graduate Teaching Assistant Course: "Visions of the Universe"	2002 - 2003
<b>References</b>	Megan Donahue, <a href="mailto:donahue@pa.msu.edu">donahue@pa.msu.edu</a> Tenured faculty, Michigan State University	517-884-5618

G. Mark Voit, <a href="mailto:voit@pa.msu.edu">voit@pa.msu.edu</a> Tenured faculty, Michigan State University	517-884-5619
Brian McNamara, <a href="mailto:mcnamara@uwaterloo.ca">mcnamara@uwaterloo.ca</a> Tenured faculty, University of Waterloo	519-888-4567 ext. 38170
Chris Carilli, <a href="mailto:ccarilli@nrao.edu">ccarilli@nrao.edu</a> Chief Scientist, National Radio Astronomy Observatory	575-835-7306
Jack Baldwin, <a href="mailto:baldwin@pa.msu.edu">baldwin@pa.msu.edu</a> Associate Chair of Astronomy, Michigan State University	517-884-5611
Mike Wise, <a href="mailto:wise@science.uva.nl">wise@science.uva.nl</a> Chief Scientist, LOFAR Radio Observatory	05-2159-5564
Paul Nulsen, <a href="mailto:pnulsen@cfa.harvard.edu">pnulsen@cfa.harvard.edu</a> Research Scientist, Center for Astrophysics at Harvard University	617-495-7043
Chiara Ferrari, <a href="mailto:ferrari@oca.eu">ferrari@oca.eu</a> Adjunct Astronomer, Observatoire de la Côte d’Azur	04-9200-3028

**Personal  
Interests**

- Academic: Environmental sciences, “Cradle2Cradle” design, and urban planning.
- Athletics: Triathlons, running, baseball, and Georgia Tech athletics.
- Hobbies: Backpacking, reading, building model airplanes, and raising bonsai trees.