Kenneth W. Cavagnolo
Curriculum Vitae

Observatoire de la Côte d'Azur
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Citizenship: U.S.A.
Marital Status: Married
Birthdate: Jan. 27th, 1980
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Education

Michigan State University Ph.D., Astronomy & Astrophysics	2005 – 2008
Michigan State University M.S., Astronomy & Astrophysics, *magna cum laude*	2002 – 2005
Georgia Institute of Technology B.S., Physics, *magna cum laude*	1998 – 2002

Research Experience

Opales Postdoctoral Fellow Supervisor: Chiara Ferrari, *Obs. Côte d'Azur*	2010 – Present
UW Postdoctoral Fellow Supervisor: Brian McNamara, *Univ. of Waterloo*	2008 – 2010
Graduate Research Assistant Supervisor: Megan Donahue, *Mich. St. Univ.*	2003 – 2008
Graduate Research Assistant Supervisor: Jack Baldwin, *Mich. St. Univ.*	2002 – 2003
Undergraduate Research Assistant Supervisor: James Sowell, *Geor. Inst. of Tech.*	2000 – 2002

Research Program & Interests

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:
- Cosmic magnetic fields
- Non-thermal galaxy cluster emission
- Black hole accretion physics
- Relativistic jets
- Cosmological studies of structure formation

Honors

• 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

	• American Physical Society Member	2002 – Present
	• LOFAR Consortium Member	2010 – Present
	• Perimeter Institute Black Hole Reading Group Member	2009 – 2010
	• Dean's List, Georgia Inst. of Tech.	1998 – 2002

Scientific Skills

- Expert of radio and X-ray data analysis & interpretation
- Extensive experience analyzing infrared, optical, UV, and gamma-ray data
- Mastery of AIPS, CASA, CIAO, IRAF, OSA, and SAS analysis software
- Fluent in HTML, IDL, LaTeX, and PERL programming languages
- Familiar with C, FORTRAN, MySQL, PYTHON, SUPERMONGO, and TCL
- Command of DOS, Linux, Macintosh, and Windows computing architectures
- Skillful in computer maintenance, construction, and troubleshooting

Observing Experience

Very Long Baseline Array (VLBA) 12 hours observing IRAS 09104+4109	TBD
Giant Metrewave Radio Telescope (GMRT) 60 hours observing 15 galaxy clusters	Jan. 2010
Chandra X-ray Observatory (CXO) 21 hour queued observation of IRAS 09104+4109	Jan. 2009
Very Large Array Radio Telescope (VLA) 39 hours observing 13 giant ellipticals	Dec. 2008

Accepted Proposals & Grants

VLBA Cycle 10, PI Imaging the Misdirected QSO of IRAS 09104+4109	2010
GMRT Cycle 17–19, Co-I Power and Particle Content of Extragalactic Radio Sources I–III PI: Somak Raychaudhury, *Univ. Birmingham*	2009 – 2010
GMRT Cycle 17, Co-I Morphology of Steepest Spectrum Radio Sources in Galaxy Cluster Cores PI: Alastair Edge, *Durham Univ.*	2009
NOAO Cycle 2008A, 2009A/B, & 2010A, Co-I Normalization and scatter of the $M - T$ relation for supermassive galaxy clusters PI: Rachel Mandelbaum, *Princeton Univ.*	2008 – 2010
GMRT Cycle 16, Co-I Content of Giant Cavities in the IGM of Galaxy Clusters PI: Somak Raychaudhury, *Univ. Birmingham*	2008
CXO Cycle 10, PI IRAS 09104+4109: An Extreme Brightest Cluster Galaxy	2008
CXO Cycle 10, Co-I Conduction and Multiphase Structure in the ICM PI: Mark Voit, *Mich. St. Univ.*	2008

	Spitzer Cycle 5, Co-I Star Formation and AGN Feedback in BCGs PI: Megan Donahue, *Mich. St. Univ.*	2008
	Spitzer Cycle 5, Co-I Infrared Properties of a Control Sample of Brightest Cluster Galaxies PI: Megan Donahue, *Mich. St. Univ.*	2008
	NSF Grant, Co-I Star Formation in the Universe's Largest Galaxies PI: Mark Voit, *Mich. St. Univ.*	2008
	CXO Cycle 9, Co-I Quantifying Cluster Temperature Substructure PI: Mark Voit, *Mich. St. Univ.*	2007
	VLA A-configuration Cycle, Co-I Radio Feedback in Clusters and Galaxies PI: Brian McNamara, *Univ. Waterloo*	2007
Students Advised	Clif Kirkpatrick, Ph.D. candidate, *Univ. Waterloo* The 2-Dimensional metal abundance distributions in galaxy clusters	2008 – 2010
	Mina Rohanizadegan, Ph.D. candidate, *Univ. Waterloo* Understanding SMBH accretion and spin	2008 – 2010
	Jason King, Undergraduate research, *Univ. Waterloo* Quantifying scatter in the $P_{\rm jet}$-$P_{\rm radio}$ relation	2010
	Brad Whuiska, Undergraduate research, *Univ. Waterloo* Finding the largest galactic cores in the *HST* archive	2009
	Rob Myers, Undergraduate research, *Univ. Waterloo* In search of galaxy cluster radio galaxies in the 400 deg^2 Survey	2009
Outreach	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
Teaching Experience	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
References	Megan Donahue, donahue@pa.msu.edu Tenured faculty, Michigan State University	517-884-5618

G. Mark Voit, voit@pa.msu.edu 517-884-5619
Tenured faculty, Michigan State University

Brian McNamara, mcnamara@uwaterloo.ca 519-888-4567 ext. 38170
Tenured faculty, University of Waterloo

Chris Carilli, ccarilli@nrao.edu 575-835-7306
Chief Scientist, National Radio Astronomy Observatory

Jack Baldwin, baldwin@pa.msu.edu 517-884-5611
Associate Chair of Astronomy, Michigan State University

Mike Wise, wise@science.uva.nl 05-2159-5564
Chief Scientist, LOFAR Radio Observatory

Paul Nulsen, pnulsen@cfa.harvard.edu 617-495-7043
Research Scientist, Center for Astrophysics at Harvard University

Chiara Ferrari, ferrari@oca.eu 04-9200-3028
Adjunct Astronomer, Observatoire de la Côte d'Azur

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.