Carolin N Cardamone

Curriculum Vitae

Contact Information

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Education

Ph.D., Astronomy & Astrophysics, **Yale University**, New Haven, CT **expected, Jun 2010**
Advisors: C. M. Urry & P. van Dokkum
Dissertation: AGN host galaxies in a Deep Medium Band Survey with Subaru
M.Phil., Astronomy
M.S., Astronomy

M.A., Astronomy, **Wesleyan University**, Middletown, CT **2004**
Advisor: Ed Moran
Dissertation: Hidden Seyfert 2 Galaxies in the Chandra Deep Fields

B.A., Mathematics & Astronomy, **Welesley College**, Wellesley, MA **2002**
Advisor: Kim McLeod

Research Experience

2004-present Yale University (with C. M. Urry & P. vanDokkum)
Observed the ECDFS with Subaru in 18 medium bands, created catalog covering optical-*Spitzer* data, computed accurate photometric redshifts, rest frame optical colors, & stellar masses for 60k galaxies. Matched X-ray & radio catalogs.

2008-2009 Yale University (with K. Schawinski & the Galaxy Zoo Science Team)
Investigated spectral properties of a set of compact star forming galaxies in SDSS.

2005-2006 Yale University (with P. vanDokkum)
Cataloged smooth extended features and sharp plumes and ripples in deep imaging of nearby elliptical mergers.

2004-2005 Yale University (with P. Natarajan)
Modeled the effects of differential magnification of strong lensing models on the central regions of AGN.

2002-2004 Wesleyan University (with E. Moran)
Analyzed optical and X-ray observations of a selection of local Seyfert 2 galaxies. Simulated their observed properties at $z \sim 1$ and compared to galaxies discovered in the GOODS deep fields.

2002 Whitin Observatory, Wellesley College (with R. French)
Showed broadband spectra and opposition curves of Jupiter's coorbital moons Janus & Epimetheus are consistent with a common progenitor.

2001-2002 Whitin Observatory, Wellesley College (with K. McLeod)
Searched STIS data for young brown dwarf companions in IC348.

2001 Swarthmore College (with D. Cohen)
Analyzed high resolution Chandra spectra searching for non-thermal broadening in spectral lines of the B0 V star Tau Sco.

Grants

Chandra CDFS Archival Proposal Chandra Science Center, 2007

Tinsley Award	Yale University, 2006
Graduate Student Assembly Conference Travel Award	Yale University, 2006
Massachusetts Space Grant	Wellesley College, 2002
Charles Durant Award in Astronomy	Wellesley College, 2002
KNAC Summer Research Fellowship	Swarthmore College, 2001

Talks

UMass Amherst, Department of Astronomy, Extraglactic Lunch, October 2009
UC Berkeley, Department of Astronomy, Theory Lunch, September 2009
Oxford University, Beecroft Institute of Particle Astrophysics and Cosmology, August 2009
NERQUAM, Brandeis University, Waltham, MA, May 2009
'AGN on the color-magnitude diagram to z∼1'

Wellesley College, Departments of Physics and Astronomy, March 2009
'Green Peas and Galaxy Evolution: Discoveries of Citizen Science'

American Astronomical Society, AAS Meeting #213, Long Beach, CA, January 2009
'Galaxy Properties at redshift 0 to 1.2 from Deep Medium Band Subaru Imaging'

MUSYC Collaboration Meeting, Astronomy Department, Rutgers University, May 2008
'Medium Band Subaru Imaging Reductions'

University of Chicago, Astro-Particle Seminar, Chicago IL, March 2008
'AGN: Drivers of Galaxy Evolution'

MUSYC Collaboration Meeting, Astronomy Department, Yale University, Nov 2007
'Mid-IR properties and selection of AGN'

NERQUAM, MIT Haystacks Observatory, MA, June 2007
'Mid-IR colors of AGN in the Chandra Deep Field South'

ASTRO JOY, Yale Graduate Student Conference, Yale University, October 2006
'Multi-Wavelength Studies of AGN in MUSYC'

Yale Astronomy Graduate Conference, Yale University, June 2005
'Probing the Central Regions of AGN using Gravitational Lensing'

NERQUAM, Institute for Astrophysical Research, Boston University, May 2005
'A Lensing Study of AGN Models'

Research Discussions in Astronomy, Wesleyan University, March 2003
'Deep Fields'

Keck Undergraduate Symposium on Research in Astronomy, Williams College, November 2001
'Chandra Emission Line Diagnostics of τ Sco'

Collaborations

- Galaxy Zoo (GZ: PI. Kevin Schawinski, Chris Lintott)
- Multiwavelength Survey by Yale-Chile (MUSYC: PI. Eric Gawiser, Pieter van Dokkum)
- Cosmic Evolution Survey (COSMOS: PI. Nick Scoville)

Summer Schools

Penn State Astro-Statistics School Penn State University, State College PA Jul, 2006
4th International X-ray Astronomy School CfA, Cambdrige MA Aug, 2005
Basic Astrometric Methods Yale University Jul, 2005

Observing Experience

- Optical Imaging with Suprime Cam on Subaru Telescope, Mauna Kea (2006)
- Optical Imaging with the OPTIC camera on the 3.5m WIYN telescope at Kitt Peak (2005)
- Optical Imaging with the MOSAIC camera 0.9 m Kitt Peak telescope (2003-2004)

Conference Poster Presentations

American Astronomical Society, Long Beach #213 — Jan, 2009
'Deep Medium-Band Subaru Imaging of the MUSYC Extended Chandra Deep Field South'

Eight Years of Science with Chandra, Huntsville, Alabama — Dec, 2007
'Mid-infrared Properties And Color-Selection For X-ray Detected AGN'

American Astronomical Society, Austin, Meeting #211 — Dec, 2007
'Mid-infrared Properties And Color-Selection For X-ray Detected AGN'

NERQUAM, MIT, Cambridge MA — May, 2006
'Likelihood Source Matching Applied to the extended Chandra Deep Field-South'

American Astronomical Society, Denver, Meeting #204 — June, 2004
'Hidden Seyfert 2 Galaxies in the Chandra Deep Fields'

Professional Memberships

American Astronomical Society, Astronomical Society of the Pacific, Society of Physics Students, Sigma Xi

Computer Experience

IDL; IRAF; FORTRAN; Telescope Operation Software; Spitz Digital Planetarium Control Software; Starry Night; Mathematica

Teaching Experience

Astronomy Department Teaching Fellow — **Yale University 2004–2008**

Developed observational projects; planned weekly discussion sections; created original classroom exercises and review material; graded problem sets and tests; managed course websites, online forums and grading records. Instructed students in using telescopes and other equipment at the Yale Observatory. Courses:

Frontiers & Controversies in Astrophysic, Spring 2008
Archeoastronomy, Spring 2007
Planets and Stars, Fall 2005
Galaxies and Cosmology, Spring 2005
Introduction to Cosmology, Fall 2004

Graduate Teaching Center Fellow — Yale University, 2008-present

Organized panels and workshops. Conducted individual consultations. Encouraged use of traditional and innovative methods of teaching.

Yale Astronomy Tutor — **2004-2008**

Tutored students requiring extra help in the introductory astronomy courses. Worked on learning styles and study techniques.

Teaching Assistant — Wesleyan University, 2002-2003

Led homework review sessions, conducted instruction in use of telescopes, graded problem sets and exams, edited instruction manual for use of telescopes.

Modern Observational Techniques, Spring & Fall 2003
Descriptive Astronomy, Fall 2002

Night Assistant — Whitin Observatory, 1999-2002

Assisted with use of telescopes in labs, instructed introductory students in basic sky motions and constellations, led tours of observatory, designed public talks. Also, graded introductory courses in calculus and physics, instructed students in astronomy.

Teaching Assistant — Center for Talented Youth, Mount Holyoke College, 2001

Developed lectures and exercises for students with a wide variety of talents.

History of Mathematics

Public Outreach

Yale Public Observatory and Planetarium **2004–2009**

Student leader at the Yale Public Observing Nights at the Leitner Family Observatory. Engaged the public in planetarium shows.

Recent Public Talks & Events **2006–2009**

Green Peas & Galaxy Zoo: Discoveries of Citizen Science, *Greenwich, UK*	Aug, 2009
Green Peas & Galaxy Zoo: Discoveries of Citizen Science, *Tully Free Library, NY*	Mar, 2009
Astronomers, Light & History of the Universe *Stevens Elementary, Wallingford CT*	Oct, 2008
The Chemical World, *Girls Science Investigations, Yale University, CT*	Feb 2008
Watching Active Galaxies with the Subaru Telescope, *Rotary Club, Tully NY*	Dec, 2007
200th Anniversary of the Weston meteorite, *Peabody Museum, New Haven, CT*	Dec, 2007
Watching Active Galaxies with the Subaru Telescope, *Yale Leitner Observatory, CT*	Nov, 2007
The Material World, *Girls Science Investigations, Yale University, CT*	Oct 2007
Astronomy Camp, Planetarium Show, *Peabody Museum, New Haven, CT*	Aug, 2007
Dinosnores Sleep Over, Planetarium Show, *Peabody Museum, New Haven, CT*	Feb, 2007
A Night at the Museum, Planetarium Show, *Peabody Museum, New Haven, CT*	Jan, 2007
Observing with the Subaru telescope, *Mauna Kea Visitors Center, HI*	Dec, 2006
Meteorites and Meteor-wrongs, *CTY, Yale University, CT*	Oct 2006
Probing the History of the Universe w/ Supermassive BH, *Yale Observatory, CT*	Feb, 2006

Project ASTRO **2004–2009**

Astronomer in the Classroom *Amity High School, CT*	2009
Astronomer in the Classroom, *North Haven Middle School, CT*	2007-2008
Astronomer in the Classroom, *Branford Middle School, CT*	2005-2006

Peabody Museum Volunteer **2006–2008**

Served as a guide for the "Alien Earths" exhibit, a hands-on exhibit addressing the possibility of other forms of life in the solar system and beyond. Engaged visitors in discussions about the exhibit to foster "self-discovery" of the material. Prepared and presented planetarium shows for various museum events using the Yale Starlab portable planetarium.

Refereed Publications

Schawinski, K., Urry, C. M., Virani, S., Coppi, P., Bamford, S. P., Treister, E., Lintott, C., Sarzi, M., Keel, W. C., Kaviraj, S., Cardamone, C. N., Masters, K. L., Ross, N. P., Andreescu, D., Murry, P., Nichol, R. C., Raddick, M. J., Slosar, A., Szalay, A. S., Thomas, D., & Vandenberg, J. 2009, "Galaxy Zoo: The Fundamentally Different Co-Evolution of Supermassive Black Holes and Their Early- and Late-Tyle Host Galaxies", ApJ, in press

E. Treister, **Carolin N. Cardamone**, Kevin Schawinski, C. Megan Urry, Eric Gawiser, Shanil Virani, Paulina Lira, Jeyhan Kartaltepe, Maaike Damen, Edward N. Taylor, Emeric Le Floch, Stephen Justham, Anton M. Koekemoer 2009, "Heavily Obscured AGN in Star-Forming Galaxies at z=2', ApJ, inpress

Cardamone, C., Schawinski, K., Sarzi, M., Bamford, S. P., Bennert, N., Urry, C. M., Lintott, C., Keel, W. C., Parejko, J., Nichol, R. C., Thomas, D., Andreescu, D., Murray, P., Raddick, M. J., Slosar, A., Szalay, A., Vandenberg, J., 2009 "Galaxy Zoo Green Peas: discovery of a class of compact extremely star-forming galaxies", MNRAS, 1256

Treister, E., Virani, S., Gawiser, E., Urry, C. M., Lira, P., Francke, H., Blanc, G. A., **Cardamone, C. N.**, Damen, M., Taylor, E. N., Schawinski, K. 2009, "Optical Spectroscopy of X-Ray Sources in the Extended Chandra Deep Field South", ApJ, 693, 1713

Kaviraj, S., Khochfar, S., Schawinski, K., Yi, S. K., Gawiser, E., Silk, J., Virani, S. N., **Cardamone, C. N.**, van Dokkum, P. G., Urry, C. M. 2008, "The UV colours of high-redshift early-type galaxies: evidence for recent star formation and stellar mass assembly over the last 8 billion years", MNRAS,

388, 67

Cardamone, C. N., Urry, C. M., Damen, M., van Dokkum, P., Treister, E., Labbé, I., Virani, S. N., Lira, P., Gawiser, E. 2008, "Mid-Infrared Properties and Color Selection for X-Ray-Detected Active Galactic Nuclei in the MUSYC Extended Chandra Deep Field-South", ApJ, 680, 130

Francke, H., Gawiser, E., Lira, P., Treister, E., Virani, S., **Cardamone, C.**, Urry, C. M., van Dokkum, P., Quadri, R. 2008, "Clustering of Intermediate-Luminosity X-Ray-Selected Active Galactic Nuclei at z $\sim$ 3", ApJ, 673, L13

Cardamone, C. N., Moran, E. C., Kay, L. E. 2007, "Hidden" Seyfert 2 Galaxies in the Chandra Deep Field North", AJ, 134, 1263

References

Meg Urry, Chair, Physics Department, Yale University, New Haven, CT 06511 phone: (203) 432-5997 email: meg.urry@yale.edu

Pieter van Dokkum, Professor, Astronomy Department, Yale University, New Haven, CT 06511 phone: (203) 432-3019 email: pieter.vandokkum@yale.edu

Eric Gawiser, Professor, Department of Physics & Astronomy, Rutgers University, New Brunswick, NJ 08854 phone: (732) 445-550 x2733 email:gawiser@physics.rutgers.edu

Ed Moran, Chair, Astronomy Department, Wesleyan University, Middletown, CT 06459 phone: (860) 685-3739 email: ecm@astro.wesleyan.edu

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