

Vivienne F. Baldassare

PERSONAL DATA

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RESEARCH POSITIONS

AUGUST 2017 - present Einstein Postdoctoral Fellow, **Yale University**
| Advisor: Marla GEHA

EDUCATION

MAY 2017 PhD in ASTRONOMY, **University of Michigan**
Thesis: "Properties of active galactic nuclei in dwarf galaxies"
| Advisor: Elena GALLO
JUNE 2012 BA in HONORS PHYSICS, **Hunter College**
Thesis: "De-reddening the infrared spectra of L dwarfs"
| Advisor: Kelle CRUZ

SCHOLARSHIPS, FELLOWSHIPS, & GRANTS

2017-2020 NASA Einstein Postdoctoral Fellowship
2017 NSF Astronomy & Astrophysics Postdoctoral Fellowship (declined)
2017 AAS Rodger Doxsey Travel Prize
2016-2017 Rackham Predoctoral Fellowship, University of Michigan
2013-2016 Rackham Conference Travel Grants (3)
2013, 2016 Rackham Research Grants, University of Michigan (2)
2012-2015 National Science Foundation Graduate Research Fellowship
2012 Joseph A. Gillet Award in Physics, Hunter College
2011-2012 John P. McNulty Scholar, Hunter College
2008-2012 Full merit scholarship, Macaulay Honors College at Hunter College

PUBLICATIONS

First author publications

- **Baldassare, Vivienne F.**; Reines, Amy E.; Gallo, Elena; Greene, Jenny E. (2017). "Hubble Space Telescope imaging of the active dwarf galaxy RGG 118". *Astrophysical Journal* 850, 196.
- **Baldassare, Vivienne F.**; Reines, Amy E.; Gallo, Elena; Greene, Jenny E. (2017). "X-ray and Ultraviolet properties of AGN in nearby dwarf galaxies". *Astrophysical Journal* 836, 20.
- **Baldassare, Vivienne F.**; Reines, Amy E.; Gallo, Elena; Greene, Jenny E.; Graur, Or; Geha, Marla; Hainline, Kevin; Carroll, Christopher M.; Hickox, Ryan C. (2016). "Multi-epoch spectroscopy of dwarf galaxies with AGN signatures: identifying sources with persistent broad H-alpha". *Astrophysical Journal*, 829, 1.

- **Baldassare, Vivienne F.**; Reines, Amy E.; Gallo, Elena; Greene, Jenny E. (2015). “A $\sim 50,000$ solar mass black hole in the nucleus of RGG 118”. *Astrophysical Journal Letters*, 809, L14.
- **Baldassare, Vivienne F.**; Gallo, Elena; Miller, Brendan P.; Plotkin, Richard M.; Treu, Tommaso; Valluri, Monica; Woo, Jong-Hak (2014). “AMUSE-Field II: Nucleation fraction in field vs. cluster environment”. *Astrophysical Journal*, 791, 133.

Co-authored publications

- Foord, Adi; Gallo, Elena; Hodges-Kluck, Edmund; Miller, Brendan P.; **Baldassare, Vivienne F.**; Gnedin, Oleg (2017). “AGN Activity in Nucleated Galaxies As Measured by Chandra”. Submitted to the *Astrophysical Journal*.
- Faherty, Jacqueline K. + 9 co-authors; **Baldassare, Vivienne F.**, Lemonier, Emily; Rice, Emily L. (2016). “Population properties of brown dwarf analogs to exoplanets”. *Astrophysical Journal Supplements*, 225, 10F.
- Hiranaka, Kay; Cruz, Kelle L.; Marley, Mark S.; Douglas, Stephanie T.; **Baldassare, Vivienne F.** (2016). “Demonstrating the existence of sub-micron size dust grains in the atmospheres of red L dwarfs”. Accepted to the *Astrophysical Journal*.
- Miller, Brendan P.; Gallo, Elena; Greene, Jenny E.; Kelly, Brandon C.; Treu, Tommaso; Woo, Jong-Hak; **Baldassare, Vivienne F.** (2015). “X-ray constraints on the local supermassive black hole occupation fraction”. *Astrophysical Journal*, 799, 98.
- Plotkin, Richard M.; Gallo, Elena; Miller, Brendan P.; **Baldassare, Vivienne F.**; Treu, Tommaso; Woo, Jong-Hak (2014). “An Environmental Study of the Ultraluminous X-Ray Source Population in Early-type Galaxies”. *Astrophysical Journal*, 780, 6.
- Kartaltepe, Jeyhan S. + 26 co-authors; **Baldassare, V. F.**; Fiorenza, S. L. (2010). “A Multiwavelength Study of a Sample of 70 μm Selected Galaxies in the COSMOS Field. II. The Role of Mergers in Galaxy Evolution”. *Astrophysical Journal*, 721, 98.

SUCCESSFUL OBSERVING PROPOSALS

Principal Investigator

- GEMINI, Gemini North, 2016B, 4 hours
P.I. **V. F. Baldassare**, E. Gallo, A. Reines, J. Greene, M. Geha
“Optical spectroscopy of dwarf galaxies with active galactic nuclei”
- MAGELLAN, 6.5m Baade Telescope, 2016A, 3 nights
P.I. **V. F. Baldassare**, E. Gallo, A. Reines, J. Greene, M. Geha
“Optical spectroscopy of dwarf galaxies with candidate active galactic nuclei”
- HUBBLE SPACE TELESCOPE, Cycle 23, 3 orbits with WFC3
P.I. **V. F. Baldassare**, A. Reines, E. Gallo, J. Greene
“Studying the nuclear morphology of a dwarf galaxy with a 50,000 solar mass black hole”

Co-Investigator

- CHANDRA X-RAY OBSERVATORY, Cycle 17
P.I. E. Gallo, R. Plotkin, **V. F. Baldassare**, B. Miller, P. Cote, L. Ferrarese, T. Treu
“X-raying Fornax”

- CHANDRA X-RAY OBSERVATORY, 20 ks Director's Discretionary Time (2014)
P.I. E. Gallo, A. Reines, **V. F. Baldassare**
"A candidate 30,000 solar mass black hole"
- CHANDRA X-RAY OBSERVATORY, Cycle 16, 95.8 ks
P.I. E. Gallo, O. Gnedin, **V. F. Baldassare**, B. Miller
"Super-massive black holes and nuclear star clusters in late type galaxies"

OBSERVING EXPERIENCE

- LAS CAMPANAS OBSERVATORY, La Serena, Chile, 3 nights
Spectroscopy with Magellan Echellette Spectrograph on 6.5m Baade telescope
- PALOMAR OBSERVATORY, San Diego, CA, USA, 5 nights
Integral Field Spectroscopy with Cosmic Web Imager on P200
- MDM OBSERVATORY, Kitt Peak, AZ, USA, ongoing (10+ nights)
Imaging with Templeton on 1.3m McGraw-Hill telescope (including remote operations)
Spectroscopy with OSMOS on 2.4m Hiltner telescope

PRESS & MEDIA

- University of Michigan press release "Astronomers find teeny supermassive black hole" (11 August 2015)
- Chandra X-ray Observatory press release "Oxymoronic black hole provides clues to growth" (11 August 2015)
- Coverage of discovery of the smallest reported supermassive black hole (Baldassare et al. 2015) in New York Times, Washington Post, Discovery News, Sky & Telescope, among others.
- Guest blogger, Chandra X-ray Observatory, authored post entitled "The hunt for the smallest supermassive black holes" (11 August 2015)
- Guest, CJAD Radio in Montreal (17 August 2015)
- Guest, Newsday program on BBC World Service Radio (13 August 2015)
- Guest, WWJ Newsradio 950, a local Detroit news station (11 August 2015)

SERVICE & OUTREACH

- Member, Graduate Admissions Committee, University of Michigan Department of Astronomy (2016-2017)
- Presenter, Harvey-Swanson Elementary School Earth Science Festival (May 2016)
- Invited lecturer, Birmingham Next (June 2016)
- Invited lecturer, University of Michigan Lowbrow Astronomers (March 2016)
- Invited lecturer, ASTRO 220 course (January 2016)
- Invited lecturer, Astronomical Society of Long Island (December 2015)
- Organizer, Weekly graduate student lunch seminar, University of Michigan (2015-2016)
- Co-founder/organizer, Peer mentoring group, University of Michigan (2015-2016)
- Organizer, Weekly Extreme Astrophysics Seminar, University of Michigan (2014-2015)

- Led hands-on astronomy workshops for local grade-school girls at events held by University of Michigan “Females Excelling More in Math, Science, and Engineering” Group (2013-2015)
- Participant, Pen pal program with students from Cesar Chavez Middle School in Detroit, MI (2012-2014)
- Co-organizer, Physics Demo Day for Girl Scouts (Fall 2012)

TEACHING

University of Michigan

- GRADUATE STUDENT INSTRUCTOR, SUMMER 2016
Michigan Math and Science Scholars
Created and delivered lectures; designed and ran lab activities for high school students enrolled in an intensive course on cosmology.
- GRADUATE STUDENT INSTRUCTOR, SUMMER 2015
Michigan Math and Science Scholars
Designed and ran lab activities for high school students enrolled in an intensive course on black holes.

WORKSHOPS ATTENDED

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| 2015 | | Inclusive Astronomy - Vanderbilt University, Nashville, TN |
| 2014 | | Summer School in Astrostatistics - Penn State University, College Station, PA |

PRESENTATIONS

- Talk: “*Population and properties of active massive black holes in dwarf galaxies*”
MODEST 16 NYC: Gas and Gravitational Dynamics, American Museum of Natural History, 6-9 September 2016
- Talk: “*Exploring the population of active massive black holes in dwarf galaxies*”
Compact Objects in Michigan, Wayne State University, 21 March 2016
- Talk: “*Spectroscopic follow-up of optically selected AGN candidates in dwarf galaxies*”
Physics of SMBH Formation and Feedback (JSI Workshop), Annapolis, MD, 12-14 October 2015
- Talk: “*Spectroscopic follow-up of optically selected AGN candidates in dwarf galaxies*”
Extreme Astrophysics Seminar, University of Michigan, 28 September 2015
- Talk: “*Spectroscopic follow-up of optically selected AGN candidates in dwarf galaxies*”
Compact Objects in Michigan, University of Michigan, 24 April 2015
- Poster: “*Nucleation fraction in the field versus cluster environment*”
Black Holes in Dense Star Clusters, Aspen Center for Physics, Aspen, CO, 17-22 January 2015
- Poster: “*HST analysis of nearby, early-type galaxies with nuclear X-ray detections*”
Massive Black Holes: Birth, growth, and impact, Kavli Institute for Theoretical Physics (UCSB), 5-9 August 2013
- Talk: “*Probing the nuclear environments of nearby galaxies*”
Compact Objects in Michigan, Wayne State University, 29 March 2013

- Poster: “*Quantifying contamination from LMXBs in the nuclear star clusters of early-type field galaxies*”
Black Hole Fingerprints: Dynamics, Disruptions, and Demographics, Snowbird, Utah,
17-22 March 2013