

## CONTACT INFORMATION

25 Park Place, Office 610

Dept. of Physics and Astronomy

Georgia State University

Atlanta, GA 30303

phone (404) 413-6082

fax (404) 413-5481

email bentz@astro.gsu.edu

## CURRENT POSITION

Associate Professor of Physics and Astronomy (2016–present)

## PREVIOUS POSITIONS

Assistant Professor of Physics and Astronomy, GSU (2010–2016)

Hubble Fellow, Dept. of Physics and Astronomy, U. of CA, Irvine (2009–2010)

Postdoctoral Researcher, Dept. of Physics and Astronomy, U. of CA, Irvine (2007–2009)

## RESEARCH INTERESTS

Active Galactic Nuclei (AGNs), Black Hole Masses, Black Hole Scaling Relationships, AGN Physical Structure and Kinematics, Host Galaxy Characteristics

## EDUCATION

PhD, Astronomy (June 2007) - Ohio State U., Advisor: B. M. Peterson

MS, Astronomy (March 2005) - Ohio State U.

BS, Physics with College Honors (June 2002) - U. of Washington, Seattle

BS, Astronomy with Math Minor (June 2002) - U. of Washington, Seattle

Diploma, Valedictorian (June 1998) - Mead High School, Spokane, WA

## PROFESSIONAL MEMBERSHIPS

American Astronomical Society

American Association of Physics Teachers

International Astronomical Union

American Physical Society

## HONORS AND AWARDS

GSU College of Arts & Sciences Outstanding Senior Faculty Award (2018)

GSU College of Arts & Sciences Outstanding Junior Faculty Award (2014)

GSU College of Arts & Sciences Dean's Early Career Award (2013)

Top 20 Women Professors in Georgia, StateStats.org (2013)

Hubble Fellowship (2009-2010)

Allan Markowitz Graduate Award for Excellence in Observational Astronomy (2006)

National Science Foundation Graduate Research Fellowship (2004-2007)

2nd Place, Mathematics and Physical Sciences, Hayes Graduate Research Forum (2004)

Ohio State U. Graduate Fellowship (2002-2003)

Phi Beta Kappa Inductee (2002)

Baer Prize for Undergraduate Excellence in Astronomy (2000-2001)

Golden Key National Honor Society Inductee (2001)

National Society of Collegiate Scholars Merit Scholarship (2001)

Ronald E. McNair Scholar (2000-2002)

NASA Space Grant Scholar (1998-2002)

UW Undergraduate Scholar (1998-1999, 1999-2000)

## GRANTS

- \$80,000: James Webb Space Telescope, Early Release Science Program (pending)  
*Nuclear Dynamics of a Nearby Seyfert with NIRSpec Integral Field Spectroscopy*
- \$23,000: Hubble Space Telescope, General Observer Program 15263 (pending)  
*The Host Galaxy of the Low Mass Black Hole in UGC 06728*
- \$66,000: Hubble Space Telescope, General Observer Program 13816 (active)  
*High-Resolution Imaging of Active Galaxies with Direct Black Hole Mass Measurements*
- \$81,000: Hubble Space Telescope, General Observer Program 12961 (active)  
*A Cepheid Distance to NGC6814*
- \$862,000: National Science Foundation CAREER Program (active)  
*CAREER: Campaigning for Better Black Hole Mass Relations*
- \$13,000: Hubble Space Telescope, General Observer Program 13330 (ended)  
*Mapping the AGN Broad Line Region by Reverberation*
- \$10,000: GSU Student Technology Fee (ended)  
*Improving the View: Telescope Upgrades at HLCO*
- \$20,000: GSU Student Technology Fee (ended)  
*Dark Sky Observing from Downtown Atlanta*
- \$26,000: National Radio Astronomy Observatories, Student Support Grant (ended)  
*HI Spectroscopy of Reverberation-Mapped AGN Host Galaxies*
- \$54,000: Hubble Space Telescope, General Observer Program 11662 (ended)  
*Improving the Radius-Luminosity Relationship for Broad-lined AGNs with a New Reverberation Sample*
- \$46,000: Hubble Space Telescope, General Observer Program 11661 (ended)  
*The Black Hole Mass – Bulge Luminosity Relationship for the Nearest Reverberation-Mapped AGNs*
- \$10,000: Georgia State University Research Initiation Grant (ended)  
*Testing the State of the Art Techniques in Black Hole Mass Measurements*
- \$97,000: Hubble Fellowship 51251.01 (ended)  
*A Detailed Study of AGN Broad Line Regions with Reverberation Mapping*
- \$33,000: Hubble Space Telescope, General Observer Program 10181 (ended)  
*ACS/NICMOS Imaging of Bright Lyman Break Galaxy Candidates from SDSS*
- Total to date: \$1,421,000**

## RECENT AWARDS OF COMPETITIVE OBSERVING TIME

- 165.25 hrs: Green Bank Telescope Semester 2018B (PI: J. Robinson)  
*HI Spectroscopy of Active Galaxies with Direct Black Hole Mass Measurements*
- 8.5 hrs: James Webb Space Telescope Cycle 1 (2020-2021)  
*Nuclear Dynamics of a Nearby Seyfert with NIRSpec Integral Field Spectroscopy*
- 2 orbits: Hubble Space Telescope Cycle 25 (2017-2018)  
*The Host Galaxy of the Low Mass Black Hole in UGC 06728*
- 22.0 hrs: Gemini Observatory Semester 2018A (PI: M. Batista)  
*Improving Bulge Stellar Velocity Dispersion Estimates for Calibration of the Mbh-sigma\* Relation for AGN*

- 2.99+1.58 nights: Las Cumbres Observatory Semester 2017A  
*Reverberation Mapping of the Nearby Seyfert NGC3783*
- 13.5 hrs: Gemini Observatory Semester 2015A  
*A Stellar Dynamical Black Hole Mass for the Nearby Seyfert Galaxy NGC5273 (Band 1)*
- 4 nights: WIYN Telescope Semester 2015A (PI: M. Batista)  
*Deconstructing Dynamics: Improving AGN  $\sigma_*$  Measurements for Calibration of the  $M_{\text{BH}} - \sigma_*$  Relation*
- 14 orbits: Hubble Space Telescope Cycle 22 (2014-2015)  
*High-Resolution Imaging of Active Galaxies with Direct Black Hole Mass Measurements*
- 179 orbits: Hubble Space Telescope Cycle 21 (2013-2014; PI: B. Peterson, OSU)  
*Mapping the AGN Broad Line Region by Reverberation*
- 21.5 hrs: Gemini Observatory Semester 2013B  
*A Stellar Dynamical Black Hole Mass for the Reverberation-Mapped Active Galaxy NGC6814 (Band 1)*
- 182.75 hrs: Green Bank Telescope Semester 2013A (PI: B. Ou-Yang)  
*HI Spectroscopy of Reverberation-Mapped AGN Host Galaxies*
- 3 nights: WIYN Telescope Semester 2013A (PI: E. Manne-Nicholas)  
*The Black Hole Mass-Bulge Luminosity Relationship for Reverberation-Mapped AGNs in the Near-IR*
- 19 orbits: Hubble Space Telescope Cycle 20 (2012-2013)  
*A Cepheid Distance to NGC6814*
- 20 hrs: Gemini Observatory Semester 2012A  
*A Stellar Dynamical Black Hole Mass for the Reverberation-Mapped Active Galaxy NGC6814 (Band 3: did not execute)*
- 23 hrs: LCOGT Faulkes Telescope South Semester 2012A  
*STARE: Testing Black Hole Mass Measurements*
- 4 nights: WIYN Telescope Semester 2011B  
*The Black Hole Mass-Bulge Luminosity Relationship for Reverberation-Mapped AGNs in the Near-IR*
- 24.1 hrs: LCOGT Faulkes Telescope South Semester 2011B  
*STARE: Testing Black Hole Mass Measurements in Active Galaxies*
- 13 orbits: Hubble Space Telescope Cycle 17 (2009-2010)  
*Improving the Radius-Luminosity Relationship for Broad-Lined AGNs with a New Reverberation Sample*
- 9 orbits: Hubble Space Telescope Cycle 17 (2009-2010)  
*The Black Hole Mass-Bulge Luminosity Relationship for the Nearest Reverberation-Mapped AGNs*
- 18 orbits: Hubble Space Telescope Cycle 13 (2005-2006)  
*ACS/NICMOS Imaging of Bright Lyman Break Galaxy Candidates from SDSS*

## RECENT CONFERENCES AND COLLOQUIA

- Oct 2017: Georgia Tech, Atlanta, GA  
 Apr 2017: Oglethorpe University, Atlanta, GA  
 Feb 2017: **Invited talk**, *Winter Meeting of the American Association of Physics Teachers*, Atlanta, GA  
 Sep 2016: University of Alabama, Huntsville, AL  
 May 2016: Contributed talk, *Great Lakes Quasar Symposium*, London, Ontario, Canada  
 Apr 2016: Spelman College, Atlanta, GA  
 Apr 2016: Mississippi State University, Starkville MS  
 Jul 2015: Contributed talk, *AGN STORM Workshop*, Columbus, OH  
 Jan 2015: Poster, *225th American Astronomical Society Meeting*, Seattle, WA  
 Nov 2014: **Invited review talk**, *Astronomy at High Angular Resolution workshop*, ESO Headquarters, Garching, Germany  
 Oct 2014: Wayne State University, Detroit, MI  
 Oct 2014: University of Michigan, Ann Arbor, MI  
 Jul 2014: University of Sheffield, South Yorkshire, United Kingdom  
 May 2014: **Invited talk**, *Apache Point Observatory 25th Anniversary*, Sunspot, NM  
 Mar 2014: Boston University, Boston, MA  
 Jan 2014: NRC Herzberg Institute of Astrophysics, Victoria, British Columbia  
 Jan 2014: Poster, *223rd American Astronomical Society Meeting*, Washington, DC  
 Oct 2013: University of Kentucky, Lexington, KY  
 Sep 2013: Clemson University, Clemson, SC  
 Feb 2013: National Radio Astronomy Observatory, Green Bank, WV  
 Oct 2012: **Invited keynote talk**, *Georgia Regional Astronomers Meeting*, Georgia Southern University, Statesboro, GA  
 Aug 2012: **Invited talk**, *Xtreme Astrophysics* symposium at Georgia Institute of Technology, Atlanta, GA  
 Jul 2012: **Invited review talk**, *Improving Black Hole Masses in AGN* workshop, Dark Cosmology Center, Niels Bohr Institute, Copenhagen, Denmark  
 Jan 2012: Contributed talk, *219th American Astronomical Society Meeting*, Austin, TX  
 Nov 2011: Contributed talk, *Georgia Regional Astronomers Meeting*, Agnes Scott College, Decatur, GA  
 Nov 2011: North Georgia College and State University, Dahlonega, GA  
 Sep 2011: **Invited talk**, *Astromography Workshop at IAU Symposium 285 — New Advances in Time Domain Astronomy*, University of Oxford, England  
 Sep 2011: **Invited talk**, *Light Echoes Workshop at IAU Symposium 285 — New Advances in Time Domain Astronomy*, University of Oxford, England  
 Aug 2011: **Invited review talk**, *Single and Double Black Holes in Galaxies* workshop, University of Michigan, Ann Arbor, MI  
 May 2011: Dark Cosmology Center, Niels Bohr Institute, Copenhagen, Denmark  
 Apr 2011: Contributed talk, *Narrow-Line Seyfert 1 Galaxies and Their Place in the Universe* conference, Milan, Italy  
 Sep 2010: Georgia Institute of Technology, Atlanta, GA  
 Apr 2010: Las Cumbres Observatory, Santa Barbara, CA

## COURSES DEVELOPED AND TAUGHT

PHYS1000/7000 “Gateway to Physics”, freshman undergraduate major course  
cross-listed with graduate course, Signature Experience Course, GSU  
ASTR4100/6100 “Astronomical Techniques and Instrumentation”, senior undergraduate  
major course cross-listed with graduate course, Signature Experience Course, GSU  
ASTR8900 “Astronomy Seminar”, graduate course, GSU  
Spring 2013: Non-Academic Jobs for PhD Astronomers  
ASTR1000 “Introduction to the Universe”, undergraduate science elective, GSU  
“Algebra Review”, Columbus School for Girls (July 2003, July 2004)  
“SAT Math Preparation”, Columbus School for Girls (July 2003, July 2004)

## PEDAGOGY

Participant, “Course-based Undergraduate Research Experiences”, Faculty Teaching and  
Learning Community, GSU, Spring 2018  
Participant, “Physics and Astronomy New Faculty Workshop”, American Association of  
Physics Teachers and American Physical Society, Baltimore, MD, November 2011

## POSTDOCS ADVISED

Dr. Merida Batiste (PhD: U. Maine), 2014–2017

## PHD STUDENTS ADVISED

Justin Robinson, PhD student, GSU, expected degree date 2022  
Rachael Merritt, PhD student, GSU, expected degree date 2021  
Caroline Roberts, PhD student, GSU, expected degree date 2019  
Emily Manne-Nicholas, PhD, GSU, 2017

## MS STUDENTS ADVISED

Benjamin Ou-Yang, MS, GSU, 2017

## GRADUATE STUDENTS ADVISED, NON-DEGREE PROJECTS

Daniel Horenstein, GSU, 2014  
Crystal Pope, GSU, 2013  
Robert Loewenthal, GSU, 2012  
Benjamin Williams, GSU, 2011

## UNDERGRADUATE AND HIGH SCHOOL STUDENTS ADVISED

Eli Mayfield, BS student (physics), GSU, 2018  
Jordana Walker, BS student (physics), GSU, 2018  
Steven Agudelo, BS student (physics), GSU, 2018  
Roberto Diaz, BS student (physics), GSU, 2018  
Louis Gonzalez, BS student (physics), GSU, 2017, 2018  
Francisco Martinez, BS student (physics), GSU, 2015–2016  
James Seals, BS student (physics), GSU, 2015–2016  
Bobby Jones, BS student (physics), GSU, 2015  
Craig Bazhaw, BS student (physics), GSU, 2014  
Kevin Lowery, BS student (physics), GSU, 2014  
Gabriela Hernandez, BS student (math), GSU, 2013–2014  
Sarah Katz, North Springs Charter High School, 2013–2014

Lawrence Coley, BS student (physics), GSU, 2013  
 Caroline Roberts, BS student (physics), Sewanee University, 2013  
 Ricardo Pedraza, BS student (physics), GSU, 2012  
 Jonathan Gardner, BS student (physics), GSU, 2011  
 Tyler Drake, BS student (physics), GSU, 2010–2011

## DISSERTATION/THESIS COMMITTEES (MEMBER)

Jens Juel Jensen, PhD, Astronomy, University of Copenhagen, June 2018  
 Don Ruwan Sampath Gamage, PhD, Physics, GSU, July 2017  
 Karen Garcia, MS, Physics, GSU, March 2017  
 Cheuk-Ping Wong, MS, Physics, GSU, Nov 2016  
 Ganesh Chand, PhD, Physics, GSU, Nov 2015  
 Joe Eggen, PhD, Astronomy, GSU, July 2014  
 Jeremy Maune, PhD, Astronomy, GSU, July 2014  
 Daniel Lawther, MS, Astronomy, University of Copenhagen, May 2013  
 Laura Patel, PhD, Physics, GSU, Apr 2013  
 Abhisek Sen, PhD, Physics, GSU, Nov 2012  
 Travis Fischer, PhD, Astronomy, GSU, Jun 2012  
 Noel Richardson, PhD, Astronomy, GSU, Apr 2012  
 Robert Moore, MS, Physics, GSU, Apr 2012

## ASTRONOMY SERVICE

NASA Earth and Space Science Fellowship (NESSF), proposal reviewer, 2018  
 American Astronomical Society Congressional Visit Day, participant, March 2018  
 NASA Cosmic Origins Program Analysis Group Executive Committee, 2017–present  
 Hubble Space Telescope Financial Review Committee, 2017–present  
 Chair, Local Organizing Committee, AGN STORM 2017 Workshop, GSU, August 2017  
 Hubble Space Telescope Cycle 25, proposal review panel member, June 2017  
 National Science Foundation, proposal review panel member, October 2015  
 Hubble Space Telescope Cycle 22, proposal review panel member, June 2014  
 National Science Foundation, proposal review panel member, November 2013  
 NASA Astrophysics Roadmap Committee Member, 2013  
 Israel Science Foundation, proposal reviewer, April 2013  
 Scientific Organizing Committee, July 2012 DARK Cosmology Center Workshop,  
 Niels Bohr Institute, University of Copenhagen, Denmark  
 Kepler Space Telescope Cycle 4, proposal review panel member, April 2012  
 Estonian Science Foundation Mobilitas Top Researcher Program, proposal reviewer  
 December 2011  
 Hubble Space Telescope Cycle 18, proposal review panel member, May 2010  
 Chandra X-ray Observatory Cycle 11, proposal review panel member, June 2009  
 Scientific Organizing Committee, 5th UC Irvine Center for Cosmology Workshop,  
*Intermediate-Mass Black Holes: from First Light to Galactic Nuclei*, April 2009  
 Referee for *Nature*, *Nature Astronomy*, *ApJ*, *AJ*, *PASP*, *MNRAS*, and *Advances in  
 Astronomy*

## UNIVERSITY SERVICE

Faculty representative for APLU Includes Self-Study Tool assessment team, 2017  
GSU Urban Astronomy Center and Planetarium project co-lead, 2012–2017  
Astronomy Undergraduate Advisor, GSU, 2012–2016  
Society of Physics Students Faculty Advisor, GSU, 2012–2016

## COLLEGE SERVICE

Department representative for Clare Booth Luce Foundation proposal planning, 2016–2017  
Department representative for NSF ADVANCE grant proposal planning, 2015–2017  
Panelist for NSF CAREER Award Seminar, presented by GSU URSA, Feb 2015

## DEPARTMENTAL SERVICE

Representative, Apache Point Observatory User's Committee, GSU, 2018–present  
Physics and Astronomy Academic Program Review, Self-Study Committee, GSU, 2017–2018  
Representative, APO Time Domain Astronomy Working Group, GSU, 2017  
Physics and Astronomy Executive Committee, GSU, 2016–present  
Physics and Astronomy Promotion Committee, GSU, 2016–present  
Astronomy Faculty Hiring Committee (solar/stellar), GSU, 2016–present  
PI, Next Generation Faculty Proposal, GSU, 2015, 2016, 2017  
Physics and Astronomy Faculty Director of Development, GSU, 2015–present  
Physics and Astronomy Department Publicity Committee, GSU, 2013–present  
Summer Student Program in Astronomy organizer, GSU, 2013–2015  
Physics and Astronomy Department Honors Celebration organizer, GSU, 2013–2016  
Chair, Astronomy Faculty Hiring Committee (extragalactic), GSU, 2011–2012  
Astronomy Faculty Hiring Committee (stellar), GSU, 2011–2012  
Physics and Astronomy Department Chair Selection Committee, GSU 2012  
Astronomy 2CI Faculty Hiring Committee, GSU, 2011–present  
Astronomy Graduate Student Candidacy Exam Committee, GSU, 2011–present  
Astronomy Graduate Student Admissions Committee, GSU, 2011–present  
Physics and Astronomy Civility Team (PACT) founding member, GSU, 2012–present  
Dept. of Physics and Astronomy Website Committee, GSU, 2011–2012  
AGN Lunch founder and organizer, GSU, 2010–2012  
Women in Physics Lunch founder and organizer, GSU, 2010–2012  
Astrophysics Seminar co-organizer, U. of CA, Irvine, 2008–2009  
Astrophysics Graduate Seminar organizer, U. of CA, Irvine, 2007–2008

## COMMUNITY SERVICE

Interviewed and quoted extensively for Popular Science, “Does a Black Hole Ever Die?”  
May 2018  
Public lecture, “Science Salon for Puerto Rico”, Atlanta Pod of 500 Women Scientists,  
over \$1000 raised, Apr 2018  
Presenter, “WABE Presents: Ask A Scientist”, Atlanta Science Festival, Mar 2018  
Panel discussion, “STEM Gems”, Atlanta Science Festival, Mar 2018  
Invited public lecture, Atlanta Science Tavern, Jan 2018

“Women in STEM: My Perspective”, lecture and discussion, Young Democrats of Cobb County, Aug 2017  
Live interview with Chesley McNeil, NBC 11 Alive Meteorologist, OutASight Total Solar Eclipse Festival co-hosted by GSU Astronomy, Rabun Gap, GA, Aug 2017  
Interviewed and quoted extensively for Georgia Magazine, “Seeing Stars”, July 2017  
Panel discussion, “Into the Unknown” documentary produced by Northrop Grumman Engineering Corporation about the James Webb Space Telescope, Atlanta Science Festival, Mar 2017  
Introduced Dr. Priyamvada Natarajan and her book, “Mapping the Heavens: The Radical Scientific Ideas that Reveal the Cosmos”, Decatur Book Festival, Sep 2016  
Invited public lecture, Atlanta Astronomy Club, May 2016  
Invited public lecture, Augusta University, Apr 2016  
Co-organizer, Atlanta Science Festival presents Starry Starry Night at Hard Labor Creek Observatory, Mar 2016  
Public lecture co-participant, Ebrik Coffee House, Atlanta, GA, Mar 2016  
Invited public lecture, Charlie Elliott Astronomy Club, May 2014  
Creator and organizer, Astronomy Workshops for Girl Scouts at Georgia State University, partnership with Girl Scouts of Greater Atlanta, 2012–present  
Faculty volunteer, Hard Labor Creek Observatory public observing nights, 2011–present  
Science Olympiad Middle School Regional Competition, faculty volunteer, 2011–2015

## MISCELLANEOUS

75 refereed publications, cited > 4600 times to date,  $h$ -index = 38,  $g$ -index = 67  
18 first-author refereed publications, cited > 1700 times to date,  $h$ -index = 14,  $g$ -index = 18  
9 refereed publications with > 100 citations each (5 as first author, 1 as second author)  
Creator and curator for the *AGN Black Hole Mass Database*, which has had more than 10,000 visitors from 104 countries to date  
Blog post describing “Phynd the Physicist” game written for Women in Astronomy Blog, and republished on Times Higher Education  
Inspired the parody article “Metallica’s James Hetfield Celebrates a PhD in Astrophysics”  
Article describing my research chosen as #3 in the Top 10 GSU Website Stories, 2015  
Private pilot license, single engine, visual flight rules, July 2010  
Composed *Fantasy on AGNs*, a three-part musical piece in four movements from scientific data. As a member of the Orange County Flute Ensemble, co-organized and performed in a multimedia concert at the U. of CA Irvine Observatory in April 2010 that included the world premiere performance of *Fantasy on AGNs*.

*Updated 28 May 2018*