Benjamin D. Boizelle
Assistant Professor

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Department of Physics and Astronomy
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Research Interests

Supermassive black holes • Kinematic properties and modeling of circumnuclear gas disks • Submillimeter/radio astronomy • Active, low-luminosity, and quiescent galaxy nuclei • Dust attenuation • Stellar-dynamical modeling of galaxies • Optical and infrared integral-field spectroscopy • Reverberation mapping • Optical transients • Data calibration techniques

Education

M.S. / Ph.D., Physics & Astronomy — Dec 2014 / Jun 2018
University of California, Irvine (advisor: Aaron Barth)
thesis - Precision Black Hole Mass Measurements in Luminous Early-Type Galaxies

B.S., Physics & Astronomy — Aug 2012
Brigham Young University (advisor: J. Ward Moody)
thesis - Establishing a Multi-year Monitoring Project of Low-luminosity Active Galactic Nuclei

Positions Held

Assistant Professor — 2020 – Present
Brigham Young University

Postdoctoral Research Associate — 2018 – 2020
Texas A&M University (advisor: Jonelle Walsh)

Adjunct Professor — 2015 – 2017
Santa Ana College

Graduate Student Researcher — 2013 – 2018
University of California, Irvine (advisor: Aaron Barth)

Teaching Assistant — 2010 – 2015
Brigham Young University & University of California, Irvine

Teaching Experience

Assistant Professor, Brigham Young University — 2021

Physics 428 *(Galaxies and Cosmology)*

Adjunct Professor, Santa Ana College — 2015 – 2017

Astronomy 109 *(Introduction to the Solar System)* • Astronomy 110 *(Introduction to Stars and Galaxies)*

Teaching Assistant — 2010 – 2015

UCI: Physics 2 *(Introduction to Mathematical Methods for Physics)* • Physics 7C/D *(Classical Physics)* • Physics 7LC *(Classical Physics Laboratory)* • Physics 20A *(Introduction to Astronomy)* • Physics 52C *(Fundamentals of Experimental Physics)* • Physics 139 *(Observational Astrophysics)*

BYU: Physics 127 *(Descriptive Astronomy)* • Physics 140 *(Electronics Lab)* • Physics 329 *(Observational Astronomy)*

Formal Mentoring Experience

Graduate Students:

Jonathan Cohn[1] • Kyle Kristian Muyalde Kabasares[2]	2018 – 2020

Undergraduate Students:

Mayalen Laker[3] • Conner Camacho[3] • Emma Rasmussen • Ben Derieg • Jacob Gehrett • Edison Carlisle • Josh Jones	2020 – Present
Dilan Patel[2]	2017
Thayne McCombs[3] • Marcus Holden[3]	2011 – 2012

assisted in mentoring with [1]Jonelle Walsh, [2]Aaron Barth, and [3]J. Ward Moody

Telescope Proposal Experience

PI of a total of five observing proposals and co-I in the development of an additional twelve.

Awarded telescope time as PI:

3 *HST* Proposals (25 orbits)	2016 – 2019

Awarded telescope time as Co-I:

6 ALMA Proposals (35.5 hrs)	2015 – 2019
2 Keck (OSIRIS) Proposals (2.5 nights)	2014 / 2016
1 *HST* Proposal (6 orbits)	2014

Telescope Operating Experience

Gemini North Observatory, NIFS (6 nights)	2020
Lick Observatory, Kast spectrograph (16 nights)	2013 – 2017
Keck Observatory, OSIRIS (3 nights)	2013 – 2016
ROVOR telescope, 16-inch operator	2011 – 2012
West Mountain Observatory, 12/20/36-inch operator	2011 – 2012

Grants and Awards

HST Cycle 25 GO-15909, PI	\$105,372[1]	2019
HST Cycle 25 GO-15226, PI	\$51,044	2017
HST Cycle 24 GO-14920, PI	\$11,580	2017
University of California Regents Fellowship	\$10,000	2012 – 2013

Select Professional Service and Outreach

Public astronomy talk, College Station, TX	Nov 2019
Organizer, Texas A&M University Astrosymposium	2019 – 2020
Speaker, Texas A&M University REU lecture series	Jun 2019
Telescope Allocation Committee, *HST* Mid-Cycle 25	Apr 2018
Panelist, UCI Cal-Bridge Scholar Workshop	2017 – 2018
Volunteer, UCI Prospective Graduate Student Visits	2013 – 2018
Volunteer, BYU Astrofest	2012
Planetarium show presenter, BYU	2011 – 2012
Telescope operator and host at numerous public and private star parties, especially at Southern CA elementary schools and regularly using BYU's facilities in the Carl F. Eyring Science Building	2011 – 2018

Select Presentations

American Astronomical Society 237th Meeting, virtual	Jan 2021
Physics Colloquium, Brigham Young University – Idaho	Dec 2020
Supermassive Black Holes Conference, Universidad de Concepción, Concepción, Chile	Dec 2020
Physics and Astronomy Seminar, University of Utah, Salt Lake City, UT	Oct 2020
Astronomy Seminar, Texas A&M University, College Station, TX	Aug 2020
Physics Colloquium, Brigham Young University, Provo, UT	Jan 2020
Astronomy Seminar, University of Texas at Austin, Austin, TX	Nov 2019
Frank N. Bash Symposium, University of Texas at Austin, Austin, TX	Oct 2019
Astronomy Seminar, University of Vienna, Vienna, Austria	Oct 2019
ALMA2019: Science Results and Cross-Facility Synergies, Cagliari, Sardinia, Italy	Oct 2019
Astronomy Seminar, University of Vienna, Vienna, Austria	Oct 2019
Radio/Millimeter Astrophysical Frontiers in the Next Decade, Charlottesville, VA	Jun 2019
Astronomy Seminar, Texas A&M University, College Station, TX	Sep 2018
American Astronomical Society 231th Meeting, National Harbor, MD	Jan 2018
ALMA2017: The Origin of Galaxies, Stars, and Planets in the Era of ALMA, Pasadena, CA	Nov 2017
American Astronomical Society 229th Meeting, Grapevine, TX	Jan 2017
Half a Decade of ALMA: Cosmic Dawns Transformed, Indian Wells, CA	Sep 2016
Keck Science Meeting, Pasadena, CA	Oct 2014
American Astronomical Society 219th Meeting, Austin, TX	Jan 2012

Publications

Six papers (three first-author) in peer-reviewed journals and one conference paper.

7. *Black Hole Mass Measurements of Radio Galaxies NGC 315 and NGC 4261 Using ALMA CO Observations.* **B. D. Boizelle**, J. Walsh., A. J. Barth, D. A. Buote, A. J. Baker, J. Darling, L. C. Ho, J. Cohn, K. M. Kabasares 2017, The Astrophysical Journal, in press

6. *A Precision Measurement of the Mass of the Black Hole in NGC 3258 from High-Resolution ALMA Observations of its Circumnuclear Disk.* **B. D. Boizelle**, A. J. Barth, J. L. Walsh, D. A. Buote, A. J. Baker, J. Darling, L. C. Ho. 2019, ApJ, 881, 10
   Press coverage: *ALMA Dives Into Black Hole's 'Sphere of Influence'*, 2019, NRAO, https://public.nrao.edu/news/2019-alma-soi/

5. *Precision Gas-dynamical Mass Measurement of Supermassive Black Holes with the ngVLA.* **B. D. Boizelle**, K. Nyland, T. A. Davis. 2018, Science with a Next Generation Very Large Array, ASP Conference Series, 517

4. *ALMA Observations of Circumnuclear Disks in Early Type Galaxies: 12CO(2-1) and Continuum Properties.* **B. D. Boizelle**, A. J. Barth, J. Darling, A. J. Baker, D. A. Buote, L. C. Ho, J. Walsh. 2017, The Astrophysical Journal, 845, 170

3. *Measurement of the Black Hole Mass in NGC 1332 from ALMA Observations at 0.044 Arcsecond Resolution.* A. J. Barth, **B. D. Boizelle**, J. Darling, A. J. Baker, D. A. Buote, L. C. Ho, J. L. Walsh. 2016, The Astrophysical Journal Letters, 822:L28
   Press coverage: *ALMA Measures Mass of Black Hole with Extreme Precision*, 2016, NRAO, https://public.nrao.edu/news/2016-gr-domain-smbh/

2. *Toward Precision Black Hole Masses with ALMA: NGC 1332 as a Case Study in Molecular Disk Dynamics.* A. J. Barth, J. Darling, A. J. Baker, **B. D. Boizelle**, D. A. Buote, L. C. Ho, J. L. Walsh. 2016, The Astrophysical Journal, 823, 51

1. *Remote Observatory for Variable Object Research (ROVOR).* J. W. Moody, **B. D. Boizelle**, K. Bates, B. Little, T. McCombs, J. Nelson, C. Pace, R. L. Pearson, J. Harrison, P. J. Brown, J. Barnes. 2012, Publications of the Astronomical Society of the Pacific, 124, 956