Joanna S. Bridge

Email: joanna.bridge@louisville.edu
GitHub: https://github.com/jsbridge
Website: http://www.joannabridge.com
Cell: (XXX) XXX-4468

University of Louisville
Department of Physics and Astronomy
102 Natural Sciences Building
Louisville, Kentucky

Current Positions

Postdoctoral Researcher, University of Louisville
Advisor: Benne W. Holwerda

Content Manager, AstroBetter.com

Education

Ph.D., Pennsylvania State University (PSU) 2017
Astronomy & Astrophysics
Advisor: Caryl Gronwall

M.Sc., Pennsylvania State University 2014
Astronomy & Astrophysics
Advisor: Caryl Gronwall

B.Sc., University of Illinois at Urbana Champaign (UIUC) 2011
Engineering Physics
Minors: Astronomy, Classical Civilizations
Graduated with High Honors

Research

Graduate Research Assistant
- Used *Hubble Space Telescope* grism spectra to study very high-redshift Lyman-α emitting galaxies 2016-2017

NSF Graduate Research Opportunities Worldwide Fellow, Sweden 2015-2016
- Used the Lyman-α Reference Sample (LARS) to examine Lyman-α surface brightness and morphology in nearby star-forming galaxies

NSF Graduate Research Fellow 2011-2015
- Examined *Hubble Space Telescope* grism spectra to study properties of star-forming galaxies via their emission lines at cosmic noon
- Used the Hobby-Eberly Telescope Dark Energy Experiment (HETDEX) pilot survey data to study physical and morphological characteristics of [OII]-emitting galaxies with redshifts

Undergraduate NSF REU Research Assistant 2010
- Montana State University Solar Physics NSF REU program

Undergraduate Research Assistant 2009
- Worked with Prof. Leslie Looney, Astronomy Department, UIUC
- Analyzed absorption spectra of massive young stellar objects in the Large Magellanic Cloud

Awards/ Honors

American Astronomical Society International Travel Grant	2016, 2018
Zaccheus Daniel Foundation for Astronomical Science Grant, PSU	2016
NSF Graduate Research Opportunities Worldwide Fellowship, Sweden	2015-2016
NASA Pennsylvania Space Grant Consortium Graduate Research Fellowship	2014-2016
Stephen Brumbach Fellowship in Astrophysics, PSU	2013
National Science Foundation Graduate Research Fellowship	2011-2014
Excellent Teaching Assistant Ranking, Dept. of Physics, UIUC	2011
Layla S. Ryan Scholarship, Department of Astronomy, UIUC	2011
Kirkwood Women-in-Engineering Scholarship, UIUC	2010
Laura B. Eisenstein Award, Department of Physics, UIUC	2010
Illinois Promise Scholarship, UIUC	2008

Proposals

Co-I, "Nebular Line Emission and Stellar Mass of Bright z~8 Galaxies Super-Eights," *Spitzer Space Telescope* Cycle 14, ID 14049 (PI Benne W. Holwerda)

PI, "A Search for Lyman-Alpha Emission in the SuperEights: Rare, Bright Galaxies at z ~ 8," Keck/MOSFIRE, PID 68/2018A_N101 ($13,750)

PI, "Spatially Resolved Emission Line Ratios for Nuclear AGN Selection," *Hubble Space Telescope* Cycle 25 Archival Proposal, ID 15008 ($125,000)

PI, "Spatially Resolving the Fossil Record of Black Hole Seeds with PABST," Hobby Eberly Telescope

Co-I, "Lyman-Alpha Blob Observing with VIRUS-P," McDonald Observatory 2.7-m (PI Alex Hagen)

Academic Service

Referee: Astrophysical Journal

Continuing Education

Machine Learning, Coursera Online Course	2016
Introduction to Big Data, Coursera Online Course, Big Data Specialty	2016
R Programming, Coursera Online Course, Data Science Specialty	2016
Lyman-alpha as an astrophysical and cosmological tool, 46th Saas-Fee Advanced Course, Swiss Society for Astrophysics and Astronomy	2016
Summer School in Statistics for Astronomers IX, PSU	2013

Technical Skills

Fluent: Python, IDL, LaTeX, Unix
Familiar: R, MATLAB

Synergistic Activities

Member of the organizing committee of the ComSciCon Workshop at the AIP, Fall 2019	2018-2019
Member of the organizing committee of the ComSciCon Workshop at the AAS Summer Meeting, 2019	2018-2019
Mentored undergraduate women in STEM through the Physics and Astronomy for Women (PAW) organization at PSU	2016-2017
Contributed to astrobites.org by authoring and editing daily articles of current papers for a wide public audience, Hiring Committee chair	2015-present

	Participated in American Astronomical Society's Congressional Visits Day, speaking with congresspeople to support STEM funding	2015
	Wrote the scripts for and presented planetarium shows and 3D Universe shows at PSU for high school classes and general public	2014-2015
	Initiated and administered the Extragalactic/Cosmology Journal Club for the PSU Department of Astronomy & Astrophysics	2014-2015
	Engaged in public outreach by running demonstrations during the PSU Department of Astronomy & Astrophysics annual 4-day AstroFest events	2012-2017
	Served as Vice President and Treasurer of UIUC Society for Women in Physics	2009-2011
	Assisted in organizing the Second Annual Midwest Conference for Women in Undergraduate Physics at UIUC for over 150 participants from around the country	2009
	Structured seminars on graduate school and careers in physics for all physics undergraduates through the Society for Women in Physics at UIUC	2008-2011

Advising

Becky Steele (co-advised), University of Louisville graduate student, "Gravitationally-lensed galaxy pairs in the GAMA survey"	2018
Samir Kusmic (co-advised), University of Louisville undergraduate student, "Morphology of very luminous galaxies at z ~ 8"	2018

Teaching Experience

Instructor, ASTRO 11 (Elementary Astronomy Lab)	2014-2015
Teaching Assistant, ASTRO 440 (Introduction to Astrophysics)	2015
Teaching Assistant, Astro 001 (Astronomical Universe)	2014
Teaching Assistant, PHYS 211 (Mechanics)	2011

Talks/ Posters

"*The Super Eight Galaxies: Properties of a Sample of Very Bright Galaxies at 7 < z < 9.5*," Escape of Lyman radiation from galactic labyrinths Conference, Kolymbari, Crete, September 2018

"*The Super Eight Galaxies: Properties of a Sample of Very Bright Galaxies at 7 < z < 9.5*," Lunch Seminar Series, Pennsylvania State University, September 2018

"*The Super Eight Galaxies: Rare, Bright Galaxies at z ~ 8*," SakuraCLAW Meeting, Poster Session, Tokyo, Japan, March 2018

"*Characterizing Lyman-Alpha Scattering in Nearby Galaxies,"* University of Louisville Department of Physics and Astronomy Colloquium, September 2017

"*Characterizing Lyman-Alpha Scattering in Nearby Galaxies,"* SnowCLAW Meeting, Snowbird, Utah, March 2017

"*Characterizing Lyman-Alpha Scattering in Nearby Galaxies,"* Dissertation Talk, American Astronomical Society Winter Meeting, January 2017

"*Characterizing Lyman-Alpha Scattering in Nearby Galaxies,"* Galaxy Journal Club,

Space Telescope Science Institute, 2016

"*Characterizing Lyman-Alpha Scattering in Nearby Galaxies,"* Lunch Seminar Series, Pennsylvania State University, 2016

"*What Can Spatially-Resolved Emission Line Gradients Tell Us about High Redshift Galaxies?*," Neighborhood Workshop on Astrophysics and Cosmology, Center for Theoretical and Observational Cosmology, Pennsylvania State University, 2015

"*Properties of [O II]-Emitting Galaxies in the HETDEX Pilot Survey*," Inaugural Mid-Atlantic American Physical Society Meeting, The Pennsylvania State University, 2014

"*The Hobby Eberly Dark Energy Experiment*," Pennsylvania State In-service Workshops in Astronomy, Pennsylvania State University, 2014

"*HETDEX Pilot Survey [O II]-Emitting Galaxies: Morphologies and More*," Neighborhood Workshop on Astrophysics and Cosmology, Center for Theoretical and Observational Cosmology, Pennsylvania State University, 2014

"*Properties of [O II]-Emitting Galaxies in the HETDEX Pilot Survey*," American Astronomical Society Winter Meeting, Poster Session, 2014

"[*O II] Emission-Line Galaxies from the HETDEX Pilot Survey*," Lyman-Alpha Summit, Pennsylvania State University, 2013

"*Physical and Morphological Properties of [O II] Emitting Galaxies in the HETDEX Pilot Survey*," Neighborhood Workshop on Astrophysics and Cosmology, Center for Theoretical and Observational Cosmology, Pennsylvania State University, 2013

"*Tracking Magnetic Active Regions on the Solar Photosphere*," 4th Annual Midwest Conference for Undergraduate Women in Physics Poster Session, Purdue University, 2011

"*Movement and Evolution of Magnetic Fields on the Solar Photosphere*," University of Illinois Undergraduate Research Symposium, 2011

"*Tracking Magnetic Active Regions on the Solar Photosphere*," University of Illinois Undergraduate Poster Session, 2010

"*A Comparison Between Magnetic Charge Topology and Local Correlation Tracking of Solar Active Regions*," Montana State University REU Research Talks, 2010

Publications **First Author: 4, Total: 19**

"The Sizes of z ~ 9 – 10 galaxies identified in the BoRG survey," Holwerda, B. W., **Bridge, J. S.** et al. 2018, submitted to ApJ

"The Super Eights: Properties of Very Bright Galaxies at z ~ 8," **Bridge, J. S.**, Holwerda, B. W., Stefanon, M. et al. 2018, submitted to ApJ

"The bright-end galaxy candidates at z ~ 9 from 79 independent HST fields," Morishita, T. et al. (including **Bridge, J. S.**) 2018, accepted to ApJ, arXiv:1809.07604

"CLEAR I: Ages and Metallicities of Quiescent Galaxies at 1.0 < z < 1.8 derived from deep Hubble Space Telescope Grism Data," Estrada-Carpenter, V. et al. (including **Bridge, J. S.**) 2018, submitted to ApJ, arXiv:1810.02824

"Substellar and low-mass dwarf identification with near-infrared imaging space observatories," Holwerda, B. W., **Bridge, J. S.**, Ryan, R. et al. 2018, accepted to A&A, arXiv:1805.00997

"*The Lyman Alpha Reference Sample IX: Revelations from deep surface photometry,*" Micheva, G. et al. (including **Bridge, J. S.**) 2018, A&A, **615**, 46

"*The Lyman-Alpha Reference Sample VIII: Characterizing Lyman-Alpha Scattering in Nearby Galaxies*," **Bridge, J. S.**, Hayes, M., Melinder, J. et al. 2018, ApJ, **852**, 9

"*The Rest-Frame Optical Morphology of Emission Line Galaxies at 2 < z < 3: Evidence for Inside-Out Galaxy Formation in Low-Mass Galaxies*," Hagen, A. et al. (including **Bridge, J. S.**) 2016, submitted to MNRAS, arXiv: 1610.01163

"*Bayesian Redshift Classification of Emission-Line Galaxies with Photometric Equivalent Widths*," Leung, A. S. et al. (including **Bridge, J. S.**) 2017, ApJ, **843**, 130

"*Disentangling AGN and Star Formation Activity at High Redshift Using Hubble Space Telescope Grism Spectroscopy*," **Bridge, J. S.**, Zeimann, G. R., Trump, J. R. et al. 2016, ApJ, **826**, 2

"*Young, Star-forming Galaxies and their Local Counterparts: the Evolving Relationship of Mass-SFR-Metallicity since z ~ 2.1*," Grasshorn Gebhardt, H. S. et al. (including **Bridge, J. S.**) 2016, ApJ, **817**, 10

"*HST Emission Line Galaxies at z ~ 2: Comparing Physical Properties of Lyman Alpha and Optical Emission Line Selected Galaxies*," Hagen, A. et al. (including **Bridge, J. S.**) 2016, ApJ, **817**, 1

"*The Dust Attenuation Curve versus Stellar Mass for Emission Line Galaxies at z ~ 2*," Zeimann, G. R., Ciardullo, R., Gronwall, C., **Bridge, J. S.** et al. 2015, ApJ, **814**, 2

"*The Biases of Optical Line-Ratio Selection for Active Galactic Nuclei, and the Intrinsic Relationship Between Black Hole Accretion and Galaxy Star Formation,*" Trump, J. R., Sun, M., Zeimann, G. R., Luck, C., **Bridge, J. S.** et al. 2015, ApJ, **811**, 26

"*Physical and Morphological Properties of [O II] Emitting Galaxies in the HETDEX Pilot Survey*," **Bridge J. S.**, Gronwall, C., Ciardullo, R., et al. 2015, ApJ, **799**, 205

"*Hubble Space Telescope Emission Line Galaxies at z ~ 2: The Mystery of Neon*," Zeimann G. et al. (including **Bridge, J. S.**) 2015, ApJ, **798**, 29

"*The HETDEX Pilot Survey V: The Physical Origin of Lya Emitters Probed by Near-infrared Spectroscopy*," Song, M. et al. (including **Bridge, J. S.**) 2014, ApJ, **791**, 3

"*3D-HST Emission Line Galaxies at z ~ 2: Discrepancies in the Optical/UV Star Formation Rates*," Zeimann, G. et al. (including **Bridge, J. S.**) 2014, ApJ, **790**, 113

"*Spectral Energy Distribution Fitting of HETDEX Pilot Survey Lya Emitters in COSMOS and GOODS-N*," Hagen, A., Ciardullo, R., Gronwall, C., Acquaviva, A., **Bridge, J. S.** et al. 2014, ApJ, **786**, 59