

ANTONIO J. PORRAS

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EDUCATION

Vanderbilt University

Dept. of Physics and Astronomy. Doctor of Philosophy in Astrophysics

August 2018 - present

Nashville, TN

- Advisors: Dr. Andreas Berlind and Kelly Holley-Bockelmann
- Expected to graduate in 2023

Fisk University

Dept. of Life and Physical Sciences. Master of Arts in Physics

August 2016 - August 2018

Nashville, TN

- Advisors: Dr. Andreas Berlind and Kelly Holley-Bockelmann

University of North Carolina

Dept. of Mathematics. Bachelor of Arts in Mathematics

August 2012 - May 2015

Chapel Hill, NC

- Member of National Society of Collegiate Scholars

RESEARCH EXPERIENCE

Vanderbilt University

Research Assistant

August 2016 - Present

Nashville, TN

- Research assistant under the direction of Dr. Kelly Holley-Bockelmann and Andreas Berlind. Use semi-analytic models to understand what drives the morphology of galaxies

National Radio Astronomy Observatory

Research assistant

Summer 2015 and 2016

- Summer 2015: NSF-REU Fellow. Research assistant under the direction of Dr. Sarah Burke-Spolaor. Performed radio imaging using data from the Very Long Baseline Array (VLBA) to find evidence of binary black holes
- Summer 2016: NSF-REU Fellow. Research assistant under the direction of Dr. Aaron Evans. Investigated galaxy NGC 6240 to understand extreme star forming environments in space

University of North Carolina, Chapel Hill

Research assistant

August 2013 - May 2015

Chapel Hill, NC

- Applied mathematics research assistant under the direction of Dr. Laura Miller. Developed fluid dynamical simulations to investigate the role of flexibility in jellyfish propulsion

University of Toledo

Research assistant

May 2012 - August 2012

Toledo, OH

- NSF-REU Fellow. Research assistant under the direction of Dr. Steven Federman. Analyzed spectral data to understand OH and OH⁺ production in diffuse molecular clouds

AWARDS

American Physical Society

August 2018

- Travel award for Excellence in Graduate Research

Vanderbilt University

Summer 2018

- McMinn Summer Research Award

National Science Foundation Graduate Research Fellowship Program

April 2016

- Honorable Mention

PUBLICATIONS

Antonio J. Porras, Kelly Holley-Bockelmann, and Andreas Berlind. The role of spin and environment in shaping galaxy morphology. *In prep*

Alexander P. Hoover, **Antonio J. Porras**, and Laura A. Miller. Pump or coast: The role of resonance and passive energy recapture in medusan swimming performance. 2019. *Journal of Fluid Mechanics*, 863, 1031-1061. doi:10.1017/jfm.2018.1007

Antonio J. Porras, Aaron Evans, Loreto Barcos-Muoz, Sean Linden. High Resolution 33 GHz Observations of Embedded Star Formation in NGC 6240. 2017. American Astronomical Society Meeting 229.

Antonio J. Porras, Sarah Burke-Spolaor, et al. CSS Object Found in Galaxy Merger 1015+364 at 2.3 and 8.5 Hz. 2016. American Astronomical Society Meeting 227.

A. J. Porras, S. R. Federman, D. E. Welty, and A. M. Ritchey. OH⁺ in Diffuse Molecular Clouds. 2014. *ApJ*, 781, L8. doi:10.1088/2041-8205/781/1/18

SELECTED CONFERENCES

Universitat Wien

August 2018

- 30th International Astronomical Union General Assembly. Poster, “Role of Halo Spin and Environment in Shaping Galaxy Morphology”

American Astronomical Society

- 233th Meeting in January 2019. Talk, “Dissecting the Anatomy of Bulge and Disk Dominated Galaxies through DARK SAGE.”
- 229th Meeting in January 2017. Poster, “High Resolution 33 GHz Observations of Embedded Star Formation in NGC 6240”
- 227th Meeting in January 2016. Poster, “Observing Recently Merged Galaxy 1015+364 at 2.3 and 8.5 GHz”

OUTREACH

Astrobitos Collaboration

December 2018 - present

- Author: Summarize scientific astronomy manuscripts for undergraduate-level students.

Costa Rica - U.S. Bridge Project

June 2016 - present

- Mentor Undergraduates: hold monthly web workshops for undergraduate students from Centroamerica to expand information about astronomy, research opportunities, professional development, and programming.