Alex Bixel

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University of Arizona
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Education

University of Arizona — Tucson, AZ
PhD, Astronomy & Astrophysics (in progress) — 2016 - present
– Advisor: Dániel Apai

University of Arizona — Tucson, AZ
MSc, Astronomy & Astrophysics — 2016 - 2018

University of Virginia — Charlottesville, VA
BA, Astronomy & Physics — 2012 - 2016
– Thesis title: "The Multi-wavelength Search for Active Galactic Nuclei in Low-mass Galaxies"

Publications & Presentations

Publications

First author

1. "ACCESS: Ground-based Optical Transmission Spectroscopy of the Hot Jupiter WASP-4b"
Bixel, A., Rackham, B. V., Apai, D., et al. 2019, AJ, 157, 68
2. "Probabilistic Constraints on the Mass and Composition of Proxima b"
Bixel, A. & Apai, D. 2017, ApJ, 836, L31

Contributor

1. "ACCESS: a featureless optical transmission spectrum for WASP-4b from Magellan/IMACS"
Espinoza, N., Rackham, B. V., ... **Bixel, A.**, et al. 2019, MNRAS, 482, 2065
2. "The RINGS Survey. III. Medium-resolution Hα Fabry-Pérot Kinematic Data Set"
Mitchell, C., Sellwood, J., ... & **Bixel, A.** 2018, AJ, 155, 123

Poster Presentations

1. "Probabilistic Assessment of Planet Habitability and Biosignatures" — Habitable Worlds
Bixel, A. & Apai, D. — November 2017
2. "Measuring the Dark Matter Content of Galaxies with SALT" — 227th AAS Meeting
Bixel, A., Sellwood, J., & Mitchell, C. — January 2016

Contributed Talks (abbreviated)

1. "Probabilistic Constraints on the Mass and Composition of Proxima b" — AbSciCon
Bixel, A. & Apai, D. — April 2017
2. "Nautilus Deep Space Observatory: A Giant Segmented Space Telescope Array for a Galactic Biosignature Survey" — DSG Science Workshop
Apai, D., Milster, T.D., ... & **Bixel, A.**, et al. — February 2018

Grants & Awards

NASA Earth and Space Sciences Fellowship 2017
Phi Beta Kappa 2015
Intermediate Honors, University of Virginia 2014
Dean's List, University of Virginia . . . . . 2012 - 2014

Research Experience

University of Arizona Tucson, AZ
NASA Earth and Space Sciences Fellow September 2017 - present

- Developing a Bayesian framework for the identification of habitable planets & biosignatures in imaging data

University of Arizona Tucson, AZ
Graduate Research Assistant June 2016 - present

- Searching for transiting Earth-sized planets around dwarf stars using multiple 1-2m class telescopes
- Developing the science case for using a very large aperture telescope array to search for biosignatures
- Searching for transiting extra-solar moons in the TRAPPIST-1 planetary system with LBT/LUCI
- Used exoplanet statistics & empirical relationships to constrain the probable mass and composition of Proxima Centauri b
- Studied the atmosphere of the hot Jupiter WASP-4b through transit spectroscopy

University of Virginia Charlottesville, VA
Undergraduate Thesis Research September 2015 - May 2016

- Analyzed archival data from x-ray, radio, infrared, and optical telescopes to search for AGN activity in dwarf galaxies

Rutgers University New Brunswick, NJ
REU Research Assistant June 2015 - August 2015

- Used Fabry-Perót interferometric data to map the velocity of galaxies & model their rotation

University of Virginia Charlottesville, VA
Undergraduate Research June 2014 - December 2014

- Searched for planets using transit timing variations (TTVs) in *Kepler* data