Alex Bixel

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LinkedIn Publications Website GitHub

Overview

Astronomer with 5+ years' experience in research with a primary focus on next-generation space observatories designed to characterize habitable extrasolar planets. Selected accomplishments:

- Pioneered target optimization strategies for future direct imaging surveys of habitable exoplanets which could save over a month of observing time ($100M+ added value for a $15B mission).
- Leading the first astronomical demonstration of a new type of lens to be used in future ultra-light, ultra-large space telescopes.
- Developed a complex statistical simulation to determine the technical requirements for next-generation space telescopes to study the evolution of habitable planets.
- Team lead for a class project to develop a New Frontiers orbital mission to study the plumes and sub-surface ocean of Enceladus.

Education

2018 – now ♦ **Ph.D. Astronomy & Astrophysics** at the University of Arizona.
- Expected completion date: *May 2021*
- Dissertation: *Statistical Strategies for Characterizing Habitable Exoplanets*

2016 – 2018 ♦ **M.S. Astronomy & Astrophysics** at the University of Arizona.

2012 – 2016 ♦ **B.A. Astronomy-Physics** at the University of Virginia.
- Graduated with highest distinction.

Skills

Communication ♦ Published 5 first-author and 6 co-authored papers, along with 10+ presentations at scientific conferences and seminars. For a complete list, click here.

Research ♦ Experienced in simulating and optimizing the performance of space telescopes, as well as conceiving and proposing for NASA-funded projects and missions. Skilled in operating astronomical observatories and detectors.

Data analysis ♦ Experienced in analyzing imaging, spectroscopic, and time series data, as well as implementing Bayesian and machine learning analysis methods.

Programming ♦ Proficient in Python, experienced with UNIX, and familiar with C++ and LaTeX.

Awards

2021 ♦ **Graduate Scholarship Award**, Astronomy Department nominee, University of Arizona.

2017-2020 ♦ **NASA Earth and Space Sciences Fellowship**, awarded to optimize the ability of next-generation space observatories to study habitable extrasolar planets.

2016 ♦ **D. Nelson Limber Award** for excellence in astronomy, University of Virginia.

2015 ♦ **Phi Beta Kappa**, University of Virginia chapter member.