

Jay Baptista

(he/him/his)

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EDUCATION

Yale University, New Haven, CT — B.S. Astrophysics, 2023 (Expected)

Lahainaluna High School, Lahaina, HI — 2019, Valedictorian, 4.1 GPA, Academic Honors

RESEARCH EXPERIENCE

Orientations of Dark Matter Haloes in Latte Galaxies (2021)

Robyn Sanderson (Univ. of Pennsylvania); Dan Huber (Institute for Astronomy, Univ. of Hawai'i at Mānoa)

I analyzed and presented the evolution of simulated dark matter halo symmetry axes in Milky Way-mass galaxies. I found significant twisting of the outer halo relative to the inner halo. These findings challenge notions of current dark matter potential models that assume the halo is aligned to the stellar disk at large galactic radii (Baptista et al., in prep).

Membership Probabilities of Ultra-faint Dwarf Galaxies (2020)

Marla Geha (STARS Summer, Yale University)

I analyzed the efficacy of different stellar selection methods in determining membership probabilities of extragalactic satellite galaxies. Using data from the Deep Extragalactic Multi-Object Spectrograph (DEIMOS), I performed mass analyses on ultra-faint dwarf galaxies such as Boötes 1 using different stellar selection techniques.

WORK EXPERIENCE

Undergraduate Learning Assistant — ASTR 160 (2021)

Assess and support students in their understanding of introductory astronomy materials (orbital mechanics, rocket science, exoplanets, and black holes). Collaborated with instructors to develop a curriculum that helps build scientific intuitions for humanities and non-physical science majors.

Sterling Memorial Library Service Assistant (2019-2020)

Categorize University media (e.g. books, films, microfilms) using the Library of Congress organization system, re-shelve books, and discharging books to student holds, library returns, and inter-library sorting. Trained in accuracy checking, filing, and shelf-reading.

SKILLS

Programming Languages: Python, Java, C#, JavaScript

Technical Skills: Unix, LaTeX, emcee, astropy, Gizmo Analysis, Rockstar/Halo Analysis, matplotlib, pandas

AWARDS

- **Yale Science Technology and Research Scholar** (Summer, 2020)
- **Institute for Astronomy REU, University of Hawai'i** (Summer, 2021)