

# TENLEY HUTCHINSON-SMITH

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## Education

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**University of California, Santa Cruz**  
Department of Astronomy and Astrophysics  
Ph.D. Candidate

**June 2019 - present**

**Spelman College**  
Bachelor's of Science; Physics

**September 2015 - May 2019**

## Selected Publications

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"Rethinking Thorne-Żytkow Object Formation: The Fate of X-ray Binary LMC X-4 and Implications for Ultra-long Gamma-ray Bursts" **Hutchinson-Smith, T.**, Everson, R.W., et al. 2023, Submitted to The Astrophysical Journal

"Rethinking Thorne-Żytkow Object Formation: Assembly via Common Envelope in Field Binaries" Everson, R.W., **Hutchinson-Smith, T.**, et al. 2023, Submitted to The Astrophysical Journal

"Galaxy Zoo: Bar Lengths and Properties of Barred Disc Galaxies in HST Legacy Surveys" **Hutchinson-Smith, T.**, Simmons, B.D., et al. (in prep)

## Research Experience

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**Graduate Student Researcher**  
**University of California, Santa Cruz**

**June 2019 - present**

Building models to understand X-ray binary evolution, including the formation of Thorne-Żytkow Objects from their X-ray binary progenitors. Also modeling supermassive black hole populations to understand their impact on the gravitational wave background.

**Intern - Smithsonian Astrophysical Observatory (SAO) REU**  
**Harvard Smithsonian Center for Astrophysics**

**June 2018 - August 2018**

Investigated the light curves of X-ray binary systems to search for evidence of passing planets and X-ray flares. Used 19 years of archived data from the Chandra X-ray Observatory.

**Intern - The Banneker and Aztlan Institutes**  
**Harvard Smithsonian Center for Astrophysics**

**June 2017 - August 2017**

Calculated extinction and optical depths from galactic centers in the Illustris Simulation to know what fraction of light we can observe from active galactic nuclei. Used simulation data.

**Intern - Summer Training Academy for Research Experience (STARS)**      **June 2016 - August 2016**  
**University of California, San Diego**  
Investigated galactic bars and bar lengths in the early universe using Galaxy Zoo and Hubble Space Telescope data.

### **Invited Talks**

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**Physics & Astronomy Colloquium Series**      **March 18th, 2024**  
**San Francisco State University**  
“Challenging the Standard Paradigm of Thorne-Żytkow Object Formation”

### **Selected Conference Presentations**

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**HEAD 21 Meeting**      **April 12th, 2024**  
Stellar/Compact IV Oral Session  
“Challenging the Standard Paradigm of Thorne-Żytkow Object Formation”

### **Selected Awards and Honors**

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**UC-HBCU Initiative Fellowship**      **September 2019 - September 2024**

**AAS Chambliss Winner**      **January, 2019**

**Selected participant in FUTURE of Physics program at Caltech**      **2018**

**Spelman College Women in Science and Engineering Undergraduate Program (WiSE UP) Scholarship**      **2018**

**Spelman College Women in Science and Engineering Undergraduate Program (WiSE UP) Scholarship**      **2017**