

# CURRICULUM VITAE

## KE SHAWN IVORY

### EDUCATION

- Vanderbilt University, Nashville, TN Anticipated: 2026  
**PhD in Astrophysics**
- Fisk University, Nashville, TN August 2021  
**M.S. in Physics**
- Rice University, Houston TX December 2018  
**B.A. in Astronomy and French Studies**

### RESEARCH EXPERIENCE

- **National Science Foundation Research Experience for Undergraduates**  
Texas Christian University, Fort Worth, TX  
Advisor: Professor Kat Barger May 2016 – August 2016
  - Examined gaseous behavior in nearby galaxies to trace ionizing radiation using the Interactive Data Language and wrote up the results informally using LaTeX.
- **Banneker and Aztlán Institutes Summer Internship**  
Harvard-Smithsonian Center for Astrophysics, Cambridge, MA  
Advisor: Professor Charlie Conroy June 2017 – August 2017
  - Explored the methodology of a Python data pipeline designed to obtain stellar parameters from spectra and spectral energy distributions in the context of Markov Chain Monte Carlo processes and Bayesian statistics.
  - Read social justice-related content and attended social justice discussions in order to consider ways to diversify and decolonize astronomy and all of science and academia.
- **Graduate Research Assistant**  
Fisk-Vanderbilt Masters to PhD Bridge Program, Nashville, TN August 2019 - June 2021  
Advisor: Dr. Andreas Berlind
  - Developed a probabilistic algorithm to determine dark matter halo mass and galaxy group membership.
- **Graduate Research Assistant**  
Department of Physics and Astronomy, Vanderbilt University, Nashville, TN August 2021 -  
Advisors: Professor Kelly Holley-Bockelmann and Professor Jonathan Bird
  - Further developing the aforementioned probabilistic algorithm to be tested on observational data and publicly released.

### PRACTICAL EXPERIENCE

- Rice University, Houston, TX August 2016 - May 2018  
**Undergraduate Teaching Assistant**- “Stars, Galaxies & the Universe”
  - Graded weekly problem sets as well as a science-writing analysis assignment.
  - Led a weekly office hour and also met with students upon request.
- Vanderbilt University, Nashville, TN Spring 2022/Spring 2023  
**Graduate Teaching Assistant** - “Introductory Astronomy Lab”
  - Taught a class of 15-20 non-major undergraduates basic astronomy concepts and data collection.
  - Used rooftop observation deck for observing with telescopes throughout the semester.
- Rose Park Middle School, Nashville, TN Fall 2023/Spring 2024  
**Teaching Fellow** - Scientist in the Classroom Partnership Program
  - Led a science lab activity for ~120 7th grade students once per week.
- Vanderbilt University, Nashville, TN Summer 2024  
**Vanderbilt Summer Academy Instructor** - “Exploration of Dark Matter”

- Developed and taught a week long interdisciplinary course about dark matter astrophysics to a total of 35 high school juniors and seniors.
- Sudekum Planetarium at Adventure Science Center, Nashville, TN Fall 2024/Spring 2025  
**Intern** - funded by McMinn Research Award
  - Updating educator guides for current planetarium shows.
  - Working toward developing short form content for the planetarium dome using Digistar 7.

## HONORS AND AWARDS

Annie Maunder Medal for Outreach (awarded to Black In Astro), Royal Astronomical Society 2023  
 Akunuri V. Ramayya Teaching Assistant Award, Vanderbilt University Department of Physics and Astronomy 2023  
 McMinn Research Award, Vanderbilt University Department of Physics and Astronomy 2024

## CONFERENCES, TALKS, AND PANELS

- Texas Astronomy Undergraduate Research Symposium** September 2016  
 Baylor University in Waco, TX
  - “Examining Gaseous Behavior of Galaxies and Their Environments” talk given at this conference.
- Rice Undergraduate Research Symposium** April 2017  
 Rice University in Houston, TX
  - “Examining Gaseous Behavior of Galaxies and Their Environments” talk given at this conference.
- Texas Astronomy Undergraduate Research Symposium** October 2017  
 Rice University in Houston, TX
  - “Optimizing Methods of Obtaining Stellar Parameters for the H3 Survey” talk given at this conference.
- 233<sup>rd</sup> meeting of the American Astronomical Society** January 2019  
 Seattle, WA
  - Invited panelist on the “Know Your Power” panel about marginalized populations in astronomy.
- University Research Magazine Association Conference** July 2020  
 Remote
  - Invited panelist on the “#BlackInTheIvory” panel about Black experiences in STEM academia.
- Inclusion, Diversity and Equity in Astronomy Week at UChicago** August 2020  
 Remote
  - Invited panelist on the “Activism As a Junior Black Scientist” panel about pursuing activism at an early career stage.
- ComSciCon Flagship Workshop** July 2024  
 Boston, MA
  - Selected based on application for this national science communication conference.

## COMMITTEES AND ORGANIZATIONS

- Remote March 2018 -  
**Site Visit Oversight Committee Member**- American Astronomical Society
  - Attends biweekly teleconferences at which documentation and protocol are discussed for AAS sponsored site visits for the purpose of evaluating departmental climate with regard to marginalized groups.
- Remote July 2020 -  
**Committee on the Status of Minorities Member** - American Astronomical Society
  - Attends bi-monthly meetings, as well as maintaining presence at scientific conferences on behalf of the CSMA.
- Remote June 2021 -  
**Events Director** - Black In Astro
  - Coordinates online meetings and webinars particularly during Black Space Week

- Attends regular meetings of the Black In Astro executive board year round for the purpose of uniting the Black community across space-related fields.

## **PUBLIC OUTREACH**

- Vanderbilt University, Nashville, TN October 2019 - February 2020
  - Assisted Dr. Erika Grundstrom in the operation of the Fisk-Vanderbilt Traveling Planetarium delivering shows to Metro Nashville elementary school students
- Metro Nashville Public Schools, Nashville, TN May 2020 - June 2020
  - Scripted and presented video content guiding Metro Nashville Public Schools students through an astronomy citizen science project as part of an online course called “Beyond The Solar System”
- Adventure Science Center, Nashville, TN June 2022 -August 2022
  - Conceptualized, scripted, and presented a planetarium show for an adults-only Star Trek theme night at Sudekum Planetarium

## **SKILLS**

- **French-** speak, write, read, and listen proficiently
- **Coding Languages-** Python

## **PUBLICATIONS**

- “Sloan Digital Sky Survey IV: Mapping the Milky Way, Nearby Galaxies, and the Distant Universe”, Michael R. Blanton and 362 coauthors including **KeShawn Ivory**, 2017, AJ, 154, 28