

# Kaila Nathaniel

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**Research Interests:** High energy astrophysics, binaries, common envelope evolution, computational astrophysics

## **Education:**

- 2022 – present    PhD in Astrophysical Sciences and Technology,  
Rochester Institute of Technology (RIT; Rochester, NY)  
Advisor: Richard O’Shaughnessy
- 2022                MS in Astrophysics, University of Bonn (Germany)  
Thesis: “[Spindown and envelope inflation of massive main sequence stars in the Milky Way](#)”  
Advisor: Norbert Langer
- 2019                BS in Physics, minors in Math and Astronomy,  
Virginia Polytechnic Institute and State University (Virginia Tech; Blacksburg, VA)

## **Professional Employment and Research Experience:**

- 2023 – present    LSSTC Data Science Fellow
- 2023                Kavli Summer Program in Astrophysics, Max Planck Institute for Astrophysics  
Garching, Germany
- 2022 – 2023       Graduate Teaching Assistant, School of Physics and Astronomy  
RIT (Rochester, NY)
- 2019 – 2022       Graduate Teaching Assistant, Argelander Institute for Astronomy  
University of Bonn (Germany)
- 2019                Advancing Theoretical Astrophysics Summer School  
Anton Pannekoek Institute for Astronomy, University of Amsterdam
- 2018                LIGO Summer Undergraduate Research Fellow  
Division of Physics, Mathematics, and Astronomy  
California Institute of Technology (Pasadena, CA)  
Mentor: Brittany Kamai. Poster at SACNAS 2018.
- 2017                International REU Student, School of Physics and Astronomy  
University of Birmingham (United Kingdom)  
Mentor: Ilya Mandel. Paper: Riley, J., et al. (2021).
- 2013 – 2016       Learning Assistant, Department of Physics  
Virginia Tech (Blacksburg, VA)
- 2016 – 2017       Nancy Grace Roman Space Telescope Winter Intern  
NASA Goddard Space Flight Center (Greenbelt, MD)

### **Awards:**

2023	Opportunity Fellowship	AST/New York Space Grant
2022	Bessette Award Nominee	RIT Graduate School
2019	MSc Honors Scholarship	Bonn Cologne Graduate School
2019	Ladies of Robeson Award	Virginia Tech, Department of Physics
2018	Astronaut Scholarship Nominee	Virginia Tech

### **Teaching Experience:**

2022 – 2023	Graduate Teaching Assistant, RIT Stars and Galaxies PHYS 104 Stellar Astrophysics AST 370
2020 – 2022	Graduate Teaching Assistant, University of Bonn: Stellar Structure and Evolution ASTRO 811 Nucleosynthesis in Stars ASTRO 858
2017 – 2018	Learning Assistant, Virginia Tech: General Physics I PHYS 2205

### **Outreach and Service Experience:**

2023	Imagine RIT Exhibit Leader Cosmic Wanderers: Supernovae
2022	Leader of “Solar system in your pocket” activity RIT Observatory Open House for Girl Scout Troop 61046. Rochester, NY.
2021 – 2022	Volunteer for Astronomy on Tap Bonn. Bonn, Germany
2018 – 2019	Student Representative, Department of Physics Undergraduate Committee, Virginia Tech.

### **Presentations and Talks:**

2018	Society for Advancement of Chicanos/Hispanics and Native Americans in Science 2018 Conference. Poster Presentation: <i>Could a seismic cloak help LIGO?</i>
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### **Publications:**

3. [“Detailed models of interacting short-period massive binary stars”](#)  
Sen, K., et al., (13 authors, including **Nathaniel, K.**), 2022  
*A&A*, **659**, A98
2. [“Chemically homogeneous evolution: a rapid population synthesis approach”](#)  
Riley, J., et al., (8 authors, including **Nathaniel, K.**), 2021  
*MNRAS*, **505**, 663-676
1. [“Multi-messenger Observations of a Binary Neutron Star Merger”](#)  
Abbott, B. P., et al., (3538 authors, including **Nathaniel, K.**), 2017  
*ApJ*, **848**, L12