

Kaila Nathaniel

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Last updated: April 28, 2023

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: *Could a seismic cloak help LIGO?*

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