

Kaila Nathaniel

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Last updated: November 30, 2022

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:

- 2022 — Graduate Teaching Assistant, School of Physics and Astronomy
RIT (Rochester, NY)
- 2019 — 2022 Graduate Teaching Assistant, Argelander Institute for Astronomy
University of Bonn (Germany)
- 2018 LIGO Summer Undergraduate Research Fellowship Student
Division of Physics, Mathematics, and Astronomy
California Institute of Technology (Pasadena, CA)
Mentor: Brittany Kamai
Poster at SACNAS 2018: *Nathaniel, K., Kamai, B., Adhikari, R.*
- 2017 International REU Student, School of Physics and Astronomy
University of Birmingham (United Kingdom)
Mentor: Ilya Mandel
Published in *MNRAS*, 505, 663-676, 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:

- 2019 Bonn Cologne Graduate School Scholarship
- 2019 Virginia Tech, Department of Physics
Ladies of Robeson Award
- 2018 Astronaut Scholarship Nominee

Teaching and Service Experience:

- 2022 Stellar Astrophysics AST 370
- 2020 — 2022 Teaching Assistant, University of Bonn:
 - Stellar Structure and Evolution ASTRO 811
 - Nucleosynthesis in Stars ASTRO 858
- 2018 — 2019 Virginia Tech, Department of Physics Undergraduate Committee
Student Representative
- 2017 — 2018 Learning Assistant, Virginia Tech: General Physics I PHYS 2205

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