Samantha Lomuscio

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EDUCATION

University of Virginia — Charlottesville, VA
Ph.D. Physics — Expected: May 2025

New Jersey Institute of Technology
Albert Dorman Honors College — Newark, NJ
B.S. Applied Physics with concentration in Astronomy, Minor in Applied Mathematics, Magna Cum Laude — May 2020

RESEARCH EXPERIENCE

University of Virginia Department of Physics — Charlottesville, VA
Graduate Researcher under Dr. Kent Yagi — May 2021 – Present
Probing the Nature of Black Holes with LISA

University of Virginia Department of Astronomy/National Radio Astronomy Observatory — Charlottesville, VA
Graduate Researcher under Dr. Tim Bastian — August 2020 – May 2021
Understanding the Correlation between Solar Atmosphere Abundances and F10.7 Radio Emission

American Museum of Natural History — New York, NY
NSF REU Student under Dr. Tim Paglione — May, 2019 – May, 2020
Gamma-rays from Jupiter

Center for Solar Terrestrial Research Solar Radio Group at NJIT — Newark, NJ
Undergraduate Research Intern under Dr. Bin Chen — October, 2017 – June, 2020
Particle Acceleration Mechanism in the Solar Atmosphere

NASA Goddard Institute for Space Studies — New York, NY
Undergraduate Research Intern under Dr. Armando Howard — May, 2018 – August, 2018
Assessing Ocean Mixing Parameterizations in the GISS ModelE Ocean

New Jersey Institute of Technology Physics Department — Newark, NJ
Undergraduate Researcher under Dr. John Federici — September, 2018 – January, 2019
THz Computerized Tomography of Additively-Manufactured Parts

AWARDS & HONORS

Goldwater Scholar - *The Barry Goldwater Scholarship and Excellence in Education Foundation* — 2019
Dr. Louis J. Lanzerotti and Dr. M. Yvonne De Wolf Lanzerotti Prize in Applied Physics - *NJIT Physics Department* — May 2019
Outstanding Undergraduate Student Award - *NJIT College of Science and Liberal Arts* — May 2019
Dean's Fund for Student Development Grant -*NJIT Albert Dorman Honor's College (ADHC)* — 2019
Jerome Drexler Honors College Astrophysics/Physics/Chemistry Annual Scholarship -*NJIT ADHC* — 2018 – 2020

COMPUTATIONAL SKILLS

Languages: Python, Fortran
Mathematical Computational Tools: MATHEMATICA, MATLAB
Astronomical Packages: Common Astronomy Software Applications Package (CASA), Fermitools

TEACHING EXPERIENCE

- **University of Virginia**
  Head Teaching Assistant — Fall 2021 – Spring 2022
  Teaching Assistant – Black Holes (ASTR 1290) — Spring 2022
  Teaching Assistant – Life Beyond the Earth (ASTR 3420) — Spring 2022
  Teaching Assistant – Introduction to the Sky and Solar System (ASTR 1210) — Fall 2021
  Teaching Assistant – Archaeo-Astronomy (ASTR 3410) — Fall 2021
  Instructor of Record – Introduction to Astrophysics II (ASTR 2120) — Spring 2021
  Teaching Assistant – Introduction to Astrophysics I (ASTR 2110) — Fall 2020
- **New Jersey Institute of Technology** — January 2018 – May 2020
  Teaching Assistant and Grader – Physics II, Introductory Electromagnetism (PHYS 121)
  Teaching Assistant and Grader – Physics I, Introductory Mechanics (PHYS 111)
  Teaching Assistant – Calculus I (MATH 111), Precalculus (MATH 110)
  Mathematics Tutor – Precalc., Calc. I, II, III, Differential Equations, Partial Differential Equations, Statistics

OUTREACH &s OTHER EXPERIENCE

UVA StatLab – *Graduate StatLab Associate* — August 2021 – Present
Dark Skies Bright Kids – *Write-ups Team* — September 2020 – Present
NJIT Astronomy Club – *Founding Events Chair* — January 2018 – May 2020
United Astronomy Clubs of New Jersey — January 2018 – May 2020
NJIT Chapter of the Society of Physics Students – *Events Coordinator* — September 2017 – May 2020
NJIT Albert Dorman Honors College Honors Ambassador — September 2017 – May 2020

PRESENTATIONS

Posters Presentations

S. Lomuscio, M. Garcia, Y. R. Song, T. Paglione (2020). Gamma-rays from Jupiter. 235th Meeting of the American Astronomical Society, Honolulu, HI.

S. Lomuscio, A.M. Howard, V. Canuto, Y. Cheng, M. Dubovikov (2018). Assessing Ocean Mixing Parameterizations in the GISS Model E Ocean. American Geophysical Union Fall Meeting 2019, San Francisco, CA.

S. Lomuscio, A.M. Howard, V. Canuto, Y. Cheng, M. Dubovikov (2018). Assessing Ocean Mixing Parameterizations in the GISS Model E Ocean. Summer 2018 Goddard Space Flight Center Summer Intern Poster Session, Goddard Space Flight Center, Greenbelt, MD.

Conference/Public Talks

Gamma-rays from Jupiter. (17th Annual Physical Sciences REU Student Symposium, New York, NY)

Assessing Ocean Mixing Parameterizations in the GISS ModelE Ocean. (Summer 2018 NASA Goddard Institute for Space Studies Summer Internship Program Climate Science STEM Research Symposium, New York, NY)

Feasibility Study and Conceptual Design – Weston Hall Pedestrian Bridge. (April 2017 Dana Knox Research Showcase, New Jersey Institute of Technology, Newark, NJ)

ARTICLES

S. Lomuscio, "Getting Started with the Kruskal-Wallis Test", University of Virginia Library Research Data Services, Dec. 7 2021.