

NATASHA LATOUF

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EDUCATION

George Mason University, Virginia

Doctorate in Physics

Department of Physics and Astronomy

August 2021 - Present

GPA: 3.63

George Mason University, Honors College, Virginia

Bachelors of Science in Physics, Concentration in Astrophysics

Department of Physics and Astronomy

August 2017 - May 2021

GPA: 3.5

West Holmes High School, Ohio

Valedictorian, Class of 2017

August 2013 - May 2017

GPA: 4.0

RESEARCH EXPERIENCE

Graduate Research Fellow - NASA Goddard Space Flight Center *June 2021 - Present*

Exoplanet Research

Research Advisors: Dr. Avi Mandell & Dr. Geronimo Villanueva

Research Focus: Simulating exoplanet atmosphere models using the Planetary Spectrum Generator (PSG).

Undergraduate Research Assistant - George Mason University *October 2017 - May 2021*

Exoplanet Research

Research Advisors: Professor Peter Plavchan & Dr. Sharon Xuesong Wang

Research Focus: Quantifying the amount of error induced on radial velocity measurements due to Earth's telluric interference using Python simulations.

Observer

Facilities Used:

Keck Telescopes - *California Institute of Technology*

NASA's Infrared Telescope using iShell

George Mason University Campus Telescope

PROPOSALS

National Science Foundation Graduate Research Fellowship

Spring 2021

Award Amount: \$34,000 Stipend, \$12,000 Education Cost

3 years of funding in a 5 year fellowship for an accomplished undergraduate or first year graduate student.

HONORS & AWARDS

Dean's Award for Excellence in Service

Spring 2021

Award Amount: \$250

Awarded as a result of Spectrum's significant impact in the Department of Physics and Astronomy, College of Science, and George Mason University during its first year.

Carol Litchfield Endowment Scholarship

Fall 2019

Award Amount: \$2,400

Award for a notable College of Science undergraduate.

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| OSCAR Student International Travel Grant Award Amount: \$800 Competitive travel award offered through George Mason OSCAR to support travel to international conferences. | <i>Fall 2019</i> |
| SCI-STEPS Summer Research Program Award Amount: \$5,000 Research assignment for minority undergraduates. | <i>Summer 2019</i> |
| OSCAR Student Research Grant Award Amount: \$5,000 Competitive research award offered through the George Mason Office of Student Scholarship, Creative Activities, and Research (OSCAR) to support undergraduate student research. | <i>Summer 2018</i> |
| Eugenie V. Mielcsark Scholarship Award Amount: \$2,500 Award given to an accomplished undergraduate in the Department of Physics at George Mason University. | <i>Spring 2018</i> |
| George Mason Excellence Scholarship Award Amount: \$12,000 Renewable yearly for 4 years | <i>Spring 2017</i> |
| George Mason Green & Gold Scholarship Award Amount: \$1,000 | <i>Spring 2017</i> |
| George Mason University Dean's List Only given to undergraduate students. | <i>Fall 2017, Spring 2020, Fall 2020</i> |

PUBLICATIONS

- Barclay, T., ...**Latouf, N.**, et al. A First Look at Transmission Spectrum of the Potentially Rocky Planet L 98-59 c, 2022, in prep
Citations: N/A
- Wang, S., **Latouf, N.**, et al. Characterizing and Mitigating Telluric Absorption in Precise Radial Velocities, 2022, submitted
Citations: N/A
- Latouf, N.**, et al., Characterizing and Mitigating Telluric Absorption in Precise Radial Velocities II: Dependence on Spectral Type, 2022, submitted
Citations: N/A
- Rodriguez, J., **Latouf, N.**, et al. TESS Delivers Five New Hot Giant Planets Orbiting Bright Stars from the Full Frame Images, American Astronomical Society Journals, 2021, in press, arXiv:2101.01726 [astro-ph.EP].
Citations: 9
- Plavchan, P., **Latouf, N.**, et al. Newly Formed Planets within the Debris Disk of the Nearest Pre-Main Sequence Star AU Mic, Nature 582, 497500 (2020). <https://doi.org/10.1038/s41586-020-2400-z> in press,
Citations: 71
- Huber, D. ... **Latouf, N.**, et al. A Hot Saturn Orbiting An Oscillating Late Subgiant Discovered by TESS, American Astronomical Society Journals, 2019, in press, arXiv:1901.01643 [astro-ph.EP].
Citations: 65

Plavchan, P., **Latouf, N.**, et al. EarthFinder: A Precise Radial Velocity Probe Mission Concept for the Detection of Earth-Mass Planets Orbiting Sun-like Stars, American Astronomical Society Journals, 2018, in press, arXiv:1803.03960 [astro-ph.IM].

Citations: 8

CONFERENCES & PRESENTATIONS

Twinkle and the Next Generation of Exoplanet Scientists *September 2021*

Virtual Conference

Talk Title: Precise Radial Velocities and Effectiveness of Telluric Mitigation Strategies

Invited Talk at GMU College of Science Faculty Meeting *February 2021*

Virtual Presentation

Invited talk to present an introduction of co-founded group [Spectrum](#) and successful initiatives

237th American Astronomical Society *January 2021*

Virtual Conference

Poster Title: Characterizing and Mitigating Telluric Absorption in Precise Radial Velocities: Dependence on Spectral Type

235th American Astronomical Society *January 2020*

Honolulu, Hawaii

Poster Title: Precise Radial Velocities and Effectiveness of Telluric Mitigation Strategies

Extreme Precision Radial Velocities IV *March 2019*

Grindelwald, Switzerland

Talk Title: Effects of Tellurics in PRVs and Effectiveness of Mitigation Strategies

Undergraduate Research Symposium *August 2018*

Fairfax, Virginia

Poster Title: Impact of the Earths Atmosphere on Radial Velocities

Sagan Workshop *July 2018*

Pasadena, California

Attended workshop at California Institute of Technology

PROGRAMMING & COMPUTER SKILLS

Programming Languages: Python, Mathematica, BASH

Python Package Proficiency: Pandas, Astropy, Numpy, Matplotlib

DOMESTIC COLLABORATIONS

Planetary Spectrum Generator, NASA Goddard Space Flight Center *Summer 2021 - Present*

Exoplanet Research Group, George Mason University *Fall 2017 - Spring 2021*

Carnegie Institute for Science invited research visit

Privately funded travel to work with Dr. Sharon Xuesong Wang in Washington, D.C. and Pasadena, California.

SYNERGISTIC ACTIVITIES

Prospective Student Departmental Liaison

Spring 2022 - Present

At the Department's behest, coordinated efforts to schedule prospective students with enrolled students for tours and questions, as well as leading several such tours.

Awarded host site for the [Conference for Undergraduate Women in Physics](#) for Spectrum-led proposal
Spring 2022

Turned down opportunity due to timing conflicts with Spectrum leadership academic advancement.

Featured in George Mason University News, "[The George](#)," for efforts in DEI

Fall 2021

Co-Founder and Leader of [Spectrum](#), a group for the enhancement of women and minorities in STEM
Summer 2020 - Present

Co-writer for Code of Ethics for the Physics and Astronomy Department at George Mason University
Spring 2020

Member of the Honors College Dean's Fellows, a student liaison organization to the Dean's office
Fall 2017 - Spring 2021

SCIENCE OUTREACH

Featured Exoplanet Commentator - STEM in 30

Spring 2020

Featured in Emmy-nominated program for students produced by the Smithsonian National Air and Space Museum. Episode 7, Diamonds in the Sky: Stars and Exoplanets.

REFERENCES

Professor Joseph C. Weingartner - *George Mason University*

Relationship: Professor, Doctorate Advisor

Dr. Avi Mandell - *NASA Goddard Space Flight Center*

Relationship: Research Advisor

Dr. Geronimo Villanueva - *NASA Goddard Space Flight Center*

Relationship: Research Advisor