Michael Higgins

+1 253-365-4099
michael.higgins@duke.edu
github.com/Higgins00

Education

Ph.D. Candidate| ***Physics, Cosmology*** — Aug. 2020 – Present
Duke University — Durham, NC

Bachelor of Science | ***Major:Comprehensive Physics, Astronomy*** — Sept. 2016 – June 2020
University of Washington — Seattle, WA

Work Experience

Teaching Assistant — Aug. 2020 – Present
Duke University — Durham, WA

- Grader for Quantum(PHYS 464)
- Lab TA for Mechanics(PHYS 151)
- Discussion TA for EM(PHYS 152)

Undergraduate Research Assistant — Sept. 2019 – Apr. 2020
Center for Experimental Nuclear Physics and Astrophysics — Seattle, Wa

- Worked between research groups to aid fixing electronics and maintaining the lab.
- Required knowledge of high vacuum systems, working with radioactive samples, and maintenance of various detectors.

Projects and Research

Gravitational Shear Calibration for Simulated Roman Images | ***Python*** — Summer 2021 – Present
Duke University

Disentangling Variable Signatures in TESS Photometry | ***Python*** — Fall 2019 – Present
University of Washington, Duke University

Searches for new physics in Neon-19 beta decay | ***Python, Experiment*** — Fall 2018 – Spring 2020
University of Washington

Conferences and Presentations

Disentangling TESS Photometry — Aug. 2020
TESS Science Conference II

Creating ^{19}Ne and Transporting it to a Beta Decay Measuring Experiment — May 2019
University of Washington Undergraduate Research Symposium

Creating ^{19}Ne and Transporting it to a Beta Decay Measuring Experiment — Apr. 2019
CENPA Monday Meeting

Honors and Awards

Mary Creason Fellowship — Spring 2020
Duke University

Dean's List(x8) — Winter 2017 – Fall 2019
University of Washington

Fussell Scholarship — 2016 – 2018
University of Washington

Community Involvement

Member of Women in Physics group at UW 2018 – June 2020
Worked on arranging planetarium shows, no longer active. Seattle, WA

Planetarium Presenter Dec. 2017 – Feb. 2020
Prepared tours and presented in a planetarium to students and the public. Seattle, WA

Free Tutor for Community College Student Fall 2019
Provided 2 hours of Calculus 1 tutoring per week for a student. Puyallup, WA

Graham Kapowsin High School Outreach Fall 2016 – Fall 2018
Visited STEM classes a few times a year to talk to students about pursing STEM in college. Graham, WA

Skills

Programming: Python (NumPy, SciPy, Matplotlib, Pandas), MATLAB, Mathematica,C++
Document Creation: Microsoft Office Suite, LaTex, Markdown

Publications

[1] A. Allen et al. "6He-CRES". In: *CENPA Annual Report* (2019), pp. 68–83. URL: https://www.npl.washington.edu/sites/default/files/annual-reports/2019-CENPA-Annual-Report.pdf.

[2] A. Allen et al. "6He-CRES". In: *CENPA Annual Report* (2020), pp. 63–65. URL: https://www.npl.washington.edu/sites/default/files/annual-reports/2020-CENPA-Annual-Report.pdf.

[3] A. Garcıa et al. "19Ne". In: *CENPA Annual Report* (2020), pp. 77–84. URL: https://www.npl.washington.edu/sites/default/files/annual-reports/2020-CENPA-Annual-Report.pdf.

[4] A. Garcıa et al. "Development of a 19Ne source". In: *CENPA Annual Report* (2019), pp. 83–86. URL: https://www.npl.washington.edu/sites/default/files/annual-reports/2019-CENPA-Annual-Report.pdf.

[5] Córsico, A. H. et al. "Pulsating hydrogen-deficient white dwarfs and pre-white dwarfs observed with TESS - I. Asteroseismology of the GW Vir stars RX J2117+3412, HS 2324+3944, NGC 6905, NGC 1501, NGC 2371, and K 1-16". In: *A&A* 645 (2021), A117. DOI: 10.1051/0004-6361/202039202. URL: https://doi.org/10.1051/0004-6361/202039202.

[6] Murat Uzundag et al. "Pulsating hydrogen-deficient white dwarfs and pre-white dwarfs observed with TESS - Discovery of two new GW Vir stars: TIC333432673 and TIC095332541". In: *Posters from the TESS Science Conference II (TSC2)*. July 2021, p. 46. DOI: 10.5281/zenodo.5122978. arXiv: 2108.11093 [astro-ph.SR].