

Dany Waller

Curriculum Vitae

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EDUCATION

- + 05/2022 – M.S. Applied Physics (Honors), Johns Hopkins University
- + 05/2019 – B.S. Mathematics, University of Kentucky
- + 05/2019 – B.A. Physics, University of Kentucky

EMPLOYMENT

- + 09/2021 - Present – Scientific Visualization and Software Developer, Johns Hopkins University Applied Physics Laboratory, Space Exploration Sector (SES-SRN)
- + 09/2020 - 09/2021 – Graduate Student Research Assistant, Johns Hopkins University Applied Physics Laboratory, Space Exploration Sector (SES-SRE)
- + 08/2020 - 09/2021 – Scientific Analyst II, NASA Goddard Space Flight Center Geodesy and Geophysics Laboratory (61A), Science Systems & Applications, Inc.
- + 05/2019 - 08/2020 – Farish Planetarium Director and Earth & Space Science Program Coordinator, Living Arts & Science Center
- + 06/2018 - 05/2019 – Junior Software Engineer, University of Kentucky Center for Muscle Biology
- + 02/2017 - 05/2019 – Undergraduate Research Assistant, University of Kentucky Department of Geology and Department of Physics & Astronomy

RESEARCH PROJECTS

- + 09/2021 - Present – *Instrument health monitoring and calibration software development for the Double Asteroid Redirection Test (DART) DRACO Imager*. PI: Ray Espiritu, Johns Hopkins University Applied Physics Laboratory.
- + 09/2020 - Present – *Modeling magnetic anomalies and mapping related photometric features on the Moon*. PI: Dr. Joshua Cahill, Johns Hopkins University Applied Physics Laboratory.
- + 08/2020 - 09/2021 – *Optimizing LIDAR simulations and algorithmic hazard detection for precision lunar landing*. PI: Bryan Blair, NASA Goddard Space Flight Center.
- + 08/2017 - 05/2019 – *Modeling magnetic anomalies associated with lunar swirls*. PI: Dr. Dhananjay Ravat, University of Kentucky.

+ 02/2017 - 08/2017 – *Processing and mapping MAVEN magnetometer data*. PI: Dr. Dhananjay Ravat, University of Kentucky.

PUBLICATIONS

+ **Waller, D.**, Cahill, J.T.S., Retherford, K.D., Hendrix, A.R., Allen, R.C., Vines, S.K., Blewett, D.T., Meyer, H.M., Wirth-Singh, A.A. (2022, In Review). Preparing for Lunar Vertex: Space Weathering at Reiner Gamma. *Frontiers in Astronomy and Space Sciences*.

+ **Waller, D.**, Strauss, B.E. (2022). Magnetometry. In B.M. Cudnik (Ed.), *Encyclopedia of Lunar Science* (1st ed.). Springer. doi:10.1007/978-3-319-05546-6

+ Blewett, D.T., Halekas, J., **Waller, D.**, Cahill, J.T., Deutsch, A., Glotch, T.D., Regoli, L., Tikoo, S., Vines, S., Wang, X. (2021). Science Case for a Lander or Rover Mission to a Lunar Magnetic Anomaly and Swirl. *Bulletin of the AAS*, 53(4). doi:10.3847/25c2cfef.9295af86

+ Strauss, B.E., Borges, S.R., Faridani, T., Grier, J.A., Kiihne, A., Maier, E.R., Olsen, C., O'Neill, T., Rivera-Valentín, E.G., Sneed, E.L., **Waller, D.**, Zamloot, V. (2020). Nonbinary Systems: Looking Towards the Future of Gender Equity in Planetary Science. *Planetary Science and Astrobiology Decadal Survey 2023-2032*. arXiv:2009.08247

CONFERENCES

Oral Presentations

+ **Waller, D.**, Cahill, J.T.S., Retherford, K.D., Hendrix, A.R. (2022, March 7-11). *Solar Wind Compression of the Magnetic Anomaly at Reiner Gamma and Potential Weathering Patterns Observed in the Ultraviolet*. 53rd Lunar and Planetary Science Conference, The Woodlands, TX. [[abstract](#)]

+ **Waller, D.** (2020, April 24-May 1). *Towards Modeling Magnetic Anomalies of Lunar Swirls*. LPSC Early Career Event, held virtually due to COVID-19. [[abstract](#)], [[session recording](#)]

Poster Presentations

+ **Waller, D.**, Cahill, J.T.S., & Wirth-Singh, A. (2021, July 20-23). *Investigation of Magnetic Fields Associated with Various Lunar Swirls Observed in The Far-Ultraviolet*. Joint NASA Exploration Science Forum & European Lunar Symposium, held virtually due to COVID-19. [[abstract](#)]

+ **Waller, D.** & Ravat, D. (2019, April 24). *The Undeniable Attraction of Lunar Swirls*. University of Kentucky Undergraduate Research Showcase, Lexington, KY, United States. [[abstract](#)]

+ **Waller, D.** & Ravat, D. (2019, February 21). *The Undeniable Attraction of Lunar Swirls*. 18th annual Kentucky Posters at The Capitol, Frankfort, KY, United States. [[abstract](#)]

+ **Waller, D.** & Ravat, D. (2018, November 8-10). *The Undeniable Attraction of Lunar Swirls*. 85th annual SESAPS meeting, University of Tennessee, Knoxville, TN, United States. [[abstract](#)]

GRANTS AND FELLOWSHIPS

2020 – If/Then Grant, ASTC (\$500)
2020 – NASA Universe of Learning Grant, ASTC (\$2500)
2019 – Sigma Pi Sigma Chapter Research Award, AIP (\$1200)
2018 – Sigma Pi Sigma Chapter Reporter Award, AIP (\$200)

INVITED TALKS

+ “The Moon and Mars” (2019). Noyce Scholars Program, Morehead State University.
+ “The Moon and Mars” (2019). SpaceTrek, Morehead State University.
+ “The Moon and Mars” (2019). Rogers Scholars Program, Asbury University.
+ “Towards Deciphering the Science and Mysteries of Lunar Swirls” (2017). Astronomy department seminar, University of Kentucky. [[abstract](#)]

AWARDS AND HONORS

2021 – 2nd place in NESF/ELS 2021 Student Poster Competition, NASA SSERVI
2020 – 5 Sigma Physicist, American Physical Society
2019 – Physics Advocacy Award, University of Kentucky Dept. of Physics & Astronomy
2019 – Student Impact Award, Omicron Delta Kappa Nu Circle
2019 – Outstanding Senior on *UK at the Half*, University of Kentucky
2018 – Oswald Research & Creativity Competition, University of Kentucky
2018 – Dean's List, University of Kentucky
2018 – High Scholarship in Physics, University of Kentucky Dept. of Physics & Astronomy
2017 – High Scholarship in Physics, University of Kentucky Dept. of Physics & Astronomy

SERVICE

+ 2022 - Present – Intern Mentor, Johns Hopkins University Applied Physics Laboratory ASPIRE program.
+ 2020 - 2021 – Intern Mentor, NASA Goddard Association of Postdoctoral and Early Career Scholars (NGAPS+).
+ 2020 - 2021 – Bridge Program Committee Member, NASA GSFC.
+ 2019 - 2020 – Honors thesis reviewer for Lillie Cole, University of Kentucky.
+ 2018 - Present – Physics Policy Advocate, American Physical Society (APS).
+ 2018 - Present – Solar System Ambassador, NASA JPL.
+ 2018 - 2019 – Undergraduate Chapter Representative, Association for Women in Mathematics (AWM).
+ 2017 - 2018 – Chapter President, Sigma Pi Sigma ($\Sigma\Pi\Sigma$).
+ 2016 - 2017 – Chapter Treasurer, Sigma Pi Sigma ($\Sigma\Pi\Sigma$).