

CURRICULUM VITAE

Matthew Thomas Hogan

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1963 S 1200 E Apt 612, Salt Lake City, UT 84105

EDUCATION

Doctor of Philosophy, Physics

Expected May 2027

University of Utah (U of U), Salt Lake City, UT

Research Advisors: Drs. Jordan Gerton & Erik Jorgensen

Master of Science, Physics

May 2024

University of Utah (U of U), Salt Lake City, UT

Research Advisor: Dr. Michael Vershinin

Bachelor of Science, Physics *Summa Cum Laude*,

May 2021

Utah State University (USU), Logan, UT

Research Advisors: Drs. David Peak & Keith Mott

TEACHING EXPERIENCE

Graduate Teaching Assistant

- Fall 2021, Fall 2022, Summer 2024, & Fall 2025 — General Physics Lab I for Life Science Majors, U of U
- Spring 2022, Spring 2023, & Summer 2024 — General Physics Lab II for Life Science Majors, U of U

Undergraduate Teaching Assistant

- Spring 2021 — Introduction to Thermodynamics, USU

International Teaching Assistant

- Spring 2017 — English as a Second Language, Cruzada Social in Manizales, Colombia

RESEARCH EXPERIENCE

Graduate Research Assistant

- Summer 2024 - Present — Jorgensen Lab, Point-Spread-Function Engineering
- Summer 2022 - Summer 2024 — Vershinin Lab, Diffraction-Limited Data Compression

Undergraduate Research Assistant

- Fall 2018 - Spring 2021 — Mott Lab, Dynamic Stomatal Patchiness

SELECT ACHIEVEMENTS

Scholarships and Grants

- The Barry Goldwater Scholarship, The B.G.S. & Excellence in Education Foundation, 2020
- College of Science Scholarship, USU College of Science, 2020-2021
- Seely-Hinckley Scholarship, USU College of Science, 2019-2020
- Hendricks Scholarship, USU Dept. of Physics, 2019-2020
- Undergraduate Research and Creative Opportunities Grant, USU Office of Research, 2019
- Resident Dean's Scholarship, USU, 2017-2019

Research Fellowships

- J. Irvin & Norma K. Swigart Research Fellowship, U of U Dept. of Physics and Astronomy, 2022
- Peak Summer Research Fellowship, USU Office of Research, 2020
- Howard L. Blood Research Fellowship, USU Dept. of Physics, 2019

Other Awards

- Poster Presentation Award, American Physical Society 4CS, 2020
- A-Pin, USU, 2019-2021
- Harry Otteson Award, USU Dept. of Physics, 2019
- Sigma Pi Sigma Membership, Society of Physics Students, 2018-2021

PRESENTATIONS AND PUBLICATIONS

[1] Peak, D., **Hogan, M.**, and Mott, K., "Stomatal Patchiness and Cellular Computing" *Proceedings of the National Academy of Sciences* <https://doi.org/10.1073/pnas.2220270120> (March 27, 2023)

[2] **Hogan, M.**, and Vershinin, M., "Information Loss in Diffraction-Limited Data Compression" *Bulletin of the American Physical Society*, J05.00001, 4CSAPS (October 2022).

[3] **Hogan, M.**, Peak, D. and Mott, K., "Dynamic Stomatal Patchiness: Parallel Behavior in Computation and Nature" *Bulletin of the American Physical Society*, F01.00009, 4CSAPS (October 2020)

[4] **Hogan, M.**, Peak, D. and Mott, K., "Modeling Cellular Interactions in Plants." *Bulletin of the American Physical Society*, F01.00018, 4CSAPS (October 2019).