

RORY O'DWYER

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EDUCATION

Stanford University

Phd in Physics

September 2020-July 2026

Texas A&M University

MS in Mathematics

Dec 2019-August 2020

Summa Cum Laude with BS in Physics (Honors) and Mathematics (Honors)

August 2016-Dec 2019

RESEARCH AND LEADERSHIP EXPERIENCE

PIONEER

Postdoctoral Researcher

July 17 - present

July 17 - present

Seattle, Washington

University of Washington CENPA

Postdoctoral Researcher

July 17 - present

Seattle, Washington

Stanford OCS Due Process Guard (DPG)

Co-Founder, Warmaster of the Guard

June 2025 - present

Stanford, California

Stanford Graduate Student Council (GSC)

Co-Chair

June 2025 - April 2026

Stanford, California

Stanford Graduate Workers Union (SGWU)

First Elected Leadership, BC, IGC, Treasurer, Area Chief Steward

October 2023 - March 2026

Stanford, California

LDMX Project

Graduate Researcher

December 6, 2020 - present

Stanford, California

HPS Project

Graduate Researcher

July 12, 2021 - present

Stanford, California

Stanford Schnitzer Lab

Graduate Researcher

May 5, 2020 - December 6, 2020

Stanford, California

Texas A&M University High Energy Lab

Undergraduate Researcher

September 4, 2018 - August 1, 2020

College Station, Texas

Texas A&M University Department of Mathematics

Graduate Researcher

January 3, 2018 - August 1, 2020

College Station, Texas

CERN CMS Project (TAMU Branch)

Undergraduate Researcher

June 20, 2019-August 23, 2019

Geneva, Switzerland

Texas A&M University Cyclotron Institute

Undergraduate Researcher

August 30, 2017 - May 30, 2019

College Station, Texas

PUBLICATIONS

0.1 Peer Reviewed Journal Articles

- 1. Zamora, J. *Direct Fusion Measurement of the ^8B Proton-Halo Nucleus at Near-barrier Energies*. Physics Letters B. 29 March, 2021.
available at <https://www.sciencedirect.com/science/article/pii/S0370269321001969>
- 2. E. Koshchiy et. al, TexAT: Texas Active Target Detector System for Experiments with Rare Isotope Beams. Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment Volume 957, 21 March 2020.
available at <https://www.sciencedirect.com/science/article/pii/S0168900220300073>
- 3. J. Bishop et. al, *Beta-delayed charged-particle spectroscopy using TexAT*. Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment. Volume
- 4. Parker Duncan, Rory O'Dwyer and Eviatar B. Procaccia. An Elementary Proof for the Double Bubble problem in 1 Norm. Journal of Geometric Analysis. Springer. 2022. Web,
Available from <https://link.springer.com/article/10.1007/s12220-022-01008-9>
- 5. Parker Duncan, Rory O'Dwyer and Eviatar B. Procaccia. Discrete 1 Double Bubble solution is at most ceiling+2 of the continuous solution. Journal of Discrete and Computational Geometry. Springer. 2023. Web,
Available from <https://link.springer.com/article/10.1007/s00454-023-00501-4>
- 6. O'Dwyer, Rory. *Stepping Stone Problem on Graphs*. The Mathematics Enthusiast. University of Montana. July, 2023
Available from <https://scholarworks.umont.edu/tme/vol21/iss1/4/>
- 7. Akesson, T. et al. Photon-rejection power of the Light Dark Matter eXperiment in an 8 GeV beam. Journal of High Energy Physics. Springer. 2023. Web,
Available from [https://link.springer.com/article/10.1007/JHEP12\(2023\)092](https://link.springer.com/article/10.1007/JHEP12(2023)092)
- 8. Parker Duncan, Rory O'Dwyer, and Eviatar B. Procaccia. "The Double Bubble Problem in the Hexagonal Norm." The Journal of Geometric Analysis, vol. 35, no. 8, 2025, pp. 225. Springer,
Available from <https://link.springer.com/article/10.1007/s12220-025-02035-y>
- 9. Adrian, P. H. et al. First displaced vertex search for electroproduced dark-sector strongly interacting massive particles by the HPS experiment. *Physical Review D*. Vol. 113, No. 3, 2026, Article 032019.
Available from <https://doi.org/10.1103/2k3q-9mhj>
- 10. Åkesson, T. et al. Sensitivity of an early dark matter search using the electromagnetic calorimeter as a target for the Light Dark Matter eXperiment. *Journal of High Energy Physics*. Vol. 2025, No. 12, 2025, Article 150.
Available from [https://doi.org/10.1007/JHEP12\(2025\)150](https://doi.org/10.1007/JHEP12(2025)150)

- 11. Berzin, E. et al. Measurement of the LCLS-II dark current using the LDMX trigger scintillator prototype. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*. 2026, Article 171709.

Available from <https://doi.org/10.1016/j.nima.2026.171709>

- 12. Sui Chin and J. Massey. *The Hardwall Method of Solving the Radial Schrodinger Equation and Unmasking Hidden Symmetries* American Journal of Physics, Vol 87, Issue 8. August, 2019.

Available from <https://aapt.scitation.org/doi/full/10.1119/1.5111839>

This (9) is the only entry where not credited as an Author, but included in Acknowledgements for my contribution to the publication.

0.2 Pre-Prints

- 1. O'Dwyer, Rory. Relativistic Propagators on Lattices. arXiv.org. Sep 18, 2023

Available from <https://arxiv.org/abs/2309.09535>

- 2. O'Dwyer, Rory. A Geometric Picture of Perturbative QFT. arXiv.org. Oct 12, 2023

Available from <https://arxiv.org/abs/2310.08695>

- 3. Akesson, T. et al. Expected Sensitivity of the Light Dark Matter eXperiment to Long-Lived Dark Photons and Axion-Like Particles. *arXiv preprint*. 2026.

Available from <https://arxiv.org/abs/2604.14359>

0.3 Conference Series and Other

- 1.O'Dwyer, Rory V. *Radiation Hardness Assessment for muon System Electronics Installed in the 2020 CMS Upgrade*. Undergraduate Research Scholars Program.

Available at <http://hdl.handle.net/1969.1/175438>

- 2.State of the Art Measurements with *TexAt* Journal of Physics Conference Series. IOP Publishing Ltd. 2019. Web,

Available from <https://iopscience.iop.org/article/10.1088/1742-6596/1308/1/012006>

- 3.Nathan Baltzell, et al. "The Heavy Photon Search Experiment" / arXiv.org. March 16, 2022

Available from <https://arxiv.org/abs/2203.08324>

- 4. SGWU B.C. and Stanford University. *Agreement Between Stanford University and UE Local 1043 (SGWU)*. November 22, 2024.

Available from https://sgwu.us/pdf/contract_2024_2027_scanned.pdf

0.4 Theses

- Rory O'Dwyer. *Searching for Mesonic Dark Matter with the Heavy Photon Search Experiment*. Stanford. 2026. Web.

Available from <https://searchworks.stanford.edu/view/in00001377340>

RESEARCH PRESENTATIONS

Rory O'Dwyer. "HLS TS Firmware and the LDMX". HEP CAT. April 16, 2025.

Available from <https://hepcat.ucsd.edu/courses-seminars/>

Rory O'Dwyer. "Optimization of the Full Reconstruction Chain of the HPS Experiment w.r.t. Its 2019 and 2021 Physics Runs". APS. March 19, 2025.

Available from <https://summit.aps.org/events/APR-P10/7>

Rory O'Dwyer. "Triggering Firmware and T9 Testbeam Efficiency Evaluatations for the LDMX Trigger Sctinillator". APS. April 5, 2024.

Available from <https://meetings.aps.org/Meeting/APR24/Session/P14.5>

R. O'Dwyer. "Commissioning High Rate Capabilities of the New CMS GE11 Muon Detector Readout System for the High Luminosity Operations at the Large Hadron Collider". Undergraduate Research Scholars Virtual Presentation Session. March 27, 2020. Web.

R. O'Dwyer. "Radiation Hardness Assessment for Muon System Electronics Installed in the 2020CMS Upgrade". Undergraduate Research Scholars Virtual Presentation Session. March, 2019. Web.

Bishop, Jack et. al. "Measurement of near-threshold states in ^{12}C using beta-delayed charged particle decay". 2019 Fall Meeting of the APS Division of Nuclear Physics. October 16, 2019. Web

available from <https://meetings.aps.org/Meeting/DNP19/Session/MB.5>

R. O'Dwyer, E. Procaccia. "Double Bubble Problem with R_2 under L_1 ". pres at LA-TX Undergraduate Mathematics Conference. Baton Rouge, LA, October 2018.

R. O'Dwyer, E. Procaccia. "Double Bubble Problem with R_2 under L_1 ". pres at Mathfest. Denver, CO, August 2018.

R.O'Dwyer. "Decreasing Non-Uniformity in Nuclear Physics" pres. at TAMU Undergraduate Research Week 2018, College Station, TX, March 2017

HONORS AND AWARDS

2023-2025 HEPCAT Scholar

2019-2020 Recipient of the Philip and Doris Moses Fund Honors Scholarship

2019 Graduation with Departmental Physics Honors and Departmental Math Honors.

2018-2019 Undergraduate Research Scholar.

2018-2019 Recipient of the Philip and Doris Moses Fund Honors Scholarship

2018 AMC national math competition 4th place (Mathfest)

2017-2018 Departmental Awards for Math 411,416,409

2016-2019 Dean's list for 8 Semesters for Academic Excellence

CO-CURRICULAR ACTIVITIES

2023-2025 Stanford Graduate Student Union Bargaining Committee representative, Treasurer, and Communications Team

2023-2025 LDMX CHOCo (Collaboration Health and Outreach Committee) Co-Chair

2022 Referee for the Transactions of the American Mathematical Society

2018-present Member of Pi Mu Epsilon and Phi Kappa Phi (Mathematical and Academic Societies resp.)

2016-2018 Tutor for Math 411, 416, and Phys 331

2018-2020 TAMU Undergraduate Research Scholar

Treasurer (2018) and Safety Officer (2019) TAMU Wrestling Team

NAACP Wrestler 2016, 2017.