

# Christian Pratt

Physics Ph.D. Candidate  
University of California-Davis

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## Education

2021 — Ph.D. *Physics*  
University of California-Davis  
Advisor: Prof. Jim Crutchfield

2022 M.Sc. *Physics*  
University of California-Davis

2021 B.Sc. *Physics*  
University of California-Davis

2019 A.A. *Mathematics*  
San Diego Community College District

## Research Positions

2022 — Graduate student researcher  
[Complexity Sciences Center](#)  
University of California-Davis  
Advisor: Prof. Jim Crutchfield

2019 - 2021 Undergraduate research student  
Experimental particle physics  
University of California-Davis  
Advisor: Prof. Michael Mulhearn

## Publications

2024 **C. Z. Pratt**, K. J. Ray and J. P. Crutchfield. Controlled Erasure as a Building Block for Universal Thermodynamically-Robust Superconducting Computing. *Under peer review*. [arXiv:2406.12153](https://arxiv.org/abs/2406.12153)

2023 **C. Z. Pratt**, K. J. Ray and J. P. Crutchfield. Extracting Equations of Motion from Superconducting Circuits. *To appear in Physical Review Research*. [arXiv:2307.01926](https://arxiv.org/abs/2307.01926)

2021 J. Swaney, M. Mulhearn, **C. Z. Pratt**, C. Shimmin, and D. Whiteson. Measurement of Smartphone Sensor Efficiency to Cosmic Ray Muons. [arXiv:2107.06332](https://arxiv.org/abs/2107.06332)

## Presentations

2024 [Controlled Erasure as a Building Block for Universal Thermodynamically-Robust Superconducting Computing](#). Technical seminar. *Complexity Sciences Center, University of California-Davis*. Davis, California.

2024 Universal Dynamical Computing on the Nanoscale. *Dynamic Days 2024*. Davis, California.

2023 Universal Dynamical Computing on the Nanoscale. *Information Engines at the Frontiers of Nanoscale Thermodynamics*. Telluride, Colorado.

2023 Equations of Motion for Dynamical Computing. Army Research Office on-site visit. *Complexity Sciences Center, University of California-Davis*. Davis, California.

## Teaching

2021 - 2022 University of California-Davis: Teaching Assistant  
7B: Fluid mechanics, electrical circuits, Newtonian mechanics  
7C: Modern physics, waves, optics  
9A: Classical mechanics

## Awards & Honors

Spring 2024 Graduate Student Researcher Fellowship  
Department of Physics and Astronomy  
University of California-Davis

Spring 2023 Graduate Student Researcher Fellowship  
Department of Physics and Astronomy  
University of California-Davis

2018 NASA Community College Aerospace Scholar

2016-2019 Dean's Honors List  
San Diego Community College District

## Service and Outreach

2024	Physics tutor, Cal-Bridge
2021	Committee member, American Institute of Physics National Task Force to Elevate African American Representation in Undergraduate Physics and Astronomy (TEAM-UP)
2020 - 2021	Committee member, Support Encourage and Develop For Children (SendForC)
2018	Volunteer, New Story Charity
2017 - 2018	Volunteer, San Diego Rescue Mission
2016 - 2018	Volunteer, San Diego Air and Space Museum

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