

#### PHD STUDENT · CONDENSED MATTER THEORY

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Education. **Boston University** Boston, MA Ph.D. in Physics 2021 - present Advisor: Anatoli Polkovnikov **Williams College** Williamstown, MA **B.A. IN PHYSICS** 2017 - 2021 Advisor: Frederick Strauch Thesis: Optimal Control and Circuit Synthesis of Quantum Gates Academic Honor Societies: Phi Beta Kappa, Sigma Xi Research Experience \_\_\_\_\_ **Simons Foundation - Summer Research Associate** New York, NY Advisors: Matthew Fishman, Dries Sels • Developing a novel tensor network method to propagate eigenstates of many-body systems over the parameter space via the quantum geometric tensor. **Boston University - Research Assistant** Boston, MA Advisor: Anatoli Polkovnikov 2022-present Investigating the geometry of quantum integrability in an adiabatic landscape as measured by the quantum geometric tensor. Williams College Department of Physics - Research Assistant Williamstown, MA ADVISOR: FREDERICK STRAUCH 2019-2021 · Analytically developed and numerically optimized gate pulses for fast, high-fidelity gates on a parametrically coupled, fixedfrequency transmon architecture. Williams College Department of Physics - Research Assistant Williamstown, MA ADVISOR: KATHERINE JENSEN 2018 • Investigated the mechanics of adhesive contacts of rigid glass spheres with silicone gel surfaces of varying Young's modulus. Awards and Honors \_\_\_\_\_ 2021 Phi Beta Kappa Induction, PBK 2018-2020 Summer Science Research Fellowship, Williams College Presentations and Posters \_\_\_

March 2023. Integrable Attractors in the Adiabatic Landscape of Chaotic Systems. Talk: Las Vegas, NV.

Spring 2021. Optimal Control and Circuit Synthesis of Quantum Gates. Undergraduate Thesis Talk: Williams College.

Summer 2019. Fast and High-Fidelity Quantum Logic Gates for Parametrically Coupled Transmons. Poster: Williams College.

Summer 2018. Dynamics of adhesive wetout and detachment. Poster: Williams College.

Summer 2018. Dynamics of adhesive wetout and detachment. UMass Amherst Soft Matter Day: Amherst, MA.

# Teaching Experience \_

- 2022 General Physics I, Boston University
- 2021 Introduction to Physics, Boston University
- 2020 Algorithm Design and Analysis, Williams College
- 2019 Mathematical Methods for Scientists, Williams College

### Other Extracurricular & Work Activities \_

### **Williams College Society of Physics Students**

Williamstown, MA 2020-2021

Co-Chair

• Organized and hosted departmental events for physics students.

## Williams College Council

Williamstown, MA 2018-2019

FINANCE COMMITTEE MEMBER

• Analyzed budgets and constructed optimal funding strategies for college council.

### OTHER SKILLS

Language: Python, Julia, ŁTFX

Tech: Mathematica, MATLAB, OpenMP