

Kotaro Kajita

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Department of Mathematics, University of Kentucky

722 Patterson Office Tower, Lexington, KY, 40506

EDUCATION

University of Kentucky

PhD (in progress) : Mathematics

August 2021-Current

University of Kentucky

Master of Arts : Mathematics

May 2024

Oberlin College

Bachelor of Arts : Mathematics (with honors), Physics

May 2021

RESEARCH INTEREST

My research interests are in PDE and mathematical physics. In particular, I am studying the spectral characteristics and the localization properties of the Random Schrödinger operator.

RESEARCH

Current Research

August 2021 – Current

University of Kentucky

(Advisor : Peter Hislop)

Fractional Moment Method for Anderson Localization : Using FMM to determine the localization energies of a random Schrödinger operator with magnetic field.

Honors Research

August 2020 – May 2021

Oberlin College

(Advisor : Jim Walsh)

Discontinuous ODE model of glacial cycles : Using low order ODE to model the non-glacial to small glacial state with dynamic ice line and diffusive heat transport.

AWARDS

Department Summer Fellowship (University of Kentucky)

May 2024

Edwin O. Reischauer Scholarship (Oberlin College)

2017-2021

CONTRIBUTED TALKS

Great Lakes Mathematical Physics Meeting

June 2025

University of Kentucky

Localization Bands of Magnetic Random Schrodinger Operator using Fractional Moment Method.

Ohio River Analysis Meeting

March 2025

University of Cincinnati

Localization Bands of Magnetic Random Schrodinger Operator using Fractional Moment Method.

 CONFERENCE / SEMINAR

MAQD summer school (Northwestern University)	June 2024
SMS summer school (University of Montreal)	July 2023
Great Lakes Mathematical Physics Meeting	June 2022,2023,2024,2025
Ohio River Analysis Meeting	March 2023,2024,2025
Graduate Student Colloquium (Kentucky) <i>Organizer</i>	January 2022–December 2022

 TEACHING

Primary Instructor*University of Kentucky*

- Math for Elementary School Teachers
- Differential Equations

Teaching Assistant*University of Kentucky*

- Multivariable Calculus
- Calculus I
- Differential Equations

Grader*University of Kentucky & Oberlin College*

- Differential Equations
- Matrix Algebra
- Multivariable Calculus
- Calculus I
- Mechanics and Relativity (physics)

Undergraduate Analysis Dedicated Tutor

September 2020 – December 2020

*Oberlin College***Physics 110 (Mechanics and Relativity) Lab Assistant**

September 2019 – December 2019

Oberlin College

 SKILLS

Computer Programs: Python, MATLAB, Mathematica, LaTeX**Language:** Japanese (Native), English (Fluent)