IZAK OLTMAN

ioltman@northwestern.edu ◇ https://ioltman.github.io/

RESEARCH INTERESTS

Semiclassical analysis and random perturbations of non-self-adjoint operators.

EMPLOYMENT

Northwestern University *Fall 2024 - Present*
NSF RTG Fellow and Boas Assistant Professor
Postdoc Supervisor: Jared Wunsch

EDUCATION

University of California, Berkeley *Fall 2019 - Spring 2024*
Ph.D. in Mathematics
Advisor: Maciej Zworski
Qualifying Exam: Partial differential equations, harmonic analysis, and probability

University of Wisconsin, Madison *Fall 2015 - 2019*
Bachelor of Arts – College of Letters and Science
Major in Mathematics with Honors
Certificate in Physics

Budapest Semesters in Mathematics *Spring 2018*
Budapest, Hungary

AWARDS

NSF Graduate Research Fellowship *2021 - 2024*
Dowling Scholarship - UW Madison Math Department *2018*
Dean's List - UW Madison *2015 - 2019*
Vilas Scholarship - UW Madison *2015 - 2018*
AMETEK Scholarship *2015 - 2019*
Green House Summer Research Scholarship - UW Madison *Summer 2016*

PUBLICATIONS AND PREPRINTS

7. *The spectrum of the Scottish flag operator* with Frédéric Klopp (*in preparation*)
6. *Randomly perturbed Fredholm operators of index* 0 with Simon Becker and Martin Vogel (*in preparation*)
5. *Absence of small magic angles for disordered tunneling potentials in twisted bilayer graphene* with Simon Becker and Martin Vogel (arXiv:2402.12799) – *submitted*
4. *Magic angle (in)stability and mobility edges in disordered Chern insulators* with Simon Becker and Martin Vogel (arXiv:2309.02701) – *submitted*
3. *Particle trajectories for quantum maps* with Yonah Borns-Weil (arXiv:2210.03224) – in **Annales Henri Poincaré**, (2023), 10-40
2. *A probabilistic Weyl-law for perturbed Berezin–Toeplitz operators* **Journal of Spectral Theory**, 13.2(2023), 727-754 (arXiv:2207.09599)
1. *An exotic calculus of Berezin–Toeplitz operators* (arXiv:2207.09596) – *submitted*

TALKS/PRESENTATIONS

- *International workshop on 2D and moiré materials.* July 2024. Roscoff, France.
- *Harmonic Analysis and Differential Equations Seminar.* February 2024. UC Berkeley.
- *Analysis Seminar.* November 2023. University of Strasbourg.
- *Spectral Theory Seminar.* November 2023. UC Berkeley.
- *Microlocal and Probabilistic Methods in Geometry and Dynamics Summer School (poster presentation).* July 2023. Paris, France.
- *The 24th Midrasha Mathematicae Random Schrödinger Operators and Random Matrices (poster presentation).* May 2023. IIAS Jerusalem.
- *Harmonic Analysis and Differential Equations Seminar.* April 2023. UC Berkeley.
- *PDE and Mathematical Physics Seminar.* November 2022. ETH Zurich.
- *Probability and Mathematical Physics Conference (poster presentation).* July 2022. Helsinki, Finland.
- *Mathematical Challenges in Quantum Mechanics (poster presentation).* June 2022. Como, Italy.
- *6th Great Lakes Mathematical Physics Conference.* June 2022. Michigan State University.
- *Harmonic Analysis and Differential Equations Seminar.* February 2022. UC Berkeley.

TEACHING

Graduate Student Instructor at UC Berkeley:

- Math 128a: numerical analysis (Spring 2021)
- Math 16a: calculus and analytic geometry (Fall 2021)
- Stat 134: concepts of probability (Summer 2020)
- Math 53: multivariable calculus (Spring 2020)
- Math 54: linear algebra and differential equations (Fall 2019)

CODING LANGUAGES

LaTeX, MATLAB, Python

SERVICE

Officer of Berkeley's Math Graduate Student Association (2020 - 2023)

Private Math Tutor for Berkeley Undergraduates (2019 - 2024)

Organizer of UC Berkeley's Semi-classical Analysis Seminar (2022)

Organizer of UC Berkeley's Harmonic Analysis and Differential Equations Student Seminar (2023 - 2024)