

# Elliot Kienzle

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## Education

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- BA**    **University of Maryland**, Mathematics and Physics    Sept 2018 – May 2022
- GPA: 3.92/4.0, with high honors
- PhD**    **University of California, Berkeley**, Mathematics    Sept 2022 – present
- Advisor: Constantin Teleman
  - Studying symplectic packing problems using geometric quantization

## Publications

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- Hyperbolic Band Theory through Higgs Bundles**    May 2022
- Elliot Kienzle*, Steven Rayan
- Advances in Mathematics, Volume 409, Part B, 2022

## Talks

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- From Hyperbolic Crystals to Stable Bundles: Moduli spaces in spectral theory**    Oct 2022
- MSRI gauge theory graduate student seminar. [Video](#) 📺
- Is math big or small?**    Jan 2026
- Rigorous Illustrations - Their creation and evaluation for mathematical research. [Video](#) 📺
- Hyperbolic Band Theory through Higgs Bundles**
- AMS Contributed Paper Session on Applied Topics - Quantum Theory, Mechanics, and Fluids, Joint Mathematics Meeting (April 2022)
  - Geometry and Mathematical Physics Seminar at University of Saskatchewan (September 2021)
- Manifesting Mathematical Worlds in Digital Art**    July 2024
- Illustrating math seminar. [Video](#) 📺
- To draw a torus**    Aug 2025
- Illustrating Mathematics: Reunion/Expansion. [Video](#) 📺
- Vignettes of caustic and catastrophes**    Oct 2024
- USF Math undergraduate seminar

## Teaching

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- Graduate student instructor**, UC Berkeley    Fall 2022 - Spring 2023
- MATH53, Multivariable calculus (Fall 2022)
  - MATH54, Linear algebra (Spring 2023)
- Math crafts: How things curve**, UC Berkeley    Spring 2024
- Hands-on introduction to curvature and creative mathematics. Each week, we built a arts and crafts project exploring curvature and its many manifestations.
- MATH299G: Geometry in physics**, University of Maryland    Fall 2021
- Seminar style to differential forms and geometry, and their role in physics. Fo-

cused on the differential forms interpretation of maxwells equations, and the sym-  
pelctic geometry formulation of classical mechanics.

## Service and Mentorship

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### Directed reading program mentor

Fall 2023-Fall 2026

- Topics: Mirror symmetry, Chern-Weil theory, iterated function systems, Axiomatic geometry, Origami spirals

### Seminars organized

- Coloumb branch reading seminar (Spring 2023)
- Chern-Simons learning seminar (Spring 2024)
- Student Symplectic Seminar (Fall 2024, Summer 2025)

## Outreach

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### Exhibited mathematical art

- Mathematics and Art in Creation, Exhibition at Maison Poincare (April-July 2026)
- MathArt at MAA MathFest (August 2025)
- 'Intersections: Art, Truth, Humanity' at the Seattle Universal Math Museum (SUMM). (Spring 2025)
- JMM 2024 Mathematical art exhibition. (January 2024) [Link](#)

### Expand Your Horizons workshop leader

Spring 2024

- STEM outreach for middle school girls.

### Interpreter at National Museum of Mathematic (MoMath)

Summer 2022

- Worked as a docent, explaining mathematical concepts to members of the general public

## Awards

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### NSF Graduate research fellow

Fall 2023-Spring-2026

### John and Sabrina Kontner Endowed Scholarship (2022)

- Merit scholarship, University of Maryland Math department

### Strauss scholarship (2022)

- Awarded to one outstanding Mathematics major, University of Maryland

### Higginbotham scholarship (2022)

- Awarded to one outstanding Mathematics major, University of Maryland