

WILL HOFFER

WEBSITE: <https://willhoffer.com> ◊ EMAIL: email@willhoffer.com

EDUCATION

University of California, Riverside

Pursuing a PhD in Mathematics

Advisor: Michel Lapidus

September 2019 - Present

Overall GPA: 3.97/4.00

The Ohio State University

Bachelors of Science in Mathematics and Physics (*cum laude; with Honors in the Arts & Sciences*)

August 2015 - May 2019

RESEARCH

Research Interests

Resurgent Asymptotics

Fractal Geometry

Mathematical Physics

Publications

- W. Hoffer, A. Vengal, and V. Winstein, "The Structure of Biquandle Brackets," *Journal of Knot Theory and its Ramifications*, Vol. 29, Is. 6 (May 2020.) <https://doi.org/10.1142/S021821652050042X>

SELECTED SEMINAR AND CONFERENCE PRESENTATIONS

Functional Analysis and Mathematical Physics Seminar

December 2020

<https://www.fresnostate.edu/csm/math/colloquia-seminars/famp.html>

CSU Fresno

- *From Rainbows to Resurgence: Asymptotics of the Airy Function*

12/11/20

Fractal Research Group/Math. Physics and Dynamical Systems Seminar

2020-Present

<http://www.math.ucr.edu/~frgmpds/seminars.html>

UC Riverside

- *A First Introduction to Resurgence, Parts I & II*

4/16/20, 5/27/20

- *Rainbows Quantum Billiards, and the Birth of Reflections, Parts I & II*

10/22/20, 11/12/20

Young Mathematicians Conference

8/10/18 - 8/12/18

<https://ymc.osu.edu/program-schedule>

Ohio State/National Science Foundation

- *Combining Quandle Cohomological and State-Sum Polynomial Knot Invariants*

Shenandoah Undergraduate Mathematics and Statistics Conference

10/13/18

<http://www.jmu.edu/mathstat/sums/index.shtml>

James Madison University

- *Combining Biquandle Knot Invariants*

Knots & Graphs Program

Summers 2017, 2018

<https://people.math.osu.edu/chmutov.1/wor-gr-su18/wor-gr.htm>

Ohio State

- *Enhanced Kauffman bracket*

7/7/17

- *Tricoloring number of links*

7/21/17

- *Tricolorings, Keis, and Quandles*

6/25/18

- *Two cocycles of quandles and the state sum invariants*

7/9/18

- *Cohomology, biquandles, and bracket invariants*

7/23/18

RELEVANT EMPLOYMENT

Microtutorial Video Program

Mathematics Department

Spring 2020

University of California, Riverside

- Content creator for UCR's mathematics supplementary instructional videos project

Teaching Assistant

Mathematics Department

September 2019 - Present

University of California, Riverside

- TA & additional lecturer for courses including differential equations, calculus, linear algebra, etc.

Student Instructional Associate

Mathematics Department

August 2016 - Spring 2019

Ohio State

- TA & Grader for courses including precalculus, trigonometry, and algebra
- Tutor for the Mathematics and Statistics Learning Center

ACADEMIC ACHIEVEMENTS & ACCOLADES

First Place in the Research Poster Competition at James Madison's SUMS Conference 2018

Phi Beta Kappa Honor Society Member

Ohio State Maximus Scholarship & Mathematics Department Scholarship Recipient

Honor Student in both Mathematics & Physics Programs

Ohio State Dean's List (Multiple Semesters/Years)

SOFTWARE PROFICIENCY

Computer Languages

HTML/CSS/SCSS, Java/Javascript, Python, C/C++, Ruby, R, etc.

Software & Tools

Mathematica, LaTeX, Git/GitHub, MatLab, RStudio, VSCode, etc.

LEADERSHIP, VOLUNTEERING, & EXTRA-CURRICULARS

Peer Mentor Programs

Student Mentor

August 2016- May 2019

Ohio State

- Arts & Sciences Honors Program - Assist & acclimate new freshman in the honors program; help conduct & lead group discussions in a freshman survey course
- Mathematics Department - Individually paired with freshman in the department; meet and discuss progress and difficulties

Arts & Sciences Honors Committee

Student Representative

August 2017 - May 2019

Ohio State

- Student input at full committee meetings discussing budgets, university schedule overhaul, etc.

Club Leadership & Involvement

- Sigma Pi Sigma Physics Honorary Society, Vice President (2018-2019)
- Holography Club, Vice President (2015-2019)
- Radical Pi Mathematics Club, Society of Physics Students

Holography Gallery Showings

Conducted biannually

Winter 2015 - 2018

Hosted by Ohio State

- Featuring student and professional holographic artworks
- Multiple pieces and techniques, including pulse laser holography