

Luke Baker

Department of Mathematics
University of Oregon
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Education

Ph.D. in Mathematics

University of Oregon, Eugene, OR
2023 – Present
Advisor: Jason Murphy

B.S. in Pure Mathematics and Computer Science

Florida State University, Tallahassee, FL
Summa Cum Laude
2019 – 2023

Publications and Preprints

L. Baker, X. Li, and J. Murphy, *Approximate traveling waves for the focusing NLS with an external potential*. Submitted. [arXiv]

L. Baker, L. Campos, J. Murphy, and R. Scarpelli, *Threshold dynamics for the 3d radial cubic NLS with repulsive inverse-square potential*. Submitted. [arXiv]

L. Baker, *Scattering for the 2d NLS with inhomogeneous nonlinearities*. Submitted. [arXiv]

L. Baker and J. Murphy, *Scattering for the 1d NLS with inhomogeneous nonlinearities*. To appear in SIAM J. Math. Anal. [arXiv]

Talks

- 2025. University of Oregon Analysis Seminar.
 - 2026. Oregon State University Analysis Seminar.
 - 2026. ‘Recent developments in the dynamics of nonlinear PDEs’. ICM Satellite Conference at University of Washington
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Teaching Experience

Teaching Assistant:

- MATH 111Z – Precalculus 1: Functions (Fall 2023)
- MATH 243Z – Elementary Statistics (Fall 2024, Winter 2026, Spring 2026)

Lead Instructor:

- MATH 111Z – Precalculus 1: Functions (Winter 2024)
 - MATH 251 – Differential Calculus (Spring 2024, Fall 2025)
 - MATH 112Z – Precalculus 2: Trigonometry (Winter 2025)
 - MATH 253 – Calculus: Sequences and Series (Spring 2025)
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Awards and Funding

2021 L3 Harris Scholarship in Computer Science Recipient

2023 FSU CS Undergraduate Leadership Award Recipient

2023 Kenneth G. Boback Award for Undergraduate Math Recipient

Service and Outreach

2022-2023. Organizer, Volunteer, Problem Writer. ACM at FSU Programming Contest.

2024 - 2026. Volunteer, Eugene Math Festival.

2025. Supervisor, Directed reading program for undergraduates.

2025. Presenter, Research Presentation for UO Math Club.

2025. Panel member, Panel for undergraduates interested in graduate school.

2026. Bootcamp leader for incoming UO Math PhD students.