

Colby Shaw

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Research Interests

Low-dimensional topology, mapping class groups, geometric group theory, and hyperbolic 3-manifolds.

Education

Vanderbilt University , Ph.D. in Mathematics Advisor: Dan Margalit	2024–2029 (expected)
Georgia Institute of Technology , B.S. in Mathematics Minor in Computer Science (Computing and Intelligence)	2020–2024 GPA: 4.00

Research Papers

- [1] **A free generating set for the genus-two Torelli group.** In preparation.
- [2] **Unknotted curves on genus-one Seifert surfaces of Whitehead doubles**, with S. Dey, V. King, B. Tosun, and B. Trace, *Pacific Journal of Mathematics* **330** (2024), no. 1, 123–156.

Fellowships and Honors

University Graduate Fellowship , Vanderbilt University	2024–2027
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Talks and Presentations

<i>A free generating set for the genus-two Torelli group</i> , Lightning Talk Vanderbilt Colloquium Series: Groups, Geometry, and Dynamics, Vanderbilt University	July 2026
<i>Toward an explicit generating set for the genus-two Torelli group</i> Geometry and Group Theory Seminar, Vanderbilt University	February 2026
<i>Unknotted curves on Seifert surfaces</i> , Poster Georgia Tech Summer Research Poster Session	July 2022

Teaching Experience

Vanderbilt University	
Fall 2026	Teaching Assistant, Calculus II (MATH 1301)
Spring 2026	Teaching Assistant, Calculus II (MATH 1301)
Fall 2025	Teaching Assistant, Calculus I (MATH 1300)
2024–2025	Calculus Tutor

Georgia Institute of Technology	
2022	Tutor, Linear Algebra (MATH 1553)
2021	Tutor, Introduction to Proofs (MATH 2106)

Conferences and Workshops

2026	Vanderbilt Colloquium Series: Groups, Geometry, and Dynamics, Vanderbilt University
2026	Topology Students Workshop, SLMath
2026	Georgia Topology Summer School and Conference, University of Georgia
2026	Recent Progress in Topological and Geometric Structures in Low Dimensions, SLMath
2026	Pathways/Introductory Workshop: Topological and Geometric Structures in Low Dimensions, SLMath
2023	SEC Geometry and Topology Workshop, University of Alabama
2023	Georgia Topology Conference, University of Georgia