

Charles Reid

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Research Interests

I study differential geometry of moduli spaces with inspiration from quantum field theory. This has included higher rank Teichmüller theory, Hitchin components, homogeneous dynamics, negative curvature, tropical geometry, Hyperkähler Geometry, nonabelian hodge theory, 4D N=2 supersymmetric field theory, and complex Chern-Simons theory.

Education

BA in Mathematics at UC Berkeley

PhD in Mathematics at UT Austin (expected 2024, Advised by Daniel Freed and Jeffery Danciger)

Visiting Graduate Fellow at Harvard University

Preprints

Fock Bundles and Hitchin Components, October 6, 2023 (with Alexander Thomas and Georgios Kydonakis)

[arXiv:2310.04377](https://arxiv.org/abs/2310.04377) [math.DG]

Limits of Convex Projective Surfaces and Finsler Metrics, September 19, 2023

[arXiv:2309.10290](https://arxiv.org/abs/2309.10290) [math.DG]

Symmetries of 2D TQFTs and Equivariant Verlinde Formulas for General Groups, November 15, 2021 (with Sergei Gukov, Du Pei, and Ali Shehper)

[arXiv:2111.08032](https://arxiv.org/abs/2111.08032) [hep-th]

Invited talks

Universal Higher Teichmüller Spaces, October 14 2022, Oberwolfach Arbeitsgemeinschaft on Higher rank Teichmüller Theory

Limits of Convex Projective Structures and Finsler Metrics, October 18 2022, Heidelberg Geometry Seminar

Hyperkähler Geometry of the Moduli Space of Higgs Bundles, August 29 2023, Metrics on higher Teichmüller spaces workshop in Fréjus

Seminars Organized

UT Austin Junior Geometry and String Theory Seminar

Mapping class group learning seminar (Co-Organized with Casandra Monroe)

UT Austin Junior Geometry Seminar