

# Charles Reid

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## Research Interests

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I study character varieties of surfaces using techniques from analysis, algebraic geometry, dynamics, and quantum field theory.

## Education

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BA in Mathematics at UC Berkeley (Honors thesis advised by Alexander Givental)

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

Visiting Graduate Fellow at Harvard University

## Preprints

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**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

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**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

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UT Austin Junior Geometry and String Theory Seminar

Mapping class group learning seminar (with Casandra Monroe)

UT Austin Junior Geometry Seminar

## **Teaching and Mentorship**

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Led calculus discussion sections for 5 semesters

DRP mentor for 5 semesters

Texas Geometry Lab mentor

UT Austin Math Club talk "What can you hear about the shape of a drum?"

## **Languages**

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Native English speaker; conversational in Spanish and Mandarin Chinese