

Terry Dekun Song

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Research Interests

Topology of moduli spaces in algebraic geometry, weight filtration, Grothendieck ring of varieties, logarithmic and tropical geometry

Education

- 2022-present PhD in Mathematics, Trinity College, University of Cambridge, UK
Advisor: Prof Dhruv Ranganathan
Dissertation: *Topology and combinatorics of low genus mapping spaces to projective space*
- 2018-2022 MMath in Mathematics, St Peter's College, University of Oxford, UK
Advisor: Prof Balázs Szendrői
Part C Dissertation: *Borel equivariant Morava E-theory*, supervised by Dr Lukas Brantner

Preprints

- 2025 *Graph enumeration for moduli spaces of curves and maps*
with Siddarth Kannan. [arXiv]
Submitted.
- 2025 *Topology of genus one mapping spaces to projective space*
[Link]
- 2024 *The S_n -equivariant Euler characteristics of genus one stable maps*
with Siddarth Kannan. [arXiv]
Submitted to J. Reine Angew. Math., referee report pending.
- 2024 *The dual complex of $\mathcal{M}_{1,n}(\mathbb{P}^r, d)$ via the geometry of the Vakil–Zinger moduli space*
with Siddarth Kannan. [arXiv]
Submitted to Advances in Mathematics, submitted revision following positive referee report.

Teaching

- 2024-25 Examples classes for Part III Intersection Theory
Supervisions for Part IB Groups, Rings, and Modules, and Part II Riemann Surfaces
Total teaching time: 40 hr
- 2023-24 Supervisions for Part II Algebraic Topology, Algebraic Geometry, and Riemann Surfaces
Support sessions for Part IA Groups and Part III Algebraic Topology
Total teaching time: 60 hr
- 2022-23 Supervisions for Part II Algebraic Topology and Algebraic Geometry
Total teaching time: 30 hr

Talks

- Oct 2025 University of Sheffield
- Sep 2025 Mini-talk at workshop 'AlgTropCurves,' Bologna
- Jun 2025 Universität Paderborn
- Apr 2025 ETH Zürich
- Jan 2025 Calf meeting, Cambridge
- Nov 2024 Queen Mary, University of London
- Nov 2024 Mini-talk at AGNES, Dartmouth
- Sep 2024 Mini-talk at Tübingen summer school on tropical linear spaces
- Apr 2024 Fanosearch group meeting at Imperial

Prizes and Scholarships

- 2024 Smith-Knight & Rayleigh-Knight Prize Essay Award
£300, for essay on the logarithmic moduli space of hyperplane arrangements
- 2022 Cambridge Trust International Scholarship
Full funding for PhD at Cambridge.
- 2022 Gibbs Prize, Mathematical Institute, Oxford
Second place in Part C Mathematics examinations.
- 2021 Junior Mathematical Prize, Mathematical Institute, Oxford
Third place in Part B Mathematics examinations.