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

Employment

From August 2026 — Postdoctoral fellow, Cornell University, US
Mentor: Prof Rachel Webb
Supported by a Klarman fellowship.

Education

2022-2026 — 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

Publications

2026 — *The S_n-equivariant Euler characteristics of genus one stable maps*
with Siddarth Kannan. [arXiv]
To appear in J. Reine Angew. Math..

2026 — *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]
Advances in Mathematics.

Preprints

2026 — *Motivic quasimap wall-crossing for Grassmannians*
with Siddarth Kannan. [arXiv]
Submitted.

2026 — *Logarithmic Hilbert schemes of curves as weighted blow-ups and their integral Chow rings*
with Veronica Arena. [arXiv]
Submitted.

2026 *Topology of the Vakil–Zinger moduli space*
[arXiv]
Submitted.

2026 *Virtual Hodge numbers of $\mathcal{M}_{g,n}(\mathbb{P}^r, d)$: stability and calculations*
with Siddarth Kannan. [arXiv]
Submitted.

2025 *Graph enumeration for moduli spaces of curves and maps*
with Siddarth Kannan. [arXiv]
Submitted.

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

Jan 2026 University of Michigan, Ann Arbor

Jan 2026 AMS Special Session on Combinatorics and Moduli Spaces, Washington DC

Nov 2025 Queen Mary, University of London

Oct 2025 University of Sheffield

Jun 2025 Universität Paderborn

Apr 2025 ETH Zürich

Jan 2025 Calf meeting, Cambridge

Nov 2024 Queen Mary, University of London

Apr 2024 Fanosearch group meeting at Imperial

Prizes and Scholarships

2026 Klarman fellowship, Cornell University

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.