

Daigo Ito

Curriculum Vitae

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Department of Mathematics, University of California, Berkeley

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<https://daigoi.github.io/>

Research interests

Derived categories of coherent sheaves, birational geometry, tensor triangular geometry, homological mirror symmetry

Education

University of California, Berkeley

Berkeley, CA

Ph.D. in Mathematics

August 2021 – May 2026 (expected)

Advisor: David Nadler

Princeton University

Princeton, NJ

A.B. in Mathematics

September 2017 – May 25, 2021

Advisor: János Kollár, Coadvisor: Joaquín Moraga

Honors and fellowships

Simons Foundation Fellowship (Department of Mathematics, UC Berkeley) 2025

Summer Grant Award (Department of Mathematics, UC Berkeley) 2024

Phi Beta Kappa, Beta Chapter of New Jersey (Princeton University) 2021

Publications

1. **A new proof of the Bondal-Orlov reconstruction using Matsui spectra** (with Hiroki Matsui), *Bull. Lond. Math. Soc.*: Volume 57, Issue 7 (2025), [arXiv version](#).

Preprints

4. **Geometric construction of quiver tensor Products** (with John S. Nolan), [arXiv:2510.05277](#) (2025).
3. **A derived category analogue of the Nakai–Moishezon criterion** (with Noah Olander), [arXiv:2507.17681](#) (2025), submitted.
2. **Polarizations on a triangulated category**, [arXiv:2502.15621](#) (2025), submitted.
1. **Gluing of Fourier-Mukai partners in a triangular spectrum and birational geometry**, [arXiv:2309.08147](#) (2023), submitted.

Teaching

Graduate student instructor (University of California, Berkeley)

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| Math 52: Calculus | Spring 2026 |
| Math 16A: Analytic Geometry and Calculus | Fall 2024 |
| Math 1B: Calculus | Spring 2024 |
| Math 1B: Calculus | Fall 2023 |
| Math 1B: Calculus | Fall 2022 |
| Math 54: Linear Algebra and Differential Equations | Spring 2022 |
| Math 1B: Calculus | Fall 2021 |

Mentoring	Directed reading program (University of California, Berkeley)	
	Nathan Han (ongoing) (topics: Introduction to algebraic curves)	Fall 2025
	Nathan Mann (topics: Introduction to algebraic geometry and 27 lines)	Spring 2025
	Junchang Wang (topics: Riemann surfaces and scheme theory)	Fall 2024
	Vivasvat Vatatmaja (topics: Derived category on an elliptic curve)	Spring 2024
	Vivasvat Vatatmaja (topics: Model categories and \mathbb{A}^1 -homotopy theory)	Spring 2023
Research talks	Conferences & Workshops	
	- <i>AMS 2026 Spring Eastern Sectional, Special Session on Derived Categories, Stability Conditions, and Homological Mirror Symmetry</i>	
	Boston College, USA	March 2026
	- <i>Joint Mathematics Meetings (JMM) 2026, Special Session on Moduli of Surfaces</i>	
	Washington, D.C., USA	January 2026
	- <i>Western Algebraic Geometry Symposium</i> (flash talk)	
	University of Oregon, USA	November 2025
	- <i>Derived Representation Theory and Triangulated Categories</i> (contributed talk)	
	Aristotle University of Thessaloniki, Greece	June 2025
	- <i>Triangulated Categories in Algebra and Geometry</i> (contributed talk)	
	Charles University and Czech Academy of Sciences, Czechia	September 2024
	- <i>Simple-mindedness, Silting and Stability</i> (flash talk)	
	Lancaster University, UK	July 2024
	- <i>Classifications of Subcategories of Abelian and Triangulated Categories</i>	
	Tokyo University of Agriculture and Technology, Japan	June 2024
	Seminars	
	- <i>D.A.N.C.E. (Derived And Non-Commutative Enthusiasts) Seminar</i>	May 2026
	- <i>Caletech/USC Algebra & Geometry Seminar</i>	April 2026
	- <i>Syzygies and Mirror Symmetry Virtual Seminar</i>	April 2026
	- <i>BIMSA Seminar on Disquisitions on Monoidal Categories and Operads</i>	March 2026
	- <i>UC Santa Barbara Seminar on Geometry and Arithmetic</i>	January 2026
	- <i>UCLA Algebra Seminar</i>	November 2025
	- <i>Stony Brook Algebraic Geometry Seminar</i>	November 2025
	- <i>University of Washington Algebra and Algebraic Geometry Seminar</i>	October 2025
	- <i>UC Berkeley Commutative Algebra and Algebraic Geometry Seminar</i>	October 2025
	- <i>Utah Algebraic Geometry Seminar</i>	September 2025
	- <i>UC Berkeley Commutative Algebra and Algebraic Geometry Seminar</i>	October 2024
	- <i>Tokyo-Nagoya Algebra Seminar</i>	June 2024
	- <i>UC Berkeley Commutative Algebra and Algebraic Geometry Seminar</i>	October 2023
Poster presentations	- <i>Workshop on Mirror Symmetry and Related Topics</i> (upcoming)	
	Kyoto University, Japan	December 2025
	- <i>Western Algebraic Geometry Symposium</i>	
	University of Oregon, USA	November 2025

- *Workshop on Derived Categories, Noncommutative Geometry and Deformation Theory*
Hotel San Michele, Cetraro, Italy July 2025
- *Western Algebraic Geometry Symposium*
The University of Arizona, USA November 2024
- *Western Algebraic Geometry Symposium*
University of California, Davis, USA April 2024
- *SLMath Workshops on Commutative Algebra and Noncommutative Algebraic Geometry*
SLMath (formerly known as MSRI), USA Spring 2024
- *Higher Dimensional Algebraic Geometry: James 60*
University of California, San Diego, USA January 2024

Organized seminars	<i>Reading group on K3 surfaces and derived categories</i>	Spring 2024
	<i>Geometric Representation Theory Seminar</i> (with Ansuman Bardalai)	Spring 2024
	<i>Geometric Representation Theory Seminar</i> (with Ansuman Bardalai)	Fall 2023
	<i>Reading group on homological mirror symmetry for elliptic curves</i>	Spring 2023
	<i>Reading group on Milnor's characteristic classes</i>	Summer 2022

Skills Python (SageMath)