Daigo Ito

Curriculum Vitae

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https://daigoi.github.io/

Research interests	Derived categories of coherent sheaves in algebraic geometry, homological mirror symmetry, birational geometry

Education

University of California, Berkeley	Berkeley, CA
Ph.D. in Mathematics	August 2021 – Present
Advisor: David Nadler	
Princeton University	Princeton, NJ
A.B. in Mathematics	September 2017 – May 2021
Advisor: János Kollár, Coadvisor: Joaquín Moraga	

Honors and fellowships

Simons Foundation Fellowship (Dept. of Mathematics, UC Berkeley)	2025
Phi Beta Kappa (Beta Chapter of New Jersey)	2021

Publications

4. **A derived category analogue of the Nakai–Moishezon criterion** (j.w. Noah Olander), *preprint*, arXiv:2507.17681 (2025).

3. **Polarizations on a triangulated category**, *preprint*, arXiv:2502.15621 (2025).

2. **A new proof of the Bondal-Orlov reconstruction using Matsui spectra** (j.w. Hiroki Matsui), *Bull. Lond. Math. Soc.*: Volume 57, Issue 7 (2025), arXiv.

1. **Gluing of Fourier-Mukai partners in a triangular spectrum and birational geometry**, *under review*, arXiv:2309.08147 (2023).

Teaching

Graduate student instructor (University of California, Berkeley)

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 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	*Derived Representation Theory and Triangulated Categories*	
	Aristotle University of Thessaloniki, Greece	June 2025
	Commutative Algebra and Algebraic Geometry Seminar	
	University of California, Berkeley, USA	October 2024
	Triangulated Categories in Algebra and Geometry	
	Charles University and Czech Academy of Sciences, Czechia	September 2024
	Simple-mindedness, Silting and Stability	
	Lancaster University, UK	July 2024
	Tokyo-Nagoya Algebra Seminar	
	University of Tokyo & Nagoya University (online), Japan	June 2024
	Classifications of Subcategories of Abelian and Triangulated Categories	
	Tokyo University of Agriculture and Technology, Japan	June 2024
Poster presentations	*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	*Reading group on K3 surfaces and derived categories*	Spring 2024
	Geometric Representation Theory Seminar (with Ansuman Bardalai)	Spring 2024
	Geometric Representation Theory Seminar (with Ansuman Bardalai)	Fall 2023
	Reading group on homological mirror symmetry for elliptic curves	Spring 2023
	Reading group on Milnor's characteristic classes	Summer 2022