

Daigo Ito

Curriculum Vitae

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<https://daigo.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 – Present
Advisor: David Nadler	

Princeton University	Princeton, NJ
A.B. in Mathematics	September 2017 – May 2021
Advisor: János Kollár, Coadvisor: Joaquín Moraga	

Honor and fellowship

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)	2021

Publication

1. **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 version](#).

Preprint

1. **A derived category analogue of the Nakai–Moishezon criterion** (j.w. Noah Olander), [arXiv:2507.17681](#) (2025).
2. **Polarizations on a triangulated category**, [arXiv:2502.15621](#) (2025).
3. **Gluing of Fourier-Mukai partners in a triangular spectrum and birational geometry**, [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 Han (ongoing)	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

- <i>Joint Mathematics Meetings (JMM), Special Session on Moduli of Surfaces</i> (upcoming)	
Washington, D.C., USA	January 2026
- <i>Algebraic Geometry Seminar</i> (upcoming)	
Stony Brook University, USA	November 2025
- <i>Algebra and Algebraic Geometry Seminar</i> (upcoming)	
University of Washington, USA	October 2025
- <i>Algebraic Geometry Seminar</i> (upcoming)	
The University of Utah, USA	September 2025
- <i>Derived Representation Theory and Triangulated Categories</i>	
Aristotle University of Thessaloniki, Greece	June 2025
- <i>Commutative Algebra and Algebraic Geometry Seminar</i>	
University of California, Berkeley, USA	October 2024
- <i>Triangulated Categories in Algebra and Geometry</i>	
Charles University and Czech Academy of Sciences, Czechia	September 2024
- <i>Simple-mindedness, Silting and Stability</i>	
Lancaster University, UK	July 2024
- <i>Tokyo-Nagoya Algebra Seminar</i>	
University of Tokyo & Nagoya University, Japan (online)	June 2024
- <i>Classifications of Subcategories of Abelian and Triangulated Categories</i>	
Tokyo University of Agriculture and Technology, Japan	June 2024
- <i>Commutative Algebra and Algebraic Geometry Seminar</i>	
University of California, Berkeley, USA	October 2023

Poster presentations

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