

Yining Zhang

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Employment	Lecturer <i>Singapore University of Technology and Design</i> , Singapore	01/2024–present
	Research Fellow <i>Singapore University of Technology and Design</i> , Singapore	09/2022–01/2024
	Visiting Assistant Professor <i>Department of Mathematics, University of Colorado</i> , Boulder, CO, USA	08/2019–05/2022
Education	Ph.D. in Mathematics <i>Indiana University</i> , Bloomington, IN, USA Thesis title: Cyclic pairings and noncommutative Poisson structures Thesis Advisor: Ajay C. Ramadoss	08/2013–08/2019
Research Interests	Homological algebra, homotopical algebra, and noncommutative geometry Applications of homological algebra to artificial intelligence (AI)	
Publications & Preprints	<ol style="list-style-type: none">1. <i>Curved Koszul duality and cyclic (co)homology</i>. Preprint (2021), arXiv:2110.04893.2. <i>Hodge decomposition of string topology</i> (joint with Yu. Berest and A. C. Ramadoss). <i>Forum Math. Sigma</i> 9 (2021), e33.3. <i>Cyclic pairings and derived Poisson structures</i> (joint with A. C. Ramadoss). <i>New York J. Math.</i> 25 (2019), 1–44.4. <i>Dual Hodge decompositions and derived Poisson brackets</i> (joint with Yu. Berest and A. C. Ramadoss). <i>Selecta Math. (N.S.)</i> 23 (2017), no. 3, 2029–2070.	
Invited Talks	<ol style="list-style-type: none">1. Curved Koszul duality and cyclic (co)homology <i>Topology Seminar</i>, Bowling Green State University, Bowling Green, OH, USA2. Curved Koszul duality and cyclic (co)homology <i>Deformation Theory Seminar</i>, University of Pennsylvania, Philadelphia, PA, USA3. Hodge decomposition of string topology <i>Topology Seminar</i>, Purdue University, West Lafayette, IN, USA4. Derived Poisson structures and derived representation schemes <i>Geometry and Topology Seminar</i>, Sichuan University, Chengdu, China5. Derived Poisson structures and derived representation schemes <i>Postdoc Seminar</i>, BICMR, Peking University, Beijing, China	<div>March 2022</div> <div>Nov. 2021</div> <div>April 2020</div> <div>Dec. 2018</div> <div>Dec. 2018</div>

	6. Dual Hodge decompositions and derived Poisson brackets <i>Geometry and Physics Seminar</i> , Yau Mathematical Sciences Center, Tsinghua University, Beijing, China	June 2017
	7. Dual Hodge decompositions and derived Poisson brackets <i>Algebra Seminar</i> , Capital Normal University, Beijing, China	June 2017
Seminar Talks	1. Curved Koszul duality and cyclic (co)homology <i>Noncommutative Geometry Seminar</i> , University of Colorado, Boulder, CO, USA	Nov. 2021
	2. Hodge decomposition of string topology <i>Noncommutative Geometry Seminar</i> , University of Colorado, Boulder, CO, USA	April 2020
	3. The Kontsevich-Rosenberg principle for bi-symplectic forms <i>Graduate Student Poisson Seminar</i> , Indiana University, Bloomington, IN, USA	April 2018
	4. Poisson homology and cohomology <i>Graduate Student Poisson Seminar</i> , Indiana University, Bloomington, IN, USA	February 2018
	5. Graded and DG Poisson algebras <i>Graduate Student Poisson Seminar</i> , Indiana University, Bloomington, IN, USA	January 2018
	6. Poincaré duality CDGA and Hochschild homology of coalgebras <i>Graduate Student String Topology Seminar</i> , Indiana University, Bloomington, IN, USA	Nov. 2017
	7. Smoothness: Commutative vs Non-commutative <i>Graduate Student Algebra Seminar</i> , Indiana University, Bloomington, IN, USA	October 2016
Teaching Experience	<p><i>Singapore University of Technology and Design</i>, Singapore</p> <p>Modelling and Analysis Fall 2024</p> <p>Modeling Space and Systems Spring 2024</p> <p>Integrated Learning Programme (ILP) Mathematics Summer 2024</p> <p><i>University of Colorado</i>, Boulder, CO, USA</p> <p>Homological Algebra Spring 2022</p> <p>Introduction to Probability Theory Fall 2021, Spring 2021, Fall 2020, Spring 2020</p> <p>Linear Algebra for Non-math Majors Spring 2021, Spring 2020, Fall 2019</p> <p>Linear Algebra for Math Majors Spring 2022, Summer 2020</p> <p><i>Indiana University</i>, Bloomington, IN, USA</p> <p>Pre-Calculus Math with Trigonometry Fall 2018</p> <p>Pre-Calculus Math</p>	

Fall 2017
Calculus I Recitation
Fall 2016 and Fall 2015

Mentorship	Research Experiences for Undergraduates Derived Poisson Structure on \mathfrak{sl}_2 (2 undergraduate students and 1 high school student) <i>University of Colorado, Boulder, CO, USA</i>	Summer 2021
	Directed Reading Program Lie algebras (1 undergraduate student) <i>Indiana University, Bloomington, IN, USA</i>	Spring 2017
Honors and Awards	Glenn Schober Memorial Travel Award <i>Indiana University, Bloomington, IN, USA</i>	2015
	Robert E. Weber Memorial Award (given annually to the best students on written qualifying exams) <i>Indiana University, Bloomington, IN, USA</i>	2014
	College of Arts and Sciences Top Up Award <i>Indiana University, Bloomington, IN, USA</i>	2013
Referee for	• New York Journal of Mathematics	
Service	Organizer of Noncommutative Geometry Seminar <i>University of Colorado, Boulder, CO, USA</i>	Spring 2020–Spring 2022
	Organizer of Graduate Student Poisson Seminar <i>Indiana University, Bloomington, IN, USA</i>	Spring 2018
	Co-organizer of Graduate Algebra Seminar <i>Indiana University, Bloomington, IN, USA</i>	Fall 2015
Languages	Chinese: Native English: Fluent	