

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	<ol style="list-style-type: none">March 2022Nov. 2021April 2020Dec. 2018Dec. 2018

- 6. Dual Hodge decompositions and derived Poisson brackets June 2017
Geometry and Physics Seminar,
 Yau Mathematical Sciences Center, Tsinghua University, Beijing, China
- 7. Dual Hodge decompositions and derived Poisson brackets June 2017
Algebra Seminar,
 Capital Normal University, Beijing, China

Seminar Talks

- 1. Curved Koszul duality and cyclic (co)homology Nov. 2021
Noncommutative Geometry Seminar,
 University of Colorado, Boulder, CO, USA
- 2. Hodge decomposition of string topology April 2020
Noncommutative Geometry Seminar,
 University of Colorado, Boulder, CO, USA
- 3. The Kontsevich-Rosenberg principle for bi-symplectic forms April 2018
Graduate Student Poisson Seminar,
 Indiana University, Bloomington, IN, USA
- 4. Poisson homology and cohomology February 2018
Graduate Student Poisson Seminar,
 Indiana University, Bloomington, IN, USA
- 5. Graded and DG Poisson algebras January 2018
Graduate Student Poisson Seminar,
 Indiana University, Bloomington, IN, USA
- 6. Poincaré duality CDGA and Hochschild homology of coalgebras Nov. 2017
Graduate Student String Topology Seminar,
 Indiana University, Bloomington, IN, USA
- 7. Smoothness: Commutative vs Non-commutative October 2016
Graduate Student Algebra Seminar,
 Indiana University, Bloomington, IN, USA

Teaching Experience

Singapore University of Technology and Design, Singapore
Modeling Space and Systems
 Spring 2024

University of Colorado, Boulder, CO, USA
Homological Algebra
 Spring 2022

Introduction to Probability Theory
 Fall 2021, Spring 2021, Fall 2020, Spring 2020

Linear Algebra for Non-math Majors
 Spring 2021, Spring 2020, Fall 2019

Linear Algebra for Math Majors
 Spring 2022, Summer 2020

Indiana University, Bloomington, IN, USA
Pre-Calculus Math with Trigonometry
 Fall 2018

Pre-Calculus Math
 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	<ul style="list-style-type: none"> • 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	