

WENYUAN LI

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KAP 424A, 3620 S. Vermont Ave, Los Angeles, CA, U.S.

EDUCATION

Department of Mathematics, Northwestern University	<i>09/2018-06/2023</i>
Ph.D. in Mathematics	
Advisor: Prof. Emmy Murphy & Prof. Eric Zaslow.	
Thesis: Some functoriality results on microlocal sheaves over Legendrians and Lagrangians.	
Department of Mathematics, Princeton University	<i>09/2021-06/2022</i>
Visiting graduate student	
Department of Mathematics, Peking University	<i>09/2015-07/2018</i>
B.A. in Mathematics	
Advisor: Prof. Huijun Fan,	
Undergraduate thesis: Geometry of Lagrangian submanifolds in symplectic manifolds.	
Department of Psychology, Peking University	<i>09/2014-09/2015</i>

EMPLOYMENT

Department of Mathematics, University of Southern California	<i>08/2023-05/2026</i>
Assistant Professor (RTPC) in Mathematics	

RESEARCH INTEREST

Symplectic topology, contact topology, microlocal sheaf theory, and their connections to noncommutative geometry, mirror symmetry, cluster algebras and persistence modules.

AWARDS AND GRANTS

AMS-Simons Travel Grant	<i>2024-2025</i>
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PAPERS AND PREPRINTS

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- Lagrangian cobordism functor in microlocal sheaf theory II**,
to appear in *J. Sympl. Geom.*, arXiv:2308.05089.
- Existence of generating families on Lagrangian cobordisms**,
to appear in *Math. Ann.*, arXiv:2308.05727.
- Lagrangian cobordism functor in microlocal sheaf theory I**,
J. Topol. 16.3 (2023): 1113-1166, arXiv:2108.10914.
- Regularity of positive microlocal holonomy via Hochschild homology**,
joint with Roger Casals, in preparation.
- Relative Calabi-Yau structure on microlocalization**,
joint with Christopher Kuo, arXiv preprint, arXiv:2408.04085.
- Duality, Künneth formulae and integral transforms in microlocal geometry**,
joint with Christopher Kuo, arXiv preprint, arXiv:2405.15211.
- Lagrangian cobordism and shadow distance in Tamarkin category**,
joint with Tomohiro Asano and Yuichi Ike, arXiv preprint, arXiv:2312.14429.
- Spherical adjunction and Serre functor from microlocalization**,
joint with Christopher Kuo, arXiv preprint, arXiv:2210.06643.

Conjugate fillings and Legendrian weaves,
joint with Roger Casals, arXiv preprint, arXiv:2210.02039.

Estimating Reeb chords using microlocal sheaf theory,
arXiv preprint, arXiv:2106.04079.

RESEARCH TALKS

AMS Western Sectional Meeting, Non-commutative algebras in representation theory and topology (short talk) TBA	<i>Oct 26, 2024</i>
Shanghai Jiao Tong University Topology Seminar Structural results of microlocal sheaf categories for Legendrians	<i>Jul 16, 2024</i>
China Academy of Science AMSS Topology Seminar Relative Calabi-Yau structures for microlocal sheaves/Fukaya categories	<i>Jul 10, 2024</i>
UC Riverside Geometry & Topology Seminar Relative Calabi-Yau structures for microlocal sheaves/Fukaya categories	<i>May 10, 2024</i>
UC Davis Algebraic Geometry Seminar Relative Calabi-Yau structures for microlocal sheaves	<i>Mar 13, 2024</i>
Stanford Symplectic Geometry Seminar Generating families on Lagrangian cobordisms	<i>Mar 11, 2024</i>
Duke Geometry & Topology Seminar Structural results of microlocal sheaf categories for Legendrians	<i>Feb 19, 2024</i>
15th International Symposium of Natural Sciences, INU (online) Generating families on Lagrangian cobordisms	<i>Oct 30, 2023</i>
Claremont Topology Seminar Generating families on Lagrangian cobordisms	<i>Oct 24, 2023</i>
LSU Geometry & Topology Seminar Conjugate fillings and Legendrian weaves	<i>Oct 11, 2023</i>
Caltech/USC Algebra & Geometry Seminar Lagrangian cobordism functor in microlocal sheaf theory	<i>Oct 05, 2023</i>
USC Geometry & Topology Seminar Lagrangian cobordism functor in microlocal sheaf theory	<i>Aug 21, 2023</i>
Peking University Algebra & Geometry Mini Forum Duality and spherical adjunction from microlocalization	<i>Aug 01, 2023</i>
Georgia Topology Conference 2023 Lightning talk - Conjugate fillings and Legendrian weaves	<i>May 25, 2023</i>
Tianjin University Geometry & Topology Seminar (online) Conjugate fillings and Legendrian weaves	<i>Dec 16, 2022</i>
2nd Global Youth Forum of IGP, USTC (online) Lagrangian cobordism functor in sheaf theory	<i>Dec 14, 2022</i>
Boston College Geometry & Topology Seminar Conjugate fillings and Legendrian weaves	<i>Dec 01, 2022</i>

Northwestern Geometry & Physics Seminar Duality and spherical adjunction for microlocal sheaves	<i>Nov 03, 2022</i>
Columbia Symplectic Geometry, Gauge Theory & Categorification Seminar Duality and spherical adjunction for microlocal sheaves	<i>Oct 14, 2022</i>
UIUC Symplectic & Poisson Geometry Seminar Conjugate fillings and Legendrian weaves	<i>Oct 03, 2022</i>
Uppsala Symplectic Geometry Seminar (online) Lagrangian cobordism functor in sheaf theory	<i>Sep 29, 2022</i>
Michigan State University Geometry & Topology Seminar Lagrangian cobordism functor in microlocal sheaf theory	<i>Mar 01, 2022</i>
Symplectic Zoominar (CRM-Montréal, Princeton/IAS, Tel Aviv, and Paris) Short talk - Estimating Reeb chords using microlocal sheaf theory	<i>Dec 17, 2021</i>

EXPOSITORY TALKS

Legendrian Contact Homology Learning Seminar organized by Roman Krutowski Lagrangian cobordism functor in microlocal sheaf theory	<i>Nov 17, 2023</i>
Graduate Student Seminar at Northwestern University Families of functions and Lagrangian submanifolds	<i>May 12, 2023</i>
Symplectic ‘N’ Contact Topology Early Career Workshop Exotic Weinstein structure with many closed Lagrangians	<i>Aug 09, 2022</i>
Virtual Kylerec Student Seminar 2021 An introduction to loose Legendrians in high dimensions	<i>Jun 15, 2021</i>
Graduate Student Seminar at Northwestern University Meromorphic differential equations and Riemann-Hilbert correspondence	<i>Feb 19, 2021</i>
Graduate Student Seminar at Northwestern University Does symplectic topology of T^*M remember the smooth topology of M ?	<i>Nov 13, 2020</i>
Graduate Student Seminar at Northwestern University Asymptotically flat symplectic manifolds	<i>Apr 19, 2019</i>
Mirror Symmetry Seminar organized by Professor Huijun Fan & Professor Bo Dai Keating’s Lagrangian tori in four-dimensional Milnor fibers Lagrangian surgery and computations of Maslov index	<i>Oct, 2017</i>

TEACHING EXPERIENCE

MATH 225, Differential equations and linear algebra, instructor	<i>Fall 2024</i>
MATH 126g, Calculus II, instructor	<i>Spring 2024</i>
MATH 126g, Calculus II, instructor	<i>Fall 2023</i>
GRE Math Sub preparation, Causeway Postbaccalaureate Certificate Program, instructor	<i>Summer 2022</i>
MATH 300-BR, Foundations of higher mathematics, TA	<i>Summer 2022</i>
MATH 290-3, MENU Linear algebra and multivariable calculus III, TA	<i>Spring 2021</i>
MATH 330-3, Abstract algebra III, TA	<i>Spring 2021</i>
MATH 290-2, MENU Linear algebra and multivariable calculus II, TA	<i>Winter 2021</i>
MATH 330-2, Abstract algebra II, TA	<i>Winter 2021</i>

MATH 290-1, MENU Linear algebra and multivariable calculus I, TA	<i>Fall 2020</i>
MATH 330-1, Abstract algebra I, TA	<i>Fall 2020</i>
MATH 230-1, Multi variable differential calculus, TA	<i>Spring 2020</i>
MATH 230-1, Multi variable differential calculus, TA	<i>Winter 2020</i>
MATH 220-1, Single variable differential calculus, TA	<i>Fall 2019</i>

SERVICE AND OUTREACH

Coorganizer of AMS Special Session on Geometry and Topology of Contact and Symplectic Manifolds	<i>Fall 2024</i>
Coorganizer of Los Angeles Workshop on Representation and Geometry	<i>Summer 2024</i>
Coorganizer of Caltech/USC joint Algebra & Geometry Seminar	<i>Fall 2024–</i>
Coorganizer of USC Geometry & Topology Seminar	<i>Fall 2023–</i>
ZbMATH Open Reviewer	<i>Fall 2023–</i>
Directed reading program at Northwestern University	<i>Spring 2023</i>
Directed reading program at Northwestern University	<i>Spring 2021</i>
Northwestern Association for Women in Mathematics mentoring program	<i>Spring 2021</i>
Northwestern Putnam training sessions	<i>Fall 2019</i>
Northwestern Putnam training sessions	<i>Fall 2018</i>

ATTENDED CONFERENCES

Non-commutative algebras in representation theory and topology, AMS sectional meeting 2024	<i>Oct 2024</i>
The topology and geometry of contact and symplectic manifolds, AMS sectional meeting 2024	<i>Oct 2024</i>
The Los Angeles Workshop on Representations and Geometry 2024	<i>Jun 2024</i>
High dimensional Contact Topology, AIM workshop	<i>Apr 2024</i>
Recent Developments in Noncommutative Algebraic Geometry	<i>Apr 2024</i>
Introductory Workshop: Noncommutative Algebraic Geometry	<i>Feb 2024</i>
Mirror Symmetry and Syzygies, AIM workshop	<i>Sep 2023</i>
Symplectic Paradise - translating manifold topology to a symplectic setting	<i>Aug 2023</i>
The Los Angeles Workshop on Representations and Geometry 2023	<i>Jun 2023</i>
Georgia Topology Conference 2023	<i>Apr 2023</i>
Cluster Algebras and Braid Varieties, AIM workshop	<i>Jan 2023</i>
Floer Homotopical Methods in Low Dimensional and Symplectic Topology	<i>Nov 2022</i>
Introductory Workshop: Floer Homotopy Theory (attended virtually)	<i>Sep 2022</i>
Connection Workshop: Floer Homotopy Theory (attended virtually)	<i>Sep 2022</i>
Symplectic ‘N’ Contact Topology Early Career Workshop	<i>Aug 2022</i>
Mirror Symmetry for Looijenga Interior and Beyond, IMBM (attended virtually)	<i>Jul 2022</i>
Braids in Symplectic and Algebraic Geometry, ICERM (attended virtually)	<i>Mar 2022</i>
Recent Developments in Lagrangian Floer Theory, SCGP	<i>Mar 2022</i>
Workshop on the h -Principle and Beyond, IAS	<i>Nov 2021</i>
Special Session on Legendrian Knots and Surfaces, AMS sectional meeting (virtual)	<i>Apr 2021</i>
Graduate Student Topology and Geometry Conference (virtual)	<i>Apr 2021</i>
Homological Mirror Symmetry and Applications, IMSA (virtual)	<i>Jan 2021</i>
Legendrians, Cluster Algebras, and Mirror Symmetry (virtual)	<i>Jan 2021</i>
Floer-theoretic and Algebro-geometric Aspects of SYZ Mirror Symmetry	

(virtual)	<i>Sep 2020</i>
Special Session on Computational Aspects of Symplectic Topology,	
AMS sectional meeting 2020 (virtual)	<i>Apr 2020</i>
Homological Mirror Symmetry and Topological Recursion, IMSA	<i>Jan 2020</i>