

# WENYUAN LI

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

## EDUCATION

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

## EMPLOYMENT

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

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

## PAPERS AND PREPRINTS

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- Existence of generating families on Lagrangian cobordisms**,  
to appear in *Mathematische Annalen*, arXiv:2308.05727.
- Lagrangian cobordism functor in microlocal sheaf theory I**,  
*Journal of Topology* 16.3 (2023): 1113-1166, arXiv:2108.10914.
- Relative Calabi-Yau structure on microlocalization**,  
joint with Christopher Kuo, in preparation.
- 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.
- Lagrangian cobordism functor in microlocal sheaf theory II**,  
arXiv preprint, arXiv:2308.05089.
- 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

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<b>UC Riverside Geometry &amp; Topology Seminar</b> Relative Calabi-Yau structures for microlocal sheaves/Fukaya categories	<i>May 10, 2024</i>
<b>UC Davis Algebraic Geometry Seminar</b> Relative Calabi-Yau structures for microlocal sheaves	<i>Mar 13, 2024</i>
<b>Stanford Symplectic Geometry Seminar</b> Generating families on Lagrangian cobordisms	<i>Mar 11, 2024</i>
<b>Duke Geometry &amp; Topology Seminar</b> Structural results of microlocal sheaf categories for Legendrians	<i>Feb 19, 2024</i>
<b>15th International Symposium of Natural Sciences, INU (online)</b> Generating families on Lagrangian cobordisms	<i>Oct 30, 2023</i>
<b>Claremont Topology Seminar</b> Generating families on Lagrangian cobordisms	<i>Oct 24, 2023</i>
<b>LSU Geometry &amp; Topology Seminar</b> Conjugate fillings and Legendrian weaves	<i>Oct 11, 2023</i>
<b>Caltech/USC Algebra &amp; Geometry Seminar</b> Lagrangian cobordism functor in microlocal sheaf theory	<i>Oct 05, 2023</i>
<b>USC Geometry &amp; Topology Seminar</b> Lagrangian cobordism functor in microlocal sheaf theory	<i>Aug 21, 2023</i>
<b>Peking University Algebra &amp; Geometry Mini Forum</b> Duality and spherical adjunction from microlocalization	<i>Aug 01, 2023</i>
<b>Georgia Topology Conference 2023</b> Lightning talk - Conjugate fillings and Legendrian weaves	<i>May 25, 2023</i>
<b>Tianjin University Geometry &amp; Topology Seminar (online)</b> Conjugate fillings and Legendrian weaves	<i>Dec 16, 2022</i>
<b>2nd Global Youth Forum of IGP, USTC (online)</b> Lagrangian cobordism functor in sheaf theory	<i>Dec 14, 2022</i>
<b>Boston College Geometry &amp; Topology Seminar</b> Conjugate fillings and Legendrian weaves	<i>Dec 01, 2022</i>
<b>Northwestern Geometry &amp; Physics Seminar</b> Duality and spherical adjunction for microlocal sheaves	<i>Nov 03, 2022</i>
<b>Columbia Symplectic Geometry, Gauge Theory &amp; Categorification Seminar</b> Duality and spherical adjunction for microlocal sheaves	<i>Oct 14, 2022</i>
<b>UIUC Symplectic &amp; Poisson Geometry Seminar</b> Conjugate fillings and Legendrian weaves	<i>Oct 03, 2022</i>
<b>Uppsala Symplectic Geometry Seminar (online)</b> Lagrangian cobordism functor in sheaf theory	<i>Sep 29, 2022</i>
<b>Michigan State University Geometry &amp; Topology Seminar</b> Lagrangian cobordism functor in microlocal sheaf theory	<i>Mar 01, 2022</i>
<b>Symplectic Zoominar (CRM-Montréal, Princeton/IAS, Tel Aviv, and Paris)</b> Short talk - Estimating Reeb chords using microlocal sheaf theory	<i>Dec 17, 2021</i>

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## EXPOSITORY TALKS

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

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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

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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

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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 (virtual)	<i>Apr 2020</i>
Homological Mirror Symmetry and Topological Recursion, IMSA	<i>Jan 2020</i>