

# Yunfeng Zhang – Curriculum Vitae

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CONTACT INFORMATION	Department of Mathematical Sciences University of Cincinnati Cincinnati, OH 45221-0025	phone: (513) 556-4088 email: zhang8y7@ucmail.uc.edu homepage: yunfengzhang108.github.io
RESEARCH INTERESTS	Harmonic analysis on Lie groups; classical Fourier analysis, analytic number theory and dispersive (integrable) equations; concentration of eigenfunctions of the Laplace–Beltrami operator	
ACADEMIC APPOINTMENTS	Visiting Assistant Professor, University of Cincinnati TAL Assistant Professor, Peking University Assistant Research Professor, University of Connecticut	2024 – 2021 – 2024 2018 – 2021
EDUCATION	Ph.D. in Mathematics, UCLA – Advisors: Rowan Killip and Monica Visan B.S. in Mathematics, Tsinghua University	2012 – 2018 2008 – 2012
HONORS AND AWARDS	UCLA Mathematics Graduate Research Presentation Prize Tsinghua University Outstanding Graduate Award Fellowship in the Talents Program of Tsinghua University	2018 2012 2009 – 2012
GRANTS	Co-I, National Key R&D Program of China (PI: Hanlong Fang) Title: Geometry and Analysis of Homogeneous Spaces PI, Fundamental Research Funds for the Central Universities, Peking University Title: Analysis on Lie Groups	2022 – 2024 2021 – 2023
PREPRINTS	<ol style="list-style-type: none"> <li>7. Global well-posedness and equicontinuity for mKdV in modulation spaces (with Saikatul Haque, Rowan Killip and Monica Visan) Preprint, submitted. arXiv:2411.05300</li> <li>6. Bounds of restriction of characters to submanifolds Preprint, submitted. arXiv:2402.03178</li> <li>5. Harmonic analysis on the fourfold cover of the space of ordered triangles I: the invariant differentials (with Hanlong Fang and Xiaocheng Li) Preprint, submitted. arXiv:2301.00529</li> </ol>	
JOURNAL PUBLICATIONS	<ol style="list-style-type: none"> <li>4. On Fourier restriction type problems on compact Lie groups <i>Indiana University Mathematics Journal</i> 72 (2023), No. 6, 2631-2699, 69 pp. arXiv:2005.11451</li> <li>3. Schrödinger equations on compact globally symmetric spaces <i>The Journal of Geometric Analysis</i> 31 (2021), No. 11, 10778-10819, 42 pp. arXiv:2005.00429</li> <li>2. Strichartz estimates for the Schrödinger equation on products of odd-dimensional spheres <i>Nonlinear Analysis</i> 199 (2020), 112052, 21 pp. arXiv:2301.02823</li> <li>1. Strichartz estimates for the Schrödinger flow on compact Lie groups <i>Analysis &amp; PDE</i> 13 (2020), No. 4, 1173-1219, 47 pp. arXiv:1703.07548</li> </ol>	
EXPOSITORY PAPERS	<ol style="list-style-type: none"> <li>1. Analysis on compact symmetric spaces: eigenfunctions and nonlinear Schrödinger equations In: <i>Methusalem Lectures, Trends in Mathematics</i> vol. 3 (2024), 235-240, Birkhäuser, Cham.</li> </ol>	

TALKS	“Bounds of restriction of characters to submanifolds” AMS Sectional Meeting on Recent Trends in Harmonic Analysis and PDE, U. of Kansas	Mar. 2025
	“On the modified KdV equation in modulation spaces” Joint Meeting of the NZMS, AustMS and AMS: Special Sessions, University of Auckland	Dec. 2024
	“Semiclassical fun with $SU(3)$ ” Prairie Analysis Seminar 2024, University of Kansas	Oct. 2024
	“Semiclassical fun with $SU(3)$ ” Analysis Seminar, University of Cincinnati	Sep. 2024
	“Bounds of restriction of characters to submanifolds” Analysis Seminar, Southern University of Science and Technology	Jun. 2024
	“The modified KdV in modulation spaces: conservation laws and equicontinuity of solutions” Seminar, Beijing Institute of Technology	Jun. 2024
	“Bounds of restriction of characters to submanifolds” Analysis Seminar, University of Wisconsin–Madison	May 2024
	“Bounds of restriction of characters to submanifolds” Seminar, Beijing Institute of Technology	Jan. 2024
	“Harmonic analysis on compact symmetric spaces” Global Young Scholars Forum, Beijing Normal University	Dec. 2023
	“ $L^p$ norms of Laplacian eigenfunctions on compact symmetric spaces” Young Scholars Forum, ShanghaiTech University	Dec. 2023
	“ $L^p$ norms of Laplacian eigenfunctions on compact symmetric spaces” Young Mathematician Forum, Shanghai Jiao Tong University	Dec. 2023
	“Harmonic analysis on compact symmetric spaces” Vision Forum for International Young Scholars, Beihang University	Dec. 2023
	“ $L^p$ norms of Laplacian eigenfunctions on compact symmetric spaces” Global Forum for Young Mathematicians, SUSTech	Nov. 2023
	“ $L^p$ norms of Laplacian eigenfunctions on compact Lie groups” Teli Forum for International Young Scholars, Beijing Institute of Technology	Nov. 2023
	“Discrete Fourier restriction and the Kloosterman circle method” Colloquium, Huaibei Normal University	Sep. 2023
	“Fourier restriction type problems on compact Lie groups” Seminar, Beijing Institute of Technology	Sep. 2023
	“Nonlinear Schrödinger equation on compact symmetric spaces” Methusalem Junior Analysis & PDE Seminar, Ghent University	Nov. 2021
	“Fourier restriction bounds on compact symmetric spaces” Conference on Harmonic Analysis and Symmetric Spaces, UW–Madison	Oct. 2021
	“Strichartz estimate for the Schrödinger equation on compact globally symmetric spaces” Oberseminar Analysis, Bielefeld University	Apr. 2021
	“Schrödinger equations on compact globally symmetric spaces” Weekly Seminar on Geometric and Functional Inequalities and Applications, UConn	Feb. 2021
	“Size of Laplacian eigenfunctions on compact symmetric spaces” AMS Sectional Meeting on Geometric Inequalities and Nonlinear PDEs, UTEP	Sep. 2020
	“Strichartz estimates for the Schrödinger equation on compact symmetric spaces” AMS Sectional Meeting on Analysis on Homogeneous Spaces, Tufts U. (Cancelled over Covid)	Mar. 2020

SERVICE	Referee for	
	<ul style="list-style-type: none"> <li>– <i>Communications on Pure and Applied Analysis</i></li> <li>– <i>Journal of Functional Analysis</i></li> <li>– <i>Journal of Pseudo-Differential Operators and Applications</i></li> <li>– <i>Selecta Mathematica</i> (quick opinion)</li> <li>– <i>Transactions of the American Mathematical Society</i></li> </ul>	
	Co-organizer of the Analysis and Probability Seminar at the U. of Connecticut, Fall 2020 and Spring 2021	
	Reviewer for Mathematical Reviews and zbMATH Open	
TEACHING	As Instructor	
EXPERIENCE	<ul style="list-style-type: none"> <li>– Calculus I, University of Cincinnati</li> <li>– Applied Calculus I, University of Cincinnati</li> <li>– College Algebra (two sections), University of Cincinnati</li> <li>– Linear Algebra B (“B” stands for “for the Physical Sciences”), Peking University</li> <li>– Linear Algebra B, Peking University</li> <li>– Advanced Mathematics B (i.e. Calculus for the Physical Sciences), Peking University</li> <li>– Partial Differential Equations (two classes), University of Connecticut</li> <li>– Partial Differential Equations (two classes), University of Connecticut</li> <li>– Axiomatic Geometry (two classes), University of Connecticut</li> <li>– Introduction to Complex Variables (two classes), University of Connecticut</li> <li>– Partial Differential Equations (two classes), University of Connecticut</li> <li>– Honors Calculus II, University of Connecticut</li> <li>– Honors Multivariable Calculus, University of Connecticut</li> <li>– Calculus for Life Sciences Students II, UCLA</li> </ul>	<ul style="list-style-type: none"> <li>Spring 2025</li> <li>Spring 2025</li> <li>Fall 2024</li> <li>Fall 2023</li> <li>Fall 2022</li> <li>Fall 2021</li> <li>Spring 2021</li> <li>Fall 2020</li> <li>Spring 2020</li> <li>Fall 2019</li> <li>Spring 2019</li> <li>Fall 2018</li> <li>Fall 2018</li> <li>Summer 2017</li> </ul>
	As Teaching Assistant	
	<ul style="list-style-type: none"> <li>– Probability Theory II, UCLA</li> <li>– Algebra for Applications, UCLA</li> <li>– Analysis I, UCLA</li> <li>– Probability Theory I, UCLA</li> <li>– Differential and Integral Calculus, UCLA</li> <li>– Linear &amp; Nonlinear Systems of Differential Equations, UCLA</li> <li>– Mathematical Game Theory, UCLA</li> <li>– Partial Differential Equations, UCLA</li> <li>– Discrete Structures, UCLA</li> <li>– Precalculus, UCLA</li> <li>– Calculus for Life Sciences Students I, UCLA</li> <li>– Linear Algebra I, UCLA</li> <li>– Differential Geometry II, UCLA</li> <li>– Ordinary Differential Equations, UCLA</li> <li>– Integration and Infinite Series, UCLA</li> <li>– Complex Analysis for Applications, UCLA</li> <li>– Differential Equations, UCLA</li> </ul>	<ul style="list-style-type: none"> <li>Spring 2018, Spring 2017, Winter 2017, Winter 2016</li> <li>Winter 2018</li> <li>Fall 2017, Winter 2016, Fall 2015</li> <li>Winter 2017, Winter 2015</li> <li>Fall 2016</li> <li>Fall 2015, Spring 2015, Winter 2014</li> <li>Summer 2015</li> <li>Spring 2015</li> <li>Winter 2015</li> <li>Fall 2014, Fall 2012</li> <li>Fall 2014</li> <li>Summer 2014</li> <li>Spring 2014</li> <li>Spring 2014, Winter 2014</li> <li>Fall 2013</li> <li>Spring 2013</li> <li>Winter 2013</li> </ul>
REFERENCE	Rowan Killip Simon Marshall Terence Tao Monica Visan	killip@math.ucla.edu marshall@math.wisc.edu tao@math.ucla.edu visan@math.ucla.edu