

# Yunfeng Zhang – Curriculum Vitae

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| CONTACT INFORMATION   | Department of Mathematical Sciences<br>University of Cincinnati<br>Cincinnati, OH 45221-0025   | phone: (513) 556-4088<br>email: zhang8y7@ucmail.uc.edu<br>homepage: yunfengzhang108.github.io |
| RESEARCH INTERESTS    | Harmonic analysis on Lie groups, classical Fourier analysis, analytic number theory and dispersive equations; concentration of eigenfunctions of the Laplace–Beltrami operator   |   |
| ACADEMIC APPOINTMENTS | Visiting Assistant Professor, University of Cincinnati<br>TAL Assistant Professor, Peking University<br>Assistant Research Professor, University of Connecticut  | 2024 –<br>2021 – 2024<br>2018 – 2021  |
| EDUCATION             | Ph.D. in Mathematics, UCLA<br>– Advisors: Rowan Killip and Monica Visan<br>B.S. in Mathematics, Tsinghua University  | 2012 – 2018<br>2008 – 2012  |
| HONORS AND AWARDS     | UCLA Mathematics Graduate Research Presentation Prize<br>Tsinghua University Outstanding Graduate Award<br>Fellowship in the Talents Program of Tsinghua University  | 2018<br>2012<br>2009 – 2012   |
| GRANTS                | Co-I, National Key R&D Program of China (PI: Hanlong Fang)<br>Title: Geometry and Analysis of Homogeneous Spaces<br>Total value: 3,000,000 CNY<br><br>PI, Fundamental Research Funds for the Central Universities, Peking University<br>Title: Analysis on Lie Groups<br>Total value: 200,000 CNY  | 2022 – 2024<br><br><br>2021 – 2023  |
| PREPRINTS             | 7. Global well-posedness and equicontinuity for mKdV in modulation spaces<br>(with Saikatul Haque, Rowan Killip and Monica Visan) Preprint. arXiv:2411.05300<br>6. Bounds of restriction of characters to submanifolds<br>Preprint, submitted. arXiv:2402.03178<br>5. Harmonic analysis on the fourfold cover of the space of ordered triangles I: the invariant differentials<br>(with Hanlong Fang and Xiaocheng Li) Preprint, submitted. arXiv:2301.00529   |   |
| JOURNAL PUBLICATIONS  | 4. On Fourier restriction type problems on compact Lie groups<br><i>Indiana University Mathematics Journal</i> 72 (2023), No. 6, 2631-2699, 69 pp. arXiv:2005.11451<br>3. Schrödinger equations on compact globally symmetric spaces<br><i>The Journal of Geometric Analysis</i> 31 (2021), No. 11, 10778-10819, 42 pp. arXiv:2005.00429<br>2. Strichartz estimates for the Schrödinger equation on products of odd-dimensional spheres<br><i>Nonlinear Analysis</i> 199 (2020), 112052, 21 pp. arXiv:2301.02823<br>1. Strichartz estimates for the Schrödinger flow on compact Lie groups<br><i>Analysis &amp; PDE</i> 13 (2020), No. 4, 1173-1219, 47 pp. arXiv:1703.07548 |   |
| SURVEY PAPERS         | 1. Analysis on compact symmetric spaces: eigenfunctions and nonlinear Schrödinger equations<br>In: <i>Methusalem Lectures, Trends in Mathematics</i> vol. 3 (2024), 235-240, Birkhäuser, Cham.   |   |

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| TALKS   | AMS Sectional Meeting on Recent Trends in Harmonic Analysis and PDE, U. of Kansas                              | March 2025     |
|         | NZMS+AustMS+AMS Meeting on Harmonic Analysis and Hamiltonian PDE, U. of Auckland                               | Dec. 2024      |
|         | “Semiclassical fun with $SU(3)$ ”  |                |
|         | Prairie Analysis Seminar 2024, University of Kansas  | October 2024   |
|         | “Semiclassical fun with $SU(3)$ ”  |                |
|         | Analysis Seminar, University of Cincinnati   | September 2024 |
|         | “Bounds of restriction of characters to submanifolds”  |                |
|         | Analysis Seminar, Southern University of Science and Technology  | June 2024      |
|         | “The modified KdV in modulation spaces: conservation laws and equicontinuity of solutions”                     |                |
|         | Seminar, Beijing Institute of Technology   | June 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   | January 2024   |
|         | “Harmonic analysis on compact symmetric spaces”  |                |
|         | Global Young Scholars Forum, Beijing Normal University   | December 2023  |
|         | “ $L^p$ norms of Laplacian eigenfunctions on compact symmetric spaces”   |                |
|         | Young Scholars Forum, ShanghaiTech University  | December 2023  |
|         | “ $L^p$ norms of Laplacian eigenfunctions on compact symmetric spaces”   |                |
|         | Young Mathematician Forum, Shanghai Jiao Tong University   | December 2023  |
|         | “Harmonic analysis on compact symmetric spaces”  |                |
|         | Vision Forum for International Young Scholars, Beihang University  | December 2023  |
|         | “ $L^p$ norms of Laplacian eigenfunctions on compact symmetric spaces”   |                |
|         | Global Forum for Young Mathematicians, SUSTech   | November 2023  |
|         | “ $L^p$ norms of Laplacian eigenfunctions on compact Lie groups”   |                |
|         | Teli Forum for International Young Scholars, Beijing Institute of Technology                                   | November 2023  |
|         | “Discrete Fourier restriction and the Kloosterman circle method”   |                |
|         | Colloquium, Huaibei Normal University  | September 2023 |
|         | “Fourier restriction type problems on compact Lie groups ”   |                |
|         | Seminar, Beijing Institute of Technology   | September 2023 |
|         | “Nonlinear Schrödinger equation on compact symmetric spaces”   |                |
|         | Methusalem Junior Analysis & PDE Seminar, Ghent University   | November 2021  |
|         | “Fourier restriction bounds on compact symmetric spaces”   |                |
|         | Conference on Harmonic Analysis and Symmetric Spaces, UW–Madison   | October 2021   |
|         | “Strichartz estimate for the Schrödinger equation on compact globally symmetric spaces”                        |                |
|         | Oberseminar Analysis, Bielefeld University   | April 2021     |
|         | “Schrödinger equations on compact globally symmetric spaces”   |                |
|         | Weekly Seminar on Geometric and Functional Inequalities and Applications, UConn                                | February 2021  |
|         | “Size of Laplacian eigenfunctions on compact symmetric spaces”   |                |
|         | AMS Sectional Meeting on Geometric Inequalities and Nonlinear PDEs, UTEP                                       | September 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 research journals including <i>Journal of Functional Analysis</i> , <i>Selecta Mathematica</i> and |                |

*Transactions of the American Mathematical Society*

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  
EXPERIENCE

As Instructor

- Calculus I (two sections), University of Cincinnati Spring 2025
- College Algebra (two sections), University of Cincinnati Fall 2024
- Linear Algebra B (“B” stands for “for the Physical Sciences”), Peking University Fall 2023
- Linear Algebra B, Peking University Fall 2022
- Advanced Mathematics B (i.e. Calculus for the Physical Sciences), Peking University Fall 2021
- Partial Differential Equations (two classes), University of Connecticut Spring 2021
- Partial Differential Equations (two classes), University of Connecticut Fall 2020
- Axiomatic Geometry (two classes), University of Connecticut Spring 2020
- Introduction to Complex Variables (two classes), University of Connecticut Fall 2019
- Partial Differential Equations (two classes), University of Connecticut Spring 2019
- Honors Calculus II, University of Connecticut Fall 2018
- Honors Multivariable Calculus, University of Connecticut Fall 2018
- Calculus for Life Sciences Students II, UCLA Summer 2017

As Teaching Assistant

- Probability Theory II, UCLA Spring 2018, Spring 2017, Winter 2017, Winter 2016
- Algebra for Applications, UCLA Winter 2018
- Analysis I, UCLA Fall 2017, Winter 2016, Fall 2015
- Probability Theory I, UCLA Winter 2017, Winter 2015
- Differential and Integral Calculus, UCLA Fall 2016
- Linear & Nonlinear Systems of Differential Equations, UCLA Fall 2015, Spring 2015, Winter 2014
- Mathematical Game Theory, UCLA Summer 2015
- Partial Differential Equations, UCLA Spring 2015
- Discrete Structures, UCLA Winter 2015
- Precalculus, UCLA Fall 2014, Fall 2012
- Calculus for Life Sciences Students I, UCLA Fall 2014
- Linear Algebra I, UCLA Summer 2014
- Differential Geometry II, UCLA Spring 2014
- Ordinary Differential Equations, UCLA Spring 2014, Winter 2014
- Integration and Infinite Series, UCLA Fall 2013
- Complex Analysis for Applications, UCLA Spring 2013
- Differential Equations, UCLA Winter 2013

REFERENCE

|                |                        |
|----------------|------------------------|
| Rowan Killip   | killip@math.ucla.edu   |
| Simon Marshall | marshall@math.wisc.edu |
| Terence Tao    | tao@math.ucla.edu      |
| Monica Visan   | visan@math.ucla.edu    |