

# Shengxuan Zhou

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## Research Interests

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Partial Differential Equations, Kähler Geometry, Metric Geometry

## Education

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### Peking University

*Ph.D. in Mathematics, Department of Mathematics*

Advisor: Professor Gang Tian

September 2019 – Present

*Beijing, China*

### Lanzhou University

*B.S. in Mathematics, School of Mathematics and Statistics*

September 2015 – July 2019

*Lanzhou, China*

## Publications and Preprints

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### On the convergence rate of Bergman metrics

*Peking Math J* (2022). <https://doi.org/10.1007/s42543-022-00055-z>

### The asymptotic behaviour of Bergman kernels

*arXiv:2112.08893* (Accepted by *Adv. math.*).

### A Regularity Theory for Static Schrödinger Equations on $\mathbb{R}^d$ in Spectral Barron Spaces

*Joint work with Zi'ang Chen, Jianfeng Lu and Yulong Lu.*

*SIAM J. Math. Anal.* **55** (2023), no. 1, 557–570.

### Peak sections and Bergman kernels on Kähler manifolds with complex hyperbolic cusps

*Math. Ann.* (2024). <https://doi.org/10.1007/s00208-024-02798-9>

### Bergman kernels on degenerations

*Joint work with Linsheng Wang*

*arXiv:2304.01943* (Submitted).

### On the Gromov-Hausdorff limits of Tori with Ricci conditions

*arXiv:2309.10997* (Submitted).

### Examples of Ricci limit spaces with infinite holes

*arXiv:2404.00619* (Submitted).

### On the $L^2$ volume of Bergman spaces

*arXiv:2404.12840*.

## Talks

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### Geometric Analysis Seminar (Online)

*Zhejiang University*

December 2021

### Rutgers CA/HA/CG Seminar (Online)

*Rutgers University*

April 2022

### Beijing Geometry Day

*Beijing Normal University*

March 2023

### Recent Progress in Geometric Analysis

*Westlake University*

April 2023

<b>Geometry Seminar</b> <i>Tsinghua University</i>	September 2023
<b>Geometry Seminar</b> <i>Westlake University</i>	October 2023
<b>Differential Geometry Seminar (Online)</b> <i>UC Berkeley</i>	February 2024
<b>Differential Geometry Seminar</b> <i>Capital Normal University</i>	March 2024

*Teaching*

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<b>Teaching Assistant: Differential Geometry</b> <i>Peking University</i>	Spring 2020
<b>Teaching Assistant: Differential Geometry</b> <i>Peking University</i>	Spring 2021
<b>Teaching Assistant: Mathematical Analysis III</b> <i>Peking University</i>	Fall 2021
<b>Teaching Assistant: Advanced Algebra II</b> <i>Peking University</i>	Spring 2022
<b>Teaching Assistant: Advanced Mathematics B</b> <i>Peking University</i>	Fall 2022