Shengxuan Zhou

zhoushx98@outlook.com

Research Interests

Partial Differential Equations, Kähler Geometry, Metric Geometry

Employment

Institute of Mathematics of Toulouse   September 2024 – Present
Postdoc, funded by Labex CIMI   *Toulouse, France*
Mentor: Professor Henri Guenancia

Education

Peking University   September 2019 – July 2024
Ph.D. in Mathematics, Department of Mathematics   *Beijing, China*
Advisor: Professor Gang Tian

Lanzhou University   September 2015 – July 2019
B.S. in Mathematics, School of Mathematics and Statistics   *Lanzhou, China*

Publications and Preprints

A family of 4-Manifolds with Nonnegative Ricci Curvature and Prescribed Asymptotic Cone
arXiv:2406.02279 (Submitted).

New exotic examples of Ricci limit spaces
Joint work with Xilun Li
arXiv:2404.15054 (Submitted).

On the L^2 volume of Bergman spaces
arXiv:2404.12840 (Submitted).

Examples of Ricci limit spaces with infinite holes
arXiv:2404.00619 (Submitted).

On the Gromov-Hausdorff limits of Tori with Ricci conditions
arXiv:2309.10997 (Submitted).

Bergman kernels on degenerations
Joint work with Linsheng Wang
Math. Z. **308** *(2024).* *https://doi.org/10.1007/s00209-024-03610-9*

Peak sections and Bergman kernels on Kähler manifolds with complex hyperbolic cusps
Math. Ann. **390** *(2024), 1973-2041. https://doi.org/10.1007/s00208-024-02798-9*

A Regularity Theory for Static Schrödinger Equations on $\mathbf{R}^d$ 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. https://doi.org/10.1137/22M1478719*

The asymptotic behaviour of Bergman kernels
Adv. Math. 440 *(2024). https://doi.org/10.1016/j.aim.2024.109514*

On the convergence rate of Bergman metrics
Peking Math J (2022). https://doi.org/10.1007/s42543-022-00055-z

Talks

Geometric Analysis Seminar (Online)	December 2021
Zhejiang University	
Rutgers CA/HA/CG Seminar (Online)	April 2022
Rutgers University	
Beijing Geometry Day	March 2023
Beijing Normal University	
Recent Progress in Geometric Analysis	April 2023
Westlake University	
Geometry Seminar	September 2023
Tsinghua University	
Geometry Seminar	October 2023
Westlake University	
Differential Geometry Seminar (Online)	February 2024
UC Berkeley	
Differential Geometry Seminar	March 2024
Capital Normal University	
Workshop on Geometric Analysis	July 2024
Inner Mongolia University	

Teaching

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