

LIUWEI GONG

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RESEARCH INTERESTS

Nonlinear Analysis, Harmonic Analysis, Geometric Analysis.

EMPLOYMENT

Postdoctoral Fellow , The Chinese University of Hong Kong	2024–Present
Advisor: Prof. Juncheng Wei	

EDUCATION

Ph.D. , Rutgers University-New Brunswick	2018–2024
Advisor: Prof. Yanyan Li	
B.S. , Beijing Normal University	2014–2018

PAPERS AND PUBLICATIONS

Preprints

- [1] With Song Dai and Shaoming Guo, *The (local) geometry of oscillatory integrals on manifolds: Dimension three*, arXiv:2606.12927 (2026), 52 pages.
- [2] With Sanghoon Lee and Juncheng Wei, *Global convergence of the Gursky-Malchiodi Q -curvature flow*, arXiv:2602.04267 (2026), 74 pages. Submitted.
- [3] With Seunghyeok Kim and Juncheng Wei, *Compactness and non-compactness theorems of the fourth- and sixth-order constant Q -curvature problems*, arXiv:2502.14237 (2025), 114 pages. Submitted.

Publications

- [4] With Yanyan Li, *Conformal metrics of constant scalar curvature with unbounded volumes*, **Proc. Lond. Math. Soc.** (3) 131 (2025), e70069, 55 pages.
- [5] With Song Dai, Shaoming Guo and Ruixiang Zhang, *Oscillatory integral operators on manifolds and related Kakeya and Nikodym problems*, **Camb. J. Math.** 12 (2024), no. 4, 937–1015.

FELLOWSHIPS AND GRANTS

Professor Abbas Bahri Excellence Fellowship	2023–2024
SAS Fellowship	2023–2024
National Scholarship	2014–2015

INVITED TALKS

- *Global convergence of the Gursky-Malchiodi Q -curvature flow*,
Geometry and topology seminar, Nanjing University
May 2026
- *Oscillatory integral operators on manifolds*,
Geometric analysis seminar, Westlake University
May 2026
Analysis seminar, City University of Hong Kong
March 2026

- *Compactness and non-compactness theorems of constant Q -curvature problems*,
PDE seminar, Tianjin University October 2025
Workshop in nonlinear analysis, Beijing Normal University Zhuhai January 2025
- *Conformal metrics of constant scalar curvature with unbounded volumes*,
PDE seminar, Guangzhou University March 2025
14th AIMS Conference, Special session 123, Abu Dhabi December 2024
Geometry and topology seminar, University of Wisconsin-Madison November 2023

TEACHING EXPERIENCE

Rutgers University

- Math 250: Linear Algebra (Instructor) Summer 2022
- Math 251: Multivariable Calculus (Teaching Assistant) Spring 2022
- Math 244: Differential Equations (Teaching Assistant) Fall 2020
- Math 152: Calculus II (Teaching Assistant) Fall 2019

SERVICE

Professional Service

- **Referee** for: *Advances in Mathematics*, *Calculus of Variations and Partial Differential Equations*, *The Journal of Geometric Analysis*, *Discrete and Continuous Dynamical Systems*.

Departmental Service

- **Mentor** for: Directed Reading Program (DRP), Rutgers University Fall 2018, 2021

Last update: June 2026