## Jiayin Pan


**Contact Information**

The Fields Institute
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**Research Interest**

Riemannian geometry, Ricci curvature and topology, Gromov-Hausdorff convergence.

**Employment**

July 2021 - June 2022
*Postdoctoral Fellowship,* The Fields Institute for Research in Mathematical Sciences, Toronto, ON, Canada.

July 2018 - June 2021
*Visiting Assistant Professor,* University of California, Santa Barbara, CA, USA.
Mentor: Guofang Wei

**Education**

September 2012 - May 2018
*Ph.D. in Mathematics,* Rutgers University, New Brunswick, NJ, USA.
Advisor: Xiaochun Rong

September 2008 - May 2012
*B.S. in Mathematics,* Shanghai Jiao Tong University, China.

**Research Articles**

*Nonnegative Ricci curvature, stability at infinity and finite generation of fundamental groups.* Geometry & Topology 23-6 (2019), 3203-3231. DOI 10.2140/gt.2019.23.3203

*A proof of Milnor conjecture in dimension* 3. Journal für die Reine und Angewandte Mathematik 758 (2020), 253-260. DOI 10.1515/crelle-2017-0057

*On the escape rate of geodesic loops in an open manifold with nonnegative Ricci curvature.* Geometry & Topology 25 (2021), 1059-1085. DOI: 10.2140/gt.2021.25.1059

*Semi-local simple connectedness of non-collapsing Ricci limit spaces* (with Guofang Wei). arXiv:1904.06877, to appear in Journal of the European Mathematical Society.

*Some topological results of Ricci limit spaces* (with Jikang Wang). arXiv:2103.11344, to appear in Transactions of the American Mathematical Society.

*Nonnegative Ricci curvature and escape rate gap.* arXiv:2009.00226, to appear in Journal für die Reine und Angewandte Mathematik.

*Ricci curvature and isometric actions with scaling nonvanishing property* (with Xiaochun Rong). arXiv:1808.02329

*Nonnegative Ricci curvature, almost stability at infinity, and structure of fundamental groups.* arXiv:1809.10220

*Examples of Ricci limit spaces with non-integer Hausdorff dimension* (with Guofang Wei). arXiv:2106.03967

**Survey Articles**

*Universal covers of Ricci limit and RCD spaces* (with Guofang Wei). Differential Geometry in the Large, London Mathematical Society Lecture Note Series (463), Cambridge University Press, 2020, Page 352-372.

*The fundamental groups of open manifolds with nonnegative Ricci curvature.* SIGMA 16 (2020), 078, 16 pages. DOI 10.3842/SIGMA.2020.078

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|---|---|
| Awards | Fields Postdoctoral Fellowship, 7/1/2021 to 6/30/2022<br>AMS Simons Travel Grant, 7/1/2019 to 6/30/2021<br>Excellence Fellowship for Dissertation Work, Rutgers University, Fall 2017 |
| Academic Activities | Referee for Proceedings of the American Mathematical Society<br>Referee for Advances in Mathematics<br>Referee for International Mathematics Research Notices<br>Referee for Special Issue of SIGMA on Scalar and Ricci Curvature<br>Co-organizer of UCSB Differential Geometry Seminar (2019-2021 academic years) |
| Seminar/ Conference Talks | Geometry/Topology Seminar, University of Science and Technology of China (November 4, 2021)<br>Geometry/Topology Seminar, Rutgers University (September 14, 2021)<br>Geometry/Topology Seminar, University of Toronto (September 13, 2021)<br>Fields Postdoc Colloquium, The Fields Institute (September 10, 2021)<br>Mini course, Sun Yat-sen Univeristy (August 18 20 22, 2021)<br>Metric Geometry Seminar, Capital Normal University (June 11, 2021)<br>Differential Geometry and Geometric Analysis Seminar, Princeton University (May 5, 2021)<br>Virtual seminar on geometry with symmetries (April 7, 2021)<br>Geometry/Topology Seminar, Rutgers University (November 3, 2020)<br>Differential Geometry Seminar, University of California, Santa Barbara (October 16, 2020)<br>Differential Geometry Seminar, Centro de Investigacion en Matematicas (October 12, 2020)<br>2020 Virtual Workshop on Ricci and Scalar curvature (August, 2020)<br>Geometry/Topology Seminar, Stony Brook University (May 26, 2020)<br>Differential Geometry Seminar, University of California, Santa Barbara (February 21, 2020)<br>Differential Geometry Seminar, Nanjing University (December 21, 2019)<br>AMS Special Session on Topics in Global Geometric Analysis, University of California, Riverside (November 9 - 10, 2019)<br>Geometry/Topology Seminar, University of Toronto (October 28, 2019)<br>Differential Geometry Seminar, University of California, Berkeley (September 16, 2019)<br>Geometry/Topology Seminar, Rutgers University (September 10, 2019)<br>Differential Geometry Seminar, University of California, Santa Barbara (April 19, 2019)<br>Differential Geometry Seminar, University of California, Irvine (February 12, 2019)<br>Differential Geometry Seminar, University of California, Santa Barbara (October 26, 2018)<br>Lecture series, Capital Normal University (July 27 - August 6, 2018)<br>Geometry Seminar, Eastern China Normal University (July 19, 2018)<br>Geometry Seminar, ZheJiang University (July 2, 2018)<br>Geometry/Topology Seminar, Rutgers University (March 20, 2018)<br>Geometry/Topology Seminar, Stony Brook University (February 13, 2018)<br>Geometry/Topology Seminar, Rutgers University (October 17, 2017)<br>Geometric Analysis Seminar, Fudan University (August 24, 2017)<br>Young Mathematician Workshop on Differential and Metric Geometry, Capital Normal University (August 12-13, 2017)<br>Geometric Analysis Seminar, CUNY Graduate Center (May 11, 2017)<br>Geometry/Topology Seminar, Rutgers University (November 15, 2016)<br>Workshop on Geometry and Analysis on Manifolds, Eastern China Normal University |

(July 16-17, 2016)

## Teaching Experience

*University of California, Santa Barbara*

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|---|---|
| Spring 2021 | *Vector Calculus I* |
| Winter 2021 | *Vector Calculus I* |
| Fall 2020 | *Non-Euclidean Geometry* |
| | *Introduction of Differential Equations* |
| Spring 2020 | *Transition to Higher Mathematics* |
| | *Vector Calculus I* |
| Winter 2020 | *Introduction of Differential Equations* |
| Fall 2019 | *Non-Euclidean Geometry* |
| | *Vector Calculus I* |
| Spring 2019 | *Introduction of Differential Equations* |
| Winter 2019 | *Vector Calculus I* |
| Fall 2018 | *Transition to Higher Mathematics* |
| | *Introduction of Differential Equations* |

*Rutgers University, New Brunswick (as Teaching Assistant)*

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|---|---|
| Spring 2018 | *Introduction to Real Analysis* |
| Summer 2017 | *Differential Equations for Science & Engineering (as Instructor)* |
| Spring 2017 | *Calculus II* |
| Fall 2016 | *Calculus II* |
| Spring 2016 | *Differential Equations for Science & Engineering* |
| Fall 2015 | *Introduction to Real Analysis* |
| Spring 2015 | *Calculus II* |
| Fall 2014 | *Calculus I* |
| Spring 2014 | *Calculus I* |
| Fall 2013 | *Calculus II* |