

# Xiaolei Wu

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## PERSONAL INFORMATION

- Citizenship: China.
- Born: Anhui China, 1985.

## RESEARCH INTERESTS

- **Geometric Group Theory:** finiteness properties,  $\Sigma$ -invariants, homological stability, Artin groups, Thompson groups, big mapping class groups.
- **Manifold Topology:** aspherical manifolds, Borel Conjecture.
- **Algebraic K-theory:** algebraic K-theory of group rings, assembly maps, Farrell-Jones Conjecture.

## EDUCATION

- *Ph.D.*, Mathematics, SUNY Binghamton, May 2014.  
Thesis Advisor: F. Thomas Farrell
- *Master of Science*, Mathematics, Beijing Normal University, China, Jul. 2010.  
Thesis Advisor: Hongzhu Gao
- *Bachelor of Science*, Mathematics, Peking University, China, Jul. 2007.

## EMPLOYMENTS

- May 2014 ~ Aug. 2015, Point postdoctoral fellow, Free University of Berlin, Berlin, Germany.
- Sep. 2015 ~ Aug. 2017, Postdoctoral fellow, Max Planck Institute for Mathematics, Bonn, Germany.
- Sep. 2017 ~ Oct. 2019, Postdoctoral fellow, University of Bonn, Bonn, Germany.
- Nov. 2019 ~ Oct. 2021, Postdoctoral fellow, Bielefeld University, Bielefeld, Germany.
- Nov. 2021 ~ current, Young investigator, Fudan University, Shanghai, China.

## ACADEMIC VISITS

- Feb. 2013 ~ Jul. 2013, Junior Visiting Scholar,  
Maths Science Center, Tsinghua University, Beijing, China.
- Jul. 2016 ~ Aug. 2016 (4 weeks), Visiting Scholar,  
Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China.

## Grants

- May 2014 ~ Nov. 2015, grant associated with Point postdoctoral fellowship at Free University of Berlin, 10,800 €.
- Nov. 2021 ~ Dec. 2026, Starter grant, Fudan University, 500,000 RMB.
- 2021 ~ 2025, Innovative research groups, Fudan University, one of the five PIs, 1,200,000 RMB.

## PAPERS

1. (with F. T. Farrell) The Farrell–Jones Conjecture for the solvable Baumslag–Solitar groups. *Math. Ann.* 359 (2014), no. 3-4, 839-862.
2. (with F. T. Farrell) The Farrell–Jones Conjecture for some nearly crystallographic groups. *Algebr. Geom. Topol.* 15 (2015), no. 3, 1667-1690.
3. (with F. T. Farrell) Isomorphism Conjecture for Baumslag–Solitar groups. *Proc. Amer. Math. Soc.* 143 (2015), no. 8, 3401-3406.
4. (with P. Patzt) Stability results for Houghton groups, *Algebr. Geom. Topol.* 16 (2016), no. 4, 2365-2377.
5. Farrell–Jones Conjecture for fundamental groups of graphs of virtually cyclic groups, *Topology Appl.* 206 (2016) 185-189.
6. (With M. Ullmann) Note on the injectivity of the Loday assembly map, *J. Algebra* 489 (2017) 460-462.
7. (with T. von Puttkamer) On the finiteness of the classifying space for the family of virtually cyclic subgroups, *Groups Geom. Dyn.* 13 (2019), 707-729.
8. (with T. von Puttkamer) Linear groups, conjugacy growth, and classifying space for families of subgroups, *Int. Math. Res. Not. IMRN* 2019, no. 10, 3130-3168.
9. (with F. T. Farrell) The Isomorphism Conjecture for solvable groups in Waldhausen’s A-theory, *J. Topol. Anal.* Vol. 11, No. 02, 405-426 (2019).
10. (with F. T. Farrell) Riemannian foliation with exotic tori as leaves, *Bull. Lond. Math. Soc.* 51 (2019) 745-750.
11. (with T. von Puttkamer) Some results related to finiteness properties of groups for families of subgroups, *Algebr. Geom. Topol.* 20 (2020), no. 6, 2885-2904.
12. (with B. Brück and D. Kielak) The Farrell–Jones Conjecture for normally poly-free groups, *Proc. Amer. Math. Soc.* 149 (2021), 2349-2356.
13. (with Y. Su) On the homotopy of closed manifolds and finite CW-complexes, *Proc. Amer. Math. Soc.* 150 (2022), 2239-2248.
14. Poly-freeness of Artin groups and the Farrell–Jones Conjecture, *J. Group Theory* 25 (2022), no. 1, 11–24.
15. (With R. Skipper) Finiteness properties for relatives of braided Higman–Thompson groups, submitted, arXiv:2103.14589v2.
16. (With R. Skipper) Homological stability for the ribbon Higman–Thompson groups, submitted, arXiv:2106.08751
17. (With J. Aramayona, K.-U. Bux, J. Flechsig, N. Petrosyan, with an appendix by O. Randall-Williams) Asymptotic mapping class groups of Cantor manifolds and their finiteness properties, submitted arXiv:2110.05318
18. (With J. Aramayona, J. Aroca, M. Cumplido, R. Skipper), Block mapping class groups and their finiteness properties, arXiv:2207.06671.
19. (With M. Palmer) On the homology of big mapping class groups, preprint 2022.

20. (With M. Palmer) Big mapping class groups with uncountable integral homology. In preparation.

## TALKS

- The 11th Annual Graduate Student Topology Conference, Indiana University, United States, Apr. 2012.
- AMS Sectional Meeting (Fall Central Sectional Meeting), University of Akron, United States, Oct. 2012.
- The 5th Binghamton University Graduate Conference in Algebra and Topology, Binghamton University, United States, Nov. 2012.
- Topology Seminar, Institute of Mathematics, Chinese academy of Sciences, Beijing, China, Mar. 2013.
- Topology Seminar, Department of Mathematics, Beijing Normal University, Beijing, China, Apr. 2013.
- Workshop on Algebraic Topology, Capital Normal University, Beijing, China, Jun., 2013.
- The 6th Binghamton University Graduate Conference in Algebra and Topology, Binghamton University, United States, Nov. 2013.
- Topology Seminar, Department of Mathematics, Ohio State University, Columbus, United States, Nov. 2013.
- Topology Seminar, Institute of Mathematics, Free University of Berlin, Berlin, Germany, Jun. 2014.
- Topology Seminar, Mathematical Institute, University of Bonn, Bonn, Germany, Jul. 2014.
- Research Seminar, Department of Mathematical Sciences, Xi'an Jiaotong-Liverpool University, Suzhou, China, Aug. 2014.
- Joint Meeting of the German Mathematical Society and the Polish Mathematical Society, Groups and Topology session, Poznań, Poland, Sep. 2014.
- Research Seminar Berlin-Leipzig, Mathematical Institute, Leipzig University, Leipzig, Germany, Jul. 2015.
- Topology Seminar, Institute of Mathematics, Chinese academy of Sciences, Beijing, China, Dec. 2015.
- Research Seminar, Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China, Aug. 2016.
- Workshop on the Farrell–Jones Conjecture, Hausdorff Research Institute for Mathematics (HIM), Bonn, Germany, Oct. 2016.
- Oberseminar, Max Planck Institute for Mathematics, Bonn, Germany, Jul. 2017.
- Topology/Geometry Oberseminar, Mathematisches Institut, University of Göttingen, Göttingen, Germany, Oct. 2017.
- Research Seminar, Institute of Mathematics, Chinese academy of Sciences, Beijing, China, Nov. 2017.
- Pure Mathematics Seminar, Department of Mathematics, Royal Holloway, University of London, London, United Kingdom, Dec. 2017.
- London Mathematics scheme 3 Meeting on “Cohomology of functor categories for topological groups”, Royal Holloway, University of London, London, United Kingdom, Dec. 2017.

- Young Mathematician Forum, Shanghai Center for Mathematical Sciences and School of Mathematical Sciences, Fudan University, Shanghai, China, Dec. 2017.
- Young Talents Workshop, School of Mathematical Sciences, Zhejiang University, Hangzhou, China, Mar. 2018.
- Research Seminar, Yau Mathematical Sciences Center, Tsinghua University, Beijing, China, Mar. 2018.
- Pure Maths Seminar, Math Institute, University of Düsseldorf, Düsseldorf, Germany, Jun. 2018.
- Oberseminar Differentialgeometrie, University of Augsburg, Augsburg, Germany, Dec. 2018.
- Oberseminar Groups and Geometry, Faculty of Mathematics, Bielefeld University, Bielefeld, Germany, May 2019.
- Conference on “K-theory and Noncommutative Geometry”, Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China, Jun. 2019.
- Research seminar, School of Mathematical Sciences, Tongji University, Shanghai, China, Jun. 2019.
- Geometry Seminar, School of Mathematical Sciences, University of Science and Technology of China, Hefei, China, Jul. 2019.
- Oberseminar Differentialgeometrie, Department of Mathematics, Karlsruhe Institute of Technology, Karlsruhe Germany, Jan. 2020.
- East China virtual Topology seminar, China, Aug. 2020.
- Moscow-Beijing Virtual topology seminar, Tsinghua University, Beijing, China, Sep. 2020.
- Virtual Topology seminar, Ohio State University, Columbus, United States, Nov. 2020.
- Gap Seminar (virtual), School of Mathematical Sciences, University of Science and Technology of China, Hefei, China, Jul. 2021.
- “World of Group Craft” conference (virtual), Aug. 2021.
- Münster GGT seminar (virtual), University of Münster, Germany, Nov. 2021.
- Online topology seminar, Department of Mathematics, Purdue University, United States, Dec. 2021.
- “Moduli and Friends” (virtual), Mathematical Institute of the Romanian Academy, Romania, Dec. 2021.
- Zhufeng Colloquium (virtual), School of Mathematics, Shandong University, China, Dec. 2021.
- Long distance GGT online seminar in Mexico, Mar. 2022.
- Topology Seminar, Yau Mathematical Sciences Center, Tsinghua University, Beijing, China, Apr. 2022.
- Lunch Colloquium, School of Mathematics, Fudan University, Shanghai China, May 2022.
- Topology Seminar, School of Mathematics, Sun Yat-sen University, Guangzhou, China, May 2022.
- Topology seminar, The Chinese University of Hong Kong, Shenzhen, Shenzhen, China, Sep. 2022.
- Geometry and topology seminar, Shanghai Technology University, Shanghai, China, Sep. 2022.

- Conformal dynamics and groups seminar, Peking University, Beijing, China, Oct. 2022.
- Noncommutative geometry seminar, Fudan University, Shanghai, China, Oct. 2022.
- International Congress of Chinese Mathematicians, Beijing, postponed to 2023.

## SERVICE

- Referee for: Adv. Math., J. Pure Applied Algebra, J. Lond. Math. Soc.
- Reviewer for the Mathematical Reviews.
- The 4th, 5th, 6th Binghamton University Graduate Conference in Algebra and Topology, Binghamton University. **Co-organizer**
- Online reading seminar “Thompson’s groups”, Winter 2020, Bielefeld University. **Co-organizer**
- Online reading seminar “Big mapping class groups”, Summer 2021, Bielefeld University. **Co-organizer**
- Online reading seminar “Sigma invariants”, Oct. 2021 ~ current. **Co-organizer**
- Fudan Topology seminar, Nov. 2021 ~ current, Fudan University. **Co-organizer**
- Geometric Group Theory Graduate Summer School, Shanghai Center for Mathematical Sciences, Fudan University. **Co-organizer**

## TEACHING EXPERIENCES

- Sep. 2008 ~ Jan. 2009, Teaching Assistant for Advanced Mathematics, Beijing Normal University.
- Mar. 2009 ~ June 2009, Teaching Assistant for Differential Geometry, Beijing Normal University.
- Sep. 2009 ~ Jan. 2010, Teaching Assistant for Calculus I, Beijing Normal University.
- Mar. 2010 ~ June 2010, Teaching Assistant for Calculus II, Beijing Normal University.
- Sep. 2010 ~ Dec. 2010, Teaching Assistant for Mathematics in Action, SUNY Binghamton.
- Feb. 2011 ~ May 2011, Teaching Assistant for Mathematics in Action, SUNY Binghamton.
- Sep. 2011 ~ Dec. 2011, Instructor for Calculus I, SUNY Binghamton.
- Feb. 2012 ~ May. 2011, Instructor for Calculus II, SUNY Binghamton.
- Sep. 2012 ~ Dec. 2012, Instructor for Calculus I, SUNY Binghamton.
- Sep. 2013 ~ Dec. 2013, Instructor for Calculus I, SUNY Binghamton.
- Feb. 2014 ~ May. 2014, Instructor for Linear Algebra, SUNY Binghamton.
- Apr. 2020 ~ Jul. 2020, organizer for the proseminar: groups and geometry, Bielefeld University.
- Apr. 2021 ~ Jul. 2021, Teaching assistant for Geometrie und Topologie, Bielefeld University.
- Mar. 2022 ~ Jun. 2022, Instructor for “Homological algebra and geometric applications”, Fudan University.

## **SUPERVISION**

- Master Student: Zixiang Zhou (j.w. Prof Lü Zhi);
- Ph.D Student: Mengfei Zhao.

## **REFERENCES**

- Laura Anderson (Teaching)  
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E-mail: [laura@math.binghamton.edu](mailto:laura@math.binghamton.edu)
- F. Thomas Farrell (advisor)  
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