

Wenyuan YANG

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Peking University

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Positions

Associate Professor, Beijing International Center for Mathematical Research (BICMR), Peking University, Aug. 2020 – present.

Assistant Professor, Beijing International Center for Mathematical Research (BICMR), Peking University, Mar. 2014 – present.

Visiting Scholar, Beijing International Center for Mathematical Research (BICMR), Peking University, Oct. 2013 – Feb. 2014.

PostDoc. Université Paris-Sud 11, Sep. 2011 – Sep. 2013.

Education

Ph.D. Mathematics, Université de Lille 1, Sep 2008 – May 2011.

Thesis Advisor: Leonid Potyagailo.

Thesis Title: Peripheral structures of relatively hyperbolic groups.

M.S. Mathematics, Hunan University, Changsha, China, 2005 – 2008.

B.S. Mathematics, Hunan University, Changsha, China, 1999 – 2003.

Research Interests

Geometric Group Theory and Low Dimensional Topology

Grants & Honors

The National Natural Science Foundation of China (No. 11771022). (2018.1 - 2021.12).

The Thousand Young Talents Program Award from Chinese government. (2014.3 - 2017.3).

Postdoc Fellowship under Professor Annar Erschler's ERC starting grant GA 257110 "RaWG" (2011.9 - 2013.9).

China-funded Postgraduates Studying Aboard Program for Building Top University (2008.9 - 2011.9).

Oberwolfach Leibniz Graduate Students Grant Mathematisches Forschungsinstitut Oberwolfach, Germany (2010).

Preprint

- [1] I. Gekhtman and Wenyuan Yang. *Counting conjugacy classes in groups with contracting elements*. Preprint 2018, Arxiv: 1810.02969
- [2] I. Gekhtman, V. Gerasimov, L. Potyagailo and W.Y. Yang. *Martin boundary covers Floyd boundary*. Preprint, arXiv: 1708.02133.
- [3] Wenyuan Yang, *Patterson-Sullivan measures and growth of relatively hyperbolic groups*, Preprint, 2013. Arxiv: 1308.6326

Publications

- [1] Suzhan Han and Wenyuan Yang. *Generic free subgroups and statistical hyperbolicity*. Preprint 2018, accepted in Groups, Geometry, and Dynamics, Arxiv: 1812.06265
- [2] H.T. Nguyen, H.C. Tran and W.Y. Yang. *Quasiconvexity in 3-manifold groups*. Preprint 2019, accepted in Mathematische Annalen, Arxiv: 1911.07807
- [3] Zunwu He, Jinsong Liu and Wenyuan Yang. *Large quotients of group actions with a contracting element*. Preprint 2018, appear in "ICCM Proceedings 2017".
- [4] Wenyuan Yang. *Genericity of contracting elements in groups*. Mathematische Annalen, volume 376, 823-861 (2020), arXiv: 1707.06006.
- [5] Leonid Potyagailo and Wenyuan Yang. *Hausdorff dimension of boundaries of relatively hyperbolic groups*. Geometry and Topology, No. 23 (2019) 1779-1840, arXiv:1609.01763.
- [6] Wenyuan Yang. *Statistically convex-cocompact actions of groups with contracting elements*. International Mathematics Research Notices, No. 23, 2019, 7259-7323, arXiv: 1612.03648.
- [7] Wenyuan Yang. *Purely exponential growth of cusp-uniform actions*. Ergodic Theory and Dynamical Systems, v39(3), 2019, Arxiv: 1602.07897.
- [8] Jeremy Osborne and Wenyuan Yang. *Statistical hyperbolicity of relatively hyperbolic groups*. Algebraic & Geometric Topology, 16 (2016) 2143-2158.
- [9] Wenyuan Yang, *Growth tightness for groups with contracting elements*, Math. Proc. Cambridge Philos. Soc., 157(2014), 297-319.
- [10] Wenyuan Yang, *Peripheral structures of relatively hyperbolic groups*, Journal für reine und angewandte Mathematik, 689(2014), 101-135.
- [11] Wenyuan Yang, *Limit sets of relatively hyperbolic groups*, Geom. Dedicata., 156(2012), 1-12.
- [12] Wenyuan Yang, *Separable subgroups have bounded packing*, Proc. Amer. Math. Soc., 139(2011), 3217-3218.
- [13] Wenyuan Yang and Yueping Jiang, *Limit sets and commensurability of Kleinian groups*, Bull. Aust. Math. Soc., 82(1-9), 2010.

Teaching Experience

Calculus: Fall 2019/2017/2016.

Introduction to differential manifolds: Spring 2019.

Linear Algebra: Fall 2018.

Geometry of Surfaces: Spring 2017.

Geometric Group Theory: Spring 2018/2016/2015/2011.

PhD Students under supervision

Zhengguo HuangFu, Sep. 2019 - .

Suzhen Han, Sep. 2017 - .

Zunwu He (AMSS), Sep. 2014 - June 2019 (co-advised with Prof. Jinsong Liu at AMSS)

Activities

Conference on Geometric Group Theory, July 16-20, 2017 (co-organized with Lawrence Reeves and Xiang Fu)

Workshop on Geometric Group Theory, December 16-17, 2016 (co-organized with Xiang Fu)

Reading seminars on Teichmüller theory and quasiconformal mapping, Fall semester 2018 (co-organized with Huabin Ge)

Conference and Seminar Talks

Counting conjugacy classes of groups with contracting elements, The Pan Pacific International Conference on Topology and Applications, Chengdu, China, Nov 8 - 13 2019.

Martin boundary of groups with contracting elements, Conference on Geometry and Topology, Xi'an Jiaotong University, Xi'an, Sep. 21-23 2019.

Martin boundary covers Floyd boundary, Dynamic seminar, Seoul National University, Korea, May 13 - 17 2019.

3-Hour lectures on Floyd and Martin boundaries for a group, Ergodic Geometry 2019, TIFR, Mumbai, India, March 25-29 2019.

Counting conjugacy classes in groups with contracting elements, the 4th KTGU Mathematics Workshop for Young Researchers, Kyoto university, Japan, Sep 29 2018.

Martin boundary covers Floyd boundary, Silk road Geometry Conference, Gokova Geometry Topology Institute, Turkey, June 4 - 8 2018.

Genericity of contracting elements in nonpositively curved groups, Nonpositively Curved Groups on the Mediterranean, Nahsholim, Israel, May 23 - 29 2018.

Asymptotic geometry of statistical convex-cocompact actions, the 13th East Asian School of Knots and Related Topics, Daejeon, Korea, Jan 29 - Feb 1 2018.

Hausdorff dimension of boundaries of relatively hyperbolic groups, Complex analysis annual conference at Qufu Normal University, 20-25 Sep. 2017, Qufu

Genericity of contracting elements in groups, Geometry and Topology workshop at Soochow University, 23-28 July. 2017, Soochow

Asymptotic geometry of statistical convex-cocompact actions, Geometry and Topology workshop at Tsinghua University, 9 Avril. 2017, Beijing

3 Lectures on "Introduction to hyperbolic groups", Conference on Graphs and related topics at Fudan University, 14-17 Feb. 2017, Shanghai

Counting problems in Geometric Group Theory, Colloquiums at Beijing Normal University, 16 Dec. 2016, Beijing

Growth tightness and contracting elements, Seminars at AMSS, Chinese Academy of Sciences, 17 Nov. 2016

Asymptotic geometry of statistical convex-cocompact actions, 70th Annual Meeting of Korean Mathematical Society, 22-23 Oct 2016, Seoul, South Korea

2-hour lectures on "applications of Patterson-Sullivan measures", Geometric Group Theory workshop, 15-16 Oct 2016, Soochow University

Asymptotic geometry of groups with a contracting element, Annual Meeting of Chinese Mathematical Society, Sep. 23-24, Inner Mongolia University

Asymptotic geometry of groups with a contracting element, Geometric and algebraic topology seminar, 21-23 July 2016, Beijing Capital Normal university

8-hour lectures on "Hyperbolic groups and boundaries", The Third China-Russia Workshop on Knot Theory and Related Topics, 10-14 July 2016, Soochow University

Purely exponential growth of cusp-uniform actions, International Workshop on Low Dimensional Topology, 6-7 May 2016, Dalian University of Technology

Hausdorff dimension of boundaries of relatively hyperbolic groups, Workshop on Teichmuller Theory and Low-Dimensional Topology, 11-15 Jan 2016, Tsinghua Sanya International Mathematics Forum

Hausdorff dimension of boundaries of relatively hyperbolic groups, Topology & Dynamics seminar, Universite Lille 1, France, 23/10/2015.

Hausdorff dimension of boundaries of relatively hyperbolic groups, GAGTA 2015 - Geometric and Asymptotic Group Theory with Applications, Luminy, France, 14/09/2015-18/09/2015.

4-Hour Minicourse on "Hyperbolic groups", Workshop on MCGs and related topics, Xi'an Jiaotong University, 16/08/2015-20/08/2015.

Hausdorff dimension of boundaries of relatively hyperbolic groups, Seminar Talk, Beihang University, Beijing, 26/05/2015.

Hausdorff dimension of boundaries of relatively hyperbolic groups, Conference on Algebraic Topology & Geometric Topology, Beijing, 29/05/2015-31/05/2015.

Rotating family with applications to MCGs after Dahmani-Gruirardel-Osin, Youth forum in Topology, Tongji University, Shanghai, 15/05/2015-27/05/2015.

6-hour Lectures on "Patterson-Sullivan measures of relatively hyperbolic groups", Waseda Uni-

versity, Japan 15/03/2015-22/03/2015.

Boundary of hyperbolic groups (II), Seminars at AMSS, Chinese Academy of Sciences, 28/10/2014.

Boundary of hyperbolic groups (I), Seminars at AMSS, Chinese Academy of Sciences, 14/10/2014.

Growth of quotients of relatively hyperbolic groups, The Chinese Mathematical Society Annual Conference, HeNan Normal University, 20/09/2014.

Growth of quotients of relatively hyperbolic groups, Poster session, Hyperbolic geometry and geometric group theory, Tokyo, Japan, 29/07/2014-05/08/2014.

Growth tightness for groups with contracting elements, Geometry and Topology Seminar, Capital Normal University, 1. 04/06/2014.

Growth tightness of groups with nontrivial Floyd boundary, Université de Lille 1, Geometrie & Dynamique Seminar, March 2013.

Combination of fully quasiconvex subgroups and its applications Université Paris-Sud 11, Théorie Géométrique des Groupes Seminar, Feb. 2013.

Growth of quotients of relatively hyperbolic groups, Geometric and Dynamical Aspects of Discrete Groups, Université de Lille 1, Sep 2013.

Growth tightness of groups with nontrivial Floyd boundary, Peking University, Geometry & Topology Seminar, Nov 2013.

Combination of fully quasiconvex subgroups and its applications. Université Joseph Fourier, Facets of discrete groups, Grenoble, Dec. 2012.

Combination of fully quasiconvex subgroups and its applications. Hunan University, Changsha, China, June. 2012.

Peripheral structures of relatively hyperbolic groups. Paris 6 Jussieu, Parole aux jeunes chercheurs, Nov. 2011.

Peripheral structures of relatively hyperbolic groups. Université Paris-Sud 11, Théorie Géométrique des Groupes Seminar, Oct. 2011.

Peripheral structures of relatively hyperbolic groups. Université de Lille 1, Geometrie & Dynamique Seminar, Nov. 2010.

Limit sets of relatively hyperbolic groups. Hunan University, Complex Hyperbolic Geometry Conference, Changsha, China, July 2010.

Limit sets and commensurability of Kleinian groups. Université du Littoral, Journées Doctorants de Mathématiques Nord Pas de Calais, April 2010.

Limit sets of relatively hyperbolic groups. Université de Lille 1, Geometrie & Dynamique Seminar, Feb. 2010.

Last updated: August 7, 2020