

# CV

2014.9.5

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## Education

1986.3 : BSc. Univ of Tokyo

1988.3 : MSc. Univ of Tokyo

1993.3 : DrSc. Univ of Tokyo.

(Advisor : Prof. Kenji Fukaya. Thesis title “Laplacian on graphs”)

## Positions

1990.4-1996.3 : Instructor. Keio University

1996.4-1998.3 : Assistant professor. Keio University

1998.4-2007.3 : Associate professor. Tohoku University, Math Institute

2007.4- 2012.3 : Professor. Tohoku University, Graduate School of Information Science.

2012.4- : Professor. Kyoto University, Department of Mathematics

## Visits

1993.4-7 : Univ of Warwick.

1993.10-1995.3 : MSRI.

1996.3 : Poincare Institute

1998.9-1999.3 : Univ of Utah.

1999.4- 2000.1 : Univ of Warwick.

2000.5 : MSRI

2001.7-8 : IHES.

2001 11-12 : Univ Provence in Marseille

2005.9-2006.2 : 2006.8. MPI in Bonn

2007.9-12 : MSRI

2008.4-5 : Caltech

2008.5-6 : U of Louis Pasteur in Strasbourg

2008.9 : U of Paul Sabatier in Toulouse

2009.9 : Max Planck Institute, Hausdorff Institute, Bonn.

2010.3 : U Paul Sabatier in Toulouse

## **Invited talks**

- 1993. “Workshop on Hyperbolic Geometry” by LMS at U Durham, UK.
- 1995. Brazilian Topology meeting.
- 1997. “Modern Ergodic Theory” at Technion in Haifa, Israel.
- 1998. Winter Wasatch Topology Conference, Utah.
- 2001. 1st AMS-SMF meeting at ENS Lyon, France. Special session for Geometric Group Theory.
- 2002. 15th JAMI (Japan-US Math Institute) meeting at Johns Hopkins U.
- 2002. Satellite meeting in Geometric Topology, ICM 2002. at Xian, China.
- 2002. 1st JAMS meeting “Discrete Analysis and related topics” in Sendai, Japan.
- 2003. Spring Wasatch Topology conference–Cannon festival. Park City.
- 2004. “Brooks memorial meeting” in Haifa. Israel.
- 2005. “International Conference and Workshops on Geometric Topology”. Bedlewo, Poland.
- 2006. “Combinatorial and geometric group theory”, Vanderbilt University.
- 2006. “Geometric and asymptotic group theory with applications”. Barcelona. ICM 2006 satellite meeting.
- 2007. “Geometric group theory”, MSRI
- 2008. “Nonpositive curvature and the elementary theory of free groups” at Anogia, Greece.
- 2009. “Groups, embeddings and applications”, U of Hawaii.
- 2009. “Geometric Structures and Geometric Group Theory”, 2009 Joint Meeting of KMS and AMS.
- 2010. “Subgroups of mapping class groups”, Hausdorff Institute of Math, Bonn.
- 2011. Ballmann’s 60th birthday conference. MPI, Bonn
- 2012. 10th Kaist geometric topology fair, Korea.
- 2013. The XXIIth Rolf Nevanlinna Colloquium. Helsinki.
- 2014. “Geometry on Groups and Spaces” ICM Satellite Conference on Geometric Group Theory & Geometric Structures. KAIST, Korea

## **Awards**

- 2005 Geometry Prize (Mathematical Society of Japan).
- 2013 Commendation for Science and Technology (Minister of Education, Culture, Sports, Science and Technology, Japan)

**Publication.** Koji Fujiwara.

1. K. Fujiwara, A construction of negatively curved manifolds, **Proc. Japan Acad. Ser.A**, 64 (1988), no. 9, 352–355.
2. K. Fujiwara, Metric deformation of non-positively curved manifolds, **J. Math. Soc. Japan**, 42 (1990), no. 2, 213–219.
3. K. Fujiwara, On the bottom of the spectrum of the Laplacian on graphs, “Geometry and Its Applications”, 1993, World Scientific, edit. by Nagano, T., et al, 21–27
4. K. Fujiwara, Convergence of the eigenvalues of Laplacians in a class of finite graphs, “Geometry of the Spectrum”, edit. by R. Brooks, C. Gordon, P. Perry, Contemporary Mathematics, vol 173, AMS, 1994, 115-120.
5. K. Fujiwara, Eigenvalues of Laplacians on a closed Riemannian manifold and its nets, **Proc. AMS.**, Vol 123, No 8, (1995), 2585 - 2594.
6. K. Fujiwara, Growth and the spectrum of the Laplacian of an infinite graph, **Tohoku Math J.** 48, (1996), 293-302.
7. K. Fujiwara, Laplacians on rapidly branching trees, **Duke Math Jour.** 83, no 1, (1996), 191-202.
8. D.B.A. Epstein, K. Fujiwara, The second bounded cohomology of word hyperbolic groups, **Topology** 36, (1997), 1275-1289.
9. K. Fujiwara, The second bounded cohomology of a group acting on a Gromov-hyperbolic space, **Proc. London Math. Soc.(3)** 76, no 1 (1998), 70-94.
10. K. Fujiwara, A. Nevo, Maximal and pointwise Ergodic Theorems for word-hyperbolic groups, **Erg. Th. and Dyn. Sys.** 18. No4, (1998), 843-874.
11. K. Fujiwara, On isometric actions of  $SL(n, \mathbb{Z})$  on visibility manifolds, **Geom. Dedicata**, vol 77 (1999) No2, 203-208.
12. K. Fujiwara, 3-manifold groups and property T of Kazhdan, **Proc. Japan Acad. Ser.A**, 75 (1999), no.7, 103–104.

13. K. Fujiwara, The second bounded cohomology of amalgamated free product of groups, **Trans. A.M.S.** 352 (2000), no.3, 1113–1129.
14. K.Fujiwara, On a theorem by Farb and Masur, **Proc. A.M.S.** 128 (2000), 3463-3464.
15. K. Fujiwara, K. Ohshika, The second bounded cohomology of 3-manifold groups, **Publ. Res. Inst. Math. Sci.** 38 (2002), no. 2, 347–354.
16. K.Fujiwara, T.Soma, Bounded classes in the cohomology of manifolds, **Geom. Dedicata.** 92, 73-85, (2002).
17. M.Bestvina, K.Fujiwara, Bounded cohomology of subgroups of mapping class groups. **Geometry and Topology**, Volume 6 (2002) 69–89.
18. K.Fujiwara, On the outer automorphism group of a hyperbolic group. **Israel J of Math.**131, (2002) 277-284.
19. K.Fujiwara, T.Shioya, S.Yamagata. Parabolic isometries of CAT(0) spaces and CAT(0)-dimensions. **Algebr. Geom. Topol.** 4 (2004), 861–892
20. K.Fujiwara. On non bounded generation of discrete subgroups in rank-1 Lie group. *Geometry, spectral theory, groups, and dynamics*, 153–156, Contemp. Math., 387, Amer. Math. Soc., Providence, RI, 2005.
21. K.Fujiwara, P.Papasoglu, JSJ-decompositions of finitely presented groups and complexes of groups, **Geom. Funct. Anal.** 16 (2006), no. 1, 70–125.
22. K.Fujiwara, K.Nagano, T.Shioya. Fixed point sets of parabolic isometries of CAT(0)-spaces. **Comment. Math. Helv.** 81 (2006), no. 2, 305–335.
23. M.Bestvina, K.Fujiwara. Quasi-homomorphisms on mapping class groups. **Glasnik Matematicki**, Vol. 42, No.1 (2007), 213-236.
24. K.Fujiwara, K.Whyte. A note on spaces of asymptotic dimension one. **Algebraic and Geometric Topology** 7 (2007) 1063-1070.
25. G.Bell, K.Fujiwara. The asymptotic dimension of a curve graph is finite. **J. London Math. Soc.** 77 (2008) 33-50.

26. K.Fujiwara, Subgroups generated by two pseudo-Anosov elements in a mapping class group. I. Uniform exponential growth. “Groups of Diffeomorphisms”, 283-296, ASPM 52, 2008, Mathematical Society of Japan.
27. K.Fujiwara, Quasi homomorphisms on mapping class groups, “Handbook of Teichmuller Theory, Volume II”. 241-270. 2009, EMS.
28. M.Bestvina, K.Fujiwara. A characterization of higher rank symmetric spaces via bounded cohomology. **Geom. and Funct. Anal.**, 19, no 1. (2009), 11-40.
29. Francois Dahmani, Koji Fujiwara, Copies of a one-ended group in a Mapping Class Group. **Groups, Geometry, and Dynamics**, Volume 3, Issue 3, (2009) pp. 359-377.
30. Danny Calegari, K.Fujiwara. Stable commutator length in word-hyperbolic groups. **Groups, Geometry, and Dynamics**. Volume 4, Issue 1, (2010), pp. 59-90
31. Danny Calegari, Koji Fujiwara. Combable functions, quasimorphisms, and the central limit theorem. **Ergodic Theory and Dynamical Systems** 30 (2010), 1343-1369.
32. Pierre-Emmanuel Caprace, Koji Fujiwara. Rank one isometries of buildings and quasi-morphisms of Kac-Moody groups. **Geom. and Funct. Anal.** 19, Number 5 (2010) 1296-1319.
33. Koji Fujiwara, Jason Fox Manning. CAT(0) and CAT(-1) fillings of hyperbolic manifolds. **Jour. Diff. Geometry** 85, No. 2 (2010), 229-270.
34. Koji Fujiwara, Jason Fox Manning. Simplicial volume and fillings of hyperbolic manifolds. **Algebraic & Geometric Topology**. 11 (2011) 2237-2264.
35. Koji Fujiwara, Tetsu Toyoda, Random groups have fixed points on CAT(0) cube complexes, **Proc. Amer. Math. Soc. Volume 140, Number 3**, (2012), 1023-1031.

36. K. Fujiwara, Geometry of the Funk metric on Weil-Petersson spaces, **Math. Zeit.** (2013), Volume 274, Issue 1-2, pp 647-665.
37. Francois Dahmani, Koji Fujiwara, Vincent Guirardel. Free groups of interval exchange transformations are rare. **Groups, Geometry, and Dynamics.** Volume 7, Issue 4, (2013), pp. 883-910.
38. M. Bestvina, K. Bromberg, K. Fujiwara, J. Souto. Shearing coordinates and convexity of length functions on Teichmueller space. **Amer. Jour. Math.** Volume 135, Number 6, (2013). pp. 1449-1476.
39. K. Fujiwara. Subgroups generated by two pseudo-Anosov elements in a mapping class group. II. Uniform bound on exponents. to appear in **Trans. Amer. Math. Soc.**
40. D. Calegari, K. Fujiwara, Counting subgraphs in hyperbolic graphs with symmetry. to appear in **Journal of the Mathematical Society of Japan**
41. Mladen Bestvina, Kenneth Bromberg, Koji Fujiwara. Constructing group actions on quasi-trees and applications to mapping class groups. to appear in **Publ. IHES**