

Curriculum Vitae

Keiko Kawamuro

1 Personal information

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2 Education and Appointment

- Evans Instructor, Rice University, 2006–present. (Postdoctoral Sponsor: Tim Cochran)
- Ph. D., Mathematics, Columbia University, 2006. (Thesis advisor: Joan Birman)
- M. A., Mathematical sciences, University of Tokyo, 1998. (Thesis advisor: Yasuyuki Kawahigashi)
- B. Sc., Mathematics, University of Tokyo, 1997.

3 Academic Honors and Awards

- Columbia University, Departmental Fellowship, 2001–2006.
- Research Fellowship for Young Scientists, Japan Society of promotion of Sciences, 1999–2001

4 Research Interests

Geometric topology, Knots, Links, Braids, Contact geometry, Heegaard Floer homology, Khovanov homology.

5 Publications and Preprints

1. Central sequence subfactors and double commutant properties. *Internat. J. Math.* 10 (1999), no. 1, 53–77.
2. A Rohlin property for one-parameter automorphism groups of the hyperfinite II_1 factor. *Publ. Res. Inst. Math. Sci.* 36 (2000), no. 5, 641–657.
3. An extension of completely positive maps compatible with the Jones basic construction. *Multiformity of operator algebras (Kyoto, 2001)*. *Surikaiseki kenkyusho Kokyuroku*, No. 1230 (2001), 93–94.
4. Algebraic crossing number and braid index of knots and links. *Algebr. Geom. Topol.* 6 (2006), 2313–2350.
5. Conjectures on the braid index and the algebraic crossing number. *Intelligence of Low Dimensional Topology* (2006), 151–156.
6. Khovanov-Rozansky homology and the braid index of a knot. [arXiv:0707.1130](https://arxiv.org/abs/0707.1130)

7. On transverse knots and branched covers. (with Shelly Harvey and Olga Plamenskaya) arXiv:0712.1557
8. Connect sum and transversely non simple knots. arXiv:0802.2585. To appear in Math. Proc. Cambridge Phil. Soc.

6 Conference and Seminar Talks

- Operator algebra seminar, UCLA, December, 1998.
- Operator algebra seminar, MSRI, November, 2000.
- Operator algebra seminar, UCSB, January 2001.
- 4th Operator Algebras International Conference, Constanta (Romania), July 2001.
- International KOOK seminar at Osaka City University, Osaka, Japan, July, 2004.
- Columbia Undergraduate Mathematical Society, Columbia University, October, 2005.
- Geometric topology seminar, Columbia University, December, 2005.
- Knots in Washington, George Washington University, December, 2005.
- Geometry/topology seminar, SUNY at Buffalo, February, 2006.
- Intelligence of Low Dimensional Topology 2006, Hiroshima, July, 2006.
- Topology seminar at Rice University, August, 2006. *The algebraic crossing number and braid index of knots and links.*
- Topology seminar at UT Austin, September, 2006. *The algebraic crossing number and braid index of knots and links.*
- Topology seminar at Rice University, October, 2006. *Non-sharpness of the Morton-Franks-Williams inequality.*
- Second Louisiana-Texas-Topology-Retreat at LSU, Baton Rouge, February 4th, 2007. *3-braids and the algebraic crossing number.*
- Geometry/Topology seminar at University of Wisconsin-Madison, March 23rd, 2007. *Relation between the writhes and the braid index of knots*
- The Many Strands of the Braid Groups at Banff International Research Station, Canada, April 26th, 2007. *Braid index and algebraic crossing number.*
- Topology seminar at Rice University, August 27th, 2007. *Khovanov Rozansky homology and braid index.*
- Topology seminar at University of Iowa, October 11th, 2007. *Khovanov Rozansky homology and braid index.*
- Topology seminar at University of Iowa, October 12th, 2007. *Contact surgery and branched covering.*
- Topology seminar at Rice University, January 14th, 2008. *On transverse knots and branched covers.*
- AMS meeting at LSU, March 29th, 2008. *Negative flype & transverse knot.*
- IAS, May 22nd, 2008. *Classification of transverse knots in contact manifolds.*

7 Teaching Experience

- Honors Math Calculus III, Fall 2003 (recitation session) at Columbia University.
- Honors Math Calculus IV, Spring 2004 (recitation session) at Columbia University.
- Calculus I, Fall 2004 at Columbia University.
- Calculus II, Spring 2005 at Columbia University.
- Multivaluable calculus, Fall 2006, Spring 2007, Fall 2007, Spring 2008 at Rice University.
- Complex analysis, Spring 2007, Spring 2008 at Rice University.