

CURRICULUM VITAE

YO'AV RIECK

EDUCATION

- 1997 Ph.D. Mathematics, University of Texas at Austin
 (advisor: Cameron Gordon)
- 1990 B.A. Mathematics, Technion (Israel)

RESEARCH INTERESTS

Three-dimensional manifolds, in particular their topological and geometric properties, Dehn surgery and Heegaard splittings and thin position. Algorithms for studying 3-manifolds. Combinatorics. Hyperbolic geometry.

AWARDS AND GRANTS

- 2005 NSF grant “First Arkansas–Oklahoma Workshop in Geometry and Topology” (PI) US\$10,154.
- 2003 NSF grant “Arkansas Spring Lecture Series 2003: on the Andrews-Curtis and Poincare Conjectures” (PI) US\$24,000.
- 2000-2002 JSPS research grant (PI), US\$20,000.
- 2000-2002 JSPS Research Fellowship (PI) approximately US\$100,000.
- 1990 The Yuval Levi Prize (for outstanding undergraduate in Mathematics) (Technion)

PUBLICATIONS

Refereed articles

1. (with Tsuyoshi Kobayashi) On the growth rate of tunnel number of knots *Journal für die reine und angewandte Mathematik* 592 (2006) 63–78.
2. (with Tsuyoshi Kobayashi) Heegaard genus of the connected sum of m -small knots (accepted to *Communications in Analysis and Geometry*).
3. A short proof of Bing’s characterization of S^3 (accepted to *Proceedings of the American Mathematical Society*).

4. (with Chaim Goodman-Strauss) Simple Geodesics on a punctured hyperbolic surface (accepted to “Topology and its Application”).
5. A proof of Waldhausen’s uniqueness of splittings of S^3 (after Rubinstein and Scharlemann) (accepted to *Topology and Geometry monographs*).
6. An-annular complexes in 3-manifolds, *Kyungpook Mathematical Journal* (2005) 45:4 549–559.
7. (with Tsuyoshi Kobayashi, Ruifeng Qiu and Shicheng Wang) Incompressible surfaces in 3-manifolds and the amalgamation of Heegaard splittings, *Mathematical Proceedings of the Cambridge Philosophical Society* (2004), 137:3:633–643
8. (With Tsuyoshi Kobayashi) Local detection of strongly irreducible Heegaard splittings via knot exteriors *Topology and its Applications* 138 (2004) 239–251.
9. (With Eric Sedgwick) Thin position for a connected sum of small knots, *Algebraic and Geometric Topology* **2** (2002), paper no. 14, pages 297–309.
10. Genus Reducing Knots in 3-Manifold, (Dedicated to the memory of Marco Reni) *Rend. Istit. Mat. Univ. Trieste* **32** (2001), suppl. 1, 317–331 (2002).
11. (With Eric Sedgwick) Persistence of Heegaard structures under Dehn filling *Topology and its Applications* **109** (2001), no. 1, 41–53.
12. (With Eric Sedgwick) Finiteness results for Heegaard surfaces in surgered manifolds *Communications in Analysis and Geometry* **9** (2001), no.2, 351–367.
13. Heegaard structures of manifolds in the Dehn filling space, *Topology* **39** (2000), no. 3, 619–641.

Preprints

14. (with J. Hyam Rubinstein) Invariant Heegaard surfaces in non-Haken manifolds with Involutions (submitted).
15. (with Tsuyoshi Kobayashi) Manifolds admitting both strongly irreducible and weakly reducible Heegaard splittings (preprint)
16. (with Mark Brittenham) The Heegaard genus of bundles over S^1 (submitted).

In preparation

17. (with Mark Brittenham) A universal bound for the genus of hyperbolic 3-manifolds that fiber over S^1 .
18. (with Tsuyoshi Kobayashi) The growth rate of m-small knots.
19. (with Yasushi Yamashita) On Negami’s Planar Cover Conjecture.
20. (with Yasushi Yamashita) Computations in four colors.

Books

21. (editor, with Cameron Gordon) *Proceedings of the Casson Fest*, Geometry & Topology Publications, Coventry, 2004.

In proceedings (not refereed)

22. An-annular complexes in 3-manifolds, RIMS proceedings number 1229 (Kyoto University)
23. (with Tsuyoshi Kobayashi) Morimoto's Conjecture for m-small knots. In *musubime no topology 5* (Topology of Knots 5), kouki taniyama (ed.), pp. 197–213.
24. (with Tsuyoshi Kobayashi) Growth rate of tunnel number for knots and Morimoto's conjecture (in *musubime no topology 6* (Topology of Knots 6) Kimihiko Motegi (ed.)

Dissertation

25. Heegaard Surfaces and Dehn Fillings: $g(M) + 1 \leq t(X) \leq g(M)$. (U.T. Austin, 1997.)

SERVICES

1. Organizer, Arkansas Spring Lecture Series, April 2006, University of Arkansas.
2. Organizer, “the Gordonfest”, May 2005, University of Texas at Austin.
3. Organizer, the first Arkansas-Oklahoma Workshop in Topology and Geometry, May 2005, University of Arkansas.
4. Organizer, Arkansas Spring Lecture Series, April 10-12 2002, University of Arkansas.
5. Co-organizer, Midwest Topology Conference, March 18-30, 2004.
6. Co-organizer, KOOK knot seminar, Osaka, July 5-15, 2004.
7. Organizer, Arkansas Geometry and Topology Seminar.
8. Referee for various international journal.
9. Reviewer for Mathematical reviews and Zentralblatt Mathematik.
10. Member of the Graduate Studies Committee, Department of Mathematical Sciences, University of Arkansas
11. Preparation and grading of qualifier examinations, and curriculum development, graduate program of the University of Arkansas.

PROFESSIONAL EXPERIENCE

2001-2002	Visiting Researcher, Kyoto University and Nara Women's University
2000-present	Assistant Professor, University of Arkansas
1999-2000	Post Doctoral Fellow, Oxford University
1999	Visiting Assistant Professor, Oklahoma State University
1998	Research Fellow, University of Melbourne (Australia)
1997-1998	Lecturer at the University of California, Santa Barbara item[1993-1997] Assistant Instructor at the University of Texas at Austin
1991-1993	Teaching Assistant at the University of Texas at Austin
1990-1991	Teaching Assistant at the Israel Institute of Technology

TEACHING EXPERIENCE

2002-present	Assistant Professor University of Arkansas
1997-2000	Lecturer and Visiting Professor, U.T., UCSB, and OSU
1990-1993	Teaching Assistant, I.I.T. and U.T. Taught classes at undergraduate and graduate levels in all fields of math. Class size from one to 200 students. Prepared students for Ph.D. candidacy, set and graded the candidacy exams.

SEMINAR AND INVITED TALKS

1. Oklahoma State University (topology seminar, invitation accepted)
2. University of Nebraska, Lincoln (invitation accepted)
3. University of Arkansas (complex analysis seminar, invitation accepted)
4. Université de Provence (Low Dimensional Topology Conference, May 2006)
5. Osaka City University (Friday Seminar On Knot Theory series, May 2006)
6. Osaka Industrial University (Topology and Computers workshop, November 2005, Osaka, Japan)
7. Israel Institute of Technology (Technion, July 2005, workshop on Heegaard Splittings, 2 hours)

8. Nara Women's University (topology seminar, June 2005)
9. Nihon University (Tokyo, topology seminar, June 2005, 2 hours)
10. Tokyo Institute of Technology (topology seminar, June 2005, 2 hours)
11. Osaka University (topology seminar, June 2005, 2 hours)
12. University of Arkansas (April 2005)
13. KOOK international seminar (Osaka, July 2004)
14. Nara Women's University (Topology seminar, June 2004)
15. Osaka City University (Topology seminar, June 2004)
16. University of SUNY Buffalo (Topology seminar, April 2004)
17. University of California, Davis (topology seminar, March 2004)
18. Emory University (Colloquium, February 2004)
19. Oklahoma University (colloquium and seminar, February 2004)
20. Topology of Knots 6 (international conference held at Nihon Daigaku, Tokyo, December 2004)
21. University of Texas (topology seminar, Fall 2003).
22. University of Arkansas (topology seminar, Fall 2003)
23. University of Arkansas (topology seminar, Spring 2003)
24. Waseda University (invited speaker, December 2002)
25. Nihon University (Tokyo, Japan, 7 hour lecture series, March 2002)
26. University of Montreal (Invited one hour lecture at Workshop on Groups and 3 Manifolds, June 2001)
27. Osaka City University (Osaka, Japan) May 2001
28. Kyoto University (Kyoto, Japan) May 2001
29. Osaka University (Osaka, Japan, 7 lectures series) February 2001
30. Arkansas University (topology seminar: 10 expository and research talks) fall 2000
31. Bar Ilan University, Israel, December 1999
32. Ben Gurion University, Israel, December 1999 Haifa University, Israel, December 1999
33. University of Melbourne (Joint American and Australian Math Societies), July 1999.
34. University of North Texas (Joint American and Mexican Math Societies), May 1999.

35. University of Texas at Austin, February 1999.
36. Oklahoma State University, Fall 1999 (several talks).
37. University of Adelaide, Australia, November 1998.
38. University of Sydney, Australia, October 1998.
39. University of Melbourne, Australia, August 1998.
40. State University of New York, Stony Brook, May 1998.
41. University of California, Santa Barbara, April 1998.
42. Oklahoma State University, March 1998.
43. University of Arkansas, March 1998.
44. Haifa University (Israel), December 1997.
45. University of California, Santa Barbara, September 1997 (two talks).
46. University of Arkansas, April 1997.
47. University of California at Berkeley, March 1997.
48. Rice University, December 1996.
49. University of Texas at Austin, December 1996.
50. Israel Institute of Technology, August 1995.
51. University of Texas at Austin, March 1994.

PERSONAL INFORMATION

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Citizenship: Israel, E.U. (Germany), U.S. Permanent Resident.

LANGUAGE SKILLS

Hebrew Native speaker.

English Fluent.

Japanese Conversational, but leaves quite a bit to be desired.

HOBBIES

Scuba and skin diving, traveling and hiking, reading, cooking, Shostakovich. doing nothing is also good.