

CURRICULUM VITAE

Rob Schneiderman

Education:

- Ph.D., University of California, Berkeley, Mathematics 2001;
Dissertation: *4-dimensional Intersection Numbers of Knots and Links in 3-manifolds*;
Advisor: Robion Kirby.
- B. A. (Summa cum Laude), City University of New York, City College, Mathematics 1994.

Employment:

- Assistant Professor, Department of Mathematics and Computer Science, Lehman College, City University of New York (September 2006-present);
- Postdoctoral Lectureship, Department of Mathematics, University of Pennsylvania (July 2005-July 2006);
- Courant Instructor/Assistant Professor, Courant Institute of Mathematical Sciences, New York University (September 2002 - July 2005);
- National Science Foundation Postdoctoral Fellow, (University of California San Diego) and Visiting Postdoctoral Researcher at Max-Planck-Institute, Bonn, Germany (July 2001-July 2002).

Honors and Awards:

- National Science Foundation Mathematical Sciences Postdoctoral Research Fellowship (2001),
- Graduate Student Research Assistantships at UC Berkeley (spring 2000, spring 1998, fall 1998) and UC San Diego (summer 2000);
- chosen to receive Math Department Fellowship, UC Berkeley (spring 1998);
- Graduate Student Instructorships, UC Berkeley, (fall 1994-spring 2001);
- Summer Research Fellowship, UC Berkeley (summer 1995);
- Emil Post Award CCNY (1994);
- Schwarz Scholarship CCNY (1992);
- Belden Mathematical Prize CCNY (1991);
- National Endowment for the Arts Jazz Performance Fellowship (1987).

Research Interests:

Low-dimensional Topology: the geometry and topology of 3- and 4-dimensional manifolds, obstructions to embedding surfaces in 4-manifolds, invariants of knots and links in 3-manifolds.

Publications:

- *Higher order intersection numbers of 2-spheres in 4-manifolds*, (with Peter Teichner) **Algebraic and Geometric Topology**, Vol 1 (2001).
- *Algebraic linking numbers of knots in 3-manifolds*, **Algebraic and Geometric Topology** Vol. 3 (2003).
- *Whitney towers and the Kontsevich integral*, (with P. Teichner) **Geometry and Topology monograph series** Vol 7 (2004).
- *Half-gropes, Simple Whitney towers and the Arf invariant of a knot*, **Pacific Journal of Mathematics** Vol 222, No 1, Nov 2005.
- *Whitney towers and gropes in 4-manifolds*, **Transactions of the American Mathematical Society** 358 (2006).
- *Jacobi relations in low-dimensional topology*, (with J. Conant and P. Teichner) **Composition Mathematica** 143 Part 3 (2007).
- *Stable concordance of knots in 3-manifolds*, to appear in **Algebraic and Geometric Topology**.

Selected Presentations:

Special session on knot theory and related topics, Joint AMS-KMS meeting, Seoul (December 2009),

Special session on geometric topology, AMS sectional meeting, Wesleyan College (October 2008),

4-dimensional Manifolds Workshop at Oberwolfach Mathematics Institute, Germany (August 2006),

Julius Shaneson's Ides of March Topology Festival: Submanifolds, Singular Varieties and Stratified Spaces, Courant Institute (2005),

BANF International Research Station conference on Knots and their manifold stories (May 2003),

Uni-Muenster, Junge Topologen und Neue Topologie conference (2001).

AMS meetings (special session talks): Lyon, special session on Low-dimensional Topology; University of Nevada, Las Vegas, special session on the Topology of links.

Topology seminars: UPenn, CUNY Grad Center, Max-Planck-Institut-fur-Mathematik; University of Marseille; Uni-Muenchen; Courant Institute; UC San Diego; University of Indiana; Stanford University; UC Berkeley; Barnard College/Columbia University.

Teaching Experiences:

Instructor at Lehman College CUNY:

- Foundations of Mathematics (MAT 670),
- Calculus I, II, and III, (MAT 175, MAT 176, MAT 226), and Business Calculus (MAT 174),
- Linear Algebra (MAT 313), and Abstract Algebra (MAT 314),
- Precalculus (MAT 172), and Business precalc (MAT 171),
- Music and Mathematics (Honors seminar).

Instructor at UPenn:

- Calculus II,
- Calculus IV,
- Linear Algebra,
- Low-dimensional Topology (grad course).

Instructor at NYU:

- Topology (grad course),
- Advanced Calculus,
- Business Calculus,
- Calculus,
- Elementary Statistics,
- Logic.

Instructor at UC Berkeley:

- Multi-variable Calculus (two summers).

Instructor at City College CUNY :

- Pre-calculus (two summers).

Co-instructor at UC Berkeley:

- Developed and co-taught an experimental Introduction to Topology Course.

Teaching Assistant at UC Berkeley:

- All levels of Calculus, Discrete Math, Linear Algebra, Differential Equations (including workshop problem sessions).

Service:

- Course designer/instructor for Mathematics Teacher Transformation Institute at Lehman College (2009);
- Co-organizer of workshop in low-dimensional topology at Mathematical Sciences Research Institute (2008);
- Undergrad and grad student advisor at Lehman College;
- Calculus committee at Lehman College (chair);
- Departmental honors committee (Lehman College);
- Referee for various mathematics journals;
- Organized special session in Low-dimensional Topology at regional AMS meeting, Courant Institute NYU (2003);
- Served as mentor for incoming graduate students and helped organize graduate student topology seminar at UC Berkeley.

Additional personal info:

I came to discover Mathematics after a busy career playing jazz piano which

included recording and performing throughout North America, Europe and Japan. I've found that Mathematics demands the same blend of discipline and creativity as playing improvised music at the top level. I enjoy describing Mathematics to the Arts community as "music that only musicians can hear".