

CURRICULUM VITAE

Vladimir BARANOVSKY

DATE AND PLACE OF BIRTH:

October 26, 1973, Omsk, Russia

CITIZENSHIP:

Russian

ADDRESS:

Department of Mathematics
103 MSTB, UC Irvine
Irvine, CA 92697-3875

email: vbaranov@math.uci.edu

phone: (949) 824-6474

EDUCATION:

2000 Ph.D. in Mathematics, University of Chicago

1996 M.S. in Mathematics, University of Chicago

1995 Honors Diploma, Moscow State University

EMPLOYMENT HISTORY:

Jul. 2004 - present: Assistant Professor, University of California - Irvine

Sep. 2002 - Jun. 2004: Johnson Senior Research Fellow, California Institute of Technology

Jan. 2001 - Aug. 2002: Tauski-Todd Instructor, California Institute of Technology

Sep. 2000 - Dec. 2000: Institute for Advanced Study, Princeton

RESEARCH INTERESTS: Algebraic Geometry and Representation Theory.

COURSES TAUGHT:

- Undergraduate Algebra (Math 120A, Spring 2007)
- Elementary Differential Equations (Math 3D, Summer I 2006)
- Graduate Algebra (Math 230abc, UC Irvine, Fall 2005 - Spring 2006)
- Introduction to Number Theory (Math 180, UC Irvine, Summer II 2005 and Winter 2006)
- Introduction to Rings and Fields (Math 120B, UC Irvine, Spring 2005)
- Introduction to Algebraic Geometry (Math 233abc, UC Irvine, 2004-2005 and 2006 -2007)
- Introduction to Algebraic Geometry (Math 130bc, Caltech, Winter-Spring 2004)
- Introduction to Number Theory (Math 7, Caltech, Spring 2003)

- Fundamental Groups and Homology (Math 109a, Caltech, Fall 2002)
- Galois Theory and Representations of Finite Groups (Math 5c, Caltech, Spring 2001 and Spring 2002)
- Rings and Modules (Math 5b, Caltech, Winter 2002)
- Quotients in Symplectic and Algebraic geometry (Math 191e, Caltech, Winter 2002)
- Atiyah-Singer Index Theorem (Math 191e, Caltech, Winter 2001)
- Calculus Sequence (151-153, University of Chicago, Fall 1997 - Spring 1999)
- Teaching assistant in Honors Calculus (161-163, University of Chicago, Fall 1996 - Spring 1997)
- Homogeneous Varieties and Borel-Weyl Theorem (Independent University of Moscow, Fall 1994)

VISITING POSITIONS:

- Jul. 2000: Visitor at MPI-Bonn
- Jul.-Aug. 1999: Visitor at IHES
- Jun.-Jul. 1998: Guest student at MPI-Bonn.

AWARDS AND FELLOWSHIPS:

- Sep 2006 - Aug 2008: Sloan Research Fellowship
- 2001-2002 Associated Students of Caltech Annual Award for Excellence in Teaching
- Jun 2000 - Aug 2000: Clay Mathematics Institute Liftoff Fellowship
- Oct 1999 - Jun 2000: Sloan Dissertation Fellowship
- Aug 1998 - Sep 1998: CRDF grant “Russian-American Young Investigators Exchange”
- Oct 1995 - Jun 1998: R. McCormick Fellowship for Graduate Studies

PUBLICATIONS:

1. “BGG correspondence for toric complete intersections” (to appear in “Moscow Mathematical Journal”, 2007).
2. (with Tihomir Petrov) “Brauer Groups and Crepant Resolutions”, *Advances in Math* **209**, no 2 (2007), 547-560.

3. “BGG correspondence for projective complete intersections”, *Internat. Math. Res. Not.*, **45** (2005), 2759-2774.
4. “Orbifold cohomology as periodic cyclic homology”, *International Journal of Mathematics*, **14** (2003), no. 8, 791-812.
5. (with S. Evens and V. Ginzburg) “Representations of quantum tori and G -bundles on elliptic curves”, in “*The orbit method in geometry and physics*” (*Kirillov’s Festschrift*), Progr. Math., **213**, Birkhäuser, Boston, 2003, 29-48.
6. (with V. Ginzburg and A. Kuznetsov) “Wilson’s Grassmannian and a noncommutative quadric”, *Int. Math. Res. Not.*, no. 21 (2003), 1155–1197.
7. (with V. Ginzburg and A. Kuznetsov) “Quiver varieties and a noncommutative \mathbb{P}^2 ”, *Compositio Math.*, **134** (2002), no. 3, 283–318.
8. “The variety of pairs of commuting nilpotent matrices is irreducible.”, *Transformation Groups*, **6** (2001), no. 1, 3-8.
9. “Moduli of Sheaves on Surfaces and Action of the Oscillator Algebra”, *Journal of Differential Geometry*, **55** (2000), no.2, 193-227.
10. (with V. Ginzburg) “Conjugacy classes in loop groups and G -bundles on elliptic curves.” *Internat. Math. Res. Notices*, no. 15 (1996), 733–751.
11. “The cohomology ring of the moduli space of stable bundles with odd determinant.” (Russian) *Izv. Ross. Akad. Nauk Ser. Mat.*, **58** (1994), no. 4, 204–210; English translation in *Russ. Acad. Sci. Izv. Math.*, **45** (1995), no. 1, 207–213

PREPRINTS:

1. “A universal enveloping for L-infinity algebras”, submitted to *Math. Res. Lett.*
2. “Algebraization of bundles on non-proper schemes”, September 2007.
3. “Discrete twists of McKay correspondences”, in preparation.

TALKS ON SEMINARS AND CONFERENCES:

- Nov 18, 2006; Southern California Algebra Conference, UCLA
“(Another) universal enveloping for L-infinity algebras”
- Sept 8, 2006; Algebra Section Seminar, Steklov Institute, Moscow
“A discrete twist of the categorical McKay correspondence”
- Aug 17, 2006; ICM Satellite Conference in Algebraic Geometry, Segovia, Spain
“Brauer Groups and Crepant Resolutions”

- May 24, 2006; Algebraic Geometry Seminar, Caltech
“Brauer groups and Crepant resolutions”
- Jan 23, 2006; Algebraic Geometry Seminar, Caltech
“Calogero-Moser system and points on the plane”
- Dec 03, 2005; Western Algebraic Geometry Seminar (WAGS), Salt Lake City
“Brauer Groups and Crepant Resolutions”
- Apr 16, 2005; AMS Sectional Meeting in Santa Barbara
“Brauer Groups and Resolutions of V/G ”
- Feb 4, 2004; Colloquium, USC
“Algebraic vector bundles and the analogue of $L^2(X)$ in algebraic geometry”
- January 20, 2004; Special Colloquium, UCI
“Algebraic vector bundles and the analogue of $L^2(X)$ in algebraic geometry”
- October 29, 2003; Algebraic Geometry Seminar, Caltech
“Vector Bundles on Complete intersections in Projective Spaces”
- May 4, 2003; Algebraic Geometry Seminar, UCI
“BGG correspondence for complete intersections”
- November 10, 2002; Algebraic Geometry Seminar, Caltech
“Orbifold Cohomology as periodic cyclic homology”
- October 5, 2002; AMS meeting in Boston, Special Session on Hilbert Schemes
“Orbifold cohomology as periodic cyclic homology”
- Nov 2, 2001
Algebraic Geometry Seminar, Caltech
“Some results on Hitchin moduli spaces”
- May 20, 2001; Algebraic Geometry Seminar, University of Washington - Seattle
“Noncommutative geometry and quiver varieties”
- May 12, 2001; Conference on Linear Algebra, Cal. State - Northridge
“The variety of commuting nilpotent matrices is irreducible”
- February 7, 2001; Algebraic Geometry Seminar, Caltech
“Wilson’s Grassmanian and a Noncommutative Quadric”
- November 3, 2000; Geometry Seminar at IAS, Princeton
“Quiver Varieties, Adelic Grassmanians and Noncommutative P^2 ”
- March 1, 2000; Algebraic Geometry Seminary, Ohio-State University
“Semismall resolutions and convolution actions”

- September 24, 1999; Workshop on Modular Invariants, Operator Algebras and Quotient Singularities, University of Warwick, UK
“Moduli spaces and convolution algebras”
- May 23, 1999; Algebraic Geometry Seminar, Harvard
“Uhlenbeck compactifications and gerbes over K_2 ”
- May 21, 1999; Joint Hilbert scheme seminar MIT
“Punctual Quot Schemes and moduli of sheaves”
- March 20, 1999; AMS Meeting in Urbana, Session “Holomorphic vector bundles and complex geometry”
“Moduli of sheaves on surfaces and action of oscillator algebra”
- March 17, 1999; Algebraic Geometry Seminar, University of Michigan - Ann Arbor
“Moduli of Sheaves on Surfaces and the Action of the Oscillator Algebra”
- July 19, 1998; Conference on Infinite-Dimensional Lie Algebras in Oberwolfach, Germany
“Sheaves on surfaces and Heisenberg algebras”
- July 3, 1994; Algebraic Geometry Conference in Yaroslavl, Russia
“Cohomology of the moduli spaces of bundles on a curve”