

# Curriculum Vitae for Isabella Novik

**Date of birth:** December 2, 1971      **Citizenship:** US and Israeli citizen

**Home Address:** 14116 SE 45th street, Bellevue, WA 98006

**Current Academic Affiliation:** Department of Mathematics, University of Washington

**Telephone:** (206) 616-9373 (office)      **e-mail address:** novik@math.washington.edu

**web-page:** <http://www.math.washington.edu/~novik/>

## Education:

- Ph.D., Mathematics, Hebrew University, July 1999  
Thesis “Face numbers of polytopes and manifolds” directed by Gil Kalai
- M.Sc., Mathematics (summa cum laude), Hebrew University, 1996  
Thesis directed by Gil Kalai
- B.Sc., Mathematics and Computer Sciences (summa cum laude),  
Hebrew University, 1994

## Honors and Grants:

- The Faculty Fellowship, Department of Mathematics, UW, 2009–2011
- NSF Research Grant DMS-0801152, 7/01/2008–6/30/2011,  
title: “Around the theory of  $f$ -vectors”
- Sloan Research Fellowship, 2006–2010
- NSF Research Grant DMS-0500748, 7/15/2005 – 7/1/2008,  
title: “Combinatorics, Algebra and Topology of simplicial complexes”
- Faculty Excellence Award, 2005 – 2006
- Haim Nessayahu Prize for excellent Ph.D. thesis in Mathematics in Israel, 2000

## Professional and Teaching Experience:

- 2007- : Associate Professor, Dept. of Math, University of Washington
- 2004-2007: Assistant Professor, Dept. of Math, University of Washington
- 2001-2004: Acting Assistant Professor, Dept. of Math, University of Washington
- 1999-2001: Morrey Assistant Professor, Dept. of Math, UC Berkeley
- June 2000: Consultant at Microsoft Research
- 1996-1999: Teaching Assistant, Dept. of Math, Hebrew University, Jerusalem

**Research Interests:** Algebraic and geometric combinatorics, especially combinatorics of polytopes and manifolds; connections between combinatorics, commutative algebra, and algebraic topology.

## Professional Activities:

- 7/2005 - Editor-in-Chief of Journal of Algebraic Combinatorics (one of four)
- Coorganizer of workshop on Topological and Geometric Combinatorics (one of four)  
Oberwolfach, Germany, to take place in 2/2011
- Coorganizer of “Mathematics of Klee & Grünbaum: 100 years in Seattle” conference  
Seattle, WA, to take place in 7/2010
- Member of the Program Committee for FPSAC 2011
- 2003 - Coorganizer of Combinatorics-Geometry seminar at UW (one of two)

**PhD students:**

Anton Dochtermann (coadvised jointly with Eric Babson) — 2007  
Andy Frohmader — 2008  
Kurt Luoto (coadvised jointly with Sara Billey) — 2009  
Michael Goff  
Steven Klee

**Invited Talks:****Outstanding invitations:**

Combinatorics 2010: Advances, Trends and Speculations,  
University of Kentucky, March 2010

**Plenary talks:**

AMS-IMS-SIAM Joint Summer Research Conference on Integer Points in Polyhedra,  
Snowbird, Utah, July 2003  
Conference on Formal Power Series and Algebraic Combinatorics,  
Linköpings, Sweden, June 2003

**Colloquium talks:**

University of Illinois, Urbana-Champaign, Mathematics Colloquium, January 2004  
University of Washington, Seattle, Math Department Colloquium, January 2004  
Indiana University – Bloomington, Departmental Colloquium, January 2004  
Reed College Mathematics Colloquium, Portland, Oregon, September 2003  
Hebrew University of Jerusalem Mathematics Colloquium, June 1999

**Conference talks:**

Workshop on Combinatorial Geometry, IPAM, October 2009  
Macaulay 2 conference, Cornell University, March 2008  
Polytopes, graphs and Convexity,  
Spring school in Jerusalem, May 2007 (two 1-hour lectures)  
Workshop on Geometric and Topological Combinatorics,  
Oberwolfach, Germany, January 2007, April 2003, and April 1999  
NSF-CBMS Conference on Algebraic and Topological Combinatorics of Ordered Sets,  
San Francisco State University, August 2005  
Workshop on Combinatorial Commutative Algebra,  
Oberwolfach, Germany, July 2004  
Bay Area Discrete Math Day, MSRI, Berkeley, October 2002  
Conference on Computational Commutative Algebra and Combinatorics,  
Osaka University, Japan, July 1999  
Workshop on Geometric Combinatorics, MSRI, Berkeley, February 1997  
Israel Mathematical Union Meeting, Weizmann Institute of Science, May 1996

**Special Sessions at AMS national and sectional meetings:**

Raleigh, April 2009; Chicago, October 2007; Storrs, October 2006; Santa Barbara, April 2005;  
Phoenix, January 2004; Binghamton, October 2003; Portland, June 2002; Ann Arbor, March 2002;  
San-Francisco, October 2000; San-Antonio, January 1999

## Journals refereed:

Advances in Mathematics, Canadian Mathematical Bulletin, Combinatorica, Discrete and Computational Geometry, Discrete Mathematics, Documenta Mathematica, Duke Mathematical Journal, Electronic Journal of Combinatorics, European Journal of Combinatorics, Israel Journal of Mathematics, Journal of Combinatorial Theory (Ser. A), Journal of Pure and Applied Algebra, Rocky Mountain Journal of Mathematics, SIAM Journal on Discrete Math, Transactions of AMS.

## Publications:

20. (with Jonathan Browder) Face numbers of generalized balanced Cohen-Macaulay complexes, submitted.
19. (with Michael Goff and Steven Klee) Balanced complexes and complexes without large missing faces, *Ark. Mat.*, to appear.
18. (with Ed Swartz) Gorenstein rings through face rings of manifolds, *Compos. Math.*, **145**, Issue 4 (2009), 993-1000.
17. (with Ed Swartz) Applications of Klee's Dehn-Sommerville relations, *Discrete Comput. Geom.*, **42**, Issue 2 (the Klee Festschrift volume), (2009), 261-276.
16. (with Ed Swartz) Socles of Buchsbaum modules, complexes and posets, *Adv. Math.* **222** (2009), 2059-2084.
15. (with Alexander Barvinok) A centrally symmetric version of the cyclic polytope, *Discrete Comput. Geom.*, **39** (2008), 76-99.
14. (with Ed Swartz) Face ring multiplicity via CM-connectivity sequences, *Canadian J. Math.*, **61** (2009), no.4, pp. 888-903.
13. (with Nathan Linial), How neighborly can a centrally symmetric polytope be?, *Discrete Comput. Geom.*, **36** (2006), 273-281.
12. (with Eric Babson and Rekha Thomas), Reverse lexicographic and lexicographic shifting, *J. Algebraic Combin.*, **23** (2006), 107-123.
11. On face numbers of manifolds with symmetry, *Adv. Math.*, **192** (2005), 183-208.
10. (with Eric Babson), Face numbers and nongeneric initial ideals, *Electronic J. Combin.*, **11** (2004/06), no.2, Research Paper #25, 23pp.
9. (with Eric Babson and Rekha Thomas), Symmetric iterated Betti numbers, *J. Combin. Theory Ser. A*, **105** (2004), 233-254.
8. Remarks on the Upper Bound Theorem, *J. Combin. Theory Ser. A*, **104** (2003), 201-206.
7. (with Patricia Hersh), A short simplicial  $h$ -vector and the Upper Bound Theorem, *Discrete Comput. Geom.*, **28** (2002), 283-289.
6. Lyubeznik's resolution and rooted complexes, *J. Algebraic Combin.*, **16** (2002), 97-101.
5. (with Alex Postnikov and Bernd Sturmfels), Syzygies of oriented matroids, *Duke Math. J.*, **111** (2002), 287-317.
4. Lower bounds for the  $cd$ -index of odd-dimensional simplicial manifolds, *European J. Combin.* **21** (2000), 533-541.
3. A note on geometric embeddings of simplicial complexes in a Euclidean space, *Discrete Comput. Geom.*, **23** (2000), 293-302.
2. The Lower Bound Theorem for centrally symmetric simple polytopes, *Mathematika*, **46** (1999), 231-240.
1. Upper Bound Theorems for homology manifolds, *Israel J. Math.*, **108** (1998), 45-82.