

Curriculum Vitae

Lauren Lynn Rose

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EDUCATION

Ph.D. in mathematics, Cornell University, January 1988.
Visiting graduate student, Rutgers University, 1985–86.
M.S. in mathematics, Cornell University, August 1985.
B.A. in mathematics, *summa cum laude*, Tufts University, May 1982.

ACADEMIC POSITIONS

Associate Professor, Bard College, 2000 - present.
Assistant Professor, Bard College, 1997 - 2000.
Faculty Member, GWU Summer Program for Women in Mathematics, 1995, 1998, 1999, 2005.
Visiting Researcher, Mathematical Sciences Research Institute, February 1996.
Bunting Institute Science Scholar, Radcliffe College, 1993–94 and 1996–97.
Visiting Scholar, MIT Mathematics Department, 1993–94 and 1996–97.
Assistant Professor, Wellesley College, 1990–96.
Assistant Professor, Ohio State University, 1987–90.

GRANTS and AWARDS

NSA Grant: Discrete Mathematics Days in the Northeast, Bard College, 2004 and 2005.
Bunting Institute Science Scholars Fellowship, Radcliffe College, 1993–94, 1996–97.
Regional Geometry Institutes: Amherst College, July 1992; Smith College, July 1993.
AWM Travel Grant, Oberwolfach, Germany, August 1990.
NSF Research Planning Grant, Ohio State University, 1989–90.
Hutchinson Fellowship, Cornell University, 1985–86.
Ralph S. Kaye Memorial Prize, Tufts University, May 1982.
Alpha Xi Delta Prize Scholarship, Tufts University, May 1981.

RESEARCH AREAS

Algebraic Combinatorics, Discrete Geometry, and Computational Commutative Algebra

PUBLICATIONS

1. Gröbner Basis Methods for Multivariate Splines (with Louis J. Billera), in *Mathematical Methods in Computer Aided Geometric Design*, T. Lyche and L. Schumaker, eds., Academic Press (1989), 93–104.
2. Hilbert Polynomials and Geometric Lattices (with Hiroaki Terao), *Advances in Mathematics*, **84** No. 2, (1990), 209–225.
3. A Free Resolution of the Module of Logarithmic Forms of a Generic Arrangement (with Hiroaki Terao), *Journal of Algebra* **136** No. 2, (1991), 376–400.
4. A Dimension Series for Multivariate Splines (with Louis J. Billera), *Discrete and Computational Geometry* **6** (1991), 107–128.
5. Modules of Piecewise Polynomials and their Freeness (with Louis J. Billera), *Mathematische Zeitschrift* **209** (1992), 485–497.
6. Combinatorial and Topological Invariants of Modules of Piecewise Polynomials, *Advances in Mathematics* **116** No.1, (1995), 34–45.
7. Module Bases for Multivariate Splines, *Journal of Approximation Theory* **86** No. 1, (1996), 13–20.
8. Beyond Polynomials, *New England Science Teachers Newsletter*, Volume 9, No.1, (1997).
9. Iterated Homology and Non-Pure Shelling (with Art Duval), *Journal of Algebraic Combinatorics* **12** , (2000), 279–294.
10. Graphs, Syzygies and Multivariate Splines, *Discrete and Computational Geometry* **32** No. 4 (2004), 623–637.

PROFESSIONAL SOCIETIES AND ACTIVITIES

- PI on NSA grant: Discrete Mathematics Days in New England.
- Association for Women in Mathematics.
- American Mathematical Society.
- Reviewer for NSF and Math Reviews.
- Referee for mathematics journals and conference proceedings.
- REU Program Panel in Mathematics, NSF, 1996 and 1997.
- *Radcliffe Research Partnership Program*, 1996–97.

RESEARCH PRESENTATIONS

1. *Rings and Modules Associated to a Simplicial Complex*, XXth OSU – Denison University Mathematics Conference, Denison University, February 1988.
2. *The Jacobian Ideal of a Hyperplane Arrangement*, meeting on Combinatorial Convexity and Algebraic Geometry, Oberwolfach, Germany, August 1989.
3. *Algebraic Combinatorics of Splines and Hyperplane Arrangements*, Dartmouth College Mathematics Colloquium, February 1990.
4. *Gröbner Basis Methods for Multivariate Splines*, workshop on Algebraic Issues in Geometric Computation, DIMACS Center, Rutgers University, May 1990.
5. *Algebraic Combinatorics of Multivariate Splines*, meeting on Algebraic and Combinatorial Problems in Multivariate Approximation Theory, Oberwolfach, Germany, October 1990.
6. *Combinatorial Conditions for Freeness of Modules of Piecewise Polynomials*, Special Session on Combinatorics and Discrete Geometry, Springfield AMS meeting, March 1992.
7. *Algebraic Combinatorics of Multivariate Splines*, Combinatorics and Graph Theory Day, Smith College, April 1992.
8. *Homological Dimension of Modules of Piecewise Polynomials*, meeting on Combinatorial Convexity and Algebraic Geometry, Oberwolfach, Germany, March 1993.
9. *Counting the Faces of a Polyhedron*, UMass–Dartmouth Mathematics Colloquium, April 1993.
10. *Geometry of Multivariate Splines*, Regional Geometry Institute, Smith College, July 1993.
11. *Modules of Piecewise Polynomials*, Valley Geometry Seminar, UMass–Amherst, October 1993.
12. *Piecewise Polynomials on Polyhedral Complexes*, UNH Colloquium, April 1994.
13. *Lexicographic Ideals and Simplicial Complexes*, Combinatorics and Graph Theory Day, Smith College, April 1994.
14. *Piecewise Polynomials on Polyhedral Complexes*, Minisymposium on Algebraic Combinatorics, SIAM conference, Albuquerque, June 1994.
15. *Syzygies and Multivariate Splines*, Special Session on Syzygies and Geometry, Boston AMS meeting, October 1995.
16. *Graphic Representations of Spline Modules*, Special Session on Graph Theory, Boston AMS meeting, October 1995.
17. *Graphs, Syzygies and Multivariate Splines*, FPSAC International Conference, Minneapolis, June 1996.
18. *Introduction to Geometric Combinatorics*, invited lecture series at the Mathematical Sciences Research Institute, Berkeley, August 1996.
19. *Algebraic Combinatorics and Multivariate Splines*, Noetherian Ring Seminar, Berkeley, February 1997.
20. *Algebraic Combinatorics and Multivariate Splines*, Colloquium, University of Miami, April 1997.
21. *Algebraic Combinatorics and Multivariate Splines*, George Washington University, July 1998.
22. *Euler’s Theorem and Beyond*, Vassar College Mathematics Colloquium, October 1998.
23. *Counting the Faces of a Polyhedron*, Carleton College, June 2001.
24. *How Many Faces Can A Polyhedron Have?*, Hudson River Undergraduate Math Conference, Hamilton College, April 2002.
25. *How Many Faces Can A Polyhedron Have*, George Washington University, July 2002.
26. *Graphs, Syzygies and Multivariate Splines*, Special Session on Topological Combinatorics, AMS sectional meeting in Binghamton, NY, October 2003.

EDUCATIONAL AND EXPOSITORY PRESENTATIONS

1. *Combinatorics, Geometry and Multivariate Splines*, Bunting Institute Colloquium, Radcliffe College, June 1994.
2. *Counting the Faces of a Polyhedron*, Bunting Institute Colloquium, Radcliffe College, October 1996.
3. *Counting the Faces of a Polyhedron*, IAP Mathematics Lecture Series, MIT, January 1997.
4. *What are all those Mathematical Symbols? What do they mean and how are they used?*, a series of three workshops for administrative staff at MIT, January 1997.
5. *Counting the Faces of a Polyhedron*, New England Science Teachers Annual Meeting, July 1997.
6. *Introduction to Gröbner Bases*, Marist College Mathematics Colloquium, February 1999.
7. *The Language of Mathematics*, Language and Thinking Seminar, Bard College, August 1999.
8. *Counting the Faces of a Polyhedron: The History of a Math Problem*, Faculty Seminar, Bard College, October 1999.