Curriculum Vitae
Ezra Miller

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	School of Mathematics
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Homepage:	http://www.math.umn.edu/~ezra
Date of Birth:	1974 (Maryland, USA)
Date of CV:	October 2007

Education/Employment

2006 – 2007		Visiting Faculty, University of Michigan
2006 –		Associate Professor, University of Minnesota
2002 – 2006		Assistant Professor, University of Minnesota
2002 – 2003		MSRI Postdoc, Mathematical Sciences Research Institute
2000 – 2002		NSF Postdoc, Massachusetts Institute of Technology (mentor: Richard Stanley)
2000	Ph.D.	University of California, Berkeley, Mathematics (advisor: Bernd Sturmfels)
1995	Sc.B.	Brown University, Providence, RI, Mathematics (with Honors)
1995	A.B.	Brown University, Providence, RI, Music

Scientific/Academic honors and grants

2007 – 2009	Univ. of Minnesota McKnight Presidential Fellow (comes with $45,000 grant)
2007	U of M Institute of Technology Guillermo E. Borja Award (comes with $3,500 grant)
2005 – 2009	NSF Faculty Early Career Development (CAREER) Award ($400,860 grant)
2005 – 2007	Univ. of Minnesota McKnight Land-Grant Professorship (comes with $90,000 grant)
2003 – 2006	National Science Foundation Grant ($126,385)
2000 – 2002	National Science Foundation Postdoctoral Research Fellowship
1999 – 2000	Alfred P. Sloan Doctoral Dissertation Fellowship
1997 , 1999	Julia B. Robinson Fellowship (Berkeley Math Department)
1997	Charles B. Morrey, Jr. Award (Berkeley Math Department)
1995	David Howell Premium for Outstanding Achievement in Mathematics (Brown University math department, highest honor)
——	Phi Beta Kappa (nationwide honor awarded by Brown University chapter)
——	Sigma Xi (nationwide honor awarded by Brown University chapter)
1994	Manning Calculus Prize (Brown University)
1993	Intern for Research and Training, National Institutes of Health [NIH]*
1991 – 1992	Howard Hughes Medical Institute Scholar*
1990	Sobel Scholar*

Nonscientific academic awards

1995	Arlan R. Coolidge Premium for Musical Excellence (Brown University Music Dept.)
——	Buxtehude Premium for Excellence in Music (Brown University Music Dept.)

Research interests

Combinatorial aspects of geometry and algebra

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*Laboratory biochemistry researcher chosen from nationwide search to work summers at the NIH in Bethesda, Maryland

Publications

Books and expository articles

2007 1. (book with Srikanth Iyengar, Graham Leuschke, Anton Leykin, Claudia Miller, Anurag Singh, and Uli Walther) *Twenty-four hours of local cohomology*, Graduate Studies in Mathematics, American Mathematical Society, Providence, RI. (xvi+282 pages)

    2. (book edited with Vic Reiner and Bernd Sturmfels) *Geometric Combinatorics.* Lecture notes from the Graduate Summer School of the Institute for Advanced Study/Park City Mathematics Institute held in Park City, UT, July 11–31, 2004. IAS/Park City Math. Series, American Math. Society, Providence, RI; Institute for Advanced Study (IAS), Princeton, NJ. (xvi+691 pages)

    3. (with Vic Reiner) *What is geometric combinatorics?* In Geometric combinatorics (Park City, UT, 2004), IAS/Park City Math. Series, American Math. Society, Providence, RI, pp. 1–17.

2004 4. (book with Bernd Sturmfels) *Combinatorial Commutative Algebra*, Graduate Texts in Mathematics Vol. 227, Springer–Verlag, New York. (xiv+417 pages)

    5. *Hilbert schemes of points in the plane*, Appendix to *Commutative algebra of N points in the plane*, by Mark Haiman, in Luchezar Avramov et al., (eds.), *Trends in Commutative Algebra*, MSRI Publications Vol. 51, Cambridge University Press, New York, pp. 153–180.

2001 6. (with David Perkinson) *Eight lectures on monomial ideals*, in Queen's Papers in Pure and Applied Mathematics, no. 120, 3–105.

Articles in progress

    7. *Metric combinatorics of convex polyhedra, II: gradient flow and Alexandrov unfolding.*

    8. *Metric complexity of convex polyhedra.*

    9. (with Huilan Li, Laura Matusevich, and Craig Sloss) *Multivariate hypergeometric functions and binomial ideals.*

Submitted journal articles

    10. (with Alicia Dickenstein and Laura Matusevich) *Binomial D-modules*, 47 pages. arXiv:math.AG/ 0610353

    11. (with Ning Jia) *Duality of antidiagonals and pipe dreams*, 5 pages. arXiv:math.CO/0706.3031

Peer-reviewed journal articles

to appear 12. (with Shin-Yao Jow) *Multiplier ideals of sums via cellular resolutions*, Mathematical Research Letters, 15 pages. arXiv:math.AG/ 0703299

    13. (with Allen Knutson and Alex Yong) *Gröbner geometry of vertex decompositions and of flagged tableaux*, Journal für die reine und angewandte Mathematik, 23 pages. arXiv:math.CO/0502144

    14. (with David Speyer) *A Kleiman–Bertini theorem for sheaf tensor products*, Journal of Algebraic Geometry, 5 pages. arXiv:math.AG/0601202

    15. (with Allen Knutson and Alex Yong) *Tableau complexes*, Israel Journal of Math., 18 pages. arXiv:math.CO/0510487

2006 16. (with Igor Pak) *Metric combinatorics of convex polyhedra: cut loci and nonoverlapping unfoldings*, Discrete and Computational Geometry (electronic), DOI: 10.1007/s00454-006-1249-0, pages OF1-OF50. arXiv:math.MG/0312253

    17. (with Allen Knutson and Mark Shimozono) *Four positive formulae for type A quiver polynomials*, Inventiones Mathematicae **166** no. 2, 229–325. arXiv:math.AG/0308142

18. (with Laura Matusevich) *Combinatorics of rank jumps in simplicial hypergeometric systems*, Proceedings of the American Mathematical Society **134**, 1375–1381. arXiv:math.AC/0402071

19. (with Vic Reiner) *Stanley's simplicial poset conjecture, after M. Masuda*, Communications in Algebra **34** (2006), no. 3, 1049–1053.

2005 20. (with Laura Matusevich and Uli Walther) *Homological methods for hypergeometric families*, Journal of the American Mathematical Society **18**, no. 4, 919–941. arXiv:math.AG/0406383

21. *Alternating formulas for K-theoretic quiver polynomials*, Duke Mathematical Journal **128**, 1–17. arXiv:math.CO/0312250

22. (with Allen Knutson) *Gröbner geometry of Schubert polynomials*, Annals of Mathematics **161**, 1245–1318. arXiv:math.AG/0110058

23. (with David Helm) *Algorithms for graded injective resolutions and local cohomology over semigroup rings*, Journal of Symbolic Computation **39**, 373–395. arXiv:math.AC/0309256

24. (with Mikhail Kogan) *Toric degeneration of Schubert varieties and Gelfand–Tsetlin polytopes*, Advances in Mathematics **193**, no. 1, 1–17. arXiv:math.AG/0303208

25. (with Vic Reiner) *Reciprocal domains and Cohen–Macaulay d-complexes in $\mathbb{R}^d$*, The Electronic Journal of Combinatorics **11(2)**, #N1 (9 pages). arXiv:math.CO/0408169

2004 26. (with Allen Knutson) *Subword complexes in Coxeter groups*, Advances in Mathematics **184**, 161–176. arXiv:math.CO/0309259

2003 27. (with David Helm) *Bass numbers of semigroup-graded local cohomology*, Pacific Journal of Mathematics **209**, no. 1, 41–66. arXiv:math.AG/0010003

28. *Mitosis recursion for coefficients of Schubert polynomials*, Journal of Combinatorial Theory, Series A **103**, 223–235. arXiv:math.CO/0212131

2002 29. *Cohen–Macaulay quotients of normal semigroup rings via irreducible resolutions*, Mathematical Research Letters **9**, no. 1, 117–128. arXiv:math.AC/0110096

30. *Planar graphs as minimal resolutions of trivariate monomial ideals*, Documenta Mathematica **7**, 43–90. (electronically published: http://www.math.uiuc.edu/documenta/vol-07/03.html)

2000 31. *Resolutions and duality for monomial ideals*, Ph.D. thesis, University of California at Berkeley.

32. *The Alexander duality functors and local duality with monomial support*, Journal of Algebra **231**, 180–234.

33. (with Bernd Sturmfels and Kohji Yanagawa) *Generic and cogeneric monomial ideals*, Journal of Symbolic Computation **29**, 691–708.

34. *Icosahedra constructed from congruent triangles*, Discrete and Computational Geometry **24**, no. 2–3, 437–451.

1998 35. *Multiplicities of ideals in noetherian rings.* Beiträge zur Algebra und Geometrie **39**(1) 47–51.

Conference publications (peer-reviewed and/or invited)

2007 36. (with Alicia Dickenstein and Laura Matusevich) *Extended abstract: Binomial D-modules*, Proceedings MEGA (Effective Methods in Algebraic Geometry), Strobl, Austria, 2007, 13 pages.

37. (with Shin-Yao Jow) *Extended abstract: Cellular resolutions of multiplier ideals of sums*, in *Topological and geometric combinatorics*, abstracts from the workshop held January 28–February 3, 2007, organized by Anders Björner, Gil Kalai, and Günter Ziegler, Oberwolfach reports, 3 pages.

2006 38. (with Laura Matusevich and Uli Walther) *Extended abstract: Homological methods for hypergeometric families*, in *Convex and algebraic geometry*, abstracts from the workshop held January 29–February 4, 2006, organized by Klaus Altmann, Victor Batyrev, and Bernard Teissier, Oberwolfach reports, 3 pages.

2003   39. (with David Helm) *Extended abstract: Algorithms for graded injective resolutions and local cohomology over semigroup rings*, Proceedings MEGA (Effective Methods in Algebraic Geometry), Kaiserslautern, Germany, 2003, 5 pages.

2002   40. *Graded Greenlees–May duality and the Čech hull*, Local cohomology and its applications (Guanajuato, 1999), Lecture Notes in Pure and Appl. Math., vol. 226, Dekker, New York, 233–253.

      41. (with Allen Knutson) *Extended abstract: Gröbner geometry of Schubert polynomials*, Proceedings FPSAC (Formal Power Series and Algebraic Combinatorics), Melbourne 2002, 10 pages.

1999   42. (with Bernd Sturmfels) *Monomial ideals and planar graphs*, in Applied Algebra, Algebraic Algorithms and Error-Correcting Codes, [M. Fossorier, H. Imai, S. Lin and A. Poli, eds.], Proceedings of AAECC-13 (Honolulu, Nov. 1999), *Springer Lecture Notes in Computer Science* **1719**, 19–28.

Lecture series, lectures, and presentations (107 total)

Lecture series

2007   May   CRM Montréal, Canada: Hypergeometric series and binomial ideals [5 lectures]
2006   Sep.   Constanţa, Romania: Multigraded commutative algebra [9 hours of lectures]
——   July   Lincoln, Nebraska (IMMERSE program): Irreducible decomposition [3 hours of lectures]
2005   Sep.   UNAM, Mexico City: Gröbner geometry of quiver polynomials [3 lectures]
——   June   Snowbird, Utah: Local cohomology and combinatorics [3 lectures]
2004   Aug.   Kyoto, Japan (RIMS workshop): Gröbner geometry of quiver polynomials [3 lectures]
——   May   Trieste, Italy (ICTP workshop): Combinatorial commutative algebra [4 lectures]
1998   Aug.   Berkeley, CA (MSRI Summer Program): Alexander duality [3 lectures]

Invited (international audience)

2007   July   Medellín, Colombia: Old hypergeometric mysteries and new toric algebra
——   July   Tianjin, China (FPSAC plenary speaker): Combinatorics of Horn hypergeometric series
——   May   CRM Montréal, Canada: Kleiman–Bertini theorems for sheaf tensor products
——   Feb.   Oberwolfach, Germany: Cellular resolutions of multiplier ideals of sums
2006   June   Snowbird, Utah: Binomial *D*-modules and lattice point geometry
——   May   Luminy, France: Lattice basis ideals and Horn systems
——   Feb.   Oberwolfach, Germany: Homological methods for hypergeometric families
2005   Dec.   Taichung, Taiwan (AMS–TMS): Positivity by degeneration
——   July   Seattle (Algebraic Geometry Warmup Week): Combinatorial positivity in algebraic geometry
——   July   Lisbon, Portugal (workshop on D-modules): Homological methods for hypergeometric families
2004   July   Park City, Utah (IAS/PCMI): Overview of geometric combinatorics
2003   June   Seville, Spain (AMS–RSME meeting): Positive combinatorial formulae for quiver polynomials
——   June   Kaiserslautern, Germany (MEGA): Computing injective resolutions over semigroup rings
——   Apr.   Oberwolfach, Germany (Topological Combinatorics workshop): Unfolding polyhedra
——   Apr.   Banff, Canada (BIRS workshop): Minors in products of matrices
2002   Sep.   MSRI Introductory workshop (Berkeley): Hilbert schemes of points in the plane
——   July   Melbourne, Australia (FPSAC one-hour talk): Gröbner geometry of Schubert polynomials
——   June   Trento, Italy (workshop): Gröbner geometry of Schubert polynomials via determinantal ideals
2001   May   Morelia, Mexico (AMS–SMM meeting): Embedding planar graphs in staircases
1999   Dec.   Guanajuato, Mexico (Local Cohomology workshop): The Čech hull
——   June   Essen, Germany (special seminar): Alexander duality & local duality with monomial support
1998   Apr.   Kyoto, Japan (RIMS): Alexander duality for arbitrary monomial ideals

Invited (domestic audience; not including seminars)

2007 Oct. Rutgers U. (AMS meeting): Cellular resolutions of multiplier ideals of sums
—— Apr. U. Nebraska (math colloquium): Unfolding polyhedra
—— Apr. Kansas U. (math colloquium): Unfolding polyhedra
2006 Dec. Indiana U. (math colloquium): Combinatorics in convexity, cohomology, and complex analysis
—— Oct. Cincinnati, Ohio (AMS meeting plenary speaker): Unfolding polyhedra
—— Oct. Ann Arbor, Michigan (Ohio State–UMichigan Alg. Geom. Workshop): Binomial schemes
—— Mar. ITCEP Family Fun Fair (interactive middle & high school presentation): Unfolding polyhedra
2005 Dec. Reed College (math colloquium): Unfolding polyhedra
—— Nov. U. Washington (math colloquium): Unfolding polyhedra
—— Nov. Eugene, OR (AMS meeting): Duality of antidiagonals and pipe dreams
—— Oct. Lincoln, NE (AMS meeting): Encoding injective resolutions
—— Mar. U. Texas, Austin (math colloquium): Combinatorics in cohomology and convexity
—— Jan. Columbia U. (math colloquium): Combinatorics from geometry
2004 Sep. Michigan State (math colloquium): Combinatorial positivity by geometric degeneration
—— Apr. Durham, NC (Duke Math Journal conf.): Combinatorial positivity by geometric degeneration
2003 Oct. Binghamton, NY (AMS meeting): Unfolding convex polyhedral manifolds
—— Apr. Western Alg. Geom. Seminar (at Stanford): Positivity of universal cohomological formulae
—— Mar. Bay Area Discrete Math Day (UC Davis): Unfolding polyhedra in many dimenions
—— Feb. UC Berkeley (math colloquium): Combinatorial positivity by geometric degeneration
2002 Nov. Lubbock, TX (Red Raider Symposium): Combinatorial positivity by orbit degeneration
—— Oct. Northeastern U. (AMS meeting): Positivity of quiver cycles via deformation
—— Oct. Berkeley, CA (MSRI workshop): Positivity via Gröbner degeneration
—— Apr. SUNY Albany (math colloquium): Determinants, permutations, and flags
—— Jan. San Diego (AMS meeting): Determinantal ideals and combinatorics of Schubert polynomials
2001 Sep. George Wash. (math colloq.): Geometry and combinatorics of flag manifolds via Gröbner bases
2000 Sep. Toronto, Canada (AMS meeting): Gröbner geometry of formulae for Schubert polynomials
—— Jan. Brown U. (math colloquium): Monomial ideals and duality
1999 Nov. New Mexico State (math colloq.): Equivariant K-theory of flag manifolds and Gröbner bases
—— Sep. U. Utah (AMS meeting): The Alexander duality functors
—— Sep. U. Kansas (math colloquium): Resolutions of monomial ideals
—— Feb. Reed College (math colloquium): Algebra and topology with alphabet blocks

Seminars and other specialized talks

2007 Oct. U. Minnesota Math Club: Unfolding polyhedra
—— Apr. Kansas U. Combinatorics: Combinatorics of permutations from determinantal ideals
—— Apr. U. Nebraska Algebra: Multiplier ideals of sums via cellular resolutions
—— Apr. Michigan Geom. Rep. Thy: Kazhdan–Lusztig conjecture via intersection cohomology (overview)
2006 Dec. Purdue Algebraic Geometry: Old mysteries about multivariate hypergeometric systems
—— Nov. Northeastern GASC: Horn hypergeometric systems and binomial D-modules
—— Nov. MIT Combinatorics: Hypergeometric series and binomial primary decomposition
—— Oct. U. Michigan Algebraic Geometry: Toric primary decomposition and hypergeometric series
—— Feb. U. Minnesota Combinatorics: h-vectors of Gorenstein polytopes
2005 Nov. U. Washington Combinatorics: Simplicial complexes whose facets are Young tableaux
—— Nov. MIT Combinatorics: Tableau complexes
—— Feb. UC Berkeley Representation theory/geom./combinatorics: Families of hypergeometric systems
—— Feb. U. Minnesota Combinatorics: Stanley's simplicial poset conjecture

2004 Sep. U. Michigan Combinatorics: Unfolding polytopes
—— Mar. U. Michigan Noncommutative algebra: Homological methods for hypergeometric families
—— Feb. U. Minnesota Topology: Gelfand–Tsetlin patterns via toric degeneration of flag manifolds
2003 Apr. UC Davis Combinatorics: Combinatorics of quiver polynomials
—— Mar. Northeastern U. Algebra: Quiver polynomials and Schubert varieties
—— Mar. MIT Combinatorics: Combinatorics of quiver polynomials
—— Jan. U. Michigan Algebraic geometry: Positive formulae for quiver polynomials
2002 Sep. U. Michigan Combinatorics: Gröbner geometry of Schubert polynomials
—— Mar. Columbia U. Algebraic geometry: Gröbner geometry of flag varieties
—— Mar. U. Michigan Combinatorics: Subword complexes in Coxeter groups
—— Feb. U. Minnesota Combinatorics: Words and subwords in symmetric groups
2001 Oct. Cornell U. Algebra: Determinantal ideals and the combinatorics of Schubert polynomials
—— Sep. George Wash. U. Algebra: Embedding planar graphs in staircases to resolve monomial ideals
—— May   UC Berkeley special seminar: Planar graphs in 3-dimensional staircases
—— Apr. Harvard–MIT Algebraic Geometry: An open problem on determinantal loci
—— Feb. MIT Combinatorics: Subword complexes in Coxeter groups and Schubert varieties
2000 Nov. UMass Amherst (Valley Geometry Seminar): Gröbner geometry of Schubert polynomials
—— Sep. MIT Combinatorics: Gröbner geometry of formulae for Schubert polynomials
—— Aug. UC Berkeley workshop: Haiman's proof of the $n!$ conjecture
—— May   UC Berkeley Algebra: Gröbner bases for determinantal ideals and K-theory of flag manifolds
1999 Nov. New Mexico State U. Algebra: Injective resolutions
—— Sep. UC Berkeley Algebra: Projective dimension versus support-regularity
—— Sep. U. Kansas Algebra: The canonical Čech complex
—— Feb. UC Berkeley Grad Student Seminar: Combinatorial commutative algebra
—— Feb. UC Berkeley Algebra: Generic and cogeneric monomial ideals
1998 Sep. U. Michigan Combinatorics: Cellular homology and duality in the study of monomial ideals
—— Sep. MIT Combinatorics: Alexander duality for monomial ideals and their resolutions
—— Aug. UC Berkeley Algebra: The cohull resolution
1997 May   UC Berkeley Algebra: Degrees on graded modules
—— Mar. Rutgers U. Algebra: Characterization of multiplicity functions of ideals
1996 Nov. UC Berkeley Abelian Varieties: Multiplying points on group schemes
—— Oct. UC Berkeley Grad Student Seminar: Where is the geometry in schemes?
—— July MSRI Summer Program: Gröbner bases over PIDs

Organizing activities for conferences and meetings

2009 July Programme Committee Member: Formal Power Series and Algebraic Combinatorics (FPSAC), Research Institute for Symbolic Computation (RISC), Linz, Austria.

2008 Jan. Organizer, with Michael Albert, Elwyn Berlekamp, Martin Mueller, Richard Nowakowski, and David Wolfe: Workshop on Combinatorial Game Theory, Banff International Research Station (BIRS), Banff, Canada.

2007 Dec. Organizer, with Bob Connelly and Igor Pak: AIM Research Conference Center Workshop on Rigidity and Polyhedra, American Institute of Mathematics, Palo Alto, CA.

2006 Oct. Invited organizer, with Igor Pak: Special session on Geometric Combinatorics at the regional American Mathematical Society meeting in Cincinnati, OH.

2006 Sep. Organizer, with Mircea Becheanu, Viviana Ene, Cristodor Ionescu, Dorin Popescu, Mirela Ştefănescu: 15th Romanian National School of Algebra, Constanţa, Romania

2005	Aug.	Invited organizer, with William Fulton: "Algebraic Geometry and Combinatorics" session at the Summer Institute in Algebraic Geometry (Seattle, WA). This international meeting takes place once every ten years; our session along with the two others during the second week (of the three-week meeting) attracted the largest-ever gathering of algebraic geometers anywhere in the world, around 450 participants.
2004	Oct.	Organizer, with Frank Sottile: Special session on Modern Schubert Calculus at the regional American Mathematical Society meeting in Evanston, IL. Our special session had around 30 participants.
2004	July	Organizer and Steering Committee member, with Bernd Sturmfels and Victor Reiner: 2004 IAS/Park City Math Institute Summer Session on Geometric Combinatorics. The annual three-week IAS/PCMI program (topic varies from year to year) constitutes the National Science Foundation's single largest annual expenditure for mathematics-related events. 300 participants range from high school teachers through undergraduate students and faculty. Organizing duties included the Graduate Summer School (100 students) as well as the international Research Program (60 researchers). Steering Committee meetings took place at the Institute for Advanced Study in Princeton, NJ.
2003	May	Organizer, with Serkan Hoşten: Special session on Combinatorial Commutative Algebra and Algebraic Geometry at the regional American Mathematical Society meeting in San Francisco, CA. Our special session had around 25 participants.

Editorial activities

2007 –   Associate Editor, Discrete Mathematics

Professional committees

2007 – 2011   AMS-IMS-SIAM Committee on Joint Summer Research Conferences in the Mathematical Sciences (committee was disbanded after 2007 due to lack of funding)

Referee and review activities

Journals refereed

Acta Mathematica
Advances in Mathematics
Algebra & Number Theory
American Journal of Mathematics
Annals of Combinatorics
Asian Journal of Mathematics
Compositio Mathematica
Contemporary Mathematics
Discrete and Computational Geometry
Duke Mathematical Journal
Electronic Journal of Combinatorics
International Mathematics Research Notices
Inventiones Mathematicae
Journal of Algebra
Journal of Algebraic Combinatorics
Journal of the American Mathematical Society
Journal of Combinatorial Theory, Series A
Journal of Pure and Applied Algebra
Journal of Symbolic Computation

Mathematical Proceedings of the Cambridge Philosophical Society
Mathematical Research Letters
Michigan Mathematical Journal
Proceedings of the American Mathematical Society
Quarterly Journal of Pure and Applied Mathematics
Rocky Mountain Journal of Mathematics
SIAM Journal of Discrete Mathematics
Transactions of the American Mathematical Society
Transformation Groups

Conferences refereed

Applied Algebra, Algebraic Algorithms and Error Correcting Codes (AAECC)
Effective Methods in Algebraic Geometry (MEGA)
Formal Power Series and Algebraic Combinatorics (FPSAC)
International Congress on Mathematical Software (ICMS)
International Symposium on Symbolic and Algebraic Computation (ISSAC)

Granting agencies refereed

National Science Foundation [NSF] (panels)
National Security Agency [NSA] Mathematical Sciences Program
Natural Sciences and Engineering Research Council [NSERC], Canada

Miscellaneous review activities

External Ph.D. dissertation review (for Sangjib Kim, student of Roger Howe, Yale University)
Math Reviews reviewer
Volunteer judge for the Minnesota Academy of Sciences State Science Fair, March 28, 2004
    (high school and junior high levels)

Teaching awards

2004 Feb.   Award from the "Thank a Teacher" program run by the University of Minnesota Center for Teaching and Learning Services, "In appreciation of [my] teaching style and dedication to helping students learn" Calculus I (Math 1271)

Teaching activities

Courses taught (at Minnesota unless otherwise indicated)

2006 Spring Calculus of one variable (Math 1271)
2006 Spring Topics in Combinatorics: Polytopes (Math 8680)
2005 Spring Graph theory and nonenumerative combinatorics (Math 5707)
2005 Spring Calculus of one variable (Math 1271)
2004 Fall   Topics in Algebra: Combinatorics, algebra, and geometry of determinants (Math 8300)
2004 Spring Graph theory and nonenumerative combinatorics (Math 5707)
2003 Fall   Calculus of one variable (Math 1271)
2002 Spring Differential Equations recitation leader (at MIT, as a Postdoctoral Instructor)
1995 – 1996   Graduate Student Instructor (UC Berkeley): Linear algebra, Calculus II, Calculus III

Ph.D. students advised

current   Patrick Byrnes (6th year student)
current   Robert Edman (4th year student)

Ph.D. students mentored

2007 grad	Ning Jia

Postdocs mentored

2006–	Stephen Griffeth
2005–	Alexander Yong
2005–	Calin Chindris
2003–2005	Jeremy Martin

Seminars organized

2007–2008	Combinatorics seminar (at University of Minnesota)
2006 Fall	Topics in algebraic geometry seminar (at University of Michigan)

Special tutorials

2006 March	ITCEP Family Fun Fair presenter: Led interactive session for middle school and high school students on "Unfolding polyhedra". Students built models of polyhedra, learning about connections with math research and applied problems like robot motion-planning.
2005 July	Mentor, Algebraic Geometry Warmup Workshop (Seattle, WA)
1999 June	Computer tutorial leader, COCOA VI Summer School (Turin, Italy)
1995	Study group facilitator for honors multivariable calculus at Brown University
1995	Counselor, PROMYS summer program in number theory at Boston University. Lived in dorm for 6 weeks with high-school student participants, helping with math questions
1994–1995	Tutor for Brown University Mathematics Department

Departmental service

Departmental committees (at Minnesota unless otherwise noted)

Tenure (2007–2008)
Undergraduate curriculum (2005–2006)
Honors Program (2005–2006)
Postdoc hiring (2004–2005)
Instruction evaluation (2004–2005, 2007–2008)
Social activities (2003–2004)
Preliminary exam (1999, Berkeley)

Dissertation committees

Molly Maxwell (chair, 2007)
Ning Jia (2007)

Oral examination committees

Robert Edman (2007)
Kaisa Taipale (2007)
Brendon Rhoades (2007)
Patrick Byrnes (2005)
Molly Maxwell (2005)
Jayashree Sadagopan (2005, Computer Science Department)
Sangwook Kim (2005)
Ning Jia (2004)
Dan Drake (2004)