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CURRICULUM VITAE

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EDUCATION

1986 RUTGERS COLLEGE, RUTGERS UNIVERSITY, B.A., Mathematics
1989 UNIVERSITY OF MICHIGAN, M.S., Mathematics
1993 MICHIGAN STATE UNIVERSITY, Ph.D., Mathematics
Thesis: "Extremal problems for the Möbius function", PhD Advisor Bruce Sagan
1993 – 1995 LACIM, UNIVERSITÉ DU QUÉBEC À MONTRÉAL, Montréal, CANADA,
Postdoctoral Fellow

PROFESSIONAL CAREER

2011 – Present UNIVERSITY OF KENTUCKY, Professor of Mathematics
2003 – 2011 UNIVERSITY OF KENTUCKY, Associate Professor of Mathematics
2000 – 2003 UNIVERSITY OF KENTUCKY, Assistant Professor of Mathematics
1999 – 2000 STOCKHOLM UNIVERSITY, Stockholm, SWEDEN, Visiting Professor
1998 – 1999 INSTITUTE FOR ADVANCED STUDY, Princeton, NJ, Visitor
1995 – 1998 CORNELL UNIVERSITY, Visiting Assistant Professor
1986 – 1987 BLUE CROSS & BLUE SHIELD OF NJ, INC., Newark, NJ, Research Analyst

VISITING POSITIONS

2014 – 2015 PRINCETON UNIVERSITY, Visiting Professor and Research Scholar
2010 – 2011 INSTITUTE FOR ADVANCED STUDY, Princeton, NJ, Member
2006 – 2007 MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Visiting Scholar in Applied Math
2005 INSTITUT MITTAG-LEFFLER, March 2005
2004 INSTITUTE FOR ADVANCED STUDY/PARK CITY MATH INSTITUTE, July 2004
2002 UNIVERSITY OF MINNESOTA, July-Aug. 2002
2002 INSTITUTE FOR ADVANCED STUDY, June 2002
2001 MASSACHUSETTS INSTITUTE OF TECHNOLOGY, July-Aug. 2001
1998 MASSACHUSETTS INSTITUTE OF TECHNOLOGY, September 1998
1997 CHALMERS TECHNICAL UNIVERSITY, Göteborg, SWEDEN, May-June 1997
1996 – 1997 MSRI, October 1996 and January 1997

RESEARCH INTERESTS

Algebraic and geometric combinatorics, combinatorial topology, polytopes

AWARD

2010 – 2011 Institute for Advanced Study, Princeton, NJ
 Awarded Membership in the School of Mathematics

POSTDOCTORAL STUDENTS SUPERVISED

2014 – 2017 Rafael S. González D'León, Research Associate, York University, Toronto CANADA
 2005 – 2006 Guoce Xin, Professor, Capital Normal University, Beijing CHINA (current)
 2003 – 2004 Sergey Kitaev, Reader University of Strathclyde, Glasgow, UK (current)

DOCTORAL STUDENTS

2012–2016 Yue Cai, PhD May 2016, “New Perspectives of Quantum Analogues”
 Three-year Postdoc, Texas A&M
 2006–2009 Patricia Muldoon Brown, PhD May 2009, “Rees Products of Posets and Inequalities”
 Associate Professor, Armstrong Atlantic State University

RESEARCH UNDERGRADUATES

2015 – 2017 Likith Govindaiah, Princeton University
 2015 – 2017 Peter Park, Princeton University
 2014 – 2015 Albert Zhou, Princeton University
 Summer 2000 Debbie Grier, Cornell University
 Summer 2000 Geir Helleloid, University of Wisconsin
 Summer 2000 Michael Levin, Harvard University
 Summer 2000 Adnan Rubai, Binghamton University
 Summer 1997 Dan Johnston, Washington University in St. Louis
 Summer 1997 Mohan Rajagopalan, Oberlin College

FUNDING

2016 – 2021	SIMONS FOUNDATION COLLABORATION GRANT Award #422467 “Investigations in Combinatorial Mathematics”
2011 – 2016	SIMONS FOUNDATION COLLABORATION GRANT Award #206001 “Flag Enumeration in Algebra and Geometry”
Spring 2011	UNIVERSITY OF KENTUCKY TENURED FACULTY FELLOWSHIP Awarded by the Dean of Arts & Sciences
2010–2011	NATIONAL SCIENCE FOUNDATION GRANT DMS-1024407 “Combinatorics 2010: Advances, Trends & Speculations (CATS 2010 Workshop)”
2009–2010	NATIONAL SCIENCE FOUNDATION GRANT DMS-0913073 “Graduate Student Combinatorics Conference at the University of Kentucky”
2009	DE SHAW & CO. Unrestricted support to fund 2009 GSCC Conference
2009	UNIVERSITY OF KENTUCKY, DEPARTMENT OF MATHEMATICS “Graduate Student Combinatorics Conference at the University of Kentucky”
2009	UNIVERSITY OF KENTUCKY VICE PRESIDENT’S OFFICE FOR RESEARCH “Graduate Student Combinatorics Conference at the University of Kentucky”
2009	UNIVERSITY OF KENTUCKY COLLEGE OF ARTS & SCIENCES “Graduate Student Combinatorics Conference at the University of Kentucky”
2009	INSTITUTE FOR MATHEMATICS AND ITS APPLICATIONS (IMA) Title: “Graduate Student Combinatorics Conference at the University of Kentucky”
2005	INSTITUT MITTAG-LEFFLER. Program in Algebraic Combinatorics, March 2005, Travel grant.
2004	INSTITUTE FOR ADVANCED STUDY/PARK CITY MATHEMATICS INSTITUTE. Research Program in Geometric Combinatorics, July 2004, Travel grant.
Summer 2004	UNIVERSITY OF KENTUCKY RESEARCH ACTIVITY AWARD MINI GRANT. Awarded by the Dean of College of Arts & Sciences.
Summer 2002	UNIVERSITY OF KENTUCKY SPECIAL FACULTY RESEARCH FELLOWSHIP. Awarded by the Office of the Executive Vice President for Research.
Summer 2001	UNIVERSITY OF KENTUCKY FACULTY RESEARCH FELLOWSHIP. Awarded by the Office of the Executive Vice President for Research
Summer 1997	ADLERBERTSKA RESEARCH FUND A collaborators from abroad grant to visit Chalmers Technical University.

CONFERENCE ORGANIZING

- 2017 – Present Academic program manager for the Institute for Advanced Study WAM Workshop “Mathematics of Modern Cryptography” www.math.ias.edu/wam
- 2016–2017 Invited senior research guide for the BIRS Workshop “Algebraic Combinatorixx2”
<http://http://www.birs.ca/events/2017/5-day-workshops/17w5012>
- 2012 – 2013 Co-organizer of the Combinatorics portion of 2013 WAM Program, IAS, Princeton
- 2011 Invited senior faculty mentor for the BIRS Workshop “Algebraic Combinatorixx”
Collaborative research and mentoring workshop for female combinatorialists
<http://www.birs.ca/events/2011/5-day-workshops/11w5025>
- 2009 – 2010 Co-organizer of the special session “Advances in Algebraic & Geometric Combinatorics”, AMS Southeastern Sectional Meeting, Lexington, KY, March 27–28, 2010. See <http://www.math.uky.edu/~readdy/AMS>.
- 2009 – 2010 Co-organizer of the workshop “Combinatorics 2010: Advances, Trends and Speculations (CATS 2010)”, University of Kentucky, March 26, 2010
See <http://www.math.uky.edu/~readdy/CATS2010>.
- 2007 – 2009 Faculty advisor for “5th Graduate Student Combinatorics Conference”
University of Kentucky, March 27–29, 2009
- 2007 Co-organizer of the special session “Combinatorial Enumeration, Optimization, Geometry, and Statistics”, AMS Southeastern Sectional Meeting, Murfreesboro, TN, November 3–4, 2007
- 2006 Co-organizer of the special session “Algebraic and Analytic Combinatorics”, AMS Eastern Sectional Meeting, Storrs, CT, October 28–29, 2006
- 2003 – 2004 Program Committee for the FPSAC’04, Vancouver, CANADA

SEMINAR ORGANIZER

- 2017 – Present Discrete CATS Seminar
Interdisciplinary seminar in CATS = Combinatorics, Algebra, Topology and Statistics; formerly the UK Algebraic Combinatorics Seminar
See <http://www.math.uky.edu/~readdy/Seminar>.
- Spring 2015 Princeton University Combinatorics Seminar
See <http://www.math.uky.edu/~readdy/Seminar/Princeton>.
- Spring 2001 – 2014 Discrete CATS Seminar
- 2008 – 2014 WILDCATS Seminar
(WILDCATS = Work, Interactions and Leading Developments in CATS)
Colloquium version of the Discrete CATS Seminar

INVITED ADDRESSES

- “Polytopes and beyond”
 2016 Plenary speaker for the 2016 International FPSAC Conference, Vancouver CANADA
 Invited speaker, Lake Michigan Workshop on Combinatorics and Graph Theory,
 Purdue University (3 one-hour talks)
- 2016 I. “Quantum Combinatorics”
 2016 II. “Coalgebraic Combinatorics”
 2016 III. “Whitney Stratifications and Combinatorics”
 “ q -Combinatorics: A new view”
- 2015 Invited speaker for Discrete Math Day in the Northeast, Worcester Polytechnic Institute
 “Euler enumeration”
- 2014 Invited speaker for the 28th Midwest Conference on Combinatorics, Cryptography
 and Computing (MCCCC), University of Nevada, Las Vegas.
 “Polytopes”
- 2013 Invited Lecturer for 2013 Program for Women and Mathematics (4 lectures)
 Sponsored by the Institute for Advanced Study and Princeton University
 “The characteristic polynomial”
- 2012 D. W. Weeks Lecture, MIT
 “Eulerian binomial and Sheffer posets”
- 2005 Keynote speaker, University of Minnesota Graduate Student Combinatorics Conference
 Invited series of lectures, Budapest, HUNGARY
- 1998 I: “Introduction to flag vectors and their linear span,” Eötvös University
 1998 II: “Zonotopes and hyperplane arrangements,” Hungarian Academy of Sciences

COLLOQUIA, SEMINAR AND OTHER INVITED TALKS

- “Polytopal combinatorics and generalizations”
 2017 BIRS Workshop Algebraic Combinatorixx2
 “ q -Stirling identities revisited”
 2017 2017 Midwest Combinatorics Conference, University of Minnesota
 2017 AMS sectional meeting, Bloomington, IN
 “New perspectives on q -analogue theory”
 2016 University of Maine Number Theory Seminar
 “ q -Stirling numbers: A new view”
 2015 AMS sectional meeting, New Brunswick, NJ
 “ q -Combinatorics: A new view”
 2015 Rutgers Experimental Mathematics Seminar
 “Euler enumeration”
 2015 Rutgers Discrete Math Seminar
 “Negative q -Stirling numbers”
 2015 Conference in honor of Michelle Wachs, University of Miami.
 “Negative q -analogues”
 2014 University of Pennsylvania CAGE (Combinatorics & Algebraic Geometry) Seminar

COLLOQUIA, SEMINAR AND OTHER INVITED TALKS (CONT'D)

- "Euler flag enumeration of Whitney stratified spaces"
 2014 Bruce Sagan 60th Birthday Conference, University of Florida
 2013 Binghamton University Combinatorics & Topology Seminars
 2013 The 11th Nordic Combinatorial Conference (NORCOM), Stockholm, SWEDEN
 2013 The University of Minnesota Combinatorics Seminar
 2012 University of North Carolina at Charlotte Colloquium
 2012 Joint Mathematics Meeting, Boston, MA
 2011 Cornell University Discrete Geometry and Combinatorics Seminar
 "Counting, q -counting and negative q -counting"
 2013 University of North Carolina at Charlotte Colloquium
 "Manifold arrangements"
 2013 AMS sectional meeting, Oxford, MS
 "The cd -index of stratified spaces"
 2011 Polyhedra in Algebraic Combinatorics Invited Paper Session, 2011 MAA Mathfest
 2011 Algebraic Combinatorixx Workshop, Banff International Research Station, CANADA
 "Balanced and Bruhat graphs"
 2010 Rutgers Experimental Mathematics Seminar
 2010 Quasisymmetric Functions Workshop, Banff International Research Station, CANADA
 "Toric arrangements"
 2010 Institute for Advanced Study, Geometry and Cell Complexes Seminar, Princeton, NJ
 "Flag enumeration in geometry and algebra"
 2010 University of Pennsylvania CAGE (Combinatorics & Algebraic Geometry) Seminar
 "The cd -index of balanced and Bruhat graphs"
 2009 University of Washington Combinatorics Seminar
 "The complete cd -index of graphs"
 2008 Conference in Honor of Louis Billera's 65th Birthday, Cornell University, Ithaca, NY
 "Toric hyperplane arrangements"
 2008 University of North Carolina at Charlotte Colloquium
 "The Rees product of the cubical lattice with the chain"
 2008 AMS sectional meeting, Bloomington, IN
 "Affine and toric hyperplane arrangements"
 2007 AMS sectional meeting, Murfreesboro, TN
 2007 AMS sectional meeting, Chicago, IL
 2007 Cornell University Discrete Geometry and Combinatorics Seminar
 2007 Northeastern University Geometry-Algebra-Singularities-Combinatorics Seminar
 2007 MIT Combinatorics Seminar
 "Eulerian binomial and Sheffer posets"
 2006 2006 International FPSAC Conference, San Diego, CA
 2006 Indiana University Combinatorics Seminar
 2005 Mittag-Leffler Institute, SWEDEN
 "The Möbius function of partitions with restricted block sizes"
 2003 AMS sectional meeting, Binghamton, NY

COLLOQUIA, SEMINAR AND OTHER INVITED TALKS (CONT'D)

- 2003 "The pre-WDVV ring of physics and its topology"
International Conference on Number Theory and Combinatorics in Physics, Gainesville, FL
- 2002 AMS sectional meeting, Orlando, FL
- 2002 "Two rings in string theory"
University of Minnesota Combinatorics Seminar
- 2002 "Homology of Newtonian coalgebras"
AMS sectional meeting, Montréal, CANADA
- 2002 "An application of combinatorial commutative algebra to string theory"
Washington University in St. Louis Combinatorics Seminar
- 2002 Binghamton University Combinatorics Seminar
- 2001 MIT Combinatorics Seminar
- 2002 "A probabilistic approach to the descent statistic"
AMS National Meeting, San Diego, CA
- 2001 "The Manin ring in string theory"
AMS sectional meeting, Lawrence, KS
- 2000 "The Yuri Manin ring and its \mathcal{B}_n analogue"
LaCIM 2000 Conference, Montréal, CANADA
- 2000 "A new face ring for mixed simplicial and cubical complexes"
AMS National meeting, Washington, DC
- 2000 "Systems of parameters for cubical complexes"
University of California at Davis Colloquium
- 2000 University of Pittsburgh Colloquium
- 2000 College of William and Mary Colloquium
- 1999 Royal Institute of Technology and Stockholm University Combinatorics Seminar, SWEDEN
- 1999 AMS southeastern sectional meeting, Gainesville, FL
- 1999 "Mixed volumes and valuations: A tale of two topics"
Stockholm University, Stockholm, SWEDEN
- 1999 Uppsala University, Uppsala, SWEDEN
- 1999 Princeton University Combinatorics and Representation Theory Seminar
- 1998 University of Kansas Colloquium
- 1998 University of Pennsylvania Combinatorics Seminar
- 1999 "Recent developments in polytopal theory"
Temple University Colloquium
- 1998 "Valuations and complex hyperplane arrangements"
MIT Combinatorics Seminar
- 1998 "Mixed volumes and slices of the cube"
University of Florida Colloquium
- 1997 Georgia Institute of Technology Combinatorics Seminar
- 1997 Cornell University Combinatorics and Algebraic Geometry Seminar
- 1997 "Convex geometry and combinatorics"
Chalmers Technical University Colloquium, Göteborg, SWEDEN
- 1997 "Hyperplane arrangements and the $c-2d$ -index"
MSRI Geometric Combinatorics Workshop
- 1997 "Binomial posets"
Cornell University Working Seminar in Algebraic Combinatorics

COLLOQUIA, SEMINAR AND OTHER INVITED TALKS (CONT'D)

- 1996 "Coproducts, the cd -index and zonotopes"
University of Waterloo Tutte Colloquium, CANADA
- 1996 "Coproducts and the cd -index"
8th Int'l FPSAC Conference, University of Minnesota
- 1995 "Sheffer posets and r -signed permutations"
Cornell University Combinatorics and Algebraic Geometry Seminar
- 1995 "The r -cubical lattice and a generalization of the cd -index"
7th Int'l FPSAC Conference, Paris–Marne-la-Vallée, FRANCE
- 1995 MIT Combinatorics Seminar
- 1995 Cornell University Combinatorics and Algebraic Geometry Seminar
- 1994 "The r -cubical lattice and a generalization of the cd -index"
Royal Institute of Technology Combinatorics Seminar; Stockholm, SWEDEN
- 1994 "Juggling and applications to q -analogues"
Università di Milano, Milano, ITALY
- 1994 6th International FPSAC Conference, DIMACS/Rutgers University
- 1994 LACIM; UQAM Combinatorics Seminar
- 1994 University of Minnesota Combinatorics Seminar
- 1993 "A new proof of the interval of ranks case for the Boolean algebra"
Joint Meeting of AMS and Sociedad Matematica Mexicana; Mérida, MEXICO
- 1993 "Extremal problems for the Möbius function"
LACIM; UQAM Combinatorics Seminar (in French)
- 1993 MIT Combinatorics Seminar
- 1993 University of Michigan Combinatorics Seminar
- 1993 Joint Mathematics Meeting of the AMS and MAA; San Antonio, TX
- 1992 4th Int'l FPSAC Conference, UQAM, Montréal

TALKS GIVEN TO STUDENTS

- 2017 “Classical q -analogues revisited”
Talk given to incoming University of Kentucky graduate students
- 2016 “Some open questions in geometric combinatorics”
Talk given to incoming University of Kentucky graduate students
- 2015 “The stable marriage theorem or how to win a Nobel in Economics”
Henry Clay High School Math Club
- 2010 “The stable marriage theorem”
University of Kentucky Math Club
- 2009 “Manifold combinatorics”
Talk given to incoming University of Kentucky graduate students
- 2009 “An introduction and brief history of the cd -index”
Talk given to University of Washington undergraduate and graduate students
- 2008 “An introduction to mixed volumes”
University of Kentucky Graduate Student Colloquium
- 2008 “Spherical and toric combinatorics”
Talk given to incoming University of Kentucky graduate students
- 2004 “Polytopes: techniques and open questions”
Talk given to incoming University of Kentucky graduate students
- 2004 “Face vectors of polytopes and shellability”
Guest Lecturer for University of Kentucky’s Graduate Course in Toric Varieties
- 2004 “Polytopal inequalities and the Stanley-Reisner ring”
Guest Lecturer for University of Kentucky’s Graduate Course in Toric Varieties
- 2002 “Algebraic combinatorics”
Talk given to incoming University of Kentucky graduate students
- 2001 “The marriage theorem”
University of Kentucky Math Club
- 2000 “The stable marriage theorem”
Guest Lecture at Viktor Rydbergs Gymnasium, Stockholm, SWEDEN
- 1999 “History of the cd -index”
Guest Lecturer for Stockholm University’s Graduate Course in Polytopal Theory
- 1997 “The marriage theorem”
Cornell Undergraduate Math Club
- 1997 “Hilbert’s third problem: scissors congruence”
Cornell Undergraduate Math Club
- 1996 “Euler’s formula and the cd -index”
Cornell University REU Smorgasbord Seminar

UNDERGRADUATE RESEARCH

	Princeton University
2015 – 2016	Directed research with Likith Govindaiah and Peter Park (both Class of 2017)
2014 – 2015	Directed the Senior Thesis of Albert Zhou (Class of 2015)
	Cornell Research Experiences for Undergraduates (REU) Program
Summer 2000	Faculty Advisor for four students.
Summer 1997	Faculty Advisor for two students.

STUDENT'S RESEARCH AWARD

2002	Morgan Prize for Undergraduate Research This is the most prestigious prize for Undergraduate Research awarded in the United States with two prizes (the prize itself and honorable mention) awarded each year. My student Michael Levin won Honorable Mention.
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TEACHING SUMMARY

UNIVERSITY OF KENTUCKY:

Undergraduate Courses:

Analytic Geometry and Trigonometry, Math 110: Fall 2004
 Calculus I, Math 113: Fall 2003, Spring 2005, Fall 2011, Fall 2016
 Calculus I, Math 123: Fall 2007
 Calculus II, Math 114: Spring 2006, Fall 2008, Spring 2009
 Calculus III, Math 213: Fall 2000, Spring 2002, Spring 2008, Fall 2009
 Differential Equations, Math 214: Spring 2012, Spring 2014, Fall 2015, Spring 2016
 Spring 2017
 Introductory Probability, Math 320: Spring 2010
 Matrix Algebra, Math 322: Spring 2002, Fall 2003, Fall 2004, Fall 2007, Fall 2008,
 Fall 2012, Spring 2013, Fall 2013, Fall 2017
 Applicable Algebra, Math 340: Spring 2003
 Combinatorics & Graph Theory, Math 415: Fall 2013, Fall 2017
 Introduction to Complex Variables, Math 433: Fall 2002, Fall 2015, Fall 2016

Graduate Courses:

Symmetric Functions and Stratifications, Math 714: Spring 2016
 The Möbius Function, Math 714: Fall 2012
 Polytopes: The ABCDs of Enumerating Flags, Math 714: Fall 2011
 Enumerative Combinatorics, Math 614: Spring 2003, Spring 2004, Spring 2006,
 Spring 2009, Spring 2010, Spring 2012, Spring 2013, Spring 2014, Spring 2017
 Combinatorics of Coxeter Groups, Math 714: Fall 2009
 Recent Trends in Polytopes, Math 714: Spring 2008

TEACHING SUMMARY (CONT'D)

Graduate Courses: (cont'd)

Topics in Geometric Combinatorics, Math 714: Spring 2005
 Representation Theory and the Symmetric Group, Math 715: Fall 2002
 Hyperplane Arrangements, Math 715: Fall 2001
 Polytopes and Commutative Algebra, Math 715: Spring 2001
 Linear Algebra, Math 565: Fall 2000

CORNELL UNIVERSITY:

Honors Calculus I, Math 121: Fall 1995
 Honors Calculus II, Math 122: Spring 1996
 Calculus for Engineers, Math 191: Fall 1997
 Calculus for Engineers, Math 193: Spring 1996, Fall 1996
 Introductory Linear Algebra, Math 231: Spring 1997
 Applicable Algebra, Math 336: Spring 1998
 Introduction to Algebra, Math 431: Fall 1997, Spring 1997
 Graduate Independent Reading and Research, Math 790: Spring 1998

MICHIGAN STATE UNIVERSITY:

College Algebra, Math 108: Winter 1990
 Discrete Mathematics for Business Majors, Math 110: Fall 1991
 College Algebra and Trigonometry, Math 111: T.A. Fall 1989
 Introductory Calculus, Math 120: Fall 1992
 Introductory Calculus, Math 126: Winter 1993
 Vector Calculus, Math 214: Winter 1991, Spring 1990; T.A. Spring 1992, Winter 1992, Fall 1990
 Multivariable Calculus, Math 215: Spring 1991

COMMITTEE WORK AND SERVICE

2017 – Present	Institute for Advanced Study, Princeton, WAM Academic Program Manager
2017 – Present	External Review Committee for Statistics Department
2017 – Present	Co-organizer of Julia Robinson Mathematics Festival
2017 – Present	Course Czar for Math 322 Matrix Algebra
2017 – Present	Chair of Discrete Math Prelim Committee
2017 – Present	Salary Committee
2016 – Present	Department Newsletter Committee
2016 – 2017	Hiring Committee for tenure-track faculty
2015 – Present	Professor Assistant for the new Henry Clay High School Math Club
2015 – 2016	Graduate Recruitment Committee
2015 – 2016	Course Czar for Math 214 Differential Equations
Fall 2015	Cassidy Elementary School Discovery Day, Lexington KY Ran interactive “Math Magic” sessions for fifth graders.
Spring 2015	Littlebrook Elementary School Science Expo, Princeton NJ Ran the session “Math Magic” for fourth and fifth graders.
2013 – 2014	Long-term Hiring Planning Committee

COMMITTEE WORK AND SERVICE (CONT'D)

2013 – 2014	Hiring Committee
2012 – 2013	Graduate Recruitment Committee
2012 – 2014	Course Czar for Math 322 Matrix Algebra
2012 – 2013	Organizer of 2013 Hayden-Howard Lecture; Speaker Michelle Wachs
2012 – 2013	AMS-NSF Mathematical Congress of the Americas Travel Grant Committee
2012	Review Advisory Panel for the Simons Foundation
2012 – 2014	College Advisory Committee in the Mathematical and Natural Sciences
2011 – 2012	University-wide Graduate Council Committee on Fellowships & Traineeships
2011 – 2012	Postdoctoral Scholar Hiring Committee
2011 – 2012	Morton Middle School Professor Volunteer (one hour per week in math)
Fall 2009	Chair, Discrete Math Prelim Exam Committee
2008 – Present	Founder and Organizer of the Math Movie of the Month http://www.math.uky.edu/~movies/
Fall 2009	Cassidy Elementary School Arts & Sciences Extravaganza Day Organized and ran the interactive session “Mathematical Puzzles” for kindergarten, first and third grade classes.
Fall 2008	Faculty Volunteer for Math High School Day
Fall 2008	Faculty Sponsor for internship of Ms. Maram Haddad
2008 – 2009	Course Czar for Calculus II
2007 – 2010; 2012	Cassidy Elementary School Professor Volunteer (one hour per week in math)
2006 – 2007	Hiring Committee (while on sabbatical)
2005 – 2006	Executive Committee
2004 – 2005	Graduate Recruiting Committee
2003 – 2004	Promotion and Tenure Committee
2003 – 2004	Executive Committee, Member At-Large
2003 – 2004	Chair, Discrete Math Prelim Exam Committee
2003 – Present	Member, Discrete Math Prelim Exam Committee
2002 – 2004	Graduate Committee
2001 – 2002	Executive Committee
2001 – 2002	Chair, Salary Committee
2000 – 2002	Salary Committee
2000 – 2001	Homepage Committee
2000 – 2001	Co-organizer of the First Hayden-Howard Lecture: Speaker Richard Stanley (MIT)
2001	Served on 2 Foreign Language Exam Committees
2001 – Present	Served on 16 PhD Committees (Chaired 2)
2003 – Present	Served on 26 Masters Exam Committees (Chaired 11)

ADVISING AND MENTORING

2017 – Present	Mentor for Assistant Professor Fernando Shao
2016 – Present	Undergraduate Advisor for Math Majors
2015 – Present	Faculty Mentor for Ms. Kalila Sawyer, GSM Fellow NSF DUE-1356253 Graduate Scholars in Mathematics Fellows Program
2013 – 2014	Mentor for Assistant Professor Russell Carden
2013 – 2014	Mentor for Assistant Professor Bert Guillou
2012 – 2014	Undergraduate Advisor for Math Majors
2012 – Present	Mentor for WitsOn (Women in Technology Sharing Online)
2006 – Present	Volunteer Mentor for the AWM Mentor Network
2004 – Present	Academic Advisor for 2 to 5 graduate students per year
2002 – 2004	EDGE (Enhancing Diversity in Graduate Education) Mentor

REFEREING

GRANTS:

NSA

NSF CAREER Grant Panel

Review Advisory Panel for the Simons Foundation.

Reviewer for the NSF International Research Experience for Students Program.

Arms-length reviewer for SHARCNET Research Grant. (SHARCNET, based in Ontario, Canada, is a high-performance computing consortium)

Peer Reviewer for The National Academies Collaboration in Basic Science and Engineering (COBASE) program

EXTERNAL REVIEWER:

Promotion case of B. Tenner to Full Professor

JOURNALS:

*Advanced Studies in Contemporary Mathematics**American Mathematical Monthly**Annals of Combinatorics**Australasian Journal of Combinatorics**Bulletin of IMVI**Combinatorica**Discrete and Computational Geometry**Discrete Mathematics**Discrete Mathematics and Theoretical Computer Science**Electronic Journal of Combinatorics**European Journal of Combinatorics**International Mathematics Research Notices**Information Processing Letters**Journal of Algebraic Combinatorics**Journal of Combinatorics**Journal of Combinatorial Theory, Series A**Journal of Integer Sequences**Proceedings of the AMS**SIAM Journal on Discrete Mathematics*

CONFERENCES:

Referee for the FPSAC'15 Conference, Daejeon, SOUTH KOREA

Referee for the FPSAC'06 Conference, San Diego

Referee for the FPSAC'04 Conference, Vancouver, CANADA

BOOKS:

Birkhäuser

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American Mathematical Society

Mathematical Association of America

Listed in the American Men and Women of Science, 1998–1999 edition.

LANGUAGES

English, French and Swedish: fluent.

German and Spanish: some knowledge.

PUBLICATIONS

- [1] Extremal problems for the Möbius function in the face lattice of the n -octahedron, *Discrete Mathematics*, Special issue on Algebraic Combinatorics, **139** (1995), 361–380.
- [2] Sheffer posets and r -signed permutations, *Annales des Sciences Mathématiques du Québec*, **19**, no. 2 (1995), 173–196, with R. Ehrenborg.
- [3] Juggling and applications to q -analogues, *Discrete Mathematics*, Special issue on Algebraic Combinatorics, **157** (1996), 107–125, with R. Ehrenborg.
- [4] The r -cubical lattice and a generalization of the cd -index, *European Journal of Combinatorics*, **17** (1996), 709–725, with R. Ehrenborg.
- [5] Coproducts and the cd -index, *Journal of Algebraic Combinatorics* **8** (1998), 273–299, with R. Ehrenborg.
- [6] The cd -index of zonotopes and arrangements, *Mathematical essays in honor of Gian-Carlo Rota* (Bruce E. Sagan and Richard P. Stanley, eds.), Birkhäuser Boston, 1998, 23–40, with L. J. Billera and R. Ehrenborg.
- [7] The c - $2d$ -index of oriented matroids, *Journal of Combinatorial Theory, Series A* **80** (1997), 79–105, with L. J. Billera and R. Ehrenborg.
- [8] Mixed volumes and slices of the cube, *Journal of Combinatorial Theory, Series A* **81** (1998), 121–126, with R. Ehrenborg and E. Steingrímsson.
- [9] On valuations, the characteristic polynomial and complex subspace arrangements, *Advances in Mathematics* **134** (1998), 32–42, with R. Ehrenborg.
- [10] On flag vectors, the Dowling lattice and braid arrangements, *Discrete and Computational Geometry* **21** (1999), 389–403, with R. Ehrenborg.
- [11] Cutting polytopes and flag f -vectors, *Discrete and Computational Geometry*, **23** (2000), 261–271, with R. Ehrenborg, D. Johnston and R. Rajagopalan.
- [12] The Dowling transform of subspace arrangements, *Journal of Combinatorial Theory, Series A*, **91** (2000), 322–333, with R. Ehrenborg.
- [13] The Yuri Manin ring and its \mathcal{B}_n -analogue, *Advances in Applied Math*, **26** (2001), 154–167.
- [14] A probabilistic approach to the descent statistic, *Journal of Combinatorial Theory, Series A*, **98** (2002), 150–162, with R. Ehrenborg and M. Levin.
- [15] Homology of Newtonian coalgebras, *European Journal of Combinatorics*, **23** (2002), 919–927, with R. Ehrenborg.
- [16] The pre-WDVV ring of physics and its topology, *The Ramanujan Journal*, Special issue on the Number Theory and Combinatorics in Physics, **10** (2005), 269–281.
- [17] Classification of the factorial functions of Eulerian binomial and Sheffer posets, *Journal of Combinatorial Theory, Series A*, **114** (2007), 339–359, with R. Ehrenborg.

- [18] The Möbius function of partitions with restricted block sizes, *Advances in Applied Math*, **39** (2007), 283–293, with R. Ehrenborg.
- [19] Exponential Dowling structures, *European Journal of Combinatorics*, **30** (2009) 311–326, with R. Ehrenborg.
- [20] Cyclotomic factors of the descent set polynomial, *Journal of Combinatorial Theory, Series A*, **116** (2009) 247–264, with D. Chebikin, R. Ehrenborg and P. Pylyavskyy.
- [21] Affine and toric hyperplane arrangements, *Discrete and Computational Geometry*, **41** (2009), 481–512, with R. Ehrenborg and M. Slone.
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Seven of my sequences appear in *The On-Line Encyclopedia of Integer Sequences*, ed. by N. J. A. Sloane.

A6873 (Alternating augmented 4-signed permutations): 1, 1, 7, 47, 497, 6241, 95767, 1704527, 34741217, 796079041, . . . ; **A7286** (Alternating augmented 3-signed permutations): 1, 1, 5, 26, 205, 1936, 22265, 297296, 4544185, 78098176, . . . ; **A7788** (Augmented André 3-signed permutations): 1, 1, 4, 19, 136, 1201, 13024, 165619, 2425216, 40132801, . . . ; **A074059** (Dimension of the cohomology ring of the moduli space of n -pointed stable curves of genus 0 satisfying the the WDVV equations of physics): 1, 2, 7, 34, 213, 1630, 14747, . . . ; **A074060** (Graded dimension of the cohomology ring of the moduli space of n -pointed stable curves of genus 0 satisfying the WDVV equations of physics): 1, 1, 1, 1, 5, 1, 1, 16, 16, 1, 1, 42, 127, 42, 1, 1, 99, 715, 715, 99, 1, 1, 219, 3292, 7723, 3292, 219, 1, . . . ; **A108917** (Number of knapsack partitions of n): 1, 1, 2, 3, 4, 6, 7, 11, 12, 17, 19, 29, 25, 41, 41, 58, 56, 84, 75, 117, 99, 149, 140, 211, 172, 259, 237, 334, 292, 434, . . . ; **A256161** (Triangle of allowable Stirling numbers of the second kind $a(n, k)$): 1, 1, 1, 1, 2, 1, 1, 3, 4, 1, 1, 4, 11, 6, 1, 1, 5, 26, 23, 9, 1, 1, 6, 57, 72, 50, 12, 1, 1, 7, 120, 201, 222, 86, 16, 1, 1, 8, 247, 522, 867, 480, 150, 20, 1, 1, 9, 502, 1291, 3123, 2307, 1080, 230, 25, 1, . . .

TRANSLATION

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