

MARGARET A. READDY
CURRICULUM VITAE

University of Kentucky
Department of Mathematics
Lexington, KY 40506-0027 USA
phone +1 859-257-4680
FAX +1 859-257-4078

U.S. Citizen
Born in Elizabeth, NJ
e-mail: readdy@ms.uky.edu
<http://www.math.uky.edu/~readdy/>

EDUCATION

- 1986 RUTGERS COLLEGE, RUTGERS UNIVERSITY, New Brunswick, NJ
B.A. Mathematics
- 1989 UNIVERSITY OF MICHIGAN, Ann Arbor, MI
M.S. Mathematics
- 1993 MICHIGAN STATE UNIVERSITY, East Lansing, MI
Ph.D. Mathematics
Thesis: Extremal problems for the Möbius function
Advisor: Professor Bruce Sagan

PROFESSIONAL CAREER

- 1986–1987 BLUE CROSS & BLUE SHIELD OF NJ, INC., Newark, NJ
Research Analyst, Actuarial Services
- 1986–1987 PROFESSOR ROE GOODMAN, RUTGERS UNIVERSITY, New Bruswick, NJ
Editorial Consultant (part-time) for the manuscript, *Stochastic Models in Operations Research*
- 1993–1995 LACIM, UNIVERSITÉ DU QUÉBEC À MONTRÉAL, Montréal, CANADA
Postdoctoral Fellow
- 1995–1998 CORNELL UNIVERSITY, Ithaca, NY
Visiting Assistant Professor
- 1998–1999 INSTITUTE FOR ADVANCED STUDY, Princeton, NJ
Member
- 1999–2000 STOCKHOLM UNIVERSITY, Stockholm, SWEDEN
Visiting Professor
- 2000–2003 UNIVERSITY OF KENTUCKY, Lexington, KY
Assistant Professor
- 2003– UNIVERSITY OF KENTUCKY, Lexington, KY
Associate Professor

VISITING POSITIONS

- 1996–1997 MSRI, Berkeley, CA
General Member, MSRI, October 1996 and January 1997
- 1997 CHALMERS TECHNICAL UNIVERSITY, Göteborg, SWEDEN
Visiting Scholar, May–June 1997
- 1998 MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA
Visiting Scholar, September 1998
- 2001 MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA
Visiting Scholar in Applied Mathematics, July–August 2001
- 2002 INSTITUTE FOR ADVANCED STUDY, Princeton, NJ
Visiting Member, June 2002
- 2002 UNIVERSITY OF MINNESOTA, Minneapolis, MN
Visiting Professor, July–August 2002
- 2004 INSTITUTE FOR ADVANCED STUDY/PARK CITY MATHEMATICS INSTITUTE, Park City, UT
Member of the Research Program, Program in Geometric Combinatorics, July 2004
- 2004 BANFF INTERNATIONAL RESEARCH STATION, Banff CANADA
Combinatorial Hopf Algebras Workshop, Aug. 2004
- 2005 INSTITUT MITTAG-LEFFLER, Djursholm, SWEDEN
Research Visitor, Program in Algebraic Combinatorics, March 2005
- 2006–2007 MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA
Sabbatical leave; Visiting Scholar in Applied Mathematics
- 2010 BANFF INTERNATIONAL RESEARCH STATION, Banff CANADA
Quasisymmetric Functions Workshop, Nov. 2010

RESEARCH INTERESTS

Algebraic and geometric combinatorics, combinatorial commutative algebra, conformal field theory and string theory, polytopes

POSTDOCTORAL STUDENTS SUPERVISED

2003–2004 Sergey Kitaev, Chalmers Technical University
 2005–2006 Guoce Xin, Brandeis University

DOCTORAL STUDENT

2006–2009 Patricia Muldoon Brown, University of Kentucky

RESEARCH UNDERGRADUATES

Summer 1997 Dan Johnston, Washington University in St. Louis
 Summer 1997 Mohan Rajagopalan, Oberlin College
 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

FUNDING

Summer 1997 ADLERBERTSKA RESEARCH FUND
 A collaborators from abroad grant to visit Chalmers Technical University.
 Amount: three weeks housing and sustenance, and roundtrip airfare to Sweden.

Summer 2001 UNIVERSITY OF KENTUCKY FACULTY RESEARCH FELLOWSHIP.
 Awarded by the Office of the Executive Vice President for Research.
 Fellowship for tenure-track faculty.
 Amount \$5,000.

Summer 2002 UNIVERSITY OF KENTUCKY SPECIAL FACULTY RESEARCH FELLOWSHIP.
 Awarded by the Office of the Executive Vice President for Research.
 University-wide competitive fellowship for summer before tenure promotion.
 Amount: \$7,500.

Summer 2004 UNIVERSITY OF KENTUCKY RESEARCH ACTIVITY AWARD MINI GRANT.
 Awarded by the Dean of College of Arts & Sciences.
 Amount: \$1,200.

2004 INSTITUTE FOR ADVANCED STUDY/PARK CITY MATHEMATICS INSTITUTE.
 Research Program in Geometric Combinatorics, July 2004, Travel grant.
 Amount: \$1,000 plus three weeks housing.

FUNDING (CONT'D)

- 2004 BANFF INTERNATIONAL RESEARCH STATION.
Combinatorial Hopf Algebras Workshop, Aug. 2004, Travel grant.
Amount: One week housing and sustenance.
- 2005 INSTITUT MITTAG-LEFFLER.
Program in Algebraic Combinatorics, March 2005, Travel grant.
Amount: \$1,000 plus one month housing.
- 2009 UNIVERSITY OF KENTUCKY, DEPARTMENT OF MATHEMATICS
Title: "Graduate Student Combinatorics Conference at the University of Kentucky"
Period of Award: 03/28/09 – 03/30/09
Amount: \$2,000.
- 2009 INSTITUTE FOR MATHEMATICS AND ITS APPLICATIONS (IMA)
Title: "Graduate Student Combinatorics Conference at the University of Kentucky"
Period of Award: 03/28/09 – 03/30/09
Amount: \$2,500.
- 2009–2010 NATIONAL SCIENCE FOUNDATION GRANT
Award Number DMS-0913073
Title: "Graduate Student Combinatorics Conference at the University of Kentucky"
Period of Award: 03/15/09 – 03/14/10
Awarded Amount: \$8,603
- 2009 UNIVERSITY OF KENTUCKY VICE PRESIDENT'S OFFICE FOR RESEARCH
Title: "Graduate Student Combinatorics Conference at the University of Kentucky"
Period of Award: 03/01/09 – 06/30/09
Amount: \$1,500
- 2009 UNIVERSITY OF KENTUCKY COLLEGE OF ARTS & SCIENCES
Title: "Graduate Student Combinatorics Conference at the University of Kentucky"
Period of Award: 03/01/09 – 06/30/09
Amount: \$1,050
- NATIONAL SCIENCE FOUNDATION GRANT
Title: "RTG: CATS (= Combinatorics, Algebra, Topology & Statistics) Research
Training Group at the University of Kentucky"
Proposed Period of Award: 08/01/10 – 07/31/13
Requested Amount: \$1,265,845
Status: Pending

FUNDING (CONT'D)

NATIONAL SCIENCE FOUNDATION GRANT

Title: "Combinatorics, Algebra and Topology of Flag Vectors"

Proposed Period of Award: 06/01/10 – 05/31/13

Requested Amount: \$209,419

Status: Pending

NATIONAL SECURITY AGENCY STANDARD GRANT

Title: "Algebraic Combinatorics of Posets"

Proposed Period of Award: 06/01/11 – 05/31/13

Requested Amount: \$57,000

Status: Pending

CONFERENCE COMMITTEES

June 2003 – June 2004 2006	Program Committee for the FPSAC'04, Vancouver, CANADA Co-organizer of the special session "Algebraic and Analytic Combinatorics", AMS Eastern Sectional Meeting, Storrs, CT, October 28–29, 2006
2007	Co-organizer of the special session "Combinatorial Enumeration, Optimization, Geometry, and Statistics", AMS Southeastern Sectional Meeting, Murfreesboro, TN, November 3–4, 2007
2007 – 2009	Faculty advisor for "5th Graduate Student Combinatorics Conference" University of Kentucky, March 27–29, 2009
2009 – Present	Co-organizer of the workshop "Combinatorics 2010: Advances, Trends and Speculations (CATS 2010)", University of Kentucky, March 26, 2010
2009 – Present	Co-organizer of the special session "Advances in Algebraic & Geometric Combinatorics", AMS Southeastern Sectional Meeting, Lexington, KY, March 27–28, 2010

SEMINAR ORGANIZER

Spring 2001 – Present	Organizer of the University of Kentucky Discrete CATS Seminar Interdisciplinary seminar in CATS = Combinatorics, Algebra, Topology and Statistics; formerly the UK Algebraic Combinatorics Seminar
2009 – Present	Organizer of the University of Kentucky WILDCATS Seminar
2008 – 2009	Co-organizer of the University of Kentucky WILDCATS Seminar (WILDCATS = Work, Interactions and Leading Developments in CATS)
July – August 2001	Joint Organizer of the Working Seminar on Quasisymmetric Functions (MIT)

INVITED ADDRESSES AND SEMINAR TALKS

- 2010 "To be announced"
Joint Mathematics Meetings, San Francisco CA
- 2009 "The cd-index of balanced and Bruhat graphs"
University of Washington Combinatorics Seminar
University of Kentucky Discrete CATS 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 University of Kentucky Combinatorics seminar
- 2005 Keynote speaker, University of Minnesota Graduate Student Combinatorics Conference
- 2005 Mittag-Leffler Institute, SWEDEN
- "The Möbius function of partitions with restricted block sizes"
2005 University of Kentucky Algebraic Combinatorics seminar
- "From Steinitz to Karu: The cd-index"
2005 University of Kentucky Algebraic Combinatorics seminar
- "Asymptotic results for the WDVV ring of physics"
2003 AMS sectional meeting, Binghamton, NY
- 2003 University of Kentucky Algebraic Combinatorics seminar
- "The pre-WDVV ring of physics and its topology"
2003 International Conference on Number Theory and Combinatorics in Physics, Gainesville, FL
- 2003 University of Kentucky Topology seminar
- 2002 AMS sectional meeting, Orlando, FL
- "Two rings in string theory"
2002 University of Minnesota Combinatorics Seminar
- "Homology of Newtonian coalgebras"
2002 AMS sectional meeting, Montréal, CANADA
- "An application of combinatorial commutative algebra to string theory"
2002 Washington University in St. Louis Combinatorics seminar
- 2002 Binghamton University Combinatorics seminar
- 2001 MIT Combinatorics Seminar
- "A probabilistic approach to the descent statistic"
2002 AMS National Meeting, San Diego, CA

INVITED ADDRESSES AND SEMINAR TALKS (CONT'D)

- 2001 "The Manin ring in string theory"
 University of Kentucky colloquium
 2001 AMS sectional meeting, Lawrence, KS
 "The Stanley-Reisner ring and an application to string theory"
 2000 University of Kentucky Combinatorics seminar
 "The Yuri Manin ring and its \mathcal{B}_n analogue"
 2000 LaCIM 2000 Conference, Montréal, CANADA
 "A new face ring for mixed simplicial and cubical complexes"
 2000 AMS National meeting, Washington, DC
 "Systems of parameters for cubical complexes"
 2000 University of California at Davis Colloquium
 2000 University of Kentucky 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
 "Mixed volumes and valuations: A tale of two topics"
 1999 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
 "Recent developments in polytopal theory"
 1999 Temple University Colloquium
 "Valuations and complex hyperplane arrangements"
 1998 MIT Combinatorics Seminar
 Invited series of lectures, Hungarian Academy of Sciences, Budapest, HUNGARY
 1998 I: "Introduction to flag vectors and their linear span," Eötvös University
 1998 II: "Zonotopes and hyperplane arrangements," Hungarian Academy of Sciences
 "Mixed volumes and slices of the cube"
 1998 University of Florida Colloquium
 1997 Georgia Institute of Technology Combinatorics Seminar
 1997 Cornell University Combinatorics and Algebraic Geometry Seminar
 "Convex geometry and combinatorics"
 1997 Chalmers Technical University Colloquium, Göteborg, SWEDEN
 "Hyperplane arrangements and the $\mathbf{c-2d}$ -index"
 1997 MSRI Geometric Combinatorics Workshop
 "Binomial posets"
 1997 Cornell University Working Seminar in Algebraic Combinatorics
 "Coproducts, the \mathbf{cd} -index and zonotopes"
 1996 University of Waterloo Tutte Colloquium, CANADA
 "Coproducts and the \mathbf{cd} -index"
 1996 8th Int'l FPSAC Conference, University of Minnesota
 "Sheffer posets and r -signed permutations"
 1995 Cornell University Combinatorics and Algebraic Geometry Seminar

INVITED ADDRESSES AND SEMINAR TALKS (CONT'D)

- "The r -cubical lattice and a generalization of the cd -index"
 1995 7th Int'l FPSAC Conference, Paris–Marne-la-Vallée, FRANCE
 1995 MIT Combinatorics Seminar
 1995 Cornell University Combinatorics and Algebraic Geometry Seminar
 1994 Royal Institute of Technology Combinatorics Seminar; Stockholm, SWEDEN
 "Juggling and applications to q -analogues"
 1994 Università di Milano, Milano, ITALY
 1994 6th Int'l FPSAC Conference, DIMACS/Rutgers University
 1994 LACIM; UQAM Combinatorics Seminar
 1994 University of Minnesota Combinatorics Seminar
 "A new proof of the interval of ranks case for the Boolean algebra"
 1993 Joint Meeting of AMS and Sociedad Matematica Mexicana; Mérida, MEXICO
 "Extremal problems for the Möbius function"
 1993 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

- 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

- Summer 1997 Faculty Advisor, Cornell’s Research Experiences for Undergraduates (REU) Program
Advised two students.
- Summer 2000 Advised four 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.

TEACHING SUMMARY

UNIVERSITY OF KENTUCKY:

Undergraduate Courses:

Analytic Geometry and Trigonometry, Math 110: Fall 2004
 Calculus I, Math 113: Fall 2003, Spring 2005
 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
 Introductory Probability, Math 320: Spring 2010
 Matrix Algebra, Math 322: Spring 2002, Fall 2003, Fall 2004, Fall 2007, Fall 2008
 Discrete Structures in Computer Science, Math 340: Spring 2003
 Introduction to Complex Variables, Math 433: Fall 2002

Graduate Courses:

Enumerative Combinatorics, Math 614: Spring 2010, Spring 2009, Spring 2006
 Spring 2004, Spring 2003
 Combinatorics of Coxeter Groups, Math 714: Fall 2009
 Recent Trends in Polytopes, Math 714: Spring 2008
 Topics in Geometric Combinatorics, Math 714: Spring 2005
 Representation Theory and the Symmetric Group, Math 715: Fall 2002
 Combinatorics and Commutative Algebra: Informal Independent Study with
 Kathy Sharrow: Summer and Fall 2002
 Hyperplane Arrangements, Math 715: Fall 2001
 Polytopes and Commutative Algebra, Math 715: Spring 2001
 Linear Algebra, Math 565: Fall 2000

CORNELL UNIVERSITY:

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

MICHIGAN STATE UNIVERSITY:

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

COMMITTEE WORK AND SERVICE

2009 – Present	Chair, Discrete Math Prelim Exam Committee
2008 – Present	Founder and Organizer of the Math Movie of the Month
Fall 2009	Organized and ran the interactive session “Mathematical Puzzles” for kindergarten, first and third grade classes at the Cassidy Elementary School Arts & Sciences Extravaganza Day
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 – Present	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 (including while on sabbatical)
2002 – 2004	Graduate Committee
2001 – 2002	Executive Committee
2001 – 2002	Chair, Salary Committee
2000 – 2002	Salary Committee
2000 – 2001	Homepage Committee
June 2006 – April 2009	Chair, PhD Committee: Patricia Muldoon Brown
May 2009 – July 2009	PhD Committee: Rama Kuvuluru
Jan 2009 – Present	PhD Committee: Eric Clark
April 2008 – Present	PhD Committee: Ji Yoon Jung
April 2006 – Present	PhD Committee: Daniel Wells
April 2006 – July 2008	PhD Committee: Carlos Nicolas
April 2004 – April 2008	PhD Committee: Michael Slone
Feb 2003 – April 2005	PhD Committee: Kathy Sharrow
Mar 2002 – April 2004	PhD Committee: Matt Menzel
Sept 2001 – Nov 2003	PhD Committee: Gareth Bendall
Mar 2001 – April 2003	PhD Committee: Laura Schmidt
Feb 2005 – April 2005	Chair, Masters Exam Committee: Patricia Muldoon
Feb 2005 – April 2005	Chair, Masters Exam Committee: Keith Kohrs
Mar 2004 – April 2004	Chair, Masters Exam Committee: Matt Brown
April 2003 – July 2003	Chair, Masters Exam Committee: Michael Slone
April 2003 – May 2003	Chair, Masters Exam Committee: Ron Williams
April 2003 – May 2003	Chair, Masters Exam Committee: Traci Wilde
Mar 2003 – April 2003	Chair, Masters Exam Committee: Bryson Perry
Oct 2008 – Nov 2008	Masters Exam Committee: Matt Zeckner
Mar 2008 – April 2008	Masters Exam Committee: Ji Yoon Jung
Mar 2006 – April 2006	Masters Exam Committee: Daniel Wells

COMMITTEE WORK AND SERVICE (CONT'D)

Mar 2006 – April 2006	Masters Exam Committee: Carlos Nicholas
Mar 2004 – April 2004	Masters Exam Committee: Scott Godefroy
Mar 2004 – April 2004	Masters Exam Committee: Adam Feldhaus
Nov 2003 – Dec 2003	Masters Exam Committee: Jennifer Rowe
Oct 2003 – Nov 2003	Masters Exam Committee: John Eveland
April 2003 – May 2003	Masters Exam Committee: Kim Lowman
Feb 2002 – April 2002	Masters Exam Committee: David Harness
Feb 2002 – April 2002	Masters Exam Committee: Jennifer Rice
April 2001	Foreign Language Exam Committee: Jakayla Robbins
March 2001	Foreign Language Exam Committee: Gareth Bendall

ADVISING AND MENTORING

2002 – 2004	EDGE (Enhancing Diversity in Graduate Education) Mentor for Jennifer Rowe
2004 – Present	Academic Advisor for 3 to 5 graduate students per year
2006 – Present	Volunteer Mentor for the AWM Mentor Network

REFEREING

JOURNALS:

Advanced Studies in Contemporary Mathematics
American Mathematical Monthly
Annals of Combinatorics
Combinatorica
Discrete and Computational Geometry
Discrete Mathematics
Discrete Mathematics and Theoretical Computer Science
Information Processing Letters
Journal of Combinatorial Theory, Series A

GRANT:

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

CONFERENCES:

Referee for the FPSAC'06 Conference, San Diego (1 paper)
Referee for the FPSAC'04 Conference, Vancouver, CANADA (8 papers)

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

American Mathematical Society
Association for Women in Mathematics
Mathematical Association of America

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

LANGUAGES

English and French: fluent.
Swedish: basic knowledge.
German and Spanish: some knowledge.

PERSONAL DATA

Born August 10, 1964.
Married.
Two children, ages 4 and 8.

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] The c - $2d$ -index of oriented matroids, *Journal of Combinatorial Theory, Series A* **80** (1997), 79–105, with L. J. Billera and R. Ehrenborg.
- [6] Coproducts and the cd -index, *Journal of Algebraic Combinatorics* **8** (1998), 273–299, with R. Ehrenborg.
- [7] 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.
- [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] The Tchebyshev transforms of the first and second kind, to appear *Annals of Combinatorics*, with R. Ehrenborg, 35 pages.
- [22] Affine and toric hyperplane arrangements, *Discrete and Computational Geometry*, **41** (2009), 481–512, with R. Ehrenborg and M. Slone.

WORK IN PROGRESS

- [23] Rees product of posets, preprint, with P. Muldoon Brown.
- [24] Asymptotic results for the cohomology ring of the moduli space of stable pointed curves of genus zero, in preparation.
- [25] The cd-index of balanced and Bruhat graphs, in preparation, with R. Ehrenborg.
- [26] A family of Eulerian posets that lacks R -labelings, in preparation, with R. Ehrenborg.
- [27] Inequalities for the partition lattice, work in progress with P. Muldoon Brown.
- [28] Level Eulerian posets, work in progress, with R. Ehrenborg and G. Hetyei.

REFEREED CONFERENCE PROCEEDINGS

- [29] Extremal problems for the Möbius function in the face lattice of the n -octahedron, *Conference proceedings of the 4th International Conference on Formal Power Series and Algebraic Combinatorics (June 1992, UQAM, Montréal)*.
- [30] Juggling and applications to q -analogues, *Conference proceedings of the 6th International Conference on Formal Power Series and Algebraic Combinatorics, (May 1994, DIMACS/Rutgers, 135–144)* with R. Ehrenborg.
- [31] The r -cubical lattice and a generalization of the cd-index, *Conference Proceedings of the 7th International Conference on Formal Power Series and Algebraic Combinatorics, (May 1995 Université de Marne-la-Vallée, France, 173–184)* with R. Ehrenborg.
- [32] Coproducts and the cd-index, *Conference proceedings of the 8th International Conference on Formal Power Series and Algebraic Combinatorics (June 1996, University of Minnesota, 151–162)* with R. Ehrenborg.
- [33] The Yuri Manin ring and its \mathcal{B}_n -analogue, *Proceedings of the LaCIM 2000 Anniversary Conference (September 2000, Université du Québec à Montréal)*.

- [34] The pre-WDVV ring of physics and its topology, *Proceedings of the International Conference on Number Theory and Combinatorics in Physics (March 2003, University of Florida)*.
- [35] Eulerian binomial and Sheffer posets, *Conference proceedings of the 18th International Conference on Formal Power Series and Algebraic Combinatorics (June 2006, San Diego, CA)* with R. Ehrenborg.
- [36] Affine and toric hyperplane arrangements, *Conference proceedings of the 20th International Conference on Formal Power Series and Algebraic Combinatorics (June 2008, Universidad de Talca, Chile)* with R. Ehrenborg and M. Slone, 12 pages.
- [37] The Rees product of the cubical lattice with the chain, *Conference proceedings of the 20th International Conference on Formal Power Series and Algebraic Combinatorics (June 2008, Universidad de Talca, Chile)* with P. Muldoon, 12 pages.

SEQUENCES

Six 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, ...;

TRANSLATION

François Bergeron, Gilbert Labelle, and Pierre Leroux, "Combinatorial Species and Tree-like Structures," Translated from the 1994 French original by Margaret Readdy. With a foreword by Gian-Carlo Rota. *Encyclopedia of Mathematics and its Applications*, 67, Cambridge University Press, Cambridge, 1998.

RESEARCH MONOGRAPH (IN PROGRESS)

Louis Billera, Richard Ehrenborg and Margaret A. Readdy, "Polytopes: The ABCD's of Enumerating Flags."

BOOK (IN PROGRESS)

Richard Ehrenborg and Margaret A. Readdy, "Introduction to Polytopes."

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