Vitae

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Education:

- Ph.D., Pure Mathematics, University of California at Los Angeles, March 1993
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- M.A., Pure Mathematics, University of California at Los Angeles, March 1990

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Research Interests:

- Automorphic and Modular Forms
- Algebraic Number Theory
- Theory of Partitions with applications to Representation Theory
- Elliptic curves
- Combinatorics

Publications:

1. *Shimura sums related to quadratic imaginary fields*
   Proceedings of the Japan Academy of Sciences, **70** (A), No. 5, 1994, pages 146-151.

2. *Congruences on the Fourier coefficeints of modular forms on* $\Gamma_0(N)$,
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3. *On the positivity of the number of partitions that are t-cores,*
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5. *Parity of the partition function*,
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6. *On the representation of integers as sums of triangular numbers*
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153. *Proof of the Umbral Moonshine Conjecture*, (Co-authors: John F. R. Duncan and Michael Griffin),

Research in the Mathematical Sciences, **2: 26** (2015).

154. *The Jack Daniels Problem*, (Co-author: John F. R. Duncan), Winnie Li Special Issue of the Journal of Number Theory, **161** (2016), pages 230-239.

155. *The 1729 K*3 *surface*, (Co-author: Sarah Trebat-Leder),
Research in Number Theory, **2: 26** (2016).

156. *A note on nonordinary primes*, (Co-authors: Seokho Jin and Wenjun Ma),
Proceedings of the American Mathematical Society, **144** (2016), pages 4591-4597.

157. *The Riemann Hypohtesis for modular form periods*, (Co-author: Seokho Jin, Wenjun Ma, and Kannan Soundararajan).
Proceedings of the National Academy of Sciences, USA **113** No. 10 (2016), pages 2603-2608.

158. *Explorations in the theory of partition zeta functions*, (Co-authors: Larry Rolen and Robert Schneider), Exploring the Riemann Zeta-function- 190 Years After Riemann's Birth (Ed. H. Montgomery, A. Nikeghbali, and M. Rassias), Springer, New York, 2017, pages 223-264.

159. *Zeta-polynomials for modular form periods*, (Co-authors: Larry Rolen and Florian E. Sprung).
Advances in Mathematics **306**, No. 14 (2017), pages 328-343.

160. *Why Ramanujan matters*, Sloan Science and Film, (Co-author: Robert Schneider), May 10, 2016.

161. *The Man Who Knew Infinity: Why Ramanujan matters*, (Co-author: Robert Schneider), Ramanujan Mathematical Society Newsletter **26**, March-June 2016, pages 109-110.

162. *On Divisors of modular forms*, (Co-authors: Kathrin Bringmann, Ben Kane, Steffen Löbrich, and Larry Rolen),
Advances in Mathematics, **329** (2018), 541-554.

163. *Why Ramanujan matters*, (Co-author: Robert Schneider),
Asia Pacific Mathematics Newsletter **6**, December 2016, pages 27-28.

164. *Number theoretic generalization of the Monster denominator formula*, (Co-authors: Kathrin Bringmann, Ben Kane, Steffen Löbrich, and Larry Rolen),
Journal of Physics A, **50** (2017), 473-501.

165. *O'Nan moonshine and arithmetic*, (Co-authors: John Duncan and Michael Mertens),

American Journal of Mathematics, recommended for publication.

166. *Partition-theoretic formulas for arithmetic densities,* (Co-authors: Robert Schneider and Ian Wagner), Proceedings of Number Theory in honor of Krishna Alladi's 60th birthday, Springer, Proc. Math. Stat. **221** (2017), 611-624.

167. *Review of "The G. H. Hardy Reader"*,
The Hardy-Ramanujan Journal, **40** (2017), 43-46.

168. *Pariah Moonshine*, (Co-authors: John Duncan and Michael Mertens),
Nature, Ser. Communications, **8** (2017), Art.670.

169. *Mentoring Graduate Students,*
Notices of the American Mathematical Society, to appear.

170. *A word from the Vice President,*
Notices of the American Mathematical Society, to appear.

171. *CM evaluations of the Goswami-Sun series,* (Co-author: Madeline Locus Dawsey),
Proceedings of a Conference on Elliptic curves at Zeuthen, Springer, accepted for publication.

172. *On Witten's extremal partition functions,* (Co-author: Larry Rolen), submitted for publication.

173. *Black holes and class groups,* (Co-author: Nathan Benjamin, Larry Rolen and Shamit Kachru), Research in the Mathematical Sciences, (2018), 5:43.

174. *Higher width Moonshine,* (Co-author: Madeline Locus Dawsey), submitted for publication.

175. *Jensen polynomials for Riemann's zeta function and suitable arithmetic sequences,* (Co-authors: Michael Griffin, Larry Rolen, and Don Zagier), submitted for publication.

176. *Case study of elite breaststrokers using inertial measurement units,* (Co-authors: Madeline Locus Dawsey, Jon Howell, Sven Mesihovic, Fiona Muir, Sage Ono, and Larry Rolen), in preparation.

177. *Exact formulas in number theory, physics, and topology,* (Co-authors: John Duncan, Nate Gillman, Xavier Gonzalez, Larry Rolen, and Matthew Schoenbauer), in preparation.

Books and Proceedings edited:

1. *Proceedings of Topics in Number Theory,* Vol. 467 Mathematics and Its Applications,

(Co-editors: Scott Ahlgren and George Andrews), Kluwer Academic Publishers, 1999.

2. *Proceedings of q-series with Applications to Combinatorics, Number Theory and Physics*, (Co-editor: Bruce C. Berndt), Contemporary Mathematics, **291**, American Mathematical Society, 2001.

3. *Memorial Issues Dedicated to Robert Rankin,*
The Ramanujan Journal, **7**, Issues # 1-3, (2003),
(Co-editor: Bruce Berndt).

4. *The web of modularity: Arithmetic of the coefficients of modular forms and q-series,*
NSF-CBMS Conference Monograph, 2004.

5. *My search for Ramanujan*, Springer, New York, 2016.
(Co-author: Amir D. Aczel).

6. *Harmonic Maass forms and mock modular forms: Theory and applications*, Colloquium Publications, No. 64, American Mathematical Society, 2017.
(Co-authors: Kathrin Bringmann, Amanda Folsom, and Larry Rolen).

7. *Modular Forms and Everywhere: Celebration of Don Zagier's 65th Birthday*, Research in the Mathematical Sciences, Springer, 2018,
(Co-editors: Kathrin Bringmann, Maxim Kontsevich, Pieter Moree, and Martin Raum).

Presentations:

- June 1992 *Congruences on the Fourier coeffiecents of modular forms*,
Pacific Northwest MAA meeting, Missoula, Montana.

- July 1992 *Fourier coefficients and their congruences*,
Rademacher Centenary Conference, State College, Pennsylvania.

- September 1992 *Infinitely many exceptional primes and weight one forms in the Swinnerton-Dyer Theory of congruences*,
UNESCO-CIMPA Summer School on Automorphic Forms, Nice, France.

- December 1992 *Modular forms with complex multiplication and dihedral extensions of* $\mathbb{Q}$,
West Coast Number Theory Conference, Corvallis, Oregon.

- March 1993 *Representations of integers as sums of triangular numbers*,
Stanford Workshop on Automorphic Forms, Palo Alto, California.

- December 1993 *Shimura sums related to quadratic imaginary fields*,

West Coast Number Theory Conference, Asilomar, California

- December 1993 *On the number of t-core partitions*,
  West Coast Number Theory Conference, Asilomar, California

- December 1993 *On the status of Fermat's Last Theorem*, (with Joe Buhler, Andrew Granville, and Jeff Lagarias),
  West Coast Number Theory Conference, Asilomar, California

- April 1994 *On the parity of the partition function*,
  Illinois Number Theory Conference, Urbana, Illinois.

- April 1994 *On the parity of the partition function*,
  Southeastern Regional Meeting on Numbers, Charleston, South Carolina.

- August 1994 *On the parity of the partition function* (Short communication),
  International Congress of Mathematicians, Zurich, Switzerland (NSF grant supported).

- August 1994 *On the parity of the partition function*,
  AMS Special Session on q-series, Minneapolis, Minnesota.

- November 1994 *The classification of defect zero $p-$blocks for finite simple groups*,
  Midwest Number Theory Day, Chicago, Illinois.

- December 1994 *Parity of Fourier coefficients of modular forms*,
  West Coast Number Theory Conference, San Diego, California.

- January 1995 *On the classification of defect zero $p-$blocks for finite simple groups*, (1 hour speaker)
  International conference on representation theory and combinatorics, Oberwolfach, Germany.

- May 1995 *Congruences for special values of $L-$functions*,
  International Conference in Analytic Number Theory in Honor of Heini Halberstam, Allerton Park, Illinois.

- August 1995 *Congruences for special values of $L-$functions*,
  AMS Special Session on Number related to Stark's conjectures, Burlington, Vermont.

- November 1995 *Divisibility of certain partition functions by powers of primes*,
  AMS Special Session in Number Theory, Greensboro, North Carolina.

- November 1995 *Rank zero prime twists of elliptic curves*,
  AMS Special Session in Number Theory, Greensboro, North Carolina.

- December 1995 *Twists of elliptic curves*,
  West Coast Number Theory Conference, Asilomar, California.

- January 1996 *Rank zero quadratic twists of elliptic curves*,
  AMS Special Session on Diophantine Problems from different perspectives, Orlando, Florida.

- February 1996 *Ferrers boards and class numbers*,
  Workshop on Combinatorial Number Theory, DIMACS.

- March 1996 *Modular forms and the prime* 2,
  Workshop on automorphic forms, Stanford University, California.

- April 1996 *Partitions, representation theory and class numbers*,
  AMS Special Session in Analytic Number Theory, New York, New York.

- August 1996 *Ramanujan's ternary quadratic form,* (40 minute speaker),
  The 5^{th} Canadian Number Theory Conference, Ottawa, Canada.

- October 1996 *$L-$functions mod p,*
  AMS Special Session on Automorphic forms, Lawrenceville, New Jersey.

- December 1996 *Some theorems about modular $L-$functions*,
  West Coast Number Theory Conference, Las Vegas, Nevada.

- March 1997 *Central critical values of modular $L-$functions*, (1 hour speaker),
  Japanese-American Mathematical Institute Conference on Elliptic curves and Applications,
  Baltimore, Maryland.

- April 1997 *Central critical values of modular $L-$functions*, (1 hour speaker),
  The Illinois Number Theory Conference, Urbana, Illinois.

- July 1997 *Critical values of modular L-functions*,
  Conference on number theory on the occasion of Andrzej Schinzel's 60th birthday, Warsaw,
  Poland.

- September 1997 *Indivisibility of class numbers and L-values*,
  AMS Special Session on Number Theory and arithmetic geometry, Montreal, Canada.

- April 1998 *p-divisibility of class numbers of imaginary and real quadratic fields, and orders*

of Tate-Shafarevich groups of rank zero elliptic curves,
AMS Special Session on Modular Identities and q-series,
Philadelphia, Pennsylvania.

- June 1998 *Nonvanishing of q-series coefficients*, (1 hour speaker),
  10th Conference on Formal Power Series and Algebraic Combinatorics,
  Fields Institute, Toronto, Canada.

- June 1998 *Nonvanishing of q-series coefficients*, (1 hour speaker), AMS Joint Summer Research Conference, "$q-$series, Combinatorics, and Computer Algebra", South Hadley, Massachusetts.

- October 1998 *In the beginning...* (1 hour speaker),
  Celebration of G. Andrews' 60th Birthday,
  State College, Pa.

- June 1999, *New results on the partition function* (40 minute speaker),
  6^{th} Canadian Number Theory Conference,
  Winnipeg, Canada.

- June 1999, 1999 Park City - Institute for Advanced Study Institute on Arithmetic Algebraic Geometry,
  Park City, Utah.

- July 1999, *Ramanujan congruences and more....*,
  MASS REU MathFest (45 minute speaker), Penn State University

- November 1999, *Recent results for the partition function and some questions of Serre,* (50 minute speaker),
  Conference on symbolic computation, number theory, special functions, physics and combinatorics,
  Gainesville, Florida.

- December 1999, *Chebotarev in intervals and applications* (1 hour speaker),
  Galois theory and modular forms,
  Saga, Japan.

- January 2000, *Modular forms and elliptic curves,* (50 minute speaker),
  Joint AMS-MAA Meetings, Washington D. C.

- April 2000, *Tate-Shafarevich groups and ranks of quadratic twists of elliptic curves* (1 hour speaker), 6th Midwest Algebraic Number Theory Day,

Ohio State University, Columbus, Ohio.

- April 2000, *Ranks and Tate-Shafarevich groups of quadratic twists of elliptic curves* (1 hour speaker),
  Recent trends in Analytic Number Theory,
  Institute for Advanced Study, Princeton.

- May 2000, *Ranks and Tate-Shafarevich groups of elliptic curves,*
  The Millenial Conference on Number Theory, (1 hour speaker),
  Urbana, Illinois.

- May-June 2000, *History of the Partition Function,*
  Ramanujan's congruences and modern number theory, (2 hour speaker),
  NATO Advanced Study Institute, Special Functions 2000: Current Perspective and Future Directions.
  Tempe, Arizona.

- June 2000, *Recent work on the Partition function*
  Tenth SIAM Conference on Discrete Mathematics
  Minneapolis, Minnesota.

- August 2000, *q-series identities and L-functions* (50 minute speaker),
  Number Theory in Honor of the Lehmers,
  Berkeley, California.

- September 2000, *Topics in Number Theory,*
  12th Annual Packard Foundation Fellows Meeting,
  Monterey, California.

- September 2000, *Bizarre identities and L-functions,*
  AMS Special Session on Analytic Number Theory,
  Toronto, Canada.

- December 2000, *The arithmetic of Borcherds exponents*,
  CMS Winter Meeting, Special Session on Number Theory,
  Vancouver, Canada.

- January 2001, *Hypergeometric generating functions for zeta and L-values*,
  Joint AMS-MAA National Meetings,
  Special Session on Analytic Number Theory,
  New Orleans, Louisiana.

- March 2001, *Number Theory and Partitions* (1 hour address)
  AMS Central Sectional Meeting,
  Lawrence, Kansas.

- May 2001, *The Chebotarev Density Theorem and Modular Forms,* (40 minute talk)
  Joint AMS-SMM International Meeting,
  Morelia, Mexico.

- August 2001, *Ramanujan's work on partitions and allied functions,*
  MAA MathFest, Madison, Wisconsin.

- September 2001, U. S. delegate,
  4th Annual Chinese-American Frontiers of Science Symposium,
  Co-sponsored by: The Chinese Academy of Sciences and the U. S. National Academy of Sciences,
  Jade Palace, Beijing, China.

- September 2001, *Coefficients of half-integral weight modular forms* (1 hour speaker),
  Galois Theory and Modular Forms,
  Tokyo Metropolitan University, Tokyo, Japan.

- March 2002, *Arithmetic of Borcherds exponents*,
  AMS Special Session on Number Theory, Atlanta, Georgia.

- April 2002, *Points on curves: Let's win* \$1 *million*, (1 hour speaker),
  MAA Sectional Meeting (Ripon College).

- May 2002, *Modular forms* (40 minute speaker)
  7th Meeting of the Canadian Number Theory Association,
  Montreal, Canada.

- July 2002, *Ramanujan's legacy* (1 hour speaker)
  Number Theory,
  Clemson, South Carolina.

- October 2002, *Frontiers in Number Theory,* (Chair and Speaker)
  5th annual Chinese-American Frontiers of Sciences Symposium,
  (Co-sponsored by: Chinese and U. S. National Academy of Sciences,
  Irvine, California.

- October 2002, *Class groups and Shafarevich-Tate groups,*
  AMS Special Session on Analytic Number Theory, Salt Lake City, Utah.

- December 2002, *Class groups and Shafarevich-Tate groups* (2 hour speaker)
  Modular forms: KIAS, Seoul, Korea.

- January 2003, *Singular moduli and class equations* (45 minute speaker)
  AMS Special Session on Modular forms, Joint AMS-MAA Annual Meeting, Baltimore, Maryland.

- May 2003, *Congruences for partitions* (40 minute speaker)
  AMS Special Session on Partitions and q-series, San Francisco, California.

- June 2003, *The Web of Modularity* (main speaker), CBMS Conference, Urbana, Illinois.

- November 2003, *Modularity and the trace formula* (1 hour speaker), Arithmetic and Geometry of Algebraic Varieties, Fields Institute, Toronto, Canada.

- December 2003, *Class groups and Shafarevich-Tate groups* (40 minute speaker), Joint International AMS-India Mathematics Meeting, Bangalore, India.

- January 2004, Eight lectures, Number Theory Camp, Pohang, Korea.

- April 2004, *Traces of Hecke operators and Jacobi polynomials* (1 hour speaker), Conference in Honor of George E. Andrews' 65th Birthday, Penn State University.

- August 2004, Two lectures, Algebra Symposium, Sendai, Japan.

- August 2004, Two lectures, The Birch and Swinnerton-Dyer Conjecture, Chonbuk, South Korea.

- September 2004, *Elliptic curves*, Packard Foundation Meeting, Monterey, California.

- September 2004, *Traces of singular moduli*, NSF FRG Conference, Madison, Wisconsin.

- October 2004, AMS Special Session on 'Special functions, orthogonal polynomials, and their applications', Evanston, Illinois.

- October 2004, Midwest Number Theory Conference (plenary speaker), *Traces of singular moduli*, University of Chicago.

- November 2004, Additive Number Theory (plenary speaker), *Values of modular functions*, University of Florida.

- December 2004, Arithmetic Algebraic Geometry, *Singular moduli*, Montreal, Canada.

- February 2005, Interuniversity Mathematical Research Seminar of Puerto Rico (2 plenary talks), Mayaguez, Puerto Rico.

- June 2005, Celebration of Gauss and Dirichlet, *Traces of singular moduli*, Göttingen, Germany.

- July 2005, Bretton Woods Workshop on Multiple Dirichlet Series, *Traces of singular moduli and Maass-Poincaré series*, Bretton Woods.

- October 2005, NSF FRG Conference, *Traces of singular moduli*, University of Maryland.

- November 2005, Number Theory and Partitions, University of Puerto Rico, Mayaguez.

- December 2005, *Mock theta functions*, International Conference on Number Theory and Mathematical Physics, Kumbakonam, India.

- January 2006, *Arithmetic of Maass-Poincaré series*, Special Session on Arithmetic Geometry, Joint AMS-MAA Meeting, San Antonio, Texas.

- April 2006, *Legacy of Euler, Ramanujan and Dyson*, Hudson River Ungraduate Mathematics Conference, Westfield State College, Massachusetts.

- April 2006, *Legacy of Euler, Ramanujan, and Dyson*, MAA Sectional Meeting.

- April 2006, *Mock theta functions* and *Traces of singular moduli on Hilbert modular surfaces* (2 talks), AMS Sectional Meeting, San Francisco.

- June 2006, *Mock theta functions*, International Conference on Number Theory, KIAS, Seoul, Korea.

- July 2006, *Mock theta functions*, 9th Meeting of the Canadian Number Theory Association, Vancouver, Canada.

- October 2006, *The final problem*, Harvey Mudd College Conference on Enumerative Combinatorics.

- October 2006, *Freeman Dyson's challenge for the future*, AMS Special Session on Number Theory, Salt Lake City, Utah.

- May 2007, *Eulerian series as modular forms*, Conference in Honor of Heini Halberstam's 80th Birthday, University of Illinois, Urbana-Champaign.

- May 2007, *Harmonic Maass forms as combinatorial series*, L-functions and automorphic forms on the occasion of Dorian Goldfeld's 60th birthday, Columbia University.

- May 2007, *Dyson's challenge for the future*, Combinatorial and Additive Number Theory, CUNR Graduate Center, New York.

- October 2007, *Mock theta functions*, Integers Conference.

- December 2007, *Heegner divisors and Maass forms*, SASTRA Ramanujan Prize Conference, Kumbakonam, India.

- January 2008, *Heegner divisors and derivatives of L-functions*, Special session on Number Theory, AMS Joint Meetings, San Diego.

- January 2008, *Freeman Dyson's challenge for the future*, Special session on automorphic forms, AMS Joint Meetings, San Diego.

- March 2008, *Lecture Series*, Conference on partitions, q-series, and number theory, University of Florida.

- July 31-August 2, 2008, *The Legacy of Ramanujan's tau-function*, MAA MathFest, Madison, Wisconsin.

- November 20-21, 2008, *Two 1 hour lectures*, Current Developments in Mathematics, Harvard-MIT.

- December 2008, *q-series in topology*, Combinatory Analysis 2008: Partitions, q-series, and Applications, Penn State University.

- January 2009, *Harmonic Maass forms*, AMS Invited Address, Joint Meetings, Washington, DC.

- January 2009, *Hooks and infinite products*, MAA Invited Session Speaker, Joint Meetings, Washington, DC.

- March 2009, *Heegner divisors, L-functions and Maass forms*, Conference on Quadratic forms, University of Florida.

- March 2009, *Arithmetic properties of Ramanujan's mock theta function* $\omega(q)$, AMS Special Session on Partitions and q-series, University of Illinois, Urbana-Champaign.

- June 2009, *Generalized Borcherds products*, Conference on Number Theory, Carleton University, Ottawa, Canada.

- November 2009, *Generalized Borcherds products and two number theoretic applications*, Southern California Number Theory Day, Irvine, California.

- December 2010, *Number Theory in 2010*, SASTRA Prize Conference, Kumbakonam, India.

- January 2010, "Applying for Jobs", AMS Committee on the Profession Panelist, Joint Math Meetings, San Francisco.

- March 2010, *Mock modular forms*, AIM Workshop on Mock modular forms, Palo Alto.

- April 2010, *Unearthing the visions of a master: The legacy of Ramanujan*, MAA Conference, Harvey Mudd College, Claremont, California.

- July 11-16, 2010, Public Lecture and a Plenary Lecture, Canadian Number Theory Association Conference XI, Nova Scotia.

- September 21, 2010, *Mock modular periods*, Athens-Atlanta Number Theory Seminar, University of Georgia.

- January 21, 2011, *Adding and counting*, Emory University.

- February 8, 2011, *Adding and counting*, US Naval Academy.

- February 19-20, 2011, *Adding and Counting*, PANTS Conference, Clemson, South Carolina.

- March 8, 2011, *Adding and Counting*, Columbia-CUNY-NYU Distinguished RTG Lecture.

- March 14-17, 2011, *Adding and Counting*, International Conference on q-series, partitions and special functions, Statesboro, Georgia.

- April 23, 2011, $-\infty$ *to* ∞, TEDxEmory.

- May 18-20, 2011, *Paul Cohen Distinguished Lectures*, University of Chicago.

- September 19-23, 2011, *Adding and counting*, Annual Meeting of the DMV, Cologne, Ger-

many.

- October 26-29, 2011, *Adding and counting*, Integers 2011.
- March 2012, AMS Sectional Meeting, U. Hawaii.
- March 2012, Number Theory Conference, U. Hawaii.
- June 18-21, 2012, *Adding and Counting*, SIAM Discrete Mathematics 2012, Halifax, Nova Scotia.
- August 2012, *Combinatorics and Number Theory*, School on Contemporary Mathematics, Ecole Normale Superieur de Lyon, France.
- October 2012, AMS Erdös Memorial Lecture.
- November 5, 2012, Ramanujan's 125th Birthday Conference, University of Florida.
- December 12-14,2012, The works of Srinivasa Ramanujan and related topics, Mysore, India.
- December 15-16, 2012, SASTRA Ramanujan Conference, Kumbakonam, India.
- December 2012, Ramanujan 125, New Delhi, India.
- January 11-12, 2013, Joint Math Meetings (in particular, Special Session on Ramanujan).
- March 2013, Conference in Honor of Winfried Kohnen, Darmstadt.
- March 2013, Arizona Winter School, Tucson, Arizona.
- April 2013, Johns Hopkins University.
- July 2013, Conference in Honor of Frits Beukers, Utrehct.
- August 2013, Mock modular forms, Moonshine, and string theory, Simons Center for Geometry and Physics.
- December 2013, Conference in Honor of T. Ono, Osaka, Japan.
- December 2013, Conference on Elliptic curves, Kanazawa, Japan.

- April 2014, Conference in Honor of Winnie Li, LSU.
- December 2014, SASTRA Ramanujan Prize Conference, Kumbakonam, India.
- January 2015, MAA Plenary Invited Address, Joint Math Meeting, San Antonio, Texas, 2015.
- February 2015, Bay Area Arithmetic Geometry Conference, Stanford.
- February 2015, TEDx Emory, Atlanta, Georgia.
- March 2015, Modular invariance, Max Planck, Bonn.
- April 2015, How not to suck as a graduate advisor, Tufts University.
- May 2015, Automorphic forms, Luminy, France.
- July 2015, International Mathematical Olympiad, Thailand.
- July 2015, 70th Birthday Celebration for John Coates, Sanya, China.
- August 2015, Strings, mock modular forms, and Moonshine, Durham, England.
- October 2015, Kennesaw Mountain Undergraduate Mathematics Conference, Kennesaw, Georgia.
- December 2015, SASTRA Ramanujan Prize Conference, Kumbakonam, India.
- March 2016, Number Theory in Honor of Krishnaswami Alladi's 60th Birthday, University of Florida.
- April 2016, TORA Conference, University of North Texas.
- May 2016, Rome Film Festival.
- Books for Africa, Atlanta.
- August 2016, Modular Forms and Elliptic Curves, University of Connecticut.
- August 2016, Simons Center, "Mock modular forms and Moonshine".

- September 2016, AJC Decatur Book Festival.
- September 2016, BIRS "Modular forms and string theory".
- October 2016, MAA Polya Lecture, Purdue University.
- October 2016, IAAC Literary Festival, NYU, New York.
- October 2016, MAA Distinguished Lecture, Carriage House, Washington DC.
- October 2016, Eaves Distinguished Lecture, University of Kentucky.
- October 2016, White House STEM.
- November 2016, International Center for Theoretical Physics, Trieste, Italy.
- November 2016, Discovery Lecture Series, University of British Columbia.
- November 2016, Distinguished Lecture, Pacific Institute for the Mathematical Sciences, Vancouver.
- January 2017, Math For America Lecture.
- February 2017, NSF "Big Ideas" Distinguished Lecture, Arlington.
- February 2017, MAA Spring Conference, State College of Florida, Bradenton, Florida.
- March 2017, MAA Southeastern Sectional Meeting, Macon, Georgia.
- March 2017, MAA Central Sectional Meeting, Nebraska.
- April 2017, Phi Beta Kappa "Cities of Distinction Ceremony", Atlanta.
- May 2017, Abel Prize Ceremony, Oslo, Norway.
- May 2017, Modular Forms are Everywhere, Max Planck Institute, Bonn, Germany.
- November 2017, AMS Arnold Ross Lecture, Orlando.
- January 2018, Oregon Number Theory Days, Oregon, State.

- April 2018, MAA Polya Lecture, Penn State at Erie.
- April 2018, AMS Western Sectional Meeting, Portland, Oregon.
- May 2018, Congressional Briefing, Washington DC.
- June 2018, Frontiers of Science, US National Academy of Sciences.
- June 2018, Combinatory Analysis 2018: Conference in Honor of George Andrews' 80th Birthday, Penn State.
- July 2018, Canadian Number Theory Association Conference, Quebec, Canada.
- July 2018, Frontiers of Mathematics, Hong Kong University.
- September 2018, Number Theory, Max Planck Insitute, September 10-14, 2018.
- October 2018, Centenary Celebration of Ramanujan's Election as Fellow of the Royal Society, London.
- November 2018, Modular forms and function fields, CRM, Pisa Italy.
- March 2019, Low dimensional topology and number theory, Osaka, Japan.
- March 2019, Number Theory, University of Hawaii.
- March 2019, AMS Special Session on Modular Forms, Honolulu, Hawaii.
- April 2019, Vertex Algebras in Mathematics and Physics, SUNY, Albany.
- May 29- June 1, 2019, Association of Christians in the Mathematical Sciences, Charleston, South Carolina.
- June 6-9, 2019, The Legacy of Ramanujan: A Conference in Honor of Bruce Berndt's 80th Birthday, Urbana, Illinois.
- April 3-4, 2020, New Mexico Mathematical Association of Two-Year Colleges, El Paso, Texas.

Colloquia and Seminars:

- November 1992 *Modern number theory and the importance of modular forms*,

University of Montana

- November 1992 *The arithmetic of modular forms*,
  Brigham Young University

- January 1993 *Modular forms and Galois representations*,
  University of Oregon

- February 1993 *The arithmetic of modular forms*,
  University of Northern Colorado

- July 1993 *On Fermat's Last Theorm*, (with Sinai Robins),
  University of Northern Colorado

- July 1993 *On Fermat's Last Theorem*,
  University of Montana

- October 1993 *Diophantine Equations and Modular forms*,
  SUNY, Brockport

- November 1993 *The arithmetic of modular forms*,
  University of Florida

- November 1993 *Superlacunary Euler Products*,
  The Pennsylvania State University

- May 1994 *Modular forms and number theory*,
  Kennesaw State College

- November 1994 *Elliptic curves, partitions, and representation theory via modular theta functions,*
  The Pennsylvania State University

- December 1994 *Lacunarity of modular forms, partitions and elliptic curves*,
  University of Michigan at Ann Arbor

- February 1995 *Parity of the Fourier coefficients of modular forms*,
  Brown University

- June 1995 *Conjectures for Partition functions*,
  University of Montana

- September 1995 *Congruences for arithmetic functions*,
  CUNY Graduate School: New York Number Theory Seminar, New York.

- November 1995 *Partitions and existence of $t-$cores,*
  Institute for Advanced Study-Princeton University-Rutgers University Number Theory Seminar

- December 1995 *Partitions, blocks and class numbers*,
  Columbia University, New York, New York.

- February 1996 *Twists of elliptic curves*,
  Center for Computing Sciences, Bowie, Maryland.

- April 1996 *Ramanujan's ternary quadratic form*,
  San Francisco State University, San Francisco, California.

- April 1996 *Ramanujan's ternary quadratic form*,
  Reed College, Portland, Oregon.

- May 1996 *Ramanujan's ternary quadratic form*,
  University of Waterloo, Waterloo, Canada.

- May 1996 *Modular forms and the prime 2*,
  University of Waterloo, Waterloo, Canada.

- November 1996 *Congruences and Diophantine equations,*
  Temple University, Philadelphia, Pennsylvania.

- November 1996, *Congruences and Diophantine equations,*
  Rutgers University, Newark, New Jersey.

- April 1997, *Congruences for the ordinary partition function,*
  University of Illinois, Urbana.

- April 1997, *Ramanujan, 2719 and $L-$functions of elliptic curves,*
  Bryn Mawr College and Haverford College Joint Colloquium.

- May 1998, *Divisibility of coefficients of modular forms and number theoretic applications,*
  University of Maryland, College Park, Md.

- January 1999, *New results on the partition function,*
  University of Maine, Orono.

- February 1999, *The partition function modulo m,*
  University of Texas, Austin.

- March 1999, *The partition function and new applications,*
  University of Wisconsin, Madison.

- February 2000, *Number Theory and partitions: The Legacy of Ramanujan and Dyson, and beyond,*
  Colgate University.

- February 2001, Talk # 1. *The number theory of partitions: The Legacy of Dyson and Ramanujan and Beyond*,
  Talk # 2. *Rational points on elliptic curves,*
  Prospects in Mathematics, Utah State University.

- March 2001, *The arithmetic of Borcherds exponents and p-adic modular forms*,
  Vermont-McGill Number Theory Seminar,
  Montreal, Canada.

- March 2001, *Ramanujan and Partitions*,
  MATC Mathematics Club,
  Madison, Wisconsin.

- March 2001, *Divisors of modular forms,*
  Department Colloquium,
  Boston College.

- April 2001, *Ramanujan, Dyson and Partitions*,
  Undergraduate Connecticut Valley Colloquium,
  Amherst College.

- April 2001, *Divisors of modular forms*,
  Department Colloquium,
  University of Massachusetts at Amherst.

- April 2001, *Divisors of modular forms*,
  Department Colloquium,
  Brown University.

- April 2001, *Ramanujan, Dyson and modular forms*,
  Undergraduate Mathematics Club Colloquium (DUG),
  Brown University.

- November 2001, *The Arithmetic of Modular forms*,
  Department Colloquium,
  University of Illinois at Urbana-Champaign.

- November 2001, *Modular forms*,
  Department Colloquium,
  University of Georgia.

- February 2002, *Weierstrass points on* $X_0(p)$,
  Modular forms seminar,
  Harvard University.

- February 2002, *Newman's Conjecture for the Partition Function*,
  Combinatorics Seminar,
  University of Pennsylvania.

- March 2002, *The Number Theory of Partitions*,
  Department Colloquium,
  Clemson University.

- April 2002, *The values and divisors of modular forms*,
  Department Colloquium,
  Penn State University.

- May 2002, *Points on Curves: Let's Win* $ *1 million*,
  Wisconsin Talent Search Honors Day.

- June 2002, *p-adic modular forms and infinite products,*
  Number Theory Seminar,
  University of Illinois at Urbana-Champaign.

- November 2002, *Let win* \$1 *million*, MATC Math Club Lecture.

- November 2002, *Groups associated to quadratic fields and elliptic curves*,
  Departmental Colloquium, University of Pennsylvania.

- February 2003, *Arithmetic of singular moduli*,
  Number Theory Seminar, Columbia University.

- March 2003, Milton Brockett Porter Lectures, Rice University.

- April 2003, *Number Theory of Partitions,* University of Chicago.

- September 2003, *Groups associated to quadratic fields and elliptic curves,*
  Department Colloquium,
  Penn State University.

- November 2003, Number Theory: The legacy of Dyson, Euler, and Ramanujan,
  Northwestern University.

- December 2003, Class groups and Elliptic curves,
  Department Colloquium and two seminars, Texas A & M University.

- December 2003, Class groups and Elliptic curves,
  Department Colloquium and one seminar, Columbia University.

- January 2004, Ramanujan, Dyson, and Partitions,
  Colloquium, Harvey Mudd College.

- April 2004, Groups and curves,
  Department Colloquium,
  Indiana University.

- June 2004, Properties of singular moduli,
  Number Theory Seminar,
  ETH, Zurich, Switzerland.

- June 2004, Linear relations for coefficients of modular forms,
  Number Theory Seminar,
  Renyi Institute, Budapest, Hungary.

- November 2004, F. Wendell Miller Lecture, Iowa State University.

- April 2005, Singular moduli,
  Johns Hopkins University.

- April 2005, Hilbert modular surfaces,
  Brown University.

- April 2005, Number theory and Dyson's crank,
  Brown University.

- May 19, 2005, Conversations with Larry Meiller, Wisconsin Public Radio.

- June 2005, Number Theory of Partitions,

Miami University of Ohio.

- Sepember 2005, Two talks (Dept. Colloquium and Undergrad Math Club talk), Purdue University.

- November 2005, Three talks, Stanford University.

- November 2005, *The number theory of partitions*, MATC Math Club Lecture.

- December 2005, Two lectures, Front Range Number Theory Colloquium, Colorado State University, Fort Collins, Colorado.

- February 2006, Winifred Asprey Distinguished Lecturer (2 lectures), Vassar College.

- March 2006, Department Colloquium, *Freeman Dyson's challenge for the future: The mock theta functions*, University of Arizona.

- March 2006, 4 lectures, University of Iowa.

- May 2006, Conversations in Science, 1 hour television special, Madison Channel 10.

- June 2006, *The Birch and Swinnerton-Dyer Conjecture*, Miami University of Ohio.

- September 2006, Department Colloquium and Number Theory Seminar, University of South Carolina, South Carolina.

- September 2006, Department Colloquium and Number Theory Seminar, College of Charleston.

- November 2006, Lecture, University of Hawaii.

- December 2006, Colloquium and Number Theory Seminar, UCSD.

- December 2006, Number Theory Seminar, Stanford University.

- January 2007, Department Colloquium, Williams College.

- March 2007, 8 o'clock buzz, WORT Radio.

- March 2007, Distinguished Colloquium, University of Wyoming.

- September 2007, Department Colloquium, University of Montana.
- October 2007, University College, Dublin, Ireland (public lecture and colloquium).
- October 2007, Brigham Young University, Department Colloquium.
- October 2007, Amherst College, Number Theory Seminar.
- October 2007, MIT, Number Theory Seminar.
- April 2008, Cherokee Middle School, Math Day.
- April 2008, Wisconsin International Film Festival, Lecture accompanying the showing of the Spanish film "Fermat's Room".
- April 2008, "Here on Earth", radio show, Wisconsin Public Radio.
- April 2008, University of Northern Iowa, Hari Shankar Lecture Series.
- April 2008, Texas A&M, Maxson Lecture Series.
- September 2008, University of Illinois, Number Theory Seminar, and Department Colloquium.
- October 2008, Gentry Lectures, Wake Forest University.
- November 2008, U. Arizona.
- November 2008, Prosser Lectures, Dartmouth College.
- November 2008, Harvard-MIT Current Developments in Mathematics Plenary Lecturer (2 one hour lectures).
- January 2009, University of Chicago.
- January 2009, U. Pennsylvania Colloquium and Undergrad colloquium.
- February 2009, College of Charleston.
- February 2009, Distinguished Visiting Lecturer, University of Hawaii.

- April 2009, Johns Hopkins University, George Kempf Distinguished Lectures.
- April 2009, Filmed a piece on number theory, Teaching Company, Chantilly, Virginia.
- April 2009, University of Illinois at Chicago, Oliver Atkin Memorial Lecture Series.
- May 2009, U. Barcelona.
- November 2009, Boston College-MIT Number Theory Seminar.
- December 2009, University of Hawaii at Hilo, University Wide Lecture.
- December 2009, Stanford University.
- C. S. Subramaniam Memorial Lecture, Chennai, December 2009.
- February 2010, Emory University.
- April 2010, Distinguished Lecture Series, UCLA.
- September 2010, Fort Meade, NSA.
- September 2010, Allegheny College.
- October 2010, Georgia Tech Colloquium.
- October 2010, Yale Colloquium and Number Theory Seminar and Undergraduate Colloquium.
- November 2010, Lecture, University of the Virgin Islands, St. Thomas.
- February 2011, Julian Clancy Frazier Lecture, US Naval Academy.
- April 2011, Colloquium, Tulane University.
- May 2011, Maine Number Theory Seminar, Bates College.
- May 2011, Paul Cohen Distinguished Lectures, University of Chicago.
- November 2012, UC Berkeley Mathematics Colloquium.

- November 2012, Georgia State University.
- January 2012, Isidore and Hilda Dressler Lectures, Kansas State University.
- February 2012, Wesleyan University Colloquium and Seminar.
- February 2012, Colloquium, University of Puerto Rico, San Juan.
- February 2012, Marian Miner Cook Athenaeum Lectures, Claremont McKenna College.
- March 2012, Science Rocks-Science Matters, National Science Teachers Association National Meeting, Indianapolis.
- April 2012, Distinguished Lecture Series, Georgia Southern University.
- November 2012, UC Berkeley Mathematics Colloquium.
- November 2012, Stanford University, Number Theory Seminar.
- November 2012, Clanton Lectures, Furman University.
- October 2013, MIT.
- October 2013, Harvard.
- November 2013, Penn State, Maass Colloquium, and Math Department Colloquium.
- November 2013, DePaul University Colloquium.
- November 2013, Georgia Tech.
- December 2013, Oxford University.
- December 2013, Cambridge University.
- February 2014, University of Georgia Colloquium.
- March 2014, West Chester University.
- March 2014, University of Virginia.

- April 2014, Princeton University.
- April 2014, Institute for Advanced Study.
- August 2014, Emory Fall Convocation Faculty Speaker.
- September 2014, Duke University.
- September 2014, Seminar and Colloquium, U. North Carolina, Chapel Hill.
- November 2014, Georgia Tech Colloquium.
- November 2014, Seminar and Colloquium, U. Michigan, Ann Arbor.
- January 2015, Auburn University.
- February 2015, Colloquium, UC Santa Cruz.
- March 2015, Public Lecture, Trinity School, New York.
- April 2015, Gustavus Adolphus College, Colloquium and Public Lecture.e
- September 2015, Williams College, Oliver Lecture and the Class of 60's Lecture.
- September 2015, Amherst College, Number Theory Seminar.
- October 2015, Georgia State University, Colloquium.
- November 2015, Stanford Number Theory Seminar.
- November 2015, UC Berkeley Number Theory.
- February 2016, MIT Seminar.
- February 2016, Harvard Seminar.
- February 2016, Book Reading from "My Search for Ramanujan", Booksmith Brookline.
- March 2016, Nagle Lectures, University of South Florida.

- March 2016, Johns Hopkins University, Seminar and Film Screening.
- March 2016, The Man Who Knew Infinity Screening, Carter Center.
- April 2016, University of North Texas, Colloquium.
- April 2016, Math Lovers and TMWKI Screening, Stanford.
- April 2016, San Francisco Film Festival.
- May 2016, University of Oregon, Colloquium and Seminar.
- July 2016, Mathematical Encounter, Museum of Mathematics.
- September 2016, Vassar College.
- October 2016, Cal Tech Colloquium and Seminar.
- October 2016, Screen Actors Guild.
- October 2016, University of Kentucky.
- November 2016, Mt. Holyoke College.
- November 2016, Central Michigan University.
- February 2017, Texas Christian University, Green Lectures.
- January 2017, Duke University (Colloquium and Film screening).
- March 2017, Mathematics Across the Canon, St. Olaf and Carleton College.
- March 2017, Colloquium and Seminar, Texas A&M University.
- March 2017, Colloquium, SUNY Stonybrook.
- April 2017, LSU Porcelli Lectures.
- September 2017, Kieval Lectures, Humboldt State University.

- September 2017, Atle Selberg Lectures, Brigham Young University.
- October 2017, Colloquium, Canterbury University, New Zealand.
- October 2017, Public Lecture, Canterbury University.
- October 2017, Colloquium, University of Otago, New Zealand.
- October 2017, Public Lecture, University of Otago.
- October 2017, Colloquium, University of Auckland, New Zealand.
- October 2017, Public Lecture, University of Auckland.
- October 2017, Colloquium, Massey University (Auckland), New Zealand.
- October 2017, Public Lecture, Massey University (Auckland).
- October 2017, Colloquium, Waikato University, New Zealand.
- October 2017, Public Lecture, Waikato University.
- October 2017, Colloquium, Massey University (Palmerston North), New Zealand.
- October 2017, Public Lecture, Massey University (Palmerston North).
- October 2017, Colloquium, Victoria University, New Zealand.
- October 2017, Public Lecture, Victoria University.
- November 2017, Number Theory Seminar, Simon Fraser University, Vancouver.
- November 2017, Pacific Institute for Theoretical Physics, Vancouver.
- November 2017, Colloquium, University of British Columbia.
- November 2017, University of Central Florida, Orlando.
- December 2017, Norbert Wiener Lectures, Tufts University.

- December 2017, Sichuan University, Seminar and Colloquium.
- January 2018, Distinguished Lecture Series, Baylor University.
- March 2018, Simons Foundation Public Lecture, New York City.
- February 2018, Public Lecture, Dalton School, New York City.
- April 2018, Rutgers University, Colloquium.
- June 2018, Mathematical Frontiers (with Terry Tao), US National Academy of Sciences.
- September 2018, Bernard Society Lecture, Davidson College.
- September 2018, Auburn University, Colloquium.
- October 2018, Purdue University, Colloquium.
- October 2018, Oxford University, UK.
- November 2018, Colloquium, University of Virginia.
- March 2019, Michigan State, Distinguished Lecture Series.
- April 2019, SUNY Albany, Maheshwari Colloquium.
- April 2019, Institute for Advanced Study and Princeton University.
- September 2019, Michigan Tech University, Colloquium.

Other Professional Activities:

- April 1994 Judge, 46^{th} Georgia Science and Engineering Fair, Athens, Georgia
- May 1994 Judge, International Science and Engineering Fair, Birmingham, Alabama
- July - August 1997 "Topics in Number Theory Conference", Co-organizer with G. Andrews, Penn State University.
- October 24-25, 1998 AMS Special Session on "*Partitions and q-series*", Co-organizer with S. Ahlgren and G. Andrews, State College, Pennsylvania.

- July 1998 Invited Lecturer, "National Youth Science Foundation"

- March 1999 Seaway Number Theory Conference,
  Co-organizer with S. Ahlgren,
  State College, Pennsylvania.

- July 1999
  Invited Lecturer and Group Study Leader, "National Youth Science Foundation"
  National Youth Science Camp, West Virginia.

- July 2000
  Invited Lecturer and Group Study Leader, "National Youth Science Foundation"
  National Youth Science Camp, West Virginia.

- October 26-28, 2000 "*q-series with Applications to Combinatorics, Number Theory and Physics*,"
  Co-organizer with B. Berndt,
  Urbana, Illinois.

- May 2000 - April 2001 "*NSF50, Where Discoveries Begin*"
  Keynote scientist participating in the "Scientists and Engineers in the Schools" program.

- September 25-29, 2000 "*NSF50, Back to School Campaign*"
  One of ten keynote NSF award winning scientists chosen to promote science and engineering to middle school students nationwide.

- March 30-31, 2001 "Special Session on Number Theory", AMS Central Section Meeting,
  Co-organizer with C. Popescu and T. Yang,
  Lawrence, Kansas.

- May 2001 "*NSF50, Missoula, Montana Site Visit*,"
  Taught classes at Big Sky High School with Leon Lederman (1988 Nobel laureate in Physics).

- July 31- August 5, 2001 MAA Short Course: "Number Theory: The Legacy of Ramanujan",
  MAA MathFest, Madison, Wisconsin,
  Organizer.

- Member, Department Graduate Admissions Committee (2000 - present)

- Member, Department Hiring Committee (2001 - 2002).

- Member, College of Letters and Sciences,

  University of Wisconsin Undergraduate Curriculum Committee,
  September 2001- May 2004.

- Member of Organizing Committee,

  5th Annual Chinese-American Frontiers of Science Symposium

  Sponsored by the U.S. National Academy of Science and the Chinese Academy of Science.

- "Special Session on Arithmetic Geometry,"

  AMS Fall 2002 Sectional Meeting, Madison, Wisconsin,

  Co-organizer with Tonghai Yang.

- VIGRE Co-Chair with R. Brualdi, 2002-2003.

- VIGRE Co-Chair with A. Adem, 2003-2004.

- Organizer: NSF REU in Number Theory, June 13 - July 31, 2003.

- NEC Foundation Launch, September 23, 2003,
  National Press Club, Washington D. C.

- Invited speaker, Who wants to be a mathematician?, American Mathematical Society sponsored competition for high school students, April 16, 2004, Madison, Wisconsin.

- Graduate Coordinator, Department of Mathematics,
  University of Wisconsin (2004-present).

- May 2004 "*NSF-NEC Extreme Science, Missoula, Montana Site Visit,*"

  Taught classes at Target Range Middle School with Leon Lederman (1988 Nobel laureate in Physics).

- VIGRE Co-PI along with A. Adem and P. Milewski (2004-present).

- Organizer: NSF REU in Number Theory, June - August, 2005.

- Member at Large, Council of the American Mathematical Society, February 1, 2006- January 31, 2009.

- Organizer: UW Madison Mega Math Meet, May 2006 (1̃98 5th and 6th graders competed for prizes).
- Organizer: NSF REU in Number Theory, June-July 2006.
- Scientific Advisor, Davidson Institute, 2006, 2007.
- Chair, AMS Committee Evaluating Primary AMS Research Journals, 2006.
- Member, UW Madison Letters and Science Undergraduate Scholarship Committee, 2006-2007.
- Organizer: NSF REU in Number Theory, June-July 2007.
- Co-Chair (with Beverly Diamond), Committee on Publications, American Mathematical Society, February 2007-January 2008.
- Member, Advisory Board, Institute for Mathematics and Education, University of Arizona, 2007-present.
- Member, Letters and Science Student Academic Affairs Faculty Advisory Board, University of Wisconsin, 2007-2009.
- Chair, Committee on Publications, American Mathematical Society, February 1, 2008 - January 31, 2009.
- Associate Member, Pohang Mathematics Institute, POSTECH, South Korea.
- NSF REU Organizer, Summer 2008.
- Member of the American Mathematical Society's "Committee on Committees", January 31, 2009 - January 31, 2011.
- NSF REU Organizer, Summer 2009.
- Co-organizer (with Kathrin Bringmann and Sander Zwegers), 2010 AIM Workshop on mock modular forms.
- Member, Scientific Advisory Board, Banff International Research Station, 2009-present.
- Member, AMS Mathematics Research Communities Advisory Board, 2010-2013.

- Co-organized with K. Bringmann and S. Zwegers the American Institute for Mathematics (AIM) "Workshop on mock modular forms", March 2010.
- Member, U.S. National Committee for Mathematics, 2010-present.
- Member, SASTRA Ramanujan Prize Committee, 2010-2011.
- Organized 2010 REU in Number Theory.
- Member, External Evaluation Committee of the Department of Mathematics at the University of Pittsburgh, 2011.
- Member, Department Graduate Admissions Committee, 2010-2011.
- Organized 2011 REU in Number Theory.
- Hiring Committee, Emory University 2011-2012.
- Member, Department Graduate Admissions Committee, 2011-2012.
- Member, Emory Scholars Undergraduate Admissions Committee, 2011-2012.
- Organized 2012 REU in NUmber Theory.
- Simons Foundations Grant Panelist, 2012.
- AMS Nominating Committee, 2013-2016.
- MAA Committee on the Status of the Profession, 2013-2016.
- Organized 2013 REU in Number Theory.
- Organized 2014 REU in Number Theory.
- 2014-2017, Emory University Honorary Degree Committee, Member.
- Organizer 2015 REU in NUmber Theory.
- 2015 Committee to Award Named and Chaired Professorships, Emory University.

- 2016-2019 AMS-MAA-SIAM Morgan Prize Committee.
- Organizer 2016 Emory REU in Number Theory.
- McMullan Award Committee 2016.
- Infinity Film Foundation, Board Member, 2016.
- Simons Foundation Conference Series (Co-organizer with John Duncan, Jeff Harvey, and Shamit Kachru), 2017-2019.
- Organizer 2017 Emory REU in Number Theory.
- Co-organizer with George Andrews, Manjul Bhargava, and Bob Vaughan, Centenary Celebration of Ramanujan's Election as Fellow of the Royal Society, London.
- Vice President, American Mathematical Society, 2018-2021.
- Member, American Mathematical Society Committee on Publications, 2018-2021.
- U.S. Delegate, International Mathematical Union General Assembly, 2018 ICM.
- Senator, Faculty Senate, Emory University, 2018-2021.
- Advisory Board, Conference Board of the Mathematical Sciences, 2018-2023.
- Member, American Mathematical Society Ross Lecturer Selection Committee, 2019-2022.
- Member, Emory Undergraduate Research Committee, 2018-2019.
- Co-organizer with Amanda Folsom, Pavel Guerzhoy, and Masanobu Kaneko, AMS Special Session on "Modular forms", Honolulu, Hawaii.

Advising:

Post-doctoral Fellows and Visiting Assistant Professors:

- (1997-1999) Scott Ahlgren (Ph.D. 1996, U. Colorado)
  Present Position: University of Illinois at Urbana-Champaign
  (Associate Professor)
- (1998-1999) James Haglund - NSF Postdoctoral Fellow (Ph.D. 1995, U. Georgia)
  Present Position: University of Pennsylvania (Assoc. Prof.)

- (1997-2000) Kevin James (Ph.D. 1997, U. Georgia)
  Present Position: Clemson University (Associate Professor).
- (1998-2000) David Penniston (Ph.D. 1998, U. Georgia).
  Next Position: Furman University (Associate Professor).
- (1998-2000) Matt Papanikolas (Ph.D. 1998, Brown U.).
  Present Position: Texas A & M Univ. (Assoc. Prof.).
- (2000-2001) Jan Hendrik Bruinier (Ph.D. 1999, U. Heidelberg),
  Number Theory Foundation Postdoctoral Fellow,
  Present Position: Technische Universitt Darmstadt (Professor).
- (2000-2003) Jeremy Lovejoy (Ph.D. 2000, Penn State),
  NSF VIGRE - Van Vleck Assistant Professor,
  Present Position: Univ. Paris (Juissieu), Tenured CNRS Researcher.
- (2000-2002) Gwynneth Coogan (Ph.D. 1999, U. Colorado).
  NSF PECASE Postdoctoral Fellow.
- (2001-2003) William McGraw (Ph.D. 2001, U. Maryland).
  Number Theory Foundation Postdoctoral Fellow,
- (2004-2007) Kathrin Bringmann (Ph.D. 2004, U. Heidelberg).
  Van Vleck Assistant Professor.
  Present Positions: U. Minnesota (Twin Cities), Tenure Track Asst. Prof. and Professor, U. Cologne.
- (2007-2010) Amanda Folsom (Ph.D. 2006, UCLA).
  Van Vleck Assistant Professor and NSF Postdoctoral Fellow.
  Present Positions: Associate Professor, Amherst College and Yale U.
- (2008-2010) Riad Masri (Ph. D. 2005, U. Texas, Austin)
  Van Vleck Assistant Professor (Co-advised by T. Yang).
  Future Position: Texas A&M U. (deferred until 2010).
- (2010-2012) Zach Kent (Ph.D. 2010, U. Hawaii)
  Emory Fellow.
- (2015-2016) Michael Mertens (Ph.D. 2014, U. Cologne)
  Emory Postdocotral Fellow.

MA Students:

- Maki Murata: *q-series identities and the modularity of certain $K3$ surfaces,*
  Penn State M.A., Winter 1999.
  First Job: Panasonic, Tokyo Japan (Research Scientist).

- Claudia Alfes: *Congruences for Ramanujan's mock theta function $\omega(q)$*
  (Co-advisor: Aloys Krieg)
  U. Aachen, Winter 2009.

- Ethan Alwaise: *Inverting the j-function,*
  Emory University, M.A., 2017.

PhD Students:

- Lawrence Sze: *On the combinatorial and number theoretic properties of* (r, e)*-core partitions,*
  Penn State Ph.D. - Spring 1998
  First Job: Cal Poly SLO (Tenure Track Assistant Professor).

- Jeremy Lovejoy: *Arithmetic and Combinatorial Properties of Partition functions*,
  Co-advisor: George Andrews,
  Penn State Ph.D. - Spring 2000.
  First Job: Van Vleck Assistant Professor, University of Wisconsin.
  Present Position: CNRS, U. Paris (Juissieu).

- Matthew Boylan, PhD student, University of Wisconsin,
  PhD. Summer 2002,
  First Job: NSF VIGRE Postdoctoral Fellowship,
  University of Illinois at Urbana-Champaign.
  Present Position: Associate Professor of Mathematics,
  University of South Carolina.

- Emre Alkan, PhD student, University of Wisconsin.
  UW Madison PhD. 2003,
  First Job: J. L. Doob Assistant Professorship,
  University of Illinois at Urbana-Champaign.
  Permanent Job: Associate Professor, Koc University, Istanbul, Turkey.

- Eric Mortenson, PhD student, University of Wisconsin.
  UW Madison PhD. 2003,
  First Jobs: Post doc, Max Planck Institute at Bonn,
  S. Chowla Assistant Professor, Penn State University.
  Present Position: U. Queensland (Mentor: Ole Warnaar).

- Ahmad El-Guindy, PhD Student, University of Wisconsin.
  UW Madison PhD. 2004,
  First Job: 3 year Assistant Professor,
  Texas A & M University.
  Present Job: Professor, U. Cairo, and TAMU Qatar.

- Rohit Chatterjee, PhD student, University of Wisconsin.
  UW Madison Ph.D. 2005,
  First Job: Analyst, Interactive Brokers, Greenwich, Ct.

- Holly Swisher, PhD Student, University of Wisconsin.
  Ph.D. 2005.

First Job: VIGRE Ross Asst. Prof., Ohio State
Present Job: Professor, Oregon State.

- Paul Jenkins, PhD Student, University of Wisconsin.
  Ph.D. 2006.
  First Jobs: NSF Postdoc and Hedrick Asst. Prof., UCLA,
  Brigham Young U., Associate Prof.

- Jaclyn Anderson, PhD Student, University of Wisconsin.
  Ph.D. 2006.

- Karl Mahlburg, PhD Student, University of Wisconsin.
  Ph.D. 2006.
  First Job: C.L.E. Moore Instructor,
  MIT.
  Second Job: Postdoc,
  Princeton University.
  Permanent Position: Tenure track Asst. Prof., LSU.

- Jayce Getz, PhD Student, University of Wisconsin.
  Ph.D. Summer 2007.
  First Job: Veblen Asst. Prof., Princeton U. & Inst. for Advanced Study.
  Present Job: Tenure Track Asst. Prof, Duke University.

- Jeremy Rouse, PhD Student, University of Wisconsin.
  Ph.D. 2007,
  First Job: J. L. Doob Assistant Professor,
  University of Illinois at Urbana-Champaign.
  Tenure track Asst. Prof., Wake Forest U. (deferred until 2010).

- Sharon Garthwaite, PhD Student, University of Wisconsin.
  Ph.D. 2007,
  Present Job: Associate Professor,
  Bucknell University.

- Frank Thorne, PhD Student, University of Wisconsin.
  Ph.D. 2008,
  First Jobs: NSF Postdoc at Stanford (Mentor: K. Soundararajan), and
  Tenure Track Asst. Prof. at U. South Carolina (deferred).

- Robert Rhoades, PhD Student, University of Wisconsin.
  Ph.D. 2008,
  First Job: Postdoc, Ecole Poly. Federale de Lausanne (Mentor: P. Michel).

Second Job: NSF Postdoc, Stanford (Mentor. A. Venkatesh).

- Matija Kazalicki, PhD Student, University of Wisconsin,
  Ph.D. 2010.
  First Job: University of Zagreb, Croatia.

- Christelle Vincent, PhD Student, University of Wisconsin,
  Ph.D. 2012,
  First Job: Postdoc at Stanford.

- Robert Lemke Oliver, PhD Student, Emory University,
  Ph.D. 2013,
  First Job: NSF Postdoc at Stanford.

- Larry Rolen, PhD Student, Emory University,
  Ph.D. 2013,
  First Job: Postdoc at U. Cologne.
  Present Position: Tenure Track Asst. Prof. at Vanderbilt U.

- Marie Jameson, PhD Student, Emory University.
  Ph.D. 2014,
  First Job: Tenure Track Asst. Prof. at U. Tennessee at Knoxville.

- Michael Griffin, PhD Student, Emory University.
  NSF Graduate Fellow and National Physical Sciences Consortium Fellow,
  Ph.D. 2015,
  First Job: NSF Postdoc at Princeton.

- Jesse Thorner, PhD Student, Emory University,
  Ph.D. 2016,
  First Job: NSF Postdoc at Stanford.

- Amanda Clemm, PhD Student, Emory University.
  Ph.D. 2016,
  First Job: Consultant, McKinsey Consulting.

- Wenjun Ma, PhD Student, Shandong University.
  Ph.D. 2017 (Co-Advisedwith Guangshi Liu).
  First Job: Tianjin University.

- Olivia Beckwith, PhD Student, Emory University.
  Ph.D. 2018.

First Jobs: Heilbronn Fellowship, University of Bristol
J. Doob Assistant Professor, U. Illinois (Urbana-Champaign).

- Sarah Trebat-Leder, PhD Student, Emory University.
  Ph.D. 2018.
  NSF Graduate Fellow.
  First Job: CPO Art of Problem Solving.

- Robert Schneider, PhD Student, Emory University.
  Ph.D. 2018.
  Woodruff Fellow.
  First Job: Lecturer, University of Georgia.

- Victor Manuel Aricheta, PhD Student, Emory University.

- Lea Beneish, PhD Student, Emory University.
  NSF Graduate Fellow.

- Madeline Locus, PhD Student, Emory University.

- Ian Wagner, PhD Student, Emory University.

Selected Undergraduate Students:

- Naomi Sweeting,
  University of Chicago, 2019 Alice T. Schafer Prize.

- Nitya Mani,
  Stanford University, 2019 Alice T. Schafer Prize, Honorable Mention.

- Ethan Alwaise,
  Emory University, 2017 Honors Thesis Student.

- Shuo Li,
  Emory University, 2017 Honors Thesis Student.

- Tessa Cotron,
  Emory University, 2017 Honors Thesis Student.

- Letian Wang,
  Emory University, 2017 Honors Thesis Student.

- Andrew Wilson,
  Emory University, 2017 Honors Thesis Student.

- Hannah Schafer,
  Emory REU Student and 2017 Schafer Prize Winner.

- David Yang,
  Emory REU Student and 2017 Morgan Prize Winner.

- Meena Jagadeesan,
  Emory REU Student and 2016 Davidson Fellow.

- Yan Sheng
  Emory University, 2016 Honor Thesis.

- Sarah Pitman
  Emory University, 2014 Honors Thesis.

- Eric Larson
  Harvard University, 2014 Morgan Prize Winner.

- Sarah Peluse
  University of Chicago, 2014 Alice T. Schafer Prize Winner.

- Jiaqi Guo
  Emory University, 2013 Honors Thesis in Analytic Number Theory.

- Maria Monks
  MIT, REU 2008 participant
  Winner, 2009 Alice T. Schafer Prize, 2010 Morgan Prize runner-up, 2011 Morgan Prize Winner.

- Doris Dobi
  MIT, REU 2007 participant
  Runner up, 2009 Alice T. Schafer Prize

- Aaron Pixton
  Princeton, REU 2006 participant
  Winner, 2009 Morgan Prize Winner, 3 time Putnam Fellow.

- Alison Miller
  Harvard, REU 2006 participant

Winner, 2008 Alice T. Schafer Prize.

- Brian Rice
  Harvey Mudd College, REU 2006 participant
  2007 Goldwater Scholar.

- Carl Erickson
  Stanford, REU 2006 participant
  2007 Churchill Fellow

- Yaim Cooper
  MIT, REU 2006 participant
  1st runner up, 2007 Alice T. Schafer Prize.

- Daniel Kane
  MIT, 2006 Morgan Prize Winner, 3 time Putnam Fellow.

- Sam Lachterman,
  University of Wisconsin, Sophomore - Senior years (2004-2006).

- Rhiannon Schayer,
  Northwestern University, Junior (Summer 2004 and B.A. Thesis).

- Brendan Younger,
  University of Wisconsin, Senior (Summer 2004).

- Jayce Getz,
  Harvard University, (2001-2004).

- Rhiannon Weaver: *Finding new congruences for the partition function,*
  Penn State Honors Thesis (Spring 2000),
  2000 Schreyer Honors College Dean's Award for Research or Creative Achievement, Penn State University.

Selected High School Students:

- Keenan Monks: 2010 REU participant, and 2010 Siemans Science Talent Search Semi-Finalist, 2010 International S.-T. Yau High School Mathematics Research, Honorable Mention (top 3 in US), 2011 Intel Science Talent Search (6th place).

- Matt Wage: 2007 REU participant, and Wisconsin Talent Search winner, 2008 Intel Science Talent Search Finalist (top 40, only finalist from Wisconsin).

- Sally Wolfe: 2007 REU participant, published a paper in *Involve*.

- Nick Wage: 2005 REU participant, and Wisconsin Talent Search winner, 2005 Finalist, Siemens-Westinghouse Science Competition (30 finalists nationwide), 2006 Intel Science Talent Search Finalist (4th place overall).

- Daniel Kane: 2003 USA International Mathematics Olympiad Team Member and IMO Gold Medalist, Winner of 2003 Davidson Foundation Fellowship $50, 000, published three research papers.

- Daniel Kane: 2002 USA International Mathematics Olympiad Team Member and IMO Gold Medalist.

- Daniel Kane: Alternate, 2001 USA International Mathematics Olympiad Team.

- Jayce Getz: 2nd place ($75,000) - 2000 Intel Science Talent Search
  (Note: This was formerly known as the Westinghouse Talent Search),
  2nd place overall, 2000 International Science and Engineering Fair,
  1st place in Mathematics, 2000 International Science and Engineering Fair.

- Brittany Kirkland: 1st place - 2000 Rocky Mountain Science Symposium,
  3rd place in Mathematics, 2000 International Science and Engineering Fair.

- Jayce Getz: Finalist - 1999 International Science and Engineering Fair.

- Jayce Getz: Finalist - 1998 International Science and Engineering Fair.

- Nick Eriksson: 3rd place $20,000-1997 Westinghouse Talent Search
  2nd place in Mathematics-1997 International Science and Engineering Fair.

- Nick Eriksson: 2nd place in Mathematics -1996 International Science and Engineering Fair.

- Sarah Lord: 2nd place in Mathematics - 1994 International Science and Engineering Fair.

- Sarah Lord: 2nd place in Mathematics -1993 International Science and Engineering Fair.

Reviewing, Refereeing, Editorial Work, Advisory Boards etc.:

- Editor, Contributions to Discrete Mathematics, 2018-present.
- Consultant, Notices of the American Mathematical Society, 2018-present.
- Associate Producer and Consultant, "The man who knew infinity" (Starring Jeremy Irons and Dev Patel), 2014-2015.
- Associate Editor, Royal Society Open Science (2015-2017).
- Correspondent, Mathematical Intelligencer (as of February 2015).
- Editor, Springer Graduate Texts in Mathematics (as of February 2015).
- Editor-in-Chief, Research in Number Theory (as of August 2014).
- Editor, Annals of Combinatorics (as of March 2014).
- Editor-in-Chief, Research in the Mathematical Sciences (as of January 2014).
- Editor, Mathematics (January 2013-December 2017).
- Managing Editor,
  Proceedings of the American Mathematical Society (as of February 2010).
- Member, Editorial Board,
  Journal of Combinatorics and Number Theory, February 2008-present.
- Associate Member, Pohang Mathematics Institute, POSTECH, South Korea.
- Member, Advisory Board,
  Institute for Mathematics and Education, University of Arizona, June 2007- present.
- Member, Editorial Board,
  International Journal of Modern Mathematics, March 2007-December 2017.
- Member, Editorial Board,
  Involve, August 2006-present.
- Associate Editor, Book reviews for the Bulletin of the American Mathematical Society.
  2005-2012.

- Member, Editorial Board,
  Journal of Number Theory and Physics, coming soon.

- Member, Editorial Board,
  Online Journal of Analytic Combinatorics,
  January 2006 - 2017.

- Smithsonian Institution, Advisor, Science and Technology Forum, 2005-present.

- NSA Advisory Panel, 2005-present.

- Member, Editorial Board,
  Proceedings of the American Mathematical Society, June 2005 - present.

- Member, Editorial Board,
  International Journal of Number Theory January 2005 - present.

- 2003-present Member, Editorial Board,
  Integers.

- 2001-present Member, Editorial Board,
  The Ramanujan Journal.

- 2000 NSF Grant Panelist.

- 2000-present Member, Editorial Board,
  The International Mathematical Forum.

- 1995-present Reviewer of National Science Foundation (NSF) grants

- 1997, 2000, 2002 Reviewer for National Sciences and Engineering Research Council of Canada (NSERC) grants

- 1998-02 Reviewer of National Security Agency Grants

- 2003 NSF Grant Panelist.

- 2004 NSF Grant Panelist.

- 2006 NSA Grant Panelist.

- Referee work: Referee approximately 20 articles annually.
- Review work: Mathematical Reviews (1995-present)
- Review work: The Plenum Publishing Co., Addison- Wesley Publishing Co., Springer-Verlag.
- 1995 International Committee Member: Korea Science and Engineering Foundation

Professional Awards, Grants and Honors:

- 2019, NSA REU Grant ($70,000).
- Member, Sigma Xi, 2018.
- Templeton World Charity Foundation Grant, 2018-2021, $550,000.
- Jubilee Professor, Indian Academy of Sciences, 2019.
- Prose Award (Best Scholarly Book in Mathematics), Association of American Publishers, 2018.
- DST International Film Festival, Best Film Prize, 2017.
- Eleanor Main Graduate Mentoring Award, Emory University, 2017.
- National Science Film Festival, Technical Excellence Award, 2017.
- AMS-NZMS Maclaurin Lectureship, 2017.
- Green Honors Lectures, TCU University, 2017.
- Templeton World Charity Foundation Grant, 2016-2018 $100,000.
- MAA Polya Distinguished Lecturer, 2016-2017.
- Discover magazine's 50th Best Science Story of 2015.
- 2015 Oliver Lecture and Class of 60s Lecture, Williams College.
- Discover magazine's 15th Best Science Story of 2014.

- 2014 Albert E. Levy Scientific Research Award.
- 2013-2016 NSF REU Grant (DMS 1250467), $324,000.
- 2012, Fellow of the American Mathematical Society.
- October 2012, AMS Erdös Memorial Lecture.
- April 2012, Distinguished Lecture Series, Georgia Southern U.
- February 2012, Marian Miner Cook Athenaeum, Claremont McKenna College.
- January 2012, Dressler Lectures, Kansas State U.
- September 2011, Plenary Address, DMV National Meeting, Cologne, Germany.
- May 2011, Paul Cohen Lectures, University of Chicago.
- February 2011, Julian Clancy Frazier Lecture, US Naval Academy.
- NSF Standard grant 2010-2014 (DMS 0964844), $285,000.
- Fall 2009, Honored Instructor Award, Division of University Housing, University of Wisconsin.
- Spring 2010, Distinguished Lecture Series, UCLA.
- December 2009, C. S. Subramaniam Memorial Centenary Lecture, Indian Institute of Technology, Chennai.
- NSF RTG Grant 2009-2014 (Ellenberg, Co-PI) (DMS 0838210) $1.3 million
- NSF REU Grant 2009-2011 (DMS 842560) $237,709.
- April 2009, George Kempf Distinguished Lectures, Johns Hopkins University.
- February 2009, Distinguished Visiting Lecturer, University of Hawaii.
- January 2009, AMS Invited Address, Joint AMS-MAA National Meeting, Washington, DC.

- November 2008, Plenary Lecturer, Harvard-MIT Current Developments in Mathematics Conference.
- November 2008, Prosser Lecturer, Dartmouth College.
- October 2008, Gentry Lecturer, Wake Forest University.
- June 2008, Named Hilldale Professor of Mathematics, University of Wisconsin at Madison.
- 2008, Maxson Lecture Series, Texas A&M University.
- 2008, Hari Shankar Distinguished Lecturer, University of Northern Iowa.
- 2007, Favorite Instructor Award, University of Wisconsin Residence Halls.
- 2007-2010, NSF Grant, $225,999.
- 2006, Winifred Asprey Distinguished Lecturer, Vassar College.
- 2006, Distinguished Visitor (4 lectures), University of Iowa.
- 2005, National Science Foundation Director's Distinguished Teaching Scholar Award, $305,000.
- 2005, F. Wendell Miller Lecturer, Iowa State University.
- 2004-2007 NSF FRG Grant, $333,000,
  Co-PI with (S. Kudla, T. Yang, and S. Zhang).
- 2004-2009 NSF VIGRE Grant, $2.5 million,
  Co-PI with (A. Adem and P. Milewski),
- 2004-2011 Solle P. and Margaret Manasse Professor of Letters and Science.
- 2003 John S. Guggenheim Foundation Fellowship.
- 2003 NSF REU Grant. $ 71991.
  DMS Grant 0243604.
- 2003 Milton Brockett Porter Lectures, Rice University.
- 2003 NSF-CBMS Distinguished Conference Lecturer.

- 2002 H. I. Romnes Fellowship. $50,000.

- 2000-2003 Number Theory Foundation Grant
  $51,000 for Jan Bruinier's and Bill McGraw's Postdoctoral Fellowship.

- Fall 2000, Prospects in Mathematics Lecture Series,
  Utah State University, Logan, Utah.

- 2000 Presidential Early Career Award for Scientists and Engineers
  DMS-0196355
  $500,000

- 1999 David and Lucile Packard Fellowship
  $625,000

- 1999-2000 Louis Martarano Professor of Mathematics,
  Endowed Chair for Junior Faculty at Penn State University.

- 1999-2001 Alfred P. Sloan Foundation Research Fellow
  $35,000

- 1998-2004 NSF CAREER
  DMS-9874947
  $200,000

- 1998 AMS-NSF Berlin ICM Travel Grant
  $1,950.

- 1997-1999 National Security Agency:
  Young Investigator
  $38,500 Grant Number MSPR-97Y012

- July - August 1997 "Topics in Number Theory Conference",
  Co-organizer with G. Andrews, Penn State University.

  National Science Foundation
  $10,000 Grant DMS 9711159

  Institute for Mathematics and its Applications Grant
  $3,000

  Penn State Continuing and Distance Education Grant

$2,300

- 1995-1999 — National Science Foundation
  Postdoctoral Fellow:
  $75,000 Grant Number DMS-9508976

- 1994 AMS-NSF Zurich ICM Travel Grant
  $1,500.

Professional Positions:

- 2010-present — Asa Griggs Candler Professor of Mathematics
  Emory University.

- 2008 - 2011 — Hilldale Professor of Mathematics
  University of Wisconsin at Madison.

- 2004 - 2011 — Solle P. and Margaret Manasse Professor
  University of Wisconsin at Madison.

- April 2001 - July 2003 — Professor
  University of Wisconsin at Madison.

- July 1999 - April 2001 — Associate Professor
  University of Wisconsin at Madison
  (on leave for 1999-2000 academic year).

- September 1999 - November 2000 — Louis A. Martarano Professor of Mathematics
  Penn State University

- June 1997 - August 1999 — Assistant Professor
  Penn State University

- September 1995- May 1997 — Member
  Institute for Advanced Study, Princeton
  NSF Grant DMS-9304580

- September 1994- August 1995 — Visiting Assistant Professor
  University of Illinois at Urbana-Champaign

- August 1993- July 1994 — Visiting Assistant Professor
  The University of Georgia

• September 1991- August 1993	Instructor Woodbury University, Burbank, California.