

## Vitae

Ken Ono

**Citizenship:** USA

**Date of Birth:** March 20,1968

**Place of Birth:** Philadelphia, Pennsylvania

**Education:**

- Ph.D., Pure Mathematics, University of California at Los Angeles, March 1993  
Thesis Title: *Congruences on the Fourier coefficients of modular forms on  $\Gamma_0(N)$  with number theoretic applications*
- M.A., Pure Mathematics, University of California at Los Angeles, March 1990
- B.A., Pure Mathematics, University of Chicago, June 1989

**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 coefficients of modular forms on  $\Gamma_0(N)$ ,*  
Contemporary Mathematics **166**, 1994, pages 93-105., The Rademacher Legacy to Mathematics.
3. *On the positivity of the number of partitions that are  $t$ -cores,*  
Acta Arithmetica **66**, No. 3, 1994, pages 221-228.
4. *Superlacunary cusp forms,* (Co-author: Sinai Robins),  
Proceedings of the American Mathematical Society **123**, No. 4, 1995, pages 1021-1029.

5. *Parity of the partition function*,  
Electronic Research Announcements of the American Mathematical Society, **1**, No. 1, 1995,  
pages 35-42
6. *On the representation of integers as sums of triangular numbers*  
Aequationes Mathematica (Co-authors: Sinai Robins and Patrick Wahl) **50**, 1995, pages  
73-94.
7. *A note on the number of  $t$ -core partitions*  
The Rocky Mountain Journal of Mathematics **25**, 3, 1995, pages 1165-1169.
8. *A note on the Shimura correspondence and the Ramanujan  $\tau(n)$ -function*,  
Utilitas Mathematica **47**, 1995, pages 153-160.
9. *Congruences for Frobenius partitions*.  
Journal of Number Theory, **57**, 1, 1996 pages 170-180.
10. *Defect zero  $p$ -blocks for finite simple groups*, (Co-author: Andrew Granville)  
Transactions of the American Mathematical Society, **348**, 1, 1996, pages 331-347.
11. *On the parity of the partition function in arithmetic progressions*.  
Journal für die Reine und angewandte Mathematik, **472**, 1996, pages 1-15.
12. *Congruences for the Fourier coefficients of half-integral weight modular forms and special values of  $L$ -functions*, (Co-authors: Antal Balog and Henri Darmon).  
Proceedings for a Conference in Honor of Heini Halberstam, **1**, 1996, pages 105-128.
13. *Congruences for partition functions*, (Co-author: Dennis Eichhorn),  
Proceedings for a Conference in Honor of Heini Halberstam, **1**, 1996, pages 309-321.
14. *Rank zero quadratic twists of modular elliptic curves*,  
Compositio Mathematica, **104**, 1996, pages 293-304.
15. *Quadratic forms and elliptic curves, III*, (Co-author: Takashi Ono),  
Proceedings of the Japan Academy of Sciences, Ser. A, **72**, 1996, pages 204-205.
16. *Euler's concordant forms*  
Acta Arithmetica, **65**, 1996, pages 101-123.

17. *Some recurrences for arithmetical functions*, (Co-authors: Neville Robbins and Brad Wilson)  
Journal of the Indian Mathematical Society, **62**, 1996, pages 29-50.
18. *Divisibility properties of certain partition functions by powers of primes*, (Co-author: Basil Gordon),  
The Ramanujan Journal, **1**, 1997, pages 25-35.
19. *Parity of the Fourier coefficients of modular forms*, (Co-author: Brad Wilson).  
Illinois Journal of Mathematics, **41**, 1997, pages 142-150.
20. *Odd values of the partition function*.  
Discrete Mathematics, **169**, 1997, pages 263-268.
21. *4-core partitions and class numbers*, (Co-author: Lawrence Sze),  
Acta Arithmetica, **65**, 1997, pages 249-272.
22. *Twists of elliptic curves*,  
Compositio Mathematica, **106**, 1997, pages 349-360.
23. *Ramanujan, taxicabs, birthdates, zipcodes and twists*.  
American Mathematical Monthly, **104**, No. 10, 1997, pages 912-917.
24. *Tate-Shafarevich groups of the congruent number elliptic curves*,  
Acta Arithmetica, **81**, 1997, pages 247-252.
25. *Ramanujan's ternary quadratic form*, (Co-author: Soundararajan Kannan),  
Inventiones Mathematicae, **130**, 3, 1997, pages 415-454.
26. *Eta-quotients and elliptic curves*, (Co-author: Yves Martin),  
Proceedings of the American Mathematical Society, **125**, 1997, pages 3169-3176.
27. *Values of Gaussian hypergeometric series*  
Transactions of the American Mathematical Society, **350**, 3, 1998, pages 1205-1223.
28. *A binomial coefficient identity related to a conjecture of F. Beukers*,  
(Co-authors: Scott Ahlgren, Shalosh Ekhad, Doron Zeilberger),  
Electronic Journal of Combinatorics, Volume 5 (1), 1998, R10.

29. *Fourier coefficients of half integral weight modular forms modulo  $\ell$*  (Co-author: Chris Skinner),  
Annals of Mathematics, **147**, No. 2, 1998, pages 453-470.
30. *Gordon's  $\epsilon$ -conjecture on the lacunarity of modular forms*,  
Comptes Rendues Math. Rep. of Acad. Sci. Canada, **20**, (4), 1998, pages 103-107.
31. *Partitions into distinct parts and elliptic curves*,  
Journal of Combinatorial Theory, Series A, **82**, 1998, pages 193-201.
32. *A note on a question of J. Nekovář and the Birch and Swinnerton-Dyer Conjecture*,  
Proceedings of the American Mathematical Society, **126**, 1998, pages 2849-2853.
33. *The residue of  $p(n)$  modulo small primes*,  
The Ramanujan Journal, Erdős Memorial Issue, **2**, 1998, pages 47-54.
34. *The partition function in arithmetic progressions*.  
Mathematische Annalen, **312**, 1998, pages 251-260.
35. *Rook theory and  $t$ -cores*, (Co-authors: Jim Haglund and Lawrence Sze).  
Journal of Combinatorial Theory, Series A, **84**, 1998, pages 9-37.
36. *Corrigendum: Fourier coefficients of half-integral weight modular forms modulo  $\ell$* ,  
(Co-author: Christopher Skinner),  
Annals of Mathematics, **148**, 1998, page 361,  
A typesetting error is corrected in paper 29.
37. *Non-vanishing of quadratic twists of modular  $L$ -functions*, (Co-author: Chris Skinner),  
Inventiones Mathematicae, **134**, 1998, pages 651-660.
38. *Integers represented by ternary quadratic forms*, (Co-author: Soundararajan Kannan),  
Proceedings of the 5<sup>th</sup> Meeting of the Canadian Number Theory Association, CRM Proceedings and Lecture Notes, **19**, 1998, pages 281-290.
39. *A Note on the Irreducibility of Hecke polynomials*, (Co-author: Kevin James).  
Journal of Number Theory, **73**, 1998, pages 527-532.
40. *Non-vanishing of values of modular  $L$ -functions and some applications*,  
(Co-authors: Jan Hendrik Bruinier, Kevin James, Winfried Kohnen, Vinayak Vatsal, Chris Skinner ),  
Proceedings of Topics in Number Theory, Kluwer Academic Publishers, 1999, pages 115-126.

41. *Theorems and conjectures involving rook polynomials with real roots*, (Co-authors: Jim Haglund and David Wagner),  
Proceedings of Topics in Number Theory, Kluwer Academic Publishers, 1999, pages 207-222.
42. *Indivisibility of class numbers of imaginary quadratic fields and orders of Tate-Shafarevich groups of elliptic curves with complex multiplication*,  
(Co-author: Winfried Kohnen).  
Inventiones Mathematicae, **135**, 1999, pages 387-398.
43. *Selmer groups of quadratic twists of modular elliptic curves*,  
(Co-author: Kevin James),  
Mathematische Annalen, **314**, 1999, pages 1-17.
44. *Ramanujan's unpublished manuscript on the partition and tau functions with commentary*,  
(Co-author: Bruce Berndt), The Andrews Festchrift, Eds. D. Foata and G.-N. Han,  
Springer Verlag, 2001, pages 39-110.
45. *On the circular summation of the eleventh powers of Ramanujan's theta function*,  
Journal of Number Theory, **76**, 1999, pages 62-65.
46. *Indivisibility of class numbers of real quadratic fields*.  
Compositio Mathematica, **119**, 1999, pages 1-11.
47. *The partition function and the arithmetic of certain modular L-functions*,  
(Co-author: Li Guo),  
International Mathematical Research Notices, 1999, No. 21, pages 1179-1197.
48. *Distribution of the partition function modulo  $m$* ,  
Annals of Mathematics, **151**, 2000, pages 293-307.
49. *A Gaussian hypergeometric series evaluation and Apéry number congruences*,  
(Co-author: Scott Ahlgren),  
Journal für die reine und angewandte Mathematik, **518**, 2000, pages 187-212.
50. *Modularity of a certain Calabi-Yau threefold*,  
(Co-author: Scott Ahlgren),  
Monatshefte für Mathematik, **129**, 2000, 177-190.
51. *On "good" half-integral weight modular forms*,  
(Co-author: Jorge Jimenez Urroz).  
Mathematics Research Letters, **7**, No. 2, 2000, 205-212.

52. *The 2-adic behavior of the number of partitions into distinct parts*,  
(Co-author: David Penniston),  
Journal of Combinatorial Theory, Series A, **92**, 2000, 138-157.
53. *Nonvanishing of quadratic twists of modular L-functions with applications for elliptic curves*,  
Journal fur die reine und angewandte Mathematik, **533**, 2001, 81-97.
54. *Differential endomorphisms for modular forms on  $\Gamma_0(4)$* ,  
Symbolic Computation, Number Theory, Special Functions, Physics and Combinatorics  
(Proceedings, Gainesville, 1999), Kluwer Acad. Publ. (Ed. F. Garvan and M. Ismail),  
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55. *q-series identities and values of certain L-functions*,  
(Co-author: George Andrews and Jorge Jimenez-Urroz),  
Duke Mathematical Journal, **108**, 2001, pages 395-419.
56. *Corrigendum: The 2-adic behavior of the number of partitions into distinct parts*,  
(Co-author: David Penniston),  
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57. *Parity of the partition function in arithmetic progressions II*,  
(Co-author: Matthew Boylan),  
Bulletin of the London Mathematical Society, **33**, No. 5, 2001, pages 558-564.
58. *Addition and counting: The arithmetic of partitions*,  
(Co-author: Scott Ahlgren),  
Notices of the American Mathematical Society, **48**, October 2001, pages 978-984.
59. *Arithmetic of the partition function*,  
Proceeding of the NATO Advanced Study Institute on Special Functions, Special Functions  
2000, (Editors: J. Bustoz and S. Suslov,  
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60. *Prime power degree representations of the symmetric  
and alternating groups*,  
(Co-authors: Antal Balog, Christine Bessenrodt and Jorn Olsson),  
Journal of the London Mathematical Society, **64**, 2001, 344-356.
61. *Congruence properties for the partition function*,  
(Co-author: Scott Ahlgren),  
Proceedings of the National Academy of Sciences, USA, **98**, Issue 23, 2001, 12882-12884.

62. *The Chebotarev Density Theory in short intervals and some questions of Serre*,  
(Co-author: Antal Balog),  
Journal of Number Theory, **91**, 2001, pages 356-371.
63. *Congruences and conjectures for the partition function*,  
(Co-author: Scott Ahlgren),  
Proceedings of the Conference on  $q$ -series with applications to combinatorics, number theory and physics, AMS Contemporary Mathematics, **291**, [Ed. B. C. Berndt and K. Ono], 2001, pages 1-10.
64. *Extension of Ramanujan's congruences for the partition function modulo powers of 5*,  
(Co-author: Jeremy Lovejoy),  
Journal für die reine angewandte Mathematik, **542**, 2002, pages 123-132.
65. *Zeta functions of an infinite family of K3 surfaces*,  
(Co-authors: Scott Ahlgren and David Penniston),  
American Journal of Mathematics, **124**, 2002, pages 353-368.
66. *Representations of integers as sums of squares*,  
Journal of Number Theory, **95**, 2002, pages 253-258.
67. *A  $q$ -series identity and the arithmetic of Hurwitz zeta-functions*,  
(Co-author: Gwynneth Coogan),  
Proceedings of the American Mathematical Society, **131**, 2003, pages 719-724.
68. *Quadratic twists of modular forms and elliptic curves*.  
(Co-author: Matthew A. Papanikolas),  
Proceedings of the Millennial Number Theory Conference, Urbana, Illinois (Ed. M. A. Bennett etc. al.), Vol. III, A. K. Peters, 2002, pages 73-86.
69. *Congruences for  ${}_3F_2$  hypergeometric functions over finite fields*,  
(Co-author: David Penniston),  
Illinois Journal of Mathematics, **46**, (2002), 679-684.
70. *Weierstrass points on  $X_0(p)$  and supersingular  $j$ -invariants*,  
(Co-author: Scott Ahlgren),  
Mathematische Annalen, **325**, 2003, 355-368.
71. *Coefficients of half-integral weight modular forms*,  
(Co-author: Jan H. Bruinier),  
Journal of Number Theory, **99** (2003), pages 164-179.

72. *Modular form congruences and Selmer groups*,  
(Co-author: William J. McGraw),  
Journal of the London Mathematical Society, **67**, (2003), pages 302-318.
73. *Arithmetic of the coefficients of Cohen's Eisenstein series*,  
(Co-authors: Antal Balog and William McGraw),  
Acta Arithmetica, **107**, (2003), pages 337-344.
74. *Hypergeometric generating functions for the values of Dirichlet and other L-functions*,  
(Co-author: Jeremy Lovejoy),  
Proceedings of the National Academy of Sciences, USA, **100**, No. 12, (2003), pages 6904-6909.
75. *Baxter algebras and Hopf algebras*,  
(Co-authors: George Andrews, Li Guo, and William Keigher),  
Transactions of the American Mathematical Society, **355**, (2003), pages 4639-4656.
76. *The life and work of R. A. Rankin*,  
(Co-authors: Bruce C. Berndt and Winfried Kohnen),  
The Ramanujan Journal, **7**, (2003), pages 11-40.
77. *Elements of class groups and Shafarevich-Tate groups of elliptic curves*,  
(Co-author: Antal Balog),  
Duke Mathematical Journal, **120**, (2003), pages 35-63.
78. *Arithmetic of Borcherds' exponents*,  
(Co-author: Jan Bruinier),  
Mathematische Annalen, **327**, (2003), pages 293-303.
79. *p-adic properties of the values of the j-function*,  
(Co-author: Matt Papanikolas),  
Galois Theory and Modular Forms, Kluwer Acad. Publ., Editors: K. Hashimoto, K. Miyake and H. Nakamura, 2003, pages 357-366.
80. *The arithmetic of the values of modular functions and the divisors of modular forms*,  
(Co-authors: Jan H. Bruinier and Winfried Kohnen),  
Compositio Mathematica, **140** (2004), pages 552-566.

81. *Arithmetic of certain hypergeometric modular forms*,  
(Co-author: Karl Mahlburg),  
*Acta Arithmetica*, **113**, (2004), pages 39-55.
82. *Hecke operators and the  $q$ -expansion of modular forms*,  
Proceedings of the 7th Meeting of the Canadian Number Theory Association, Montreal  
2002, CRM Proceedings and Lecture Notes **36**, American Mathematical Society, (2004),  
pages 229-235.
83. *Arithmetic of singular moduli and class polynomials*,  
(Co-author: Scott Ahlgren),  
*Compositio Mathematica*, **141**, (2005), pages 293-312.
84. *Gaussian hypergeometric functions and Hecke operators*,  
(Co-authors: Sharon Frechette and Matt Papanikolas),  
*International Mathematical Research Notices*, **60**, (2004), pages 3233-3262.
85. *Corrigendum: Coefficients of half-integral weight modular forms*,  
(Co-author: Jan H. Bruinier),  
*Journal of Number Theory*, **104**, (2004), pages 378-379.  
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86. *2-adic properties of certain modular forms and their applications to arithmetic functions*,  
(Co-author: Yuichiro Taguchi),  
*International Journal of Number Theory*, **1**, No. 1, (2005), pages 75-101.
87. *Partitions and McKay numbers for  $S_n$* ,  
*Journal of Combinatorial Theory, Series A*, **108**, (2004), pages 185-197.
88. *The combinatorics of traces of Hecke operators*,  
(Co-authors: Sharon Frechette and Matt Papanikolas),  
*Proceedings of the National Academy of Sciences, USA*, **101**, No. 49, (2004), pages 17016-  
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89. *Linear relations between modular form coefficients and non-ordinary primes* (Co-authors:  
YoungJu Choie and Winfried Kohnen),  
*Bulletin of the London Mathematical Society*, **37**, Part 3, (2005), pages 335-341.
90. *Hilbert class polynomials and traces of singular moduli*,  
(Co-authors: Jan Hendrik Bruinier and Paul Jenkins),  
*Mathematische Annalen*, **334**, no 2, (2006), page 373-393.

91. *On the work of Basil Gordon*,  
(Co-authors: George E. Andrews, Krishnaswami Alladi, and Richard McIntosh),  
Journal of Combinatorial Theory, Series A, **113**, (2006), pages 21-38.
92. *Reduction of CM elliptic curves and modular function congruences*,  
(Co-authors: Noam D. Elkies and Tonghai Yang),  
International Mathematical Research Notices, **44** (2005), pages 2695-2707.
93. *Identities for traces of singular moduli*,  
(Co-author: Kathrin Bringmann),  
Acta Arithmetica, **119** (2005), pages 317-327.
94. *Number theoretic properties of Wronskians in Andrews-Gordon  $q$ -series*,  
(Co-authors: Antun Milas and Eric Mortenson),  
International Journal of Number Theory, **4**, (2008), pages 323-337.
95. *Traces of singular moduli on Hilbert modular surfaces*,  
(Co-authors: Kathrin Bringmann and Jeremy Rouse),  
International Mathematical Research Notices, **47** (2005), pages 2891-2912.
96. *Arithmetic properties of coefficients of half-integral weight Maass-Poincaré series*,  
(Co-author: Kathrin Bringmann),  
Mathematische Annalen, **337** (2007), pages 591-612.
97. *An arithmetic formula for the partition function*,  
(Co-author: Kathrin Bringmann),  
Proceedings of the American Mathematical Society, **135** (2007), pages 3507-3514.
98. *The  $f(q)$  mock theta function conjecture and partition ranks*,  
(Co-author: Kathrin Bringmann),  
Inventiones Mathematicae, **165** (2006), pages 243-266.
99. *Singular moduli generating functions for modular curves and surfaces*,  
Proceedings of the Gauss-Dirichlet Conference, Clay Math. Institute Proceedings, Clay  
Math. Proc., **7**, Amer. Math. Soc., 2007, pages 185-206.
100. (accepted for publication) *Dyson's ranks and Maass forms*,  
(Co-author: Kathrin Bringmann),  
Annals of Mathematics.

101. *Ramanujan's congruences and Dyson's crank*,  
(Co-author: George Andrews), Proceedings of the National Academy of Sciences, USA, **102**, No. 43 (2005), page 15277.
102. *Mock theta functions, ranks, and Maass forms*, Surveys in Number Theory, Developments in Mathematics **17**, Springer-Verlag, 2008, pages 119-142.
103. *Honoring a gift from Kumbakonam*,  
Notices of the American Mathematical Society, **53**, Number 6 (2006), pages 640-651.
104. *Divisibility criteria for class numbers of imaginary quadratic fields*,  
(Co-author: Paul Jenkins),  
Acta Arithmetica, **125** (2006), pages 285-289.
105. *q-series and weight 3/2 Maass forms*,  
(Co-authors: Kathrin Bringmann and Amanda Folsom),  
Compositio Mathematica, **145** (2009), pages 541-552.
106. *Lifting elliptic cusp forms to Maass forms with an application to partitions*,  
(Co-author: Kathrin Bringmann),  
Proceedings of the National Academy of Sciences, USA, **104**, No. 10, (2007), pages 3725-3731.
107. *Duality involving the mock theta function  $f(q)$* ,  
(Co-author: Amanda Folsom),  
Journal of the London Mathematical Society, **77** (2008), pages 320-334.
108. *Eulerian series as modular forms*,  
(Co-authors: Kathrin Bringmann and Robert Rhoades),  
Journal of the American Mathematical Society, **21** (2008), pages 1085-1104.
109. (accepted for publication) *Heegner divisors, L-functions, and Maass forms*,  
(Co-author: Jan H. Bruinier),  
Annals of Mathematics.
110. (accepted for publication) *Algebraicity of harmonic Maass forms*, SASTRA Prize volume,  
Ramanujan Journal.
111. *The spt-function of Andrews*,  
(Co-author: Amanda Folsom),  
Proceedings of the National Academy of Sciences, USA, **105** no. 51 (2008), pages 20152-20156.

112. *A mock theta function for the Delta-function*,  
Combinatorial number theory: Proceedings of the 2007 Integers Conference, de Gruyter, Berlin, 2009, pages 141-156.
113. *Differential operators for harmonic weak Maass forms and the vanishing of Hecke eigenvalues*,  
(Co-authors: Jan H. Bruinier and Robert Rhoades),  
Mathematische Annalen **342** (2008), pages 673-693.
114. (accepted for publication) *Unearthing the visions of a master: Harmonic Maass forms and number theory*,  
Harvard-MIT Current Developments in Mathematics, 2008.
115. (accepted for publication) *Coefficients of harmonic weak Maass forms*,  
(Co-author: Kathrin Bringmann),  
Proceedings of the 2008 University of Florida Conference on Partitions,  $q$ -series and modular forms.
116. (accepted for publication) *Modular forms arising from  $Q(n)$  and Dyson's rank*, Dennis Stanton special issue of Advances in Applied Mathematics,  
(Co-author: Maria Monks).
117. (accepted for publication) *Hook lengths and 3-cores*,  
(Co-author: Guo-Niu Han),  
Annals of Combinatorics.
118. (submitted)  *$S_0(3)$ -Donaldson invariants of  $\mathbb{C}P^2$  and mock theta functions*,  
(Co-author: Andreas Malmendier).
119. *Corrigendum to "Duality involving the mock theta function  $f(q)$ "*,  
(Co-author: Amanda Folsom)  
Note: Some numbers in Table 1.3 of #107 are corrected.  
Journal of the London Mathematical Society **79** (2009), page 544.
120. *Lehmer's Conjecture on of Ramanujan's tau-function*,  
Journal of the Indian Mathematical Society, (2008), Special Centenary Issue, pages 149-163.
121. *Probabilities as values of modular forms and continued fractions*,  
(Co-author: Riad Masri),  
International Journal of Mathematics and the Mathematical Sciences, (2009), Article ID 941920.

122. *Some characters of Kac and Wakimoto and nonholomorphic modular functions*,  
(Co-author: Kathrin Bringmann),  
Mathematische Annalen, **345** (2009), pages 547-558.
123. (accepted for publication) *Identities and congruences for the coefficients of Ramanujan's  $\omega(q)$* ,  
(Co-author: Jan H. Bruinier),  
The G. E. Andrews 70th Birthday issue of the Ramanujan Journal.
124. *Corrigendum to "Differential operators for harmonic weak Maass forms and the vanishing of Hecke eigenvalues"*,  
(Co-authors: Jan H. Bruinier and Rob Rhoades)  
Note: The statement of Theorem 1.4 is corrected.  
Mathematische Annalen, **345** (2009), page 31.
125. (accepted for publication) *p-adic coupling of mock modular forms and shadows*,  
(Co-authors: Pavel Guerzhoy and Zach Kent).  
Proceedings of the National Academy of Sciences, USA.
126. (in preparation) *To be determined*,  
(Co-authors: Kathrin Bringmann and Sander Zwegers).
127. (submitted) *The parity of the partition function*.
128. (accepted for publication) *The last words of a genius*,  
Notices of the American Mathematical Society.
129. (submitted for publication) *Gauss's  ${}_2F_1$  hypergeometric function and the congruent number elliptic curve*,  
(Co-author: Ahmad El-Guindy).
130. (submitted for publication) *Hasse invariants for the Clausen elliptic curves*,  
(Co-author: Ahmad El-Guindy).
131. (in preparation) *To be determined*,  
(Co-author: Tonghai Yang).
132. (in preparation) *To be determined*,  
(Co-author: Marie Jameson).

**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.

**Presentations:**

- June 1992 *Congruences on the Fourier coefficients 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<sup>th</sup> 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<sup>th</sup> 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 com-  
binatorics,  
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 Millennial 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 Borchers 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, *To be determined*, SASTRA Prize Conference, Kumbakonam, India.
- January 2010, "Applying for Jobs", AMS Committee on the Profession Panelist, Joint Math Meetings, San Francisco.

- March 2010, *To be determined*, AIM Workshop on Mock modular forms, Palo Alto.
- April 2010, *To be determined*, MAA Conference, Harvey Mudd College, Claremont, California.
- July 11-16, 2010, *To be determined*, Public Lecture and a Plenary Lecture, Canadian Number Theory Association Conference XI, Nova Scotia.
- August 1-August 17, 2010, *To be determined*, International Congress of Mathematicians Satellite Conference on Modular Forms, Mahabalipuram, Tamil Nadu, India.
- August 28-September 5, 2010, *To be determined*, International Congress of Mathematicians Satellite Conference on Number Theory, Chennai, India.

### 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 Theorem*, (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.
- September 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.
- To be determined, Stanford University.
- C. S. Subramaniam Memorial Lecture, Chennai, December 2009.
- April 2010, Distinguished Lecture Series, UCLA.
- May 2010, Lecture Series, University of Cologne.

**Other Professional Activities:**

- April 1994 Judge, 46<sup>th</sup> 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 (198 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.

**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 (Jussieu), 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.
- (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).

**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.

**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 (Jussieu).
- 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: Assistant 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.

- 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(s): VIGRE Ross Asst. Prof., Ohio State  
Tenure Track Asst. Prof., Oregon State (deferred).
- Paul Jenkins, PhD Student, University of Wisconsin.  
Ph.D. 2006.  
First Jobs: NSF Postdoc and Hedrick Asst. Prof., UCLA,  
Brigham Young U., Tenure Track Asst. Prof. (deferred).
- 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.
- 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, McGill 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,  
First Job: Tenure track Assistant 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.
- Christelle Vincent, PhD Student, University of Wisconsin.
- Marie Jameson, PhD Student, University of Wisconsin.

#### Selected Undergraduate Students:

- Maria Monks  
MIT, REU 2008 participant  
Winner, 2009 Alice T. Schafer Prize
- 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:**

- 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.:**

- 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-present.
- 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 - present.
- 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:**

- 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 Hildale 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-Present 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:**

- 2008 - present  
Hilldale Professor of Mathematics  
University of Wisconsin at Madison.
- 2004 - present  
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.