Curriculum Vitae
FRANK GARVAN

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	Mathematics Department	Email Address:	fgarvan@ufl.edu
	PO Box 118105	Homepage:	http://people.clas.ufl.edu/fgarvan
	Gainesville, FL 32611-8105	Birthdate:	March 9, 1955
		Last modified:	May 8, 2019

EDUCATION/EMPLOYMENT

2000 –		Professor of Mathematics, University of Florida
1994 – 1999		Associate Professor of Mathematics, University of Florida
1990 – 1993		Assistant Professor of Mathematics, University of Florida
1991		NSERC International fellow, Dalhousie University, Halifax
1988 – 1990		Postdoctoral Research Fellow, Macquarie University, Sydney, Australia
1987 – 1988		Postdoctoral Fellow, I.M.A., University of Minnesota, Minneapolis
1986 – 1987		Visiting Assistant Professor of Mathematics, University of Wisconsin, Madison
1985 – 1986		Mathematics Instructor, Pennsylvania State University, York Campus
1986	Ph.D.	Pennsylvania State University, Mathematics (advisor: George Andrews)
1982	M.Sc.	University of New South Wales, Kensington, Australia, Mathematics (advisor: Mike Hirschhorn)
1978 – 1980		High School Teacher, New South Wales, Australia
1977	Dip.Ed.	University of New South Wales, Kensington, Australia, Education
1976	B.Sc.	University of New South Wales, Kensington, Australia, Mathematics (with honours)

RESEARCH INTERESTS

Number Theory, Combinatorics, Special Functions, Symbolic Computation

RESEARCH GRANTS

2014 – 2019	Simons Foundation Collaboration Grant (ref. 318714) ($35,000), Analytic, Combinatorial and Computational Study of Partitions
2009 – 2012	CoPI for NSA Grant (ref. H98230-09-1-0051) ($131,450), Some Problems in the Theory of Partitions
2006 – 2009	CoPI for NSA Grant (ref. H98230-07-1-0011) ($123,380), Some Problems in the Theory of Partitions
1998 – 2001	NSF grant (ref. DMS-9870052) ($77,895) Combinatorial, Differential & Modular Partition Problems
1992 – 1995	NSF grant (ref. DMS-9208813) ($60,408) Dedekind's eta-function, combinatorics, congruences and approximations

CONFERENCE GRANTS

2016 – 2017	The 2016 Gainesville International Number Theory Conference (ALLADI60), held March 17–21, 2016. Funded by NSF ($45,000), NSA ($15,000), PSU ($6,000) and Number Theory Foundation ($5,000).

Total external funding $71,000.

2012 – 2013 Ramanujan 125 Conference held November 5-7, 2012
Funded by NSF (DMS 1206696, $15,000) and the NSA (ref. H98230-12-0297, $15,000)
Total external funding $30,000.

2004 – 2005 Special Year in Number Theory and Combinatorics
Funded by NSF (DMS 0412622), NSA and The Number Theory Foundation.
Total award $35,000.

2003 – 2004 Number Theory and Combinatorics in Physics Conference
Funded by NSF (DMS 0242148), NSA and The Number Theory Foundation.
Total award $20,000.

1999 – 2000 Symbolic Computation, Number Theory, Special Functions, Physics and Combinatorics Conference
Funded by NSF (DMS-9976638), NSA and The Number Theory Foundation.
Total award $12,000.

PUBLICATIONS

Published, accepted, submitted

65. Alexander Berkovich, Frank G. Garvan, and Hamza Yesilyurt, *Ramanujan's circular summation, t-cores and twisted partition identities*, submitted (18 pages).

64. Frank Garvan, *New fifth and seventh order mock theta function identities*, Ann. Comb., to appear.

63. Jie Frye and Frank Garvan, *Automatic proof of theta-function identities*, Elliptic integrals, elliptic functions and modular forms in quantum field theory, Texts Monogr. Symbol. Comput., Springer, Cham, 2019, pp. 195–258. MR3889559

62. F. G. Garvan, *Transformation properties for Dyson's rank function*, Trans. Amer. Math. Soc. **371** (2019), no. 1, 199–248. MR3885143

61. Frank Garvan and Michael J. Schlosser, *Combinatorial interpretations of Ramanujan's tau function*, Discrete Math. **341** (2018), no. 10, 2831–2840. MR3843270

60. F. G. Garvan, *Weighted partition identities and divisor sums*, Frontiers in orthogonal polynomials and q-series, Contemp. Math. Appl. Monogr. Expo. Lect. Notes, vol. 1, World Sci. Publ., Hackensack, NJ, 2018, pp. 239–249. MR3791622

59. George E. Andrews and Frank Garvan (eds.), *Analytic number theory, modular forms and q-hypergeometric series*, Springer Proceedings in Mathematics & Statistics, vol. 221, Springer, Cham, 2017. MR3773907

58. F. G. Garvan and C. Jennings-Shaffer, *Exotic Bailey-Slater spt-functions II: Hecke-Rogers-type double sums and Bailey pairs from groups A, C, E*, Adv. Math. **299** (2016), 605–639. MR3519478

57. F. G. Garvan, *Congruences and relations for r-Fishburn numbers*, J. Combin. Theory Ser. A **134** (2015), 147–165. MR3345301

56. Krishnaswami Alladi, Frank Garvan, and Ae Ja Yee (eds.), *Ramanujan 125*, Contemporary Mathematics, vol. 627, American Mathematical Society, Providence, RI, 2014. MR3308071

55. F. G. Garvan, *Universal mock theta functions and two-variable Hecke-Rogers identities*, Ramanujan J. **36** (2015), no. 1-2, 267–296. MR3296723

54. Frank G. Garvan and Chris Jennings-Shaffer, *The spt-crank for overpartitions*, Acta Arith. **166** (2014), no. 2, 141–188. MR3277048

53. Frank G. Garvan and Chris Jennings-Shaffer, *Hecke-type congruences for Andrews' SPT-function modulo 16 and 32*, Int. J. Number Theory **10** (2014), no. 2, 375–390. MR3189985

52. Frank G. Garvan and James A. Sellers, *Congruences for generalized Frobenius partitions with an arbitrarily large number of colors*, Integers **14** (2014), Paper No. A7, 5. MR3239588

51. David H. Bailey, Heinz H. Bauschke, Peter Borwein, Frank Garvan, Michel Théra, Jon D. Vanderwerff, and Henry Wolkowicz (eds.), *Computational and analytical mathematics*, Springer Proceedings in Mathematics & Statistics, vol. 50, Springer, New York, 2013, In honor of Jonathan Borwein's 60th birthday, Papers from the workshop (JonFest) held at Simon Fraser University, Burnaby, BC, May 16–20, 2011. MR3155260

50. George E. Andrews, Frank G. Garvan, and Jie Liang, *Self-conjugate vector partitions and the parity of the spt-function*, Acta Arith. **158** (2013), no. 3, 199–218. MR3040662

49. Song Heng Chan, Atul Dixit, and Frank G. Garvan, *Rank-crank-type PDEs and generalized Lambert series identities*, Ramanujan J. **31** (2013), no. 1-2, 163–189. MR3048661

48. George E. Andrews, Frank G. Garvan, and Jie Liang, *Combinatorial interpretations of congruences for the spt-function*, Ramanujan J. **29** (2012), no. 1-3, 321–338. MR2994105

47. Krishnaswami Alladi and Frank Garvan (eds.), *Partitions, q-series, and modular forms*, Developments in Mathematics, vol. 23, Springer, New York, 2012. MR3075591

46. F. G. Garvan, *Congruences for Andrews' spt-function modulo 32760 and extension of Atkin's Hecke-type partition congruences*, Number theory and related fields, Springer Proc. Math. Stat., vol. 43, Springer, New York, 2013, pp. 165–185. MR3081040

45. F. G. Garvan, *Congruences for Andrews' spt-function modulo powers of* 5, 7 *and* 13, Trans. Amer. Math. Soc. **364** (2012), no. 9, 4847–4873. MR2922612

44. F. G. Garvan, *Higher order spt-functions*, Adv. Math. **228** (2011), no. 1, 241–265. MR2822233

43. F. G. Garvan, *Biranks for partitions into 2 colors*, Ramanujan rediscovered, Ramanujan Math. Soc. Lect. Notes Ser., vol. 14, Ramanujan Math. Soc., Mysore, 2010, pp. 87–111. MR2856959

42. F. G. Garvan, *Congruences for Andrews' smallest parts partition function and new congruences for Dyson's rank*, Int. J. Number Theory **6** (2010), no. 2, 281–309. MR2646759

41. Alexander Berkovich and Frank G. Garvan, *The GBG-rank and t-cores I. Counting and 4-cores*, J. Comb. Number Theory **1** (2009), no. 3, 237–252. MR2681308

40. Kathrin Bringmann, Frank Garvan, and Karl Mahlburg, *Partition statistics and quasiharmonic Maass forms*, Int. Math. Res. Not. IMRN (2009), no. 1, Art. ID rnn124, 63–97. MR2471296

39. Alexander Berkovich and Frank G. Garvan, *K. Saito's conjecture for nonnegative eta products and analogous results for other infinite products*, J. Number Theory **128** (2008), no. 6, 1731–1748. MR2419190

38. Alexander Berkovich and Frank G. Garvan, *The BG-rank of a partition and its applications*, Adv. in Appl. Math. **40** (2008), no. 3, 377–400. MR2402176

37. Frank G. Garvan and Hamza Yesilyurt, *Shifted and shiftless partition identities. II*, Int. J. Number Theory **3** (2007), no. 1, 43–84. MR2310493

36. Alexander Berkovich and Frank G. Garvan, *On the Andrews-Stanley refinement of Ramanujan's partition congruence modulo 5 and generalizations*, Trans. Amer. Math. Soc. **358** (2006), no. 2, 703–726. MR2177037

35. Alexander Berkovich and Frank G. Garvan, *Dissecting the Stanley partition function*, J. Combin. Theory Ser. A **112** (2005), no. 2, 277–291. MR2177487

34. A. O. L. Atkin and F. G. Garvan, *Relations between the ranks and cranks of partitions*, Ramanujan J. **7** (2003), no. 1-3, 343–366, Rankin memorial issues. MR2035811

33. Alexander Berkovich and Frank G. Garvan, *Some observations on Dyson's new symmetries of partitions*, J. Combin. Theory Ser. A **100** (2002), no. 1, 61–93. MR1932070

32. F. G. Garvan, *Shifted and shiftless partition identities*, Number theory for the millennium, II (Urbana, IL, 2000), A K Peters, Natick, MA, 2002, pp. 75–92. MR1956245

31. F. G. Garvan, *More cranks and t-cores*, Bull. Austral. Math. Soc. **63** (2001), no. 3, 379–391. MR1834941

30. F. G. Garvan, *A generalization of the Hirschhorn-Farkas-Kra septagonal numbers identity*, Discrete Math. **232** (2001), no. 1-3, 113–118. MR1823627

29. Frank G. Garvan and Mourad E. H. Ismail (eds.), *Symbolic computation, number theory, special functions, physics and combinatorics*, Developments in Mathematics, vol. 4, Kluwer Academic Publishers, Dordrecht, 2001. MR1880075

28. Frank Garvan, *The Maple book.*, Boca Raton, FL: Chapman & Hall/ CRC, 2001 (English).

27. Frank Garvan, *A q-product tutorial for a q-series MAPLE package*, Sém. Lothar. Combin. **42** (1999), Art. B42d, 27 pp. (electronic), The Andrews Festschrift (Maratea, 1998). MR1701583 (2000f:33001)

26. Frank Garvan, *Modular functions, Maple and Andrews' 10th problem*, Topics in number theory (University Park, PA, 1997), Math. Appl., vol. 467, Kluwer Acad. Publ., Dordrecht, 1999, pp. 163–179. MR1691317

25. J. M. Borwein and F. G. Garvan, *Approximations to π via the Dedekind eta function*, Organic mathematics (Burnaby, BC, 1995), CMS Conf. Proc., vol. 20, Amer. Math. Soc., Providence, RI, 1997, pp. 89–115. MR1483915

24. Frank Garvan, *Maple V primer, release 4.*, Boca Raton, FL: CRC Press, 1997 (English).

23. Bruce C. Berndt, S. Bhargava, and Frank G. Garvan, *Ramanujan's theories of elliptic functions to alternative bases*, Trans. Amer. Math. Soc. **347** (1995), no. 11, 4163–4244. MR1311903

22. Frank G. Garvan, *Ramanujan's theories of elliptic functions to alternative bases—a symbolic excursion*, J. Symbolic Comput. **20** (1995), no. 5-6, 517–536, Symbolic computation in combinatorics Δ_1 (Ithaca, NY, 1993). MR1395412

21. Frank G. Garvan, *A combinatorial proof of the Farkas-Kra theta function identities and their generalizations*, J. Math. Anal. Appl. **195** (1995), no. 2, 354–375. MR1354548

20. Frank G. Garvan, *Generalizations of Dyson's rank and non-Rogers-Ramanujan partitions*, Manuscripta Math. **84** (1994), no. 3-4, 343–359. MR1291125

19. Frank Garvan, *Cubic modular identities of Ramanujan, hypergeometric functions and analogues of the arithmetic-geometric mean iteration*, The Rademacher legacy to mathematics (University Park, PA, 1992), Contemp. Math., vol. 166, Amer. Math. Soc., Providence, RI, 1994, pp. 245–264. MR1284065

18. J. M. Borwein, P. B. Borwein, and F. G. Garvan, *Some cubic modular identities of Ramanujan*, Trans. Amer. Math. Soc. **343** (1994), no. 1, 35–47. MR1243610

17. Michael Hirschhorn, Frank Garvan, and Jon Borwein, *Cubic analogues of the Jacobian theta function $\theta(z, q)$*, Canad. J. Math. **45** (1993), no. 4, 673–694. MR1227653

16. Frank G. Garvan, *Some congruences for partitions that are p-cores*, Proc. London Math. Soc. (3) **66** (1993), no. 3, 449–478. MR1207544

15. J. Borwein, P. Borwein, and F. Garvan, *Hypergeometric analogues of the arithmetic-geometric mean iteration*, Constr. Approx. **9** (1993), no. 4, 509–523. MR1237931

14. Frank G. Garvan and Gaston H. Gonnet, *A proof of the two parameter q-cases of the Macdonald-Morris constant term root system conjecture for $S(F_4)$ and $S(F_4)^\vee$ via Zeilberger's method*, J. Symbolic Comput. **14** (1992), no. 2-3, 141–177. MR1187229

13. Frank G. Garvan and Gaston Gonnet, *Macdonald's constant term conjectures for exceptional root systems*, Bull. Amer. Math. Soc. (N.S.) **24** (1991), no. 2, 343–347. MR1078471

12. Frank Garvan, Dongsu Kim, and Dennis Stanton, *Cranks and t-cores*, Invent. Math. **101** (1990), no. 1, 1–17. MR1055707

11. Frank G. Garvan, *A number-theoretic crank associated with open bosonic strings*, Number theory and cryptography (Sydney, 1989), London Math. Soc. Lecture Note Ser., vol. 154, Cambridge Univ. Press, Cambridge, 1990, pp. 221–226. MR1055413

10. Frank G. Garvan, *The crank of partitions mod* 8, 9 *and* 10, Trans. Amer. Math. Soc. **322** (1990), no. 1, 79–94. MR1012520

9. Frank Garvan and Dennis Stanton, *Sieved partition functions and q-binomial coefficients*, Math. Comp. **55** (1990), no. 191, 299–311. MR1023761

8. F. G. Garvan, *A proof of the Macdonald-Morris root system conjecture for F_4*, SIAM J. Math. Anal. **21** (1990), no. 3, 803–821. MR1046804

7. Frank G. Garvan, *Some Macdonald-Mehta integrals by brute force*, q-series and partitions (Minneapolis, MN, 1988), IMA Vol. Math. Appl., vol. 18, Springer, New York, 1989, pp. 77–98. MR1019845

6. George E. Andrews and F. G. Garvan, *Ramanujan's "lost" notebook. VI. The mock theta conjectures*, Adv. in Math. **73** (1989), no. 2, 242–255. MR987276

5. F. G. Garvan, *A beta integral associated with the root system G_2*, SIAM J. Math. Anal. **19** (1988), no. 6, 1462–1474. MR965267

4. George E. Andrews and F. G. Garvan, *Dyson's crank of a partition*, Bull. Amer. Math. Soc. (N.S.) **18** (1988), no. 2, 167–171. MR929094

3. F. G. Garvan, *New combinatorial interpretations of Ramanujan's partition congruences mod* 5, 7 *and* 11, Trans. Amer. Math. Soc. **305** (1988), no. 1, 47–77. MR920146

2. F. G. Garvan, *Combinatorial interpretations of Ramanujan's partition congruences*, Ramanujan revisited (Urbana-Champaign, Ill., 1987), Academic Press, Boston, MA, 1988, pp. 29–45. MR938958

1. F. G. Garvan, *A simple proof of Watson's partition congruences for powers of* 7, J. Austral. Math. Soc. Ser. A **36** (1984), no. 3, 316–334. MR733905

TALKS & LECTURES

Plenary and Keynote Speaker

2018	June	Combinatory Analysis 2018 (George Andrews's 80th birthday), The Pennsylvania State University, University Park *Higher Order Mock Theta Conjectures*
2018	Mar.	BIRS workshop on Modular Forms and Quantum Knot Invariants Banff *Higher Order Mock Theta Conjectures*
2016	Jul.	Lambert W-Conference, University of Western Ontario, London, Canada *Lambert and Ramanujan*

2016 Mar. AMS Spring Southeastern Sectional Meeting, University of Georgia, Athens
Dyson's Conjectures and Predictions in the Work of Ramanujan (invited AMS address)

2015 May International Conference on Orthogonal Polynomials and q-Series
(Mourad Ismail's 70th birthday), University of Central Florida, Orlando
Transformation Properties of Dyson's Rank Function

2013 Aug. The Combinatorics of q-Series and Partitions Conference
(George Andrews' 75th Birthday), Nankai University, Tianjin, P.R. China
Dyson's rank function and Andrews' spt function

2012 Dec. The Legacy of Srinivasa Ramanujan, New Delhi, India
The smallest parts partition function
Krishna Alladi delivered my talk since I was unable to attend for health reasons.

2012 Mar. International Number Theory Conference in Memory of Alf van der Poorten
Newcastle, Australia
The smallest parts partition function

2011 Jan. Partitions, q-Series and Maass Forms Conference, Emory University, Atlanta, GA
Higher order spt-functions

2010 July Prospects in q-Series and Modular Forms Conference, University College Dublin
Biranks for partitions into 2 colors and some theta function identities

2010 July CARMA Workshop on Exploratory Experimentation and Computation
in Number Theory, University of Newcastle, Australia
Biranks for partitions into 2 colors and some theta function identities

2008 Apr. SouthEast Regional Meeting On Numbers (SERMON)
& Palmetto Number Theory Series (PANTS) Clemson University
The Rank and Crank of Partitions – In Memory of Richard P. Lewis

2008 Mar. Partitions, q-Series and Modular Forms Workshop, University of Florida, Gainesville
The Rank and Crank of Partitions – In Memory of Richard P. Lewis

2004 Dec. ICNFT 2004, SASTRA University, Kumbakonam, India
Talk 1: *The Combinatorics of Ramanujan's Partition Congruences*
Talk 2: *Partitions and Infinite Products*

1987 June Ramanujan Centenary Conference, University of Illinois, Urbana
Combinatorial Interpretations of Ramanujan's Partition Congruences

Invited Speaker

2019 Jan. AMS Special Session on Partition Theory and Related Topics, Baltimore, MD
Hecke-Rogers series for Ramanujan's mock theta functions

2019 Mar. AMS Special Session on Experimental Mathematics in Number Theory, Analysis,
and Combinatorics, Auburn, Alabama
In search of mock theta function identities

2018 Apr. AMS Special Session on Mock Modular and Quantum Modular Forms, Portland (Oregon)
Higher Order Mock Theta Conjectures

2018 Jan. AMS Special Session on Special Functions and Combinatorics
(Dennis Stanton's 65th birthday), San Diego
New Mock Theta Function Identities

2017 Sept Jon Borwein Commemorative Conference Newcastle, Australia
New Mock Theta Function Identities

2017 Mar. SERMON XXX, University of North Florida, Jacksonville
New Mock Theta Function Identities

2017 Jan. AMS Special Session on Partition Theory and Related Topics, Atlanta, GA
Weighted partition identities and divisor sums

2017 Jan. AMS Special Session on Arithmetic Properties of Sequences
from Number Theory and Combinatorics, Atlanta, GA

The Andrews spt-function mod 4

2015 June — The 13th International Symposium on Orthogonal Polynomials, Special Functions and Applications (OPSFA-13), Mini-symposium on the Legacy of Ramanujan
National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland
Exotic Bailey-Slater Spt-Functions and Hecke-Rogers Double Series

2015 Jan. — AMS Special Session on Partitions, q-Series, and Modular Forms, San Antonio, TX
Congruences and relations for the Fishburn numbers

2014 July — Challenges in 21st Century Experimental Mathematical Computation
ICERM, Brown University
Congruences and relations for the Fishburn numbers

2014 Apr. — Applications of Special Functions in Combinatorics and Analysis,
AMS Spring Central Sectional Meeting, Texas Tech University, Lubbock, TX
Universal mock theta functions and two-variable Hecke-Rogers identities

2013 Jan. — AMS Special Session on q-series in Mathematical Physics and Combinatorics, San Diego
The smallest parts partition function
George Andrews delivered my talk since I was unable to attend for health reasons.

2011 May — Workshop on Computational and Analytical Mathematics
(Jonathan Borwein's 60th Birthday)
The IRMACS Centre, Simon Fraser University, Burnaby, BC, Canada
The Andrews spt-function and higher order generalizations

2010 July — Combinatorics and Mathematical Physics Conference,
University of Queensland, Brisbane, Australia
Biranks for partitions into 2 colors and some theta function identities

2009 Oct. — AMS Special Session on q-Series and Related Topics in Enumerative Combinatorics and Number Theory, Pennsylvania State University, University Park, PA
Biranks for partitions into 2 colors

2009 June — Ramanujan Rediscovered Conference, Bangalore India
Congruences and Relations for the Rank and Crank of Partitions

2008 Dec. — Combinatory Analysis 2008: Partitions, q-series, and Applications Conference,
Pennsylvania State University, State College PA
Yet even more partition congruences

2008 May — Mathematical Interests of Peter Borwein Conference,
Simon Fraser University, Burnaby, British Columbia, Canada
Congruences for the rank and crank of partitions

2007 May — Number Theory Meeting in honor of Halberstam and Selfridge,
University of Illinois at Urbana-Champaign
Congruences for Andrews's smallest parts partition function

2005 Jul. — REU Program, Clemson University
Partition Congruences

2005 Apr. — Clifford Conference on Experimental Mathematics, Tulane University
Partitions, congruences and differential equations

2003 Mar. — AMS Special Session on q-Series in Number Theory and Combinatorics
Louisiana State University, Baton Rouge
Ekhad-Zeilberger identities and their multisum analogs

2000 Oct. — q-series with Applications to Combinatorics, Number Theory and Physics: University of Illinois at Urbana-Champaign
The Hirschhorn-Farkas-Kra septagonal numbers identity and some shiftless partition identities

2000 July — Classical Combinatorics In honor of Dominique Foata's 65th birthday, Temple University
Shifted partition identities and conjectures

2000 June — NATO Advanced Study Institute Special Functions 2000:
Current Perspective and Future Directions, Arizona State University

Modular relations between the rank and the crank

2000 May — Millennial Conference in Number Theory, University of Illinois
More shifted partition identities

1999 Mar. — AMS Special Session on Elementary and Analytic Number Theory, Urbana, IL
Modular relations between the rank and the crank

1998 Oct. — AMS Special Session on Partitions and q-Series, State College, PA
Zeros of certain modular functions

1998 June — AMS-IMS-SIAM Summer Research Conference on q-Series, Combinatorics and Computer Algebra, Mt. Holyoke
Zeros of certain modular functions

1995 Dec. — Workshop on Organic Mathematics, Simon Fraser University, Vancouver
Approximations to Pi via the Dedekind eta function

1995 Dec. — CMS Special Session on Experimental and Constructive Mathematics, Simon Fraser University, Vancouver
Shifted Partition Identities

1995 May — Conference on Analytic Number Theory, Allerton Park, University of Illinois
Approximations to π via modular equations for the Dedekind η-function

1995 Jan. — Session on Enumerative Combinatorics and Representations of the Symmetric Group, Oberwolfach, Germany
More cranks and t-cores

1994 Nov. — AMS Special Session on Combinatorics, Richmond, Virginia
Congruences for colored partitions

1994 Aug. — AMS Special Session on q-series, Minneapolis
More cranks and t-cores

1994 Mar. — AMS Special Session on Special Functions, Manhattan, Kansas
Some generalizations of the Farkas-Kra theta function identities

1993 Sep. — ACSyAM Combinatorics and Symbolic Computation Workshop MSI/Cornell University
Ramanujan's theories of elliptic functions to alternative bases — a symbolic excursion

1992 July — Rademacher Centenary Conference, University Park, Pennsylvania
Cubic modular identities of Ramanujan, hypergeometric functions and analogoues of the arithmetic-geometric mean iteration

1992 Apr. — Illinois Number Theory Conference, Urbana
Cranks, t-cores and congruences for partitions

1988 Mar. — AMS Special Session on Algebraic Combinatorics, East Lansing, Michigan
Combinatorial interpretations of congruences for certain plane partitions

1987 — Summer Meeting of the AMS on Theta Functions, Bowdoin, Maine
Ranks, Cranks and Congruences for Partitions

Contibuted Talk

2011 Jan. — AMS Session on Number Theory, New Orleans
Higher order spt-functions

1995 June — Workshop on Special Functions, q-series and Related Topics, Fields Institute, University College, University of Toronto
Approximations to π via modular equations for the Dedekind eta-function

1993 Aug. — Joint AMS-CMS-MAA Conference, Vancouver
Generalizations of Dyson's rank and non-Rogers-Ramanujan partitions

1989 July — Annual conference of the Austral. Math. Soc., Macquarie University
Recent developments in the combinatorics of partition congruences

Colloquia

2016 Dec.	Mathematics Colloquium, University of Newcastle, Australia *Transformation Properties for Dyson's Rank Function*
2008 July	Mathematics Colloquium, University of Newcastle, Australia
2005 July	Mathematics Colloquium, University of Melbourne, Australia
2001 July	Mathematics Colloquium and Number Theory Seminar, Macquarie University, Sydney, Australia
2000 July	Mathematics Colloquium and Number Theory, University of Sussex, Brighton, England
1999 July	Mathematics Colloquium and Number Theory Seminar, Macquarie University, Sydney, Australia
1997 Mar.	Mathematics Colloquium, University of Illinois, Urbana
1996 July	Mathematics Colloquium, Macquarie University, Sydney
1995 Mar.	Mathematics Colloquium, Florida State University, Tallahassee

Seminars

2017 Mar.	Graduate Number Theory Seminar, University of Illinois, Urbana *Playing with partitions and q-series*
2017 Mar.	Number Theory Seminar, University of Illinois, Urbana *New mock theta function identities*
2013 Aug.	CARMA OANT Seminar, University of Newcastle, Australia *Dyson's rank function and Andrews's SPT function*
2013 Apr.	Rutgers Experimental Mathematics Seminar, Rutgers University *The Dyson rank of partitions*
2003 Apr.	Number Theory Seminar, University of Illinois, Urbana
1997 Mar.	Number Theory Seminar, University of Illinois, Urbana
1996 Aug.	Number Theory Seminar, University of New South Wales, Sydney

ORGANIZATIONS

American Mathematical Society

PROFESSIONAL ACTIVITIES

- Managing Editor of The Ramanujan Journal
- Member of the Number Theory Review Panel for NSA Proposals (2007, 2009, 2014)
- Member of the Program Committee for the 29th international conference on Formal Power Series and Algebraic Combinatorics (FPSAC), London (United Kingdom), July 9–13, 2017
- Member of the Scientific Committee for the 15th International Symposium on Orthogonal Polynomials, Special Functions and Applications (OPSFA), Johannes Kepler University and the Research Institute for Symbolic Computation (RISC), Hagenberg, Linz, Austria, July 22–26, 2019

JOURNALS REFEREED

Acta Arithmetica
Aequationes Mathematicae
Bulletin of the Australian Mathematical Society
Canadian Journal of Mathematics

Constructive Approximation
Crelle's Journal
Discrete Mathematics
Electronic Journal of Combinatorics
Indian Journal of Mathematics
International Journal of Number Theory
Involve
Israel Journal of Mathematics
Journal de Théorie des Nombres de Bordeaux
Journal of Algebra
Journal of Combinatorial Theory, Series A
Journal of Computational and Applied Mathematics
Journal of Integer Sequences
Journal of Mathematical Analysis and Applications
Journal of Number Theory
Journal of Symbolic Computation
Journal of the Australian Mathematical Society
Journal of the London Mathematical Society
Methods and Applications of Analysis
Proceedings of the American Mathematical Society
Proceedings of the London Mathematical Society
Rocky Mountain Journal
The Ramanujan Journal
Transactions of the American Mathematical Society
Turkish Journal of Mathematics

THESES AND DISSERTATIONS DIRECTED

Chair, 1 Masters Committee

Student Name	Research Topic	Home Department	Completion Date
Amitava Ghosh	Approximations to π, Dedekind's eta function, and modular equations	Mathematics	8/14/2007

Chair, 1 PhD Committee

Student Name	Research Topic	Home Department	Completion Date
C. Jennings-Shaffer	Analytic and Arithmetic Properties of Smallest Parts Partition Functions and Generalizations	Mathematics	May, 2015

DEPARTMENTAL SERVICE

2018–2019 Faculty Committees

- Steering Committee
- Computer Committee
- Graduate Committee
- Undergraduate Committee Upper Division

Past Committees

Math dept webmaster 2001 – July, 2009. Other past committees: Post-Doc Search Committee, Group Proposals Committee, Steering Committee, Rescource Room Committee, Computer Committee (chair), Graduate Committee, Undergraduate Committee Upper Division

Gainesville Number Theory Conferences Organized

- Symbolic Computation, Number Theory, Special Functions, Physics and Combinatorics (November 11 – 13, 1999)
- Number Theory and Combinatorics in Physics (March 21–23, 2003)
- Additive Number Theory (November 17–20, 2004)
- Partitions, q-Series and Modular Forms (March 8 – 16, 2008)
- Quadratic Forms, Sums of Squares, Theta Functions and Integral Lattices (March 7 – 15, 2009)
- Higher Degree Forms (May 21 – 23, 2009)
- Ramanujan 125 (November 5–7, 2012)
- ALLADI60 (March 17–21, 2016)

UNIVERSITY SERVICE

Member of College Mathematical Sciences Committee 2004 – 2007.

REGOGNITION OF TEACHING ACHIEVEMENTS

1995 TIP Award

COURSE DEVELOPMENT

- 1997-1999: Developed a new Undergraduate course *Introduction to Maple*, which ran as a section of MAT4930
- Summer 2005: Developed Graduate Special Topics Course *Partitions and q-Series*, which ran as a section of MAT6932
- Summer 2009: Developed an online component of my Graduate Special Topics Course *Partitions and q-Series*, so I could offer it as a Reading Course.
  See the website qseries.org/fgarvan/qs/summer2009/

TEACHING EXPERIENCE

- MAA 4102 Introduction to Advanced Calculus 1 for Engineers and Physical Scientists, Fall 2013
- MAA 4103 Introduction to Advanced Calculus 3 for Engineers and Physical Scientists, Spring 2014
- MAA 4211 - Advanced Calculus 1, Fall 1995
- MAA 4212 - Advanced Calculus 2, Spring 1996
- MAA 4402/5404 - Functions of a Complex Variable, Fall 2007, Summer 1996, Summer 1997, Fall 2013, Fall 2015, Spring 2016, Fall 2016, Spring 2017, Spring 2018, Fall 2018, Spring 2019
- MAC 2233 - Survey of Calculus 1, Fall 1998

- MAC 2312 - Analytic Geometry and Calculus 2, Spring 1995, Fall 1996, Spring 1996, Spring 1998, Spring 2000, Spring 2010
- MAC 2313 - Analytic Geometry and Calculus 3, Fall 1992, Fall 1998, Spring 1999, Fall 2001, Fall 2003,
- MAC 3473 - Honors Calculus 2, Fall 1995, Fall 2000, Spring 2000, Fall 2007, Spring 2009
- MAC 3474 - Honors Calculus 3, Spring 2007
- MAD 3107 - Discrete Mathematics, Spring 2007
- MAP 2302 - Elementary Differential Equations, Spring 1993, Fall 1999, Spring 2000, Spring 2001, Fall 2002, Fall 2004, Spring 2008, Fall 2009, Spring 2011, Fall 2011, Spring 2012, Spring 2014
- MAP 4305/5304 - Differential Equations for Engineers and Physical Scientists, Summer 2003, Summer 2006, Summer 2012
- MAP 4403 - Mathematical Methods for Engineers, Fall 2000, Fall 2001
- MAS 3113 - Matrices and Vector Spaces, Fall 1993, Spring 1994
- MAS 3114 - Computational Linear Algebra, Fall 1994, Fall 1997, Summer 2004, Fall 2005, Summer 2013, Summer 2017
- MAS 3300 - Numbers and Polynomials, Fall 1992, Fall 1994, Fall 1997, Spring 1997, Summer 2001, Fall 2006, Fall 2008 Fall 2011
- MAS 4105 - Linear Algebra 1, Fall 1993, Spring 1993, Spring 1994, Fall 2002, Fall 2009, Spring 2011, Spring 2013, Fall 2014, Fall 2016
- MAS 4203 - Introduction to Number Theory, Spring 1995, Summer 1995, Spring 1997, Spring 2002, Spring 2005, Summer 2002, Spring 2009, Spring 2010, Summer 2011, Summer 2014, Summer 2015, Spring 2016, Spring 2017
- MAS 4301 - Abstract Algebbra 1, Spring 2012, Fall 2012, Spring 2015, Fall 2015, Spring 2018, Fall 2018
- MAS 7215 - Theory of Numbers I, Fall 1999, Fall 2003, Fall 2005
- MAS 7216 - Theory of Numbers II, Spring 2001, Spring 2004, Spring 2006, Spring 2019
- MAT 4930 - Introduction to Maple (Special Topics in Mathematics), Fall 1998, Spring 1998, Spring 1999, Spring 1999, Spring 2000
- MAT 6932 - Partitions and q-Series (Special Topics in Mathematics), Summer 2005
- MAT 6932 - Modular Forms and Mock Theta Functions (Special Topics in Mathematics), Fall 2014, Spring 2015

Updated May 8, 2019