KEVIN JAMES
Assistant Professor
Mathematical Sciences
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EDUCATION.

Ph.D., University of Georgia, 1997, Mathematics.

B.S., University of Georgia, 1991, Mathematics and Computer Science.

PROFESSIONAL EXPERIENCE.

Clemson University, 8/2006 - present, Associate Professor.

Clemson University, 7/2000 - 8/2006, Assistant Professor.

The Pennsylvania State University, 8/1997 - 6/2000, S. Chowla Research Assistant Professor.

University of Georgia, 6/1991 - 8/1997, Teaching/Research Assistant.

SPONSORED RESEARCH.

Collaborative Research: Research Experience for Undergraduates: Algebraic geometry, combinatorics, and number theory, NSF, CoPI, $ 234,455, ($ 70,337) 5/31/2012 - 5/30/2014.

Palmetto Number Theory Series/ SouthEast Regional Meeting on Numbers, NSA, CoPI, $ 14,483, ($ 7,242) 8/1/2011 - 7/31/2012.

Palmetto Number Theory Series/ SouthEast Regional Meeting on Numbers, NSF, CoPI, $ 11,223 , ($ 3,704) 8/1/2011 - 7/31/2012.

Acquisition of Large-Memory, Many-Core Compute Node for Mathematical Science Research, NSF, CoPI, $ 132,196, ($ 10,576) 7/1/2010 - 6/30/2011.

Palmetto Number Theory Series, NSF, CoPI, $ 13,423 , ($ 2685) 8/1/2010 - 7/31/2011.

Palmetto Number Theory Series, NSF, CoPI, $ 11,096 , ($ 3662) 8/1/2009 - 7/31/2010.

Palmetto Number Theory Series, NSA, CoPI, $ 13,057 , ($ 4352) 8/1/2009 - 7/31/2010.

Palmetto Number Theory Series, NSF, CoPI, $ 7,950, ($ 1590) 8/1/2008 - 7/31/2009.

Palmetto Number Theory Series , NSF, CoPI, $ 8,250, ($ 1650) 8/1/2007 - 7/31/2008.

South Carolina Number Theory Meeting - Palmetto Number Theory Series (PANTS), NSA, CoPI, $ 15,000, ($ 3000), 9/1/2007 - 8/31/2008.

REU Site: Computation, Combinatorics and Number Theory, NSF, PI, $ 559,816 ($ 279,908), 4/1/2006 - 3/31/2011.

Supplement to 2003 REU in Computational Number Theory and Combinatorics, NSF, PI, $ 28,389 ($ 14,195), 5/1/2006 - 4/30/2007.

Acquisition of Parallel Computing Cluster for Large-Scale Computational Problems in the Mathematical Sciences, NSF, Co-PI, $ 140,000 ($ 12,600), 10/01/2005 - 10/01/2006.

2003 REU in Computational Number Theory and Combinatorics, NSF, PI, $ 245,556 ($ 122,778), 5/1/2003 - 4/30/2006.

REU in Computational Number Theory and Combinatorics, NSF, PI, $ 64,109 ($ 32,055), 6/01/2002 - 5/31/2003.

Modular Forms and Related Topics, NSF, PI, $ 51,993 ($ 51,993), 8/15/2000 - 7/31/2003.

OTHER SPONSORED ACTIVITY.

Travel Grant, National Science Foundation, $1,000 (1998).

PUBLICATIONS.

Refereed Journal Publications.

1. K. James, *L-series with non-zero central critical value*, Journal of the American Mathematical Society, **11** (1998), 635–641.
2. K. James and K. Ono, *On the irreducibility of Hecke polynomials*, Journal of Number Theory, **73** (1998), 527–532.
3. K. James and K. Ono, *Selmer groups of quadratic twists of elliptic curves*, Math. Ann., **314**, (1999), no. 1, 1–17.
4. K. James, *Elliptic Curves satisfying the Birch and Swinnerton-Dyer conjecture mod 3*, Journal of Number Theory, **76** (1999), 16–21.
5. D. Farmer and K. James, *The irreducibility of some level–1 Hecke polynomials*, Math. Comp. **71** (2002) no. 239, 1263–1270.
6. K. James, *Average Frobenius distributions for elliptic curves with 3-torsion*, Journal of Number Theory **109** (2004) no. 2, 278–298.
7. K. James, *Averaging Special Values of Dirichlet L-series*, Ramanujan Journal, **10**, (2005), no. 1, 75–87.
8. J. Battista, J. Bayless, D. Ivanov and K. James, *Average Frobenius distributions for elliptic curves with nontrivial rational torsion*, Acta Arith. **119** (2005), no. 1, 81–91.

9. K. Bowman, N. Calkin, Z. Cochran, T. Flowers, K. James and S. Purvis, *Linear independence in a random binary vector model*, 36th Southeastern International Conference on Combinatorics, Graph Theory, and Computing. Congr. Numer. **172** (2005), 29–32.
10. N. Calkin, K. James, S. Purvis, S. Race, K. Schneider, M. Yancey, *Counting Kings: Explicit Formulas, Recurrence Relations, and Generating Functions! Oh My!* Congressus Numerantium **182** (2006), 41-51.
11. N. Calkin, K. James, S. Purvis, S. Race, K. Schneider, M. Yancey, *Counting Kings: As easy as λ_1, λ_2, λ_3, ...* Congressus Numerantium **183** (2006), 83-95.
12. K. James and G. Yu, *Average Frobenius distribution of elliptic curves*, Acta Arith. **124** (2006), 79-100.
13. M. Brown, N. Calkin, K. James, A. King, S. Purvis and R. Rhoades, *Trivial Selmer groups and the number of even partitions of a graph.*, INTEGERS: ELECTRONIC JOURNAL OF COMBINATORIAL NUMBER THEORY, **6** (2006), #A33.
14. N. Calkin, J. Davis, K. James, E. Perez and C. Swannack, *Computing the integer partition function.*, Math. Comp. **76** (2007), 1619-1638.
15. B. Faulkner and K. James, *A graphical approach to computing Selmer groups of congruent number curves*, Ramanujan Journal, **14** (2007) no. 1, 107–129.
16. B. Brown, N. Calkin, T. Flowers, K. James, E. Smith and A. Stout, *Elliptic Curves, Modular Forms, and Sums of Hurwitz Class Numbers.*, Journal of Number Theory, **128**, no. 6, (2008), 1847–1863.
17. N. Calkin, N. Drake, K. James, S. Law, P. Lee, D. Pennsiton, J. Radder, *Divisibility properties of the 5-regular and 13-regular partition functions*, INTEGERS: ELECTRONIC JOURNAL OF COMBINATORIAL NUMBER THEORY, **8(1)** (2008) # **A60**.
18. J. Burkhart, N. J. Calkin, S. Gao, J. C. Hyde-Volpe, K. James, H. Maharaj, S. Manber, J. Ruiz, E. Smith, *Finite field elements of high order arising from modular curves*, Designs, Codes and Cryptography, **51:3** June 2009.
19. N. Calkin, J. Davis, M. Delcourt, Z. Engberg, J. Jacob, K. James, *Discrete Bernoulli convolutionns: An algorithmic approach toward bound improvement*, Proc. Amer. Math. Soc. **139** (2011), 1579–1584.
20. K. James, E. Smith *Average Frobenius Distributions for elliptic curves over Galois extensions*, Math Proc Camb Phil Soc. **150** issue 03 (2011) 439–458.
21. N. Calkin, B. Faulkner, K. James, M. King, D. Penniston, *Average Frobenius distributions for elliptic curves over abelian extensions*, Acta Arith. **149** (2011), no. 3, 215-244.
22. J. Beyerl, K. James, C. Trentacoste, H. Xue, *Products of Nearly Holomorphic Eigenforms*, Ramanujan Journal, **27**, Issue 3 (2012), 377–386.
23. N. Calkin, J. Davis, M. Delcourt, Z. Engberg, J. Jacob, K. James, *Taking the*

convoluted out of Bernoulli convolutions: A discrete approach, INTEGERS (accepted modulo revision).

24. J. Beyerl, K. James, H. Xue, *On the divisibility of Eigenforms by other Eigenforms*, (accepted modulo revision, revised and resubmitted).
25. K. James and E. Smith, *Average Frobenius distribution for the degree two primes of a number field*, (submitted).
26. K. James, C. Trentacoste, H. Xue, *A graph theoretic approach to the 3-Selmer groups of certain elliptic curves*, (revised and resubmitted).
27. K. James, T. Flowers, G. J. Schaeffer, C. T. South and C. J. Wu, *Average Frobenius distributions for rational elliptic curves with prescribed torsion subgroup*, (in preparation).
28. K. James and N. Jones, *Elliptic champion primes*, (in preparation).

Conference Proceedings (Reviewed).

1. K. James, *An example of an elliptic curve with a positive density of prime quadratic twists which have rank zero*, Proceedings of Topics in Number Theory [Editors: G. Andrews, K. Ono], Kluer Acad. Publ. (1999), 223–227.
2. J. Brunier, K. James, W. Kohnen, K. Ono, C. Skinner and V. Vatsal, *Central critical values of quadratic twists of modular L-functions and some applications*, Proceedings of Topics in Number Theory [Editors: G. Andrews, K. Ono], Kluer Acad. Publ. (1999), 115–125.
3. N. Calkin and K. James, *Clemson REU in Computational Number Theory and Combinatorics*, Proceedings of the Conference on Promoting Undergraduate Research in Mathematics, Joseph A. Gallian (editor), American Mathematical Society, 2007, 57–60.

INVITED PRESENTATIONS.

Plenary Lectures.

1. K. James, *Prime distribution and elliptic curves,* Plenary Lecture given at the UGA Graduate Student Mock AMS Conference, University of Georgia, Athens, GA (07/2010).

Invited Research Lectures.

1. K. James *The distribution of the traces of Frobenius for elliptic curves.*, AMS special session on Automorphic and Modular Forms, 2012 Spring Western Section Meeting, University of Hawaii at Manoa, Honolulu, HI (3/3-4/2012)
2. K. James *Prime distribution and elliptic curves*, AMS special session on Modular Forms, Elliptic Curves, and Related Topics, 2011 Fall Southeastern Section meeting, Wake Forest University, Winston-Salem, NC. (9/24-25/2011).
3. K. James *Sums of Hurwitz Class Numbers*, Senior Seminar, University of North Carolina - Asheville, Asheville, NC (2/3/2010).

4. K. James *Prime distribution and elliptic curves*, Noontime seminar, University of North Carolina - Asheville, Asheville, NC (2/4/2010).
5. K. James *Elliptic Curves and the distribution of primes*, Québec-Vermont Number Theory Seminar, McGill University, Montreal, Québec, Canada (10/30/2008
6. K. James *The parity of the 5-regular and 13-regular partition functions and related results*, 2008 Southeastern sectional meeting of the Mathematical Association of America, The Citadel, Charleston, SC (3/29/08).
7. K. James *Undergraduate Research in Computational Number Theory and Combinatorics*, Session on Interdisciplinary Research Projects for Undergraduates at the International Conference on Advances in Interdisciplinary Statistics and Combinatorics, University of North Carolina-Greensboro, Greensboro, NC. (10/13/07).
8. K. James *Average Frobenius Distributions of Elliptic Curves*, Number Theory Seminar, University of South Carolina, Columbia SC. (9/20/07).
9. K. James *Some recent averaging results related to the Lang-Trotter conjecture*, AMS special session on Analytic Number Theory and Modular Forms, 2006 Fall Southeastern Section Meeting, Fayetteville, AR. (11/3/2006).
10. N. Calkin and K. James, *Research Experiences for Undergraduates*, Spellman College, Atlanta GA. (2/08/06).
11. K. James, *The Lang-Trotter conjecture on average.* Number Theory seminar, University of South Carolina, Columbia SC. (2/25/05).
12. K. James, *The Lang-Trotter conjecture on average.* Number Theory seminar, Texas A&M University, College Station, TX. (2/17/05).
13. K. James, *Average Frobenius distributions for elliptic curves with rational torsion.* AMS special session on Arithmetic Algebraic Geometry, Joint Mathematics meetings, Atlanta, GA (1/2005).
14. K. James, *Sums of Hurwitz class numbers.* UGA Department of Mathematics VIGRE seminar, University of Georgia, Athens, GA. (2/24/2004).
15. K. James, *Average Frobenius distributions for elliptic curves with non trivial rational torsion subgroups.* AMS special session "Modular Forms, Elliptic Curves, and Related Topics," 2003 Joint Mathematics Meetings, Baltimore, MD (1/15-18/2003).
16. K. James, *The Lang-Trotter Conjecture on average.* AMS special session on Number Theory, 2002 Spring South East Sectional Meeting in Atlanta, GA (3/2002).
17. K. James, *The Lang-Trotter Conjecture for elliptic curves with 3-torsion.* Number Theory seminar, University of Georgia, Athens, GA (2/2002).
18. K. James, *Average Frobenius distributions for elliptic curves with prescribed torsion subgroup.* AMS special session on Number Theory, 2001 Spring Central Section Meeting, Lawrence, KS (3/2001).

19. K. James, *Average Frobenius distributions for elliptic curves with prescribed torsion subgroup.* AMS special session on Analytic Number Theory, 2001 Spring Southeastern Section Meeting, Columbia, SC (3/2001).
20. K. James, *What is number theory good for anyway.* Davidson College, Davidson, North Carolina (2/2000).
21. K. James, *On Selmer groups of quadratic twists of elliptic curves.* AMS special session on automorphic forms, 2000 Joint meetings of the AMS and MAA, Washington DC (1/2000).
22. K. James, *On Selmer groups of quadratic twists of elliptic curves.* New York Number Theory Seminar, City University of New York, New York, New York (5/1999).
23. K. James, *On Selmer groups of quadratic twists of elliptic curves.* Modular forms meeting, Oberwolfach Institute, Oberwolfach, Germany (12/1998).
24. K. James, *How to multiply really fast.* Undergraduate informal mathematics seminar, Bucknell College, Lewisburg, PA (4/1998).
25. K. James, *Density Theorems related to the non-vanishing of L-series of Modular Forms.* AMS special session on Modular Identities and Q-series, Philadelphia, PA (4/1998).
26. K. James, *On quadratic twists of elliptic curves.* AMS special session in Number Theory, University of Montreal, Montreal, Canada (9/1997).
27. K. James, *On quadratic twists of elliptic curves.* AMS special session on number theory, Rutgers University, Newark, NJ (3/1997).
28. K. James, *On quadratic twists of elliptic curves.* University of Missouri, Columbia, MO (11/1996).

Invited Colloquia.

1. K. James, Math Honors Banquet, East Tennessee State University, Johnson City, Tennessee (4/2005).
2. K. James, University of Missouri, Columbia, Missouri (3/2000).
3. K. James, Clemson University, Clemson, South Carolina, (2/2000).
4. K. James, University of North Texas, Denton, Texas (2/2000).
5. K. James, Bucknell University, Lewisburg, Pennsylvania (2/2000).
6. K. James, Western Carolina University, Cullowhee, North Carolina (2/2000).

HONORS AND AWARDS.

Invited to give the plenary address at a Mock AMS conference organized by the University of Georgia Department of Mathematics and to represent the success of UGA's graduate mathematics program. I was also invited to lead a discussion on pursuing a career in mathematics. (2010).

Ivited and funded to participate in an AMS-NSA sponsored Workshop on "Promoting Undergraduate Research in Mathematics".

Nominated and accepted for participation in the 2004 National Effective Teaching Institute (2004).

Included in AcademicKeys Who's Who in Sciences Higher Education. (2004)

Received the Robert C. Anderson memorial award for excellence in research from University of Georgia (2000).

Invited to give a talk at a conference on modular forms at the Oberwolfach Institute in Germany (1998).

Received Franklin College of Arts and Sciences Distinguished Doctoral Research Assistantship at the University of Georgia (1996-1997).

Received 1 year Graduate School Research Assistantship (1995-1996).

Received Outstanding Graduate Teaching Award (1995).

Received 9 month Graduate School Research Assistantship (1994-1995).

Received 1 year Graduate School Research Assistantship (1991-1992).

Graduated Magna Cum Laude with high honors from University of Georgia (1991).

ΦBK (1991).

$\Phi K\Phi$ (1991).

GRADUATE STUDENT ADVISING.

PhD Graduates

1. Bryan Faulkner, "Estimates related to the arithmetic of elliptic curves," (August 2007).
2. Ethan Smith, (Ph. D. Math. Sci.) "On Elliptic Curves, Modular Forms, and the Distribution of Primes" (May 2009).
3. Jeff Beyerl, "On factoring Hecke eigenforms, nearly holomorphic modular forms, and applications to L-values," (May 2012), co-advised with Hui Xue..
4. Catherine Trentacoste, "Modular Forms, Elliptic Curves and Drinfeld Modules," (May 2012), co-advised with Hui Xue..

Masters Graduates

1. Travieso Gonzalez, "Exploring the partition function," (May 2003).
2. Ethan Smith, "Bases of modular forms," (May 2005).
3. Matthew J. Lafferty, "Building squares of ideals in number fields" (May 2008).
4. Jeff Beyerl, "Binary Quadratic Forms over $\mathbb{F}[T]$ and Principal Ideal Domains," (May 2009), co-advised with Hui Xue..

5. Catherine Trentacoste, "Construction of a dimension two rank one Drinfeld Module," (May 2009), co-advised with Hui Xue..
6. Rodney Keaton, "Explicit Level Lowering for 2-Dimensional Modular Galois Representations," (December 2010), co-advised with Jim Brown.
7. Jason Hedetniemi, "Champion Primes For Elliptic Curvers," (May 2012), co-advised with Hui Xue..

Current Graduate Advising

1. Jeff Beyerl, (PhD Math. Sci.) May 2012, co-advised with Hui Xue.
2. Catherine Trentacoste, (PhD Math. Sci.) May 2012, co-advised with Hui Xue..
3. Jason Hedetniemi, (MS Math. Sci.), May 2012, co-advised with Hui Xue..

TEACHING.

Clemson University (7/00 - Present)

MthSc. 106 (Calculus, 2 sections)	Fall 2000
MthSc. 119 (Intro. Discrete Math.)	Spr 2001
MthSc. 106 (Calculus)	Fall 2001
MthSc. 853 (Linear Algebra)	Fall 2001
MthSc. 311 (Undergrad Linear Algebra)	Spr 2002
MthSc. 119 (Intro. Discr. Math.)	Fall 2002
MthSc. 985 (Number Theory)	Fall 2002
MthSc. 410 (Number Theory)	Spr 2003
MthSc. 985 (Algebraic Number Theory)	Spr 2003
MthSc. 119 (Intro. Discr. Math.)	Fall 2003
MthSc. 985 (Primes of the form $x^2 + ny^2$)	Fall 2003
MthSc. 410 (Number Theory)	Spr 2004
MthSc. 311 (Undergrad Linear Algebra)	Spr 2004
MthSc 106 (Calculus)	Fall 2004
MthSc 985 (Elliptic Curves & Modular Forms)	Fall 2004
MthSc 129 (Problem solving in Discr. Math.)	Spr 2005
MthSc 410 (Number Theory)	Spr 2005
MthSc. 119 (Intro. Discr. Math.)	Fall 2005
MthSc. 985 (Number Theory)	Fall 2005
MthSc. 311 (Undergrad Linear Algebra)	Spr 2006
MthSc. 851 (Abstract Algebra)	Spr 2006
MthSc. 311 (Undergrad Linear Algebra)	Fall 2006
MthSc. 852 (Abstract Algebra)	Fall 2006
MthSc. 129 (Problem solving in Discr. Math.)	Spr 2007
MthSc. 985 (Analytic Number Theory)	Spr 2007
MthSc. 311 (Undergrad Linear Algebra)	Fall 2007
MthSc. 985 (Graduate Number Theory)	Fall 2007
MthSc. 311 (Undergrad Linear Algebra)	Spr 2008
MthSc. 985 (Graduate Algebraic Number Theory)	Spr 2008
MthSc. 311H (Undergrad Linear Algebra)	Fall 2008
MthSc. 412 (Undergraduate Abstract Algebra)	Fall 2008
MthSc. 311H (Undergrad Linear Algebra)	Spr 2009
MthSc. 853 (Graduate Linear Algebra)	Spr 2009
MthSc. 311 (Undergrad Linear Algebra)	Fall 2009
MthSc. 412 (Undergraduate Abstract Algebra)	Fall 2009
MthSc. 311 (Undergrad Linear Algebra)	Spr 2010
MthSc. 412 (Undergraduate Abstract Algebra)	Spr 2010
MthSc. 311 (Undergrad Linear Algebra)	Fall 2010
MthSc. 412 (Undergraduate Abstract Algebra)	Fall 2010

MthSc. 206 (Multivariable Calculus)	Spr 2011
MthSc. 410 (Undergraduate Number Theory)	Spr 2011
MthSc. 102 (Business Calculus))	Summer 2011
MthSc. 853 (Linear Algebra)	Summer 2011
MthSc. 206 (Multivariable Calculus)	Fall 2011
MthSc. 851 (Abstract Algebra)	Fall 2011
MthSc. 206 (Multivariable Calculus)	Spring 2012
MthSc. 852 (Abstract Algebra)	Spring 2012

The Pennsylvania State University (8/97 - 5/2000)

MATH 140 (Calculus)	Fall 1997
MATH 311 (Intro. to higher math)	Spring 1998
MATH 467 (Factoring and Primality Testing)	Fall 1998
MATH 597B (Grad. class in modular forms)	Fall 1998
MATH 251H (Honors Ordinary Diff. Eq.)	Spring 1999
MATH 436 (Linear Algebra)	Fall 1999
MATH 465 (Undergrad. Number Theory)	Spring 2000
MATH 251.101 (1 hr. course on PDE's and Fourier Series)	Spring 2000

University of Georgia (6/91 - 6/97)

MATH 116 (Precalculus)	Fall 1992
MATH 116	Winter 1993
MATH 116	Fall 1993
MATH 105 (Intro. to Math)	Winter 1994
MATH 106 (Intro. to Math)	Winter 1995
MATH 106	Fall 1995

Other Duties performed: grading, assisting in teaching calculus.