

Scott T. Parsell

May 2016

Department of Mathematics
West Chester University
West Chester, PA 19383

(610) 436-3465
sparsell@wcupa.edu

Education

Doctor of Philosophy in Mathematics, University of Michigan (1999)
Area of Specialization: Analytic Number Theory
Master of Science in Mathematics, University of Michigan (1996)
Bachelor of Science in Mathematics, Massachusetts Institute of Technology (1994)

Positions Held

2014–present Professor of Mathematics, West Chester University
2009–2014 Associate Professor of Mathematics, West Chester University
Courses taught: Calculus I, II, and III, Abstract Algebra I and II,
Linear Algebra, Number Theory, Complex Variables, Real Analysis
Introduction to Mathematics, Introduction to Applied
Mathematics, College Algebra and Trigonometry, Brief Calculus
2008–2010 Associate Professor of Mathematics, Butler University (on leave AY 2009-10)
2004–2008 Assistant Professor of Mathematics, Butler University
Courses taught: Precalculus, Calculus I, II, and III, Real Analysis
I and II, Complex Analysis, Modern Algebra I and II, Number
Theory, Core Analytic Reasoning: *Codes and Secret Messages*
2001–2004 NSF Postdoctoral Fellow, Pennsylvania State University
Courses taught: Calculus I (regular and honors), Concepts
of Discrete Mathematics, Factorization and Primality Testing
1999–2001 Visiting Assistant Professor, Texas A&M University
Courses taught: Engineering Calculus I and II, Discrete Mathematics
Co-coordinator of the department's week-in-review sessions for
Engineering Calculus II, Spring 2001
1994–1999 Graduate Student Instructor, University of Michigan
Courses taught: Calculus I and II (reform style)
Assistant course coordinator for Calculus II, Fall 1998

Grants and Awards

- National Security Agency Standard Research Grant (2013–2015)
- National Security Agency Standard Research Grant (2011–2013)
- National Security Agency Young Investigator Grant (2008–2010)
- National Science Foundation U.S. Junior Oberwolfach Fellow (2008)
- Holcomb Institute Faculty Research Grants (2005, 2006, 2007)
- National Science Foundation Postdoctoral Fellowship (2001–2004)
- Rackham Outstanding Graduate Student Instructor Award, U. Michigan (1999)

Publications

- [1] *Exponential sums and diophantine problems*, Ph. D. Thesis, University of Michigan, 1999.
- [2] *On simultaneous diagonal inequalities*, J. London Math. Soc. (2) **60** (1999), 659–676.
- [3] *The density of rational lines on cubic hypersurfaces*, Trans. Amer. Math. Soc. **352** (2000), 5045–5062.
- [4] *Multiple exponential sums over smooth numbers*, J. Reine Angew. Math. **532** (2001), 47–104.
- [5] *On simultaneous diagonal inequalities, II*, Mathematika **48** (2001), 191–202.
- [6] (with T. D. Wooley) *On pairs of diagonal quintic forms*, Compositio Math. **131** (2002), 61–96.
- [7] *Iterative methods for pairs of additive diophantine equations*, Number Theory for the Millennium III (Urbana, IL, 2000), pp. 107–118, A K Peters, 2002.
- [8] *Pairs of additive equations of small degree*, Acta Arith. **104** (2002), 345–402.
- [9] *On simultaneous diagonal inequalities, III*, Quart. J. Math. **53** (2002), 347–363.
- [10] (with T. D. Wooley) *A quasi-paucity problem*, Michigan Math. J. **50** (2002), 461–469.
- [11] *Irrational linear forms in prime variables*, J. Number Theory **97** (2002), 144–156.
- [12] *Diophantine approximation with primes and powers of two*, New York J. Math. **9** (2003), 363–371.
- [13] *A generalization of Vinogradov’s mean value theorem*, Proc. London Math. Soc. (3) **91** (2005), 1–32.
- [14] (with J. P. Sorenson) *Fast bounds on the distribution of smooth numbers*, Algorithmic Number Theory (Berlin, 2006), 168–181, Lecture Notes in Comput. Sci. 4076, Springer, 2006.
- [15] *Asymptotic estimates for rational linear spaces on hypersurfaces*, Trans. Amer. Math. Soc. **361** (2009), 2929–2957.
- [16] *On the Bombieri-Korobov estimate for Weyl sums*, Acta Arith. **138** (2009), 363–372.
- [17] (with J. McLaughlin) *A Hardy-Ramanujan-Rademacher-type formula for (r, s) -regular partitions*, Ramanujan J. **28** (2012), 253–271.
- [18] *Hua-type iteration for multidimensional Weyl sums*, Mathematika **58** (2012), 209–224.
- [19] (with S. M. Prendiville and T. D. Wooley) *Near-optimal mean value estimates for multidimensional Weyl sums*, Geom. Funct. Anal. **23** (2013), 1962–2024.
- [20] *A note on Weyl’s inequality for eighth powers*, Rocky Mountain J. Math. **44** (2014), 259–268.
- [21] (with T. D. Wooley) *Exceptional sets for Diophantine inequalities*, Internat. Math. Res. Notices (2014), No. 14, 3919–3974.
- [22] (with J. Brandes) *Simultaneous additive equations: repeated and differing degrees*, Canad. J. Math. (to appear), 28 pp.

Selected Talks

- February 23, 1998 University of Michigan Number Theory Seminar
- April 4, 1998 Illinois Number Theory Conference (DeKalb, IL)
- September 12, 1998 AMS Central Sectional Meeting (Chicago, IL), Special Session on Number Theory
- October 26, 1998 University of Michigan Number Theory Seminar
- March 20, 1999 AMS Central Sectional Meeting (Urbana, IL), Special Session on Diophantine Equations, Inequalities, and Related Arithmetic Problems
- November 30, 1999 Kansas State University Math Department Colloquium (invited)
- May 23, 2000 Millennial Conference on Number Theory (Urbana, IL)
- January 13, 2001 AMS/MAA Joint National Meetings (New Orleans, LA), Special Session on Analytic Number Theory
- March 12, 2001 University of Michigan Number Theory Seminar (invited)
- March 29, 2001 Penn State University Algebra and Number Theory Seminar (invited)
- September 13, 2001 Penn State University Algebra and Number Theory Seminar
- May 20, 2002 Canadian Number Theory Association VII Meeting (Montreal, QC)
- October 26, 2002 AMS Western Sectional Meeting (Salt Lake City, UT), Special Session on Analytic Number Theory (invited)
- December 5, 2002 Penn State University Algebra and Number Theory Seminar
- March 21, 2003 Carleton University Number Theory Seminar (invited)
- April 8, 2003 University of Illinois Number Theory Seminar (invited)
- October 30, 2003 Penn State University Algebra and Number Theory Seminar
- January 7, 2004 AMS/MAA Joint National Meetings (Phoenix, AZ), AMS Session on Number Theory
- February 10, 2004 University of Southern Indiana Mathematics Colloquium (invited)
- February 27, 2004 Butler University Mathematics Colloquium (invited)
- March 5, 2004 College of Charleston Mathematics Colloquium (invited)
- June 20, 2004 Canadian Number Theory Association VIII Meeting (Toronto, ON)
- October 14, 2004 Penn State University Number Theory Seminar (invited)
- November 18, 2004 Conference on Additive Number Theory, U. Florida (invited)
- November 5, 2005 Indiana Section Meeting of the MAA, DePauw University
- March 18, 2006 Indiana Section Meeting of the MAA, Taylor University
- July 10, 2006 Canadian Number Theory Association IX Meeting (Vancouver, BC)
- November 20, 2006 University of Michigan Number Theory Seminar (invited)
- March 24, 2007 Indiana Section Meeting of the MAA, University of Indianapolis
- April 3, 2007 Ball State University Mathematics Colloquium (invited)
- May 18, 2007 Illinois Number Theory Fest (Urbana, IL)
- September 28, 2007 Miami (OH) University Annual Mathematics Conference
- December 4, 2007 University of Illinois Number Theory Seminar (invited)

- January 6, 2008 AMS/MAA Joint National Meetings (San Diego, CA), AMS Session on Number Theory
- March 11, 2008 Mathematisches Forschungsinstitut Oberwolfach, Workshop on Analytic Number Theory (invited)
- September 16, 2008 Wabash College Mathematics Colloquium (invited)
- March 13, 2009 West Chester University Mathematics Colloquium (invited)
- September 24, 2009 Penn State Algebra and Number Theory Seminar (invited)
- October 24, 2009 AMS Eastern Sectional Meeting (University Park, PA), Special Session on Analytic Number Theory (invited)
- November 19, 2009 West Chester University Mathematics Colloquium
- April 9, 2010 Pennsylvania State System of Higher Education Mathematics Conference
- March 9, 2011 University of Bristol Heilbronn Seminar (invited)
- May 11, 2011 Brigham Young University Number Theory Seminar (invited)
- June 5, 2012 Conference on Analytic Methods for Diophantine Problems, University of Göttingen (invited 1-hour address)
- June 21, 2012 Canadian Number Theory Association XII Meeting (Lethbridge, AB)
- September 22, 2012 AMS Eastern Sectional Meeting (Rochester, NY), Special Session on Analytic Number Theory (invited)
- April 18, 2013 Towson University Mathematics Colloquium (invited)
- June 6, 2013 Kansas State University Number Theory Seminar (invited)
- October 23, 2013 Mathematisches Forschungsinstitut Oberwolfach, Workshop on Analytic Number Theory (invited)
- January 15, 2014 AMS/MAA Joint National Meetings (Baltimore, MD), AMS Session on Number Theory
- March 25, 2015 Philadelphia Area Number Theory Seminar (Bryn Mawr, PA)
- August 14, 2015 Illinois Number Theory Conference (Urbana, IL)

Professional Activities and Service

- Reviewer for Mathematical Reviews (2000–present); 88 reviews written
- Reviewer for Zentralblatt MATH (2004–2014); 33 reviews written
- Referee for London Math. Soc. (9), J. Number Theory (5), Internat. J. Number Theory (4), Proc. Amer. Math. Soc. (3), Ramanujan J. (3), Finite Fields Appl. (2), Acta Arith., Compositio Math., Amer. Math. Monthly, Quart. J. Math., Internat. J. Math. and Math. Sci., Indian J. Pure Appl. Math., Math. Annalen, Internat. Math. Res. Notices, Taiwanese J. Math.
- Technical reviewer of textbooks for McGraw-Hill (2005) and Wiley (2010, 2012, 2013, 2016)
- Invited participant in Thomson’s “Strategies for the Calculus Classroom” workshop, San Diego, CA (March 17–18, 2007)
- Reviewer of grant proposals for National Security Agency (2009, 2013) and Natural Sciences and Engineering Research Council of Canada (2011, 2015, 2016)

- Co-organizer (with J. Sorenson) of a Special Session on Number Theory at the AMS Central Sectional Meeting, University of Notre Dame (April 8–9, 2006)
- Co-organizer (with A. Kumchev and G. Yu) of an AMS Special Session on Analytic Number Theory at the Joint Mathematics Meetings, Baltimore, MD (January 16–17, 2014)
- Member of the editorial board for *The Ball State Mathematics Exchange*, a journal devoted to undergraduate research (2014–present)
- Co-organizer (with C. Spencer) of a session on Diophantine Equations and Harmonic Analysis, Winter Meeting of the Canadian Mathematical Society, Montreal, QC (December 4–7, 2015)
- Invited participant in a week-long Workshop on Analytic Number Theory at Mathematisches Forschungsinstitut Oberwolfach (November 6–12, 2016)
- Co-organizer (with D.-R. Heath-Brown, Y.-R. Liu, and T. Wooley) of a week-long workshop on Efficient Congruencing at the Fields Institute (March 13–17, 2017)

Selected Departmental and University Service

- Research advisor for Butler Brain Gain (2006) and Butler Summer Institute (2008)
- Faculty advisor to Butler Student MAA Club (2006–2009)
- Faculty leader for Butler Fall Alternative Break service trip to Neon, KY (2007)
- College of Liberal Arts and Sciences Professional Standards Committee, Butler University (2006–2008)
- Welling Scholarship Committee, Butler University (2006–2009)
- Chair of three faculty search committees, Butler University (2007–2009)
- Core Curriculum Advisory Committee, Butler University (2008–2009)
- Assessment Coordinator for West Chester Mathematics Department (2010–2014)
- Program Chair for Annual PASSHEMA Conference (Spring 2010)
- WCU Mathematics Department Undergraduate, Graduate, and Advisory Committees (2010–2014)
- Mathematics Education Search Committee, WCU (2010–11)
- Representative for WCU Prospective/Accepted Students Days (2009, 2010, 2011, 2012)
- WCU Faculty Grants Development/University Research Funding Committee (2012–2015); co-chair (2013–2015)
- Applied Mathematics Search Committee, WCU (2012–13)
- WCU College of Arts and Sciences Who’s Who Selection Committee (Fall 2013)
- WCU Mathematics Service Courses Committee (chair) and Placement Test Committee (2014–2015)
- WCU Mathematics M.A. Program Revision Committee Chair (2015–16)
- Calculus Sequence Coordinator, WCU (2015–present)
- Mathematics Education Search Committee, WCU (2015–16)
- Mathematics Search Committee, WCU (2016–17)