

# Matthew L. Smith - Curriculum Vitæ

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## Field of Research

Diophantine equations and analytic number theory. My research focuses particularly on applications of the Hardy-Littlewood circle method and the methods developed in Gowers' recent proof of Szemerédi's theorem on arithmetic progressions to study solution-free sets for systems of equations.

## Education

Doctor of Philosophy	University of Michigan, Ann Arbor Mathematics. Thesis title: "On solution-free sets for simultaneous additive equations". Trevor D. Wooley, supervisor.	Sept. 2002-April 2007
Master of Arts	University of Michigan, Ann Arbor Mathematics.	Sept. 2002-Aug. 2004
Certificate of Advanced Study in Mathematics	University of Cambridge (Jesus College)	Sept. 2001-June 2002
Bachelor of Arts	Northwestern University Mathematics, Integrated Science Program. Departmental Honors, <i>summa cum laude</i> . Thesis title: "The problems of classical algebra: Solvability by radicals and compass and straightedge constructions throughout history". Michael Stein, supervisor.	Sept. 1996-June 2000

## Professional Career

Postdoctoral associate and Part-time instructor University of Georgia, Department of Mathematics.	Aug. 2007-present
Mathematics adviser University of Michigan, College of Engineering.	June 2006-Aug. 2006
Graduate student instructor, Graduate student research assistant University of Michigan, Department of Mathematics.	Sept. 2002-April 2007
C++ Programmer Transaction Technologies, Datchet, Berkshire, England.	Sept. 2000-Aug. 2001
Research assistant Northwestern University, Department of Astronomy.	June 1999-June 2000

## Courses Taught

Calculus II for Scientists and Engineers Mathematics 2260, University of Georgia.	Spring 2008, Spring 2009
Introduction to Higher Mathematics Mathematics 3200, University of Georgia.	Autumn 2008
Calculus I for Scientists and Engineers Mathematics 2250, University of Georgia.	Autumn 2007
Calculus III: Multivariable calculus (teaching assistant) Mathematics 215, University of Michigan.	Autumn 2003-Autumn 2004, Autumn 2005
Calculus I Mathematics 115, University of Michigan.	Winter 2003
Data, Functions, and Graphs Mathematics 105, University of Michigan.	Autumn 2002

## Publications

On solution-free sets for simultaneous quadratic and linear equations, *J. London Math. Soc.* **79** (2009), 273-293.

On solution-free sets for simultaneous additive equations, submitted.

## Presentations

“Roth’s theorem on arithmetic progressions in finite field geometries”, presented at the Number Theory/Arithmetic Geometry Seminar, University of Georgia, October 2008.

“On solution-free sets for simultaneous additive equations”, presented at the Tenth meeting of the Canadian Number Theory Association, University of Waterloo, July 2008.

“On solution-free sets for simultaneous additive equations”, presented at the Clay-Fields Conference on Additive Combinatorics, Harmonic Analysis, and Number Theory, Fields Institute, April 2008.

“On solution-free sets for simultaneous additive equations”, presented at the Integers Conference 2007, University of West Georgia, October 2007.

“On solution-free sets for simultaneous additive equations”, presented at the NSF FRG Conference: New developments in harmonic analysis, University of Georgia, October 2007.

“On solution-free sets for simultaneous additive equations”, presented at the Number Theory/Arithmetic Geometry Seminar, University of Georgia, September 2007.

“The classical Hardy-Littlewood circle method, with applications to Waring’s problem”, presented at the Number Theory/Arithmetic Geometry Seminar, University of Georgia, August 2007.

“Roth’s theorem on three-term arithmetic progressions”, presented at the Student Number Theory Seminar, University of Michigan, December 2006.

“On solution-free sets for simultaneous quadratic and linear equations”, presented at the Number Theory Seminar, University of Michigan, October 2006.

“On solution-free sets for simultaneous quadratic and linear equations”, presented at the Ninth meeting of the Canadian Number Theory Association, University of British Columbia, Vancouver, July 2006.

“Roth’s theorem on three-term arithmetic progressions”, presented at the Working Group on Additive Combinatorics, University of Michigan, January 2005.

## Conferences attended

“New results on the discrepancy function and related results”, University of Arkansas, Fayetteville, AR, April 2009.

“CNTA X: Tenth meeting of the Canadian Number Theory Association”, University of Waterloo, Waterloo, ON, July 2008.

“Clay-Fields Conference on Additive Combinatorics, Harmonic Analysis, and Number Theory”, Fields Institute, University of Toronto, Toronto, ON, April 2008.

“Workshop on Harmonic Analysis”, Fields Institute, University of Toronto, Toronto, ON, February 2008.

“Integers Conference 2007”, University of West Georgia, Carrollton, GA, October 2007.

“NSF FRG Conference: New developments in harmonic analysis”, University of Georgia, Athens, GA, October 2007.

“CNTA IX: Ninth meeting of the Canadian Number Theory Association”, University of British Columbia, Vancouver, BC, July 2006.

“Additive combinatorics”, Université de Montréal, Montréal, QC, March-April 2006.

“Rational and integral points on higher dimensional varieties”, Mathematical Sciences Research Institute, Berkeley, CA, January 2006.

“SMS 2005/NATO ASI: Equidistribution in number theory”, Université de Montréal, Montréal, QC, July 2005.

“Gauss-Dirichlet Conference 2005”, Mathematisches Institut, Universität Göttingen, Göttingen, Germany, June 2005.

“CNTA8: Eighth meeting of the Canadian Number Theory Association”, Fields Institute, University of Toronto, Toronto, ON, June 2004.

“Random matrix theory and analytic number theory”, Isaac Newton Institute, University of Cambridge, Cambridge, England, March-April 2004.