Matthew P. Young

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Research Interests:

Analytic number theory, L-functions, elliptic curves, random matrix theory.

Education:

Ph.D. in Mathematics, May 2004; advisor: Henryk Iwaniec.
Rutgers University, New Brunswick, New Jersey, *9/99-5/04*.

Bachelor of Science in Mathematics
University of Minnesota, Minneapolis, Minnesota, *9/96-6/99*.
Honors Program; graduated *summa cum laude*.

Publications:

The first moment of quadratic Dirichlet L-functions, 24 pages.

Mean values with cubic characters, submitted, 35 pages, joint with Stephan Baier.

The reciprocity law for the twisted second moment of Dirichlet L-functions, submitted, 12 pages.

Moments of the critical values of families of elliptic curves, with applications, accepted for publication by the Canadian Journal of Mathematics, 24 pages.

The twisted fourth moment of the Riemann zeta function, submitted, 28 pages, joint with Chris Hughes.

The fourth moment of Dirichlet L-functions, submitted, 44 pages.

Analytic number theory and ranks of elliptic curves, Ranks of elliptic curves and random matrix theory, 71–91, London Math. Soc. Lecture Note Ser., 341, Cambridge Univ. Press, Cambridge, 2007.

On the nonvanishing of elliptic curve L-functions at the central point, Proc. London Math. Soc. (3) 93 (2006), no. 1, 1–42.

Lower-order terms of the 1-level density of families of elliptic curves, Int. Math. Res. Not., 10 (2005), 587-633.

Low-lying zeros of families of elliptic curves, J. Amer. Math. Soc. 19 (2006), no. 1, 205–250.

Random matrix theory and families of elliptic curves, Ph.D. thesis, Rutgers University, 2004.

Awards and Honors:

National Science Foundation Postdoctoral Fellowship, *8/04-8/07.*

Clay Mathematics Institute Liftoff Fellow, *6/04.*

Rutgers University and Louis Bevier Research Fellowship, *9/03-5/04.*

Excellence Fellowship for Graduate Students at Rutgers, *9/02-5/03.*

VIGRE Fellow, *9/99-5/01.*

Teaching:

Department of Mathematics, Texas A&M University
Cryptography, *9/07-12/07*,
Department of Mathematics, Stanford University
Set Theory, *1/07-3/07*,
Modern Algebra, *9/06-12/06*,
Linear Algebra and Differential Calculus of Several Variables, *1/06-3/06*,
Honors Multivariable Mathematics III, *3/05-6/05.*

Department of Mathematics, Rutgers University, Piscataway, New Jersey
Teaching Assistant for Differential Equations for Engineers and Scientists, *1/02-5/02*,
Teaching Assistant for Calculus I, *9/01-12/01*

Mentorship:

American Institute of Mathematics, Palo Alto, California
Research advisor at the Research Experience for Undergraduates, *6/05-8/05*
I worked with David Farmer on advising a group of undergraduate students on research. In particular, I created one of the projects involving computational aspects of elliptic curves.

Invited Lectures:

Summer School and Conference on Random Matrices and Number Theory, *Lecture series* on elliptic curves and moments of L-functions, University of Rochester, June 2006.

Selected Seminar Talks:

Seminar presented at the Texas A&M Number Theory Seminar, October 2007.

Seminar presented at the Texas A&M Number Theory Seminar, March 2007.

Research Colloquium, University of Missouri, February 2007.

Research Colloquium, Georgia Tech University, February 2007.

Research Colloquium, Texas A&M University, February 2007.

Research Colloquium, Vanderbilt University, January 2007.

Seminar presented at the joint American Institute of Mathematics/Stanford Number Theory Seminar, Palo Alto, California, October 2006.

Seminar presented at the University of California, Los Angeles Number Theory Seminar, November 2005.

Seminar presented at the University of Illinois Number Theory Seminar, November 2005.

Seminar presented at the University of Michigan Number Theory Seminar, November 2005.

Seminar presented at the Workshop on Number Theory and Random Matrix Theory, University of Waterloo, June, 2005.

Seminar presented at the Automorphic Forms Workshop, University of North Texas, March, 2005.

Seminar presented at the joint American Institute of Mathematics/Stanford Number Theory Seminar, Palo Alto, California, November 2004.

Seminar presented at the Special Session in Automorphic Forms and Analytic Number Theory, AMS Eastern Sectional Meeting, Lawrenceville, New Jersey, April 2004.

Seminar presented at the Clay Mathematics Institute Special Week on Ranks of Elliptic Curves and Random Matrix Theory, Isaac Newton Institute, February 2004.

Seminar presented at the Joint Princeton/Institute for Advanced Study/Rutgers Number Theory Seminar, Rutgers University, April, 2003.