

KARTIK PRASANNA

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Employment August 2006 - present, Assistant Professor, University of Maryland. (On leave of absence, academic year 2006-2007)
September 2003 - June 2006, Hedrick Assistant Professor, UCLA.

Visiting Positions April - August 2007, McGill University and the Centre de Recherche Mathematique, Montreal.
Feb- March 2007, Tata Institute of Fundamental Research, Mumbai.
Sep 2006 - Jan 2007, University of Paris, 13

Education **Princeton University**, Princeton, NJ.
Ph.D. in Mathematics, November 2003. Advisor: Prof. Andrew Wiles.

Indian Institute of Technology, Bombay.
M.Sc. in Mathematics, July, 1998.
Masters thesis under the supervision of Prof. V.Srinivas (Tata Institute) and Prof. J.K.Verma.

Research Interests Shimura varieties, automorphic forms, theta correspondences, special values of L -functions, p -adic L -functions, algebraic cycles.

Publications Manuscripts accepted for publication and available online at <http://www.math.umd.edu/~kprasanna/research.html>

1. Integrality of a ratio of Petersson norms and level-lowering congruences, *Ann. of Math.*, **163**, (2006), no. 3, 901-967.
2. Arithmetic aspects of the theta correspondence and periods of modular forms, *Eisenstein Series and Applications, Progress in Math. Vol 258, Birkhauser 2008, 251-269.*
3. Arithmetic properties of the Shimura-Shintani-Waldspurger correspondence, *Invent. Math.*, to appear.
4. On p -adic properties of central L -values of quadratic twists of an elliptic curve, *Canad. J. Math*, to appear.
5. On the Fourier coefficients of modular forms of half-integral weight, *Forum Math.*, to appear.

In preparation:

6. Generalized Heegner cycles and Rankin L-series, with M. Bertolini and H. Darmon.
7. Exotic Heegner points on CM elliptic curves, with M. Bertolini and H. Darmon.
8. Two variable Iwasawa theory for CM Hida deformations, with T. Ochiai.

Grants NSF Grant DMS-0801191, 1/7/2008 - 6/30/2011.

Awards and Distinctions **Robert Sorgenfrey Distinguished Teaching Award**
UCLA, June 2005.
Institute Silver Medal for the Highest graduating Math Major
Indian Institute of Technology, Bombay, July 1998.
International Mathematics Olympiad 1992-1993 (Indian team)
Bronze medallist, 1993.
Indian National Mathematics Olympiad 1992
Ranked 5th.
National Talent Search Scholar, India, 1990

Professional Service Referee for *Journal of Algebra and Number theory*, *Duke Mathematical Journal*, *Documenta Mathematica*; Reviewer for *Zentralblatt*; Reviewer for *European Research Council Advanced Grants*; Served on several thesis defense committees at UMD.

**Teaching
Experience**

Undergraduate classes:

University of Maryland:
Linear Algebra, Fall 2007.

UCLA:

Ordinary differential equations, Spring 2006.
Abstract Algebra, Winter and Spring 2006.
Honors Linear Algebra, Spring 2005.
Finite Mathematics, Lower Division, Winter 2005.
Algebra, Upper division, Fall 2003, Fall 2004.
Complex Analysis, Upper division, Fall 2003.
Number theory, Upper division, Winter 2004.
Linear Algebra, Lower division, Spring 2004.

Princeton University:

Linear Algebra and Multivariate Calculus for Economists, Fall 2002 and Spring 2003.

Graduate classes:

Abstract Algebra, Fall 2008, UMD.
Introduction to Iwasawa theory, Spring 2008, UMD.
Introduction to Arakelov theory, Fall 2005, UCLA.

Invited Talks

At major conferences:

International conference on major developments in number theory: Selmer Groups, L- functions, and Galois Deformations, UCLA, March 2008, 2 talks.

International colloquium on cycles, motives and Shimura varieties, Tata Institute, Bombay, Jan 2008.

International conference on arithmetic algebraic geometry, El Escorial, Spain, Aug. 2006.

Conference on L-functions, Kyushu University, Fukuoka, Japan, Feb. 2006.

Conference on Eisenstein series and applications, American Institute of Mathematics, Aug. 2005.

Expository talks:

Zhejiang University, Hangzhou, China, International summer school on Arithmetic, Geometry and Topology of Shimura varieties, 7 lectures on *Complex multiplication and Shimura curves*.

Colloquia:

University of Wisconsin, Oct. 2007.

University of Montreal, Feb. 2006.

University of Illinois, Urbana-Champaign, Feb. 2006.

Univ. of Illinois, Chicago, Jan. 2006.

Univ. of Utah, Jan. 2006.

Univ. of California, Santa Cruz, Jan. 2006.

Tata Institute, Bombay, Dec. 2005.

Number theory/automorphic forms seminars:

JHU, Mar. 2008.

Princeton University, Nov. 2007.

Univ. of Michigan, Nov. 2007.

Univ. of Wisconsin, Oct. 2007.

Mcgill University, Apr. and Aug. 2007 (3 talks).

Tata Institute, Mar. 2007 (2 talks).

Universite Paris-Sud, Nov. 2006.

Universite Paris 6-7, Oct. 2006.

Ohio State, May 2006.

MIT, Feb 2006.

University of Maryland, Nov. 2005.

Princeton University, Nov. 2005.

UCLA, Oct. 2005.

Mcgill University, Sep. 2004.

Caltech, Feb. 2004.

UC San Diego, Nov. 2003.

Univ. of Michigan, Mar. 2003.

**Informal
Lectures**

1. UCLA, Working seminar on $\pi_1(\mathbb{P}^1 \setminus \{0, 1, \infty\})$ (5 lectures, Spring 2004).
2. Princeton University, Working Seminars on *Weil Conjectures* (Fall 1999), *Perverse sheaves* (Spring 2000), *Canonical models of Shimura Varieties* (Fall 2001).
3. Indian Institute of Technology, Bombay, *Rational Points on Curves*, Lecture Series, Autumn Semester 1997.