

CURRICULUM VITAE

Amod Agashe

- ADDRESS** 201 Mathematical Sciences Building
Dept. of Mathematics, Univ. of Missouri
Columbia, MO 65211, U.S.A.
Phone: (573)882-4783
FAX: (573) 882-1869
email: agashe@math.missouri.edu
web-page: <http://www.math.missouri.edu/~agashe/math.html>
- POSITIONS HELD** **University of Missouri, Columbia**
Assistant Professor, Sept 2003 - present.
- University of Texas, Austin**
Instructor and R. H. Bing fellow (postdoctoral position), Aug 2000-Aug 2003.
- VISITING POSITIONS** **Tata Institute of Fundamental Research, Bombay, India**
Jan-May 2004, Nov-Dec 2001.
- Institut des Hautes Études Scientifiques, France**
June-July 2004, June-Oct 2001.
- Max-Planck-Institut für Mathematik, Bonn, Germany**
June-Aug 2002.
- Mathematical Sciences Research Institute, Berkeley**
Aug-Dec 2000.
- EDUCATION** **University of California, Berkeley**
Ph.D. in Mathematics, May 2000. Topic: Number theory.
Thesis advisors: L. Merel and K. Ribet.
- Stanford University**
M.S. in Electrical Engineering, June 1993.
- Indian Institute of Technology (I.I.T.), Bombay**
B.S. in Electrical Engineering, May 1991.
- DISSERTATION** *The Birch and Swinnerton-Dyer formula for modular abelian varieties of analytic rank zero.*
Committee: K. Ribet (Chair), H. Lenstra, D. Forsyth.
- AWARDS** R. H. Bing fellowship, 2000-2003, University of Texas, Austin.
Mathematics Department fellowship, Spring 1999, U. C., Berkeley.
Raymond H. Sciobereti fellowship, Spring 1998, U. C., Berkeley.
President of India Gold medal, being the top I.I.T. Bombay graduate, 1991.
I.I.T. entrance exam: ranked 7th in India (out of about 100,000), 1987.
Physics Olympiad: ranked in top 25 in India (out of 14,000), 1987.

**RESEARCH
INTERESTS**

Number theory, especially arithmetic algebraic geometry: My current work revolves around the Birch and Swinnerton-Dyer conjecture, but I am also interested in other areas of number theory (including applications to cryptography) and mathematics in general.

PUBLICATIONS

- 1) *On invisible elements of the Tate-Shafarevich group*, Comptes Rendus de l'Académie des Sciences Paris Ser. I Math., vol. 328 (1999), no. 5, 369–374.
- 2) (with W. Stein) Appendix on generating the Hecke algebra, in: J.-C. Lario, R. Schoof, *Some computations with Hecke rings and deformation rings*, Experimental Mathematics, vol. 11 (2002), no. 2, 303–311.
- 3) (with W. Stein) *Visibility of Shafarevich-Tate Groups of Abelian Varieties*, Journal of Number Theory, vol. 97 (2002), no. 1, 171–185.
- 4) (with W. Stein) *Visible Evidence for the Birch and Swinnerton-Dyer Conjecture for Modular Abelian Varieties of Analytic Rank Zero* (with an Appendix by J. Cremona and B. Mazur), Mathematics of Computation 74 (2005), no. 249, 455–484.
- 5) (with K. Lauter and R. Venkatesan) *Constructing elliptic curves with known number of points over a prime field*, High primes and misdemeanours: lectures in honour of the 60th birthday of Hugh Cowie Williams, Fields Institute Communications, vol. 41, Amer. Math. Soc., Providence, RI, 2004, pp. 1–17.

PREPRINTS

- 1) (with K. Ribet and W. Stein) *The Manin constant, congruence primes, and the modular degree*.
 - 2) (with L. Merel) *A visible factor of the special L-value*.
- (both of the preprints above are almost ready for submission; in particular, my contribution in both is already written up. Most of the papers above can be accessed on my web-page:
<http://www.math.missouri.edu/~agashe/math.html>)
- 3) The torsion and component groups and the Birch and Swinnerton-Dyer conjecture, in progress.

**INVITED
TALKS**

Séminaire de théorie des nombres de Chevaleret, Paris, June 2004.
Colloquium at Tata Institute of Fundamental Research, India, Mar 2004.
University of Illinois at Urbana-Champaign number theory seminar, Oct 2003.
Québec-Vermont number theory seminar, Montréal, Dec 5, 2002.
Modular Curves and Abelian Varieties, Barcelona, July 15-18, 2002.
l'Université Louis Pasteur, Strasbourg, France, June 19, 2002.
Special session, AMS Sectional Meeting, Lawrence, Kansas, Mar 2001.
Special session, AMS National Meeting, New Orleans, Jan 2001.
Millennial conference on number theory, Urbana, May 2000.
Tata Institute of Fundamental Research, Bombay, India, Aug 1999.
Number theory seminar, Université de Paris 6, Paris, Jan 1999.

**SEMINAR
TALKS**

Max-Planck-Institut für Mathematik, Bonn, Germany, July 31, 2002.
Tata Institute of Fundamental Research, Bombay, India, Nov 2001.
Institut des Hautes Études Scientifiques, France, Oct 2001.

University of Texas, Austin: several talks between Aug 2000 and Aug 2003.
Mathematical Sciences Research Institute, Berkeley, Nov 2000.
NSF sponsored IAS/Park City Mathematics Institute, Utah, July 1999.
NSF funded Arizona Winter School, Univ. of Arizona, March 1998.
University of California, Berkeley: several talks, Aug 1996 – May 2000.

**CONFERENCES
ATTENDED**

Midwest Number theory conference, Chicago, Oct 2004.
LMS Durham Symposium on L-functions and Galois representations, Durham, England, July 2004.
Congrès Iwasawa 2004, Besançon, France, July 2004.
Workshop on Birch and Swinnerton-Dyer conjecture, Princeton, Nov 2003.
Applications of Arithmetic Degeneration of Moduli, Irvine, May 2003.
The Langlands Program and its applications, Montreal, Jan 2003.
Modular Curves and Abelian Varieties, Barcelona, July 2002.
École d'été sur la conjecture de Birch et Swinnerton-Dyer, Paris, July 2002.
Arizona winter school: Periods, Univ. of Arizona, Mar 2002.
Modular forms and p-adic Hodge theory, Barcelona, July 2001.
Galois modules in arithmetic geometry, Lille, July 2001.
Géométrie algébrique et applications arithmétiques, Orsay, June 2001.
AMS Sectional meeting, Lawrence, Kansas, Mar 2001.
Arizona winter school: Modular forms, Univ. of Arizona, Mar 2001.
AMS National meeting, New Orleans, Jan 2001.
Algorithmic Number Theory, M.S.R.I, Berkeley, Fall 2000.
School on Automorphic forms on $GL(n)$, I.C.T.P. , Italy, Aug 2000.
Mirror symmetry, Boston, June 2000.
Millennial conference on number theory, Univ. of Illinois, Urbana, May 2000.
Arizona winter school: Arithmetic of Function Fields, U. of Arizona, Mar 2000.
AMS National meeting, Washington, D.C., Jan 2000.
NSF sponsored IAS/Park City Mathematics Institute, Utah, July 1999.
Séminaire Bourbaki, Paris, June 1999, 1998.
Arizona winter school: Local-to-Global Principles, U. of Arizona, Mar 1999.
Arithmétique et Formes Automorphes, Paris, Dec 1998.
International Congress of Mathematicians, Berlin, Aug 1998.
Number theory and Topology: in honor of B. Mazur, Harvard U., May 1998.
Arithmetic Geometry: Rational points, Cambridge, U.K., Apr 1998.
Elliptic curves and Modular forms, Washington D.C., Mar 15-17, 1996.
Modular forms and Fermat's Last theorem, Boston, Aug 9-15, 1995.

**TEACHING
EXPERIENCE**

University of Missouri at Columbia, Fall 2003, Fall 2004:
Assistant Professor: Taught Calculus II, Discrete Mathematics, and a graduate course on Elliptic curves and cryptography. Currently teaching a graduate course on Algebraic number theory.

University of Texas at Austin, Spring 2001, 2002, Fall 2002:
Instructor: Taught the calculus course "Sequences, series and multivariable calculus" thrice, an upper-division undergraduate course on "Discrete Mathematics" twice, and a graduate course on "Number theory and cryptography".

NSF sponsored IAS/Park City Mathematics Institute, Utah, July 1999:
Teaching assistant: Led problem sessions for the Graduate Summer School

courses titled “Elliptic curves” (J. Buhler) and “Open problems” (A. Silverberg).

University of California, Berkeley, Aug 1994–Dec 1999:

Graduate student instructor: Led discussion sections for at least 8 lower-division Mathematics classes, including two head teaching assistantships. Courses include Calculus for social sciences majors, Calculus for science majors and Honors Linear Algebra.

Summer Institute in Mathematical Sciences, Berkeley, Summer 1997:

Teaching Assistant: Led discussion sessions for the course “Computational Linear algebra” (N. Mackey), part of a summer program for women undergraduate students in mathematics from all over the United States.

COMPUTING Programmed in C++, Pascal and Fortran
Mathematical software used: MATLAB, Maple, PARI, LiDIA.

LANGUAGES English, French, Hindi, Marathi.

MEMBERSHIPS AND SERVICE Reviewer for *Mathematical Reviews*
Member, American Mathematical Society
Refereed three journal articles.