

Tathagata Basak

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Employment L. E. Dickson instructor in mathematics, University of Chicago, September 2006 - August 2009.

Education **PhD**, Department of Mathematics, University of California Berkeley, 2006.
Thesis title: *Complex reflection groups and Dynkin diagrams*.
Advisor: Prof. Richard Borcherds.

MS Master of Statistics, Indian Statistical Institute, Calcutta (India), 2001.

BS Bachelor of Statistics(Hons), Indian Statistical Institute, Calcutta (India), 1999.

Papers and preprints

1. T. Basak, *Complex Lorentzian Leech lattice and the bimonster*, J. Alg. **309** (2007) 32-56.
2. T. Basak, *Reflection group of the quaternionic Lorentzian Leech lattice*, J. Alg. **309** (2007) 57-68.
3. T. Basak, *Finite topological spaces and Poincare duality*, (submitted, 2008)
4. T. Basak, *On Coxeter diagrams of complex reflection groups*, (submitted, 2008)
5. T. Basak, *Complex Lorentzian Leech lattice and the bimonster (II)*, (preprint, 2008)
6. T. Basak, *On analytic continuation of some automorphic forms of type $O(1, 25)$* , (in preparation)

Teaching experience

Courses taught as instructor at University of Chicago:

- Math 203-204-205: *Analysis on \mathbb{R}^n , I, II and III*, Autumn-Winter-Spring, 2006-2007 and 2007-2008.
- Math 242: *Algebraic number theory*, Spring 2007.

Courses taught at Berkeley:

- Instructor for Math 54: *Linear algebra and Differential equation*, summer session, 2006.
- Instructor for Math 53: *Multivariate calculus*, summer session, 2005.
- Six semester experience as graduate student assistant for courses taught in Berkeley between 2001-2006.

Some talks

- Harvard University, Number theory seminar, December 2008.
- Conference on *Monstrous moonshine and the McKay conjecture*, held at I.P.M.U, Tokyo, Japan, May 2008.
- University of Chicago, Group theory seminar, February 2008.
- University of Chicago, Geometry and Topology seminar, February 2007.
- University of Chicago, Group theory seminar, November 2006
- U.C. Davis, Discrete Mathematics and Representation Theory seminar, February 2006,
- U.C. Berkeley, Representation Theory, Geometry and Combinatorics seminar, January 2006
- University of Texas Austin, Algebra seminar, November 2005

Awards

I.S.I Alumni Gold Medal, 1st in M.Stat, 2001.

Computer skills:

- Extensive programming experience using the PARI/GP calculator, for working with lattices and reflection groups.
- Familiarity with Magma, Matlab, Mathematica.