

Kalyan Chakraborty

Research Summary:

During 2006 - 2007, I have been working mainly on the following areas:

1. Divisibility and non-divisibility of class numbers of quadratic number fields and function fields over finite fields.
2. Divisibility and non-divisibility of the order of the Tate - Shafarevich group of elliptic curves.
3. Hilbert modular forms.

Publications:

1. Kalyan Chakraborty, Florian Luca and Anirban Mukhopadhyay, *Exponents of class groups of real quadratic fields*, International Journal Of Number Theory, **To Appear**, (2007)
2. Kalyan Chakraborty *On the Diophantine equation $x + y + z = xyz = 1$* , Annales Univ. Sci. Budapest. Sect. Comp., 27, **To Appear**, (2007)

Preprints:

1. Kalyan Chakraborty, Florian Luca and Anirban Mukhopadhyay, *Class numbers of number fields with many distinct prime factors*, (Preprint).

Visits to other Institutes:

1. IMSC, Chennai, India, September, 2006.
2. University of Burdwan, India, January, 2006.
3. University of Mumbai, India, January, 2006.
4. North - West University, Xian, China, March, 2007.

Invited Lectures/Seminars:

1. *Lectured at India - UK Number Theory Conference* IMSC, Chennai, September, 2006.

2. *Lectured at Conference in Number Theory and Application*, Ramakrishna Mission Vivekananda College, Chennai, January, 2007.
3. *Lectured at "Mathematics and Applications - Recent Trends (Mart - 2007)"*, Burdwan University, Burdwan, India, January, 2007.
4. *Lectured at Number Theory Session of the "National Symposium"*, University of Mumbai, Mumbai, India, January 2007.
5. *Lectured at North - West Number Theory Conference*, Weinan Teachers College and University, Weinan, China, March, 2007.

Other Activities:

1. Mentoring project students:
2. Teaching & Lecture Course:
 - (a) Taught 'Algebra I' at HRI graduate school (Aug. - Dec.) in 2006.
 - (b) A lecture course on *Arithmetic of Finite Feids*, at VSSP '06
3. Reviewing papers:

Served as the referee for Indian Journal of Pure and Applied Mathematics.
4. HRI Internal Duty:
 - (a) Responsible in organising NBHM written tests and interviews.
 - (b) Organising Summer Programme in Mathematics (SPIM), 2007.
 - (c) Serving as a member in the Security Committee.
 - (d) Serving as convener of the Sports and Entertainment Committee.