Advanced Training in Mathematics Schools

Supported by **National Board for Higher Mathematics**

Workshop on Analytic Number Theory

Venue: **Institute of Mathematical Sciences, Chennai**

17 Feb. - 2 March, 2010

Convener: R. Balasubramanian and D. S. Ramana

Brief Description of ATM Schools

Advanced Training in Mathematics (ATM) Schools are a joint effort of more than 50 active researchers across the country with support from the National Board for Higher Mathematics. The programmes are conducted in reputed mathematics departments in Summer and Winter each year. In these Schools, the emphasis will be on problem solving and on highlighting inter-relations of basic subjects in mathematics. The schools are offered mainly for Ph.D. students and lecturers.

Workshop on Analytic Number Theory

The purpose of this programme is to introduce its participants to modern analytic number theory through the paper " Equidistribution of the roots of quadratic congruences to prime moduli ", Ann. of Math. (2) 141 (1995), pp. 423-441 by W. Duke, E. Friedlander and H. Iwaniec. This paper weaves together three important strands of the fabric of analytic number theory namely, analytic theory of L-functions, sieve methods and the spectral theory of automorphic forms. The programme will be based on the original paper and an exposition of this paper by E. Kowalski in the form of the book "Un course de theorie analytique des nombres, Collection S.M.F. 2004".

Syllabus : Prime Number Theorem, Primes in arithmetical Progressions. Sieves and the Oscillating Sieve of Duke, Friedlander, Iwaniec. Spectral Theory of Automorphic forms

Eligibility for Participation

The workshop will admit 30 students in their second and third years of Ph.D. programme, postdoctoral fellows and some college/university teachers.

Financial Support

Selected participants will be paid III-AC return train fare from their place of work/home town to the venue by shortest route and provided with accommodation and local hospitality.

How to Apply

The syllabus, application form and other information about the programme is available on the website:

http://www.bprim.org/atm

Applications may be made on plain paper, giving the following information:

Name, Date of Birth, Age, Gender, Institute/Department, Areas of interest, list of Ph.D. courses (including reading courses) completed, ATM Schools attended, Any other workshop in mathematics attended, Address for correspondence, email address, City, State, Pincode, Academic Record: B.Sc./M.Sc. with names of the Institutes. These should be attested by Head/Principal of the institute. **Completed applications may be sent by mail or by fax or a scanned copy may be sent by email to**

> Prof. R. Balasubramanian,
> Convener, ATMW in Analytic Number Theory
> Institute of Mathematical Sciences
> C.I.T. Campus, Tharamani, Chennai - 600113.
> Phone: 044-2254320 (Off),22591626 (Res),
> 09840017480 (Mob)
> Fax: 044 - 22541586
> e-mail: *director@imsc.res.in*, *suri@hri.res.in*

by **Monday, 28 December, 2009**. List of selected candidates will be posted on the ATM School website on **Monday, 5 January, 2010.**

National Committee for the ATM Programme

Prof. S. A. Katre	Pune U., Pune
Prof. S. Kesavan	IMSc, Chennai
Prof. Shobha Madan	IIT Kanpur
Prof. N. Nitsure	TIFR, Mumbai
Prof. J. K. Verma (Convener)	IIT Bombay

Resource persons

R. Balasubramanian	Gyan Prakash
Satadal Ganguly	Amritanshu Prasad
Sanoli Gun	Ravi Raghunathan
M. Manikam	D. S. Ramana
Anirban Mukhopadhyaya	Purusottam Rath