National Centre for Mathematics

www.ncmath.org

(A joint centre of TIFR and IIT Bombay)

Advanced Training in Mathematics School

www.atmschools.org

Supported by National Board for Higher Mathematics

ATM Workshop on Hilbert Modular forms and Varieties

Venue : **Kerala School of Mathematics, Kozhikode**

21st - 31st January, 2013

Organisers : Prof. E. Ghate & M. Manickam

Brief description of ATM Schools

Advanced Training in Mathematics (ATM) Schools are a joint effort of a large number of mathematicians across the country, with support from the National Board of Higher Mathematics. The programmes are conducted in reputed mathematics institutions in the summer and winter every year. The emphasis in these Schools is on solving problems, and on the relations between basic areas of mathematics. The schools are intended mainly for Ph.D. Students and lecturers. Applications are now invited for participation in the following School.

Workshop on Hilbert Modular forms and Varieties

This workshop will focus on Hilbert modular forms and Hilbert modular varieties for totally real number fields. Many mathematicians in the country already have some familiarity with classical modular forms and varieties. The goal of this workshop will be to introduce the audience to both the similarities and differences that occur when working in the more general Hilbert modular context.

Topics that will be covered will include: the Hilbert modular group and its congruence subgroups, construction of Hilbert modular forms, dimension formulae using the trace formula, Hilbert modular varieties including basic geometric properties, compactifications of Hilbert modular varieties, cohomology of Hilbert modular varieties, Hilbert modular Galois representations etc.

The workshop will also provide a platform for students and young researchers to enter new branches of research in the area. To this end a few advanced courses have also been arranged. Topics to be covered under these courses may include: cycles and their relation with L-functions, p-adic methods in the theory of Hilbert modular varieties, construction of Galois representations for automorphic forms on GL_n over totally real fields etc.

The international conference will include research talks and further surveys by some leading experts.'

Eligibility for participation

The Workshop is meant for research scholars, post-doctoral fellows, and researchers working in the broad area of Number Theory. While a working knowledge of classical modular forms would be useful, it is not necessary to have to attend the workshop. In all, about 25 applicants will be selected for participation.

Financial Support

Selected participants will be paid AC 3-tier return train fare from their place of work to the venue by the shortest route and will be provided with accomodation and local hospitality.

How to Apply

Application form and other information about the program are available on the website:

http://atmschools.org

Completed application should reach on

10 October, 2012

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Prof. Eknath Ghate
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The names of selected applicants will be announced in the above website on 20th October 2012.

Resource Persons

Eknath Ghate	**TIFR, Mumbai**
Manickam Murugam	**KSOM, Kozhikode**
Bhaskar Balasubramanyam	**IISER Pune**