



# National Centre for Mathematics

[www.ncmath.org](http://www.ncmath.org)

(A joint centre of TIFR and IIT Bombay)

## Advanced Training in Mathematics Schools

[www.atmschools.org](http://www.atmschools.org)

(Supported by National Board for Higher Mathematics)



### Instructional School for Teachers on Topology & Geometry

Venue : *Harish-Chandra Research Institute, Allahabad*

*16<sup>th</sup> to 28<sup>th</sup> December, 2013*

Organisers : *Rukmini Dey, Satya Deo & R. Thangadurai*

#### Brief description of ATM Schools

Advanced Training in Mathematics (ATM) Schools are joint efforts of a large number of mathematicians across the country, with support from the National Board for Higher Mathematics. The programmes are conducted in reputed mathematics departments in Summer and Winter every year. The emphasis in these Schools is on solving problems, and on highlighting 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.

#### Instructional School for Teachers in Topology & Geometry

This instructional school will cover some old and new topics in geometry and topology to expose lecturers to very beautiful mathematics. The areas covered will be rudiments of Point Set Topology, Algebraic Topology, Differential Geometry, Knot Theory and Morse Theory. Topics covered will include isoperimetric inequality, Gauss-Bonnet Theorem, Simplicial Homology Theory, Fixed Point Theorems, Fundamental Group and covering spaces, Knot Invariants like Kauffman Bracket, Jones Polynomial, Knots and 3 manifolds, the Morse Lemma, the Morse inequalities, Handle body decomposition of manifolds using Morse Theory.

#### Eligibility for participation

The school will admit 30 lecturers whose main areas of interest are Topology and Geometry.

#### 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 accommodation and local hospitality at the school venue. Local conveyance will not be provided. Participants are expected to bring their own stationery and books.

#### How to apply

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

<http://www.atmschools.org/2013>

Completed application forms should reach :

**Dr. Rukmini Dey**  
ATML School on Topology and Geometry  
Harish-Chandra Research Institute  
Chhatnag Road, Jhansi, Allahabad 211 019  
E-mail: [rukmini.dey@gmail.com](mailto:rukmini.dey@gmail.com)  
[rkmn@hri.res.in](mailto:rkmn@hri.res.in)  
[thanga@hri.res.in](mailto:thanga@hri.res.in)

Last date for receiving completed application is :

**July 16, 2013**

List of selected candidates will be posted on the above mentioned website on :

**23rd July, 2013**

#### Resource Persons

Ramji Lal	IIT Allahabad
Satya Deo	HRI Allahabad
Ashish Upadhyaya	IIT Patna
Rama Mishra	IISER Pune
Mahuya Datta	ISI Kolkata
D. Surya Ramana	HRI Allahabad

Please visit

[www.hri.res.in](http://www.hri.res.in)

for information regarding venue.