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## ADVISORY COMMITTEE

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**Prof. Aditya Shastri**

Vice Chancellor, Banasthali University

**Prof. S.B. Rao**

Ex-Director, C.R. Rao Institute, Hyderabad

**Prof. B. K. Dass**

Delhi University, New Delhi

**Prof. H. S. Shukla**

D. D. U. Gorakhpur University, Gorakhpur

**Prof. M. M. Tripathi**

Banaras Hindu University, Varanasi

### CONVENER

Prof. G.N. Purohit

### COORDINATOR

Dr. Sarla Pareek

### Co-COORDINATOR

Dr. Gauree Shanker

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Dr. Praveen garg, Dr. Prashant Kushwaha

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Mrs. Amla Olkha, Ms. Nidhi Khandelwal, Dr. P. K. Gupta, Dr. Gulab Singh, Dr. Naresh, Ms. Gargi Tyagi, Dr. Shinu, Ms. Geetanjali Sharma, Dr. Usha Sharma, Dr. Isha, Ms. Kalpana, Dr. N. S. Thakur, Ms. Preeti Jain, Dr. Atanu Bhattacharjee

## IMPORTANT DATES

**Registration Deadline:** Sept. 23, 2013

**Announcement of final list of participants:** Oct. 05, 2013

There is no registration fee. The selected participants will be informed by mail/phone/fax. They will be reimbursed (AC-3 tier) train/bus fare to and fro from Banasthali and will be provided free lodging and boarding at Banasthali University.

The completed registration form should be posted to:

The Convener

National Workshop on

**Differential Geometry**

Centre for Mathematical Sciences (CMS)

Apaji Institute of Mathematics and Applied Computer Technology

Banasthali University-304022 Rajasthan

Phone: (01438) 228647/48 Fax: (01438) 228649

Or

It can be mailed at [nwdg.cms@gmail.com](mailto:nwdg.cms@gmail.com) (Be careful about the dot in e-mail address for correspondence)

(Registration form can be downloaded from the university website [www.banasthali.org](http://www.banasthali.org))

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Contact:

**AIM & ACT**

Banasthali University

Banasthali (Rajasthan) 304022

Phone: (01438) 228647/48 Fax: (01438) 228649

Email: [nwdg.cms@gmail.com](mailto:nwdg.cms@gmail.com)

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### How to reach Banasthali University:

Banasthali is located 72 km from Jaipur, 8 km off on Jaipur Kota road. Frequent bus service is available for Banasthali University campus/Newai from main Bus Stand (Sindhi Camp) Jaipur. Newai is 10 km from Banasthali. Conveyance is available at Banasthali Newai (WR, Jaipur Kota Broad-gauge Line) Railway Station. Jaipur (Sanganer) Airport is 65 kms from Banasthali.

URL-<http://www.banasthali.org>

## National Workshop on DIFFERENTIAL GEOMETRY

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**OCTOBER 23-27, 2013**

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Sponsored by  
**Department of Science & Technology  
Government of India, New Delhi**



Organized by  
**Centre for Mathematical Sciences (CMS)  
Apaji Institute of Mathematics &  
Applied Computer Technology**

**Banasthali University**  
Banasthali - 304022 (Rajasthan)

University for women: University with a difference



**Banasthali University**

University for women: University with a difference

*B*anasthali Vidyapith is the only fully residential women's University in the country. It is located amidst the rural surroundings of Rajasthan, having a distinct educational ideology and offering a variety of programmes from nursery up to doctoral level across a wide spectrum of disciplines to prepare enlightened citizen with strong value base. Pandit Hiralal Shastri laid the foundations of the institute in 1935 which became a deemed University in 1983. Banasthali follows its mission of developing students integrated and balanced personality through its five-fold educational programme or 'Panchmukhi Shiksha' comprising of physical, practical, aesthetic, intellectual and moral aspects.

*A*paji Institute of Mathematics and Applied Computer Technology (AIM & ACT) was founded in 1999 with the objective of achieving synergy between teaching and research in Computer Science, Electronics, Mathematics, and Statistics. Physics, Bio-informatics and Information Technology have been also added to this list later.

In this short span of about fourteen years, Apaji Institute with its world-class infrastructure and education programmes has earned the reputation of one of the best centre of teaching and research not only in the state but also in Country. The students get placement in all leading companies and organizations. Many of them have gone abroad for higher education, research and employment in renowned corporate.

One of the strong points of Apaji Institute is to infuse logical abilities and abstract thinking in its students by integrating learning of Mathematics in all its programmes. The ambitious programme of M.Sc. (Mathematical Science) was designed with inputs from leading experts from IIT's, IISc and TIFR and offers several specializations such as Theoretical Computer Science, Statistics and Operation Research in addition to Pure and Applied Mathematics in the institute. M.Phil. programme in Mathematical Science has also been started few years back to provide the required research orientation to the desirous students.

To motivate research, Department of Science and Technology Govt. of India has declared Banasthali University as the Centre for Mathematical Sciences (CMS) in November 2007. The five years of the establishment of the centre witnessed significant increase in the academic activities of the CMS. Centre has conducted many Workshops/Seminars/Training Programmes/Lecture series to promote research in Mathematical Sciences and to spread spirit of Mathematics in other departments of University and surrounding institutions for higher learning in Rajasthan.

This year Centre for Mathematical Sciences has planned to organize a National Workshop on Differential Geometry to promote research in the stream of Mathematics.



Centre for Mathematical Sciences

## National Workshop on DIFFERENTIAL GEOMETRY

About workshop: This 5-day event will mainly focus on teachers and students training and enabling an interaction among teachers and researchers working in various aspects of Differential Geometry in India. The following topics will be covered.

- Smooth functions in  $\mathbb{R}^n$ ; inverse function theorem and implicit function theorem; in particular, many illustrative and explicit examples in  $\mathbb{R}^n$  and Rank Theorem.
- Plane curves, winding number, Hopf's Umlaufsatz, Four vertex theorem (or Mukhopadhyaya's theorem), isoperimetric inequality.
- Curves in space, regular curves, arc-length, reparametrization (by arclength), curvature and torsion of a smooth curve, Frenet-Serret formulae.
- Regular surfaces in  $\mathbb{R}^3$ , coordinate neighborhoods, tangent vectors, tangent plane, normal fields, examples of surfaces; level sets of smooth functions on  $\mathbb{R}^3$ , Gauss map, Shape operator (or the Weingarten map).
- Normal sections, principal curvatures, Gaussian and Mean curvatures, Geodesics on surfaces (of revolution etc.), geodesic curvature, geodesics as shortest paths.
- Gauss Theorema Egregium, isometries of surfaces, Minimal surfaces, Gauss-Bonnet theorem.
- Differentiable Manifolds, smooth functions on a manifold, smooth functions between two manifolds, Tangent Spaces, Submanifolds, Immersion and Imbedding.

The tentative list of eminent speakers in the field is given below.

1. Prof. H. S. Shukla  
D. D. U. Gorakhpur University, Gorakhpur, (U. P.)
2. Prof. M. M. Tripathi  
BHU, Varanasi, (U. P.)
3. Prof. Mohd. Hasan Sahid  
Jamia Millia Islamia, New Delhi
4. Prof. G. N. Purohit  
Banasthali University, Rajasthan
5. Dr. Benkateshwar Tiwari  
DST-CIMS BHU Varanasi, (U. P.)

**National Workshop  
on  
DIFFERENTIAL GEOMETRY  
OCTOBER 23-27, 2013**

**REGISTRATION FORM**

1. Name of the applicant:\_\_\_\_\_
2. Designation:\_\_\_\_\_
3. Field of specialization:\_\_\_\_\_
4. Address for correspondence:\_\_\_\_\_
- (including e-mail and phone number)

5. Please provide a brief write up (not exceeding 250 words) to justify your interest in Differential Geometry.

6. Have you been awarded Ph.D. degree :

(i) Yes/No\_\_\_\_\_

(ii) If yes, mention the title of the thesis and year of award

♦ Mere filling application does not guarantee your final selection.

♦ Attach brief resume with the registration form.

Date:

Place:

Endorsement/Recommendation by:

(Head of Department/Institute)

(Signature of the Applicant)

(Signature with seal)

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**For Office Use:**

Report of the Committee members on participation of the applicant  
Recommended/Not recommended

Signature of the members: