



### IMPORTANT DATES

12 <sup>th</sup> August, 11	-	Receipt of Extended Abstracts
31 <sup>st</sup> August, 11	-	Intimation of Acceptance
15 <sup>th</sup> September, 11	-	First manuscript
1 <sup>st</sup> Oct., 11	-	Notification of Review comments
15 <sup>th</sup> Oct., 11	-	Final Submission
8 <sup>th</sup> Nov., 11	-	Advance Registration Deadline

### CONFERENCE SECRETARIAT

Chairman, Organizing Committee

**Dr. Satish C. Sharma**

Professor & Head  
Mechanical & Industrial Engineering Department  
Indian Institute of Technology Roorkee  
ROORKEE - 247 667 (Uttarakhand), India  
Tel. No. : +91-1332-285242/285603 (O);  
E-mail : NTC2011iitr@gmail.com

Organizing Secretary

**Dr. S. P. Harsha**

Assistant Professor  
Mechanical & Industrial Engineering Department  
Indian Institute of Technology Roorkee  
ROORKEE - 247 667 (Uttarakhand), India  
Tel. No. : +91-1332-285891/ 286602(O)  
E-mail : NTC2011iitr@gmail.com

Jt. Organizing Secretary

**Dr. S. H. Upadhyay**

Assistant Professor  
Mechanical & Industrial Engineering Department  
Indian Institute of Technology Roorkee  
ROORKEE - 247 667 (Uttarakhand), India  
Tel. No. : +91-1332-285520 (O)  
E-mail : NTC2011iitr@gmail.com



## NATIONAL TRIBOLOGY CONFERENCE (NTC-2011)

(Dec. 08 – 10, 2011)

FIRST  
ANNOUNCEMENT

Theme

Mission Tribology - For Better Productivity



Organized by

Department of  
Mechanical & Industrial Engineering  
Indian Institute of Technology Roorkee  
ROORKEE - 247 667 (India)



Under the auspices of

TRIBOLOGY SOCIETY OF INDIA





## PREAMBLE

In the early 1960s there was a steep increase in the repeated failures of plant and machinery due to wear and associated causes. As a result of this continuous processes made machinery breakdowns more costly and serious than ever. This trend was recognized by the specialists involved in the subjects of friction, wear and lubrication. The British minister of technology Rt. Hon. Anthony Wedgewood Benn announced to the House of Commons on Aug 11, 1986, establishment of committee under the Chairmanship of Prof. Peter J Jost. The committee submitted its report and it was found the nearly 2-3 % GDP is lost due to bad tribological practices in UK. Later on all the developed countries conducted their own studies. In India alone to a very rough estimate Rs. 20,000 Crore is lost due to bad tribological practices.

## OBJECTIVES

Tribology has seen tremendous increase in its applications in many new areas such as micro and nanotechnology, bio-systems, aerospace etc. New types of tribological materials, solid/liquid lubricants and films have been invented for specific applications. Therefore, the aim of this conference is to present and record recent works that have been carried out in the areas such as tribology of materials, new engineered surfaces, application of tribological research and development to new technological and industrial fields, new coatings, novel lubricants.

## WHO SHOULD ATTEND

All researchers, academicians, practicing engineers and students with tribological related background from the universities, researcher institutions and various industries are cordially invited to participate in this conference.

## CALL FOR PAPERS

Papers are invited from Engineers, Scientists, Academicians and Practitioners in Tribology. Students are especially encouraged to submit papers in the following areas

- Bearing & Gear Tribology
- Computational Techniques in Tribology

- Nuclear and Space Tribology
- Condition Monitoring and Maintenance
- Rolling Element Bearings
- Fluid Film Bearings
- Wear, Lubricant & Additives, Surface treatment & Coatings
- Tribological aspects in Design & manufacturing
- Nanotribology / Other emerging trends in Tribology

**Extended abstracts** of about two to three pages are to be submitted to chairman NTC-2011 through E-mail: [NTC2011iitr@gmail.com](mailto:NTC2011iitr@gmail.com)

The papers can be submitted for oral presentation or for interactive session presentation.

## Technical Papers

Engineers, scientists, academicians and practitioners in tribology are invited to present technical papers in line with the theme of the Conference. Each technical session will begin with a keynote Lecture by person of repute. In addition to this, some eminent tribologists will be invited to speak on frontier areas of tribology in the inaugural and plenary sessions.

Full text of all the technical papers shall be included in the Conference Proceedings and, additionally, abstracts of all the papers shall be printed in a book form. Both the proceedings and book of abstracts shall be handed over to delegates of the Conference.

## Awards

Best papers and technical exhibit shall be selected by an Award Committee and shall be awarded in the Concluding Session of the Conference. The award will be given in the following categories among the papers presented during the Conference:

TSI Best Oral Paper (Academic Research)



- TSI Best Oral Paper (Applied Research)
- TSI Best Poster Paper (Academic Research)
- TSI Best Poster Paper (Applied Research)
- TSI Best Exhibit

Each award will carry a cash prize besides a certificate of commendation. There is a scope of sponsoring each of the awards by any organisation on payment of Rs. 25000/- (US \$ 700). The award shall be named on the sponsoring organisation.

### Education Course

On the eve of NTC-2011, three parallel education courses are being organised on Dec. 08, 2011, one each on "Basics of Tribology", "Condition Based Maintenance System" and "Advance in Wear Resistant Materials and Coatings". The course on Basics of Tribology has been designed exclusively for the students of engineering colleges. During the courses, theory and case studies shall be discussed by eminent faculties drawn from Industries, R&D Institutions and Academia. For each course a nominal fee of Rs. 3000/- is being charged from TSI Members and Rs. 4000/- from Non-TSI Members. College students are encouraged to attend the course at a subsidised fee of Rs. 1000/- only.

Leading organisations are invited to sponsor the education courses at a nominal fee of Rs 50,000/- (US \$ 1500) per course. Adequate advertisement opportunities shall be given to the sponsoring organisations in the courses as well as in Conference.

### Manufacturer's Presentation

Manufacturers/suppliers of equipments, lubricants, additives and service providers related to Tribology would be invited to the Conference to project their products/services/innovations through multimedia presentation in the special sessions on Manufacturer's Presentation. A nominal fee of Rs. 30,000/- (US \$ 700) would be charged for each presentation of 20 minutes duration.

### Technical Exhibition

With a view to highlight the advancements made in the area of Tribology, a technical Exhibition is being organised along with the Conference. Lubricant & Additive Suppliers, Equipment Manufacturers, Tribological Specialists and Service Providers, Technical Book Publishers, etc. have been invited to participate in the Technical Exhibition to highlight their products and services. Well furnished and illuminated exhibition stall of about 2.5 m x 3.0 m size is being provided to each exhibitor at a nominal fee of Rs. 50,000/- (US \$ 1500). Suitable mechanism shall be in place to motivate delegates for visiting the exhibition stalls in large numbers.

### Souvenir & Advertisements

A Souvenir, containing conference details and informative articles shall be released during the Conference, and will be provided to each registered delegate. Advertisements for the Souvenir can be booked at the following rates:

Back Cover (Colour) :	₹ 45,000 (US \$1000)
Front/Back inside Cover Page (Colour) :	₹ 30,000 (US \$ 700)
Colour Full Page :	₹ 20,000 (US\$ 500)
Colour Half Page :	₹ 15,000 (US\$ 350)
B/w Full Page :	₹ 15,000 (US\$ 350)
B/w Half Page :	₹ 10,000 (US\$ 225)

The advertisement material is to be provided in hard copy/transparency or on CD latest by November 15, 2011.

### Conference Sponsorship

Reputed Companies, Organisations and Trade Associations have been invited to join this national Event as sponsors of the Conference Proceedings and Souvenir and other facilities. The details regarding



various categories of sponsorship are given below:

CATEGORY	CHARGES		FACILITIES				
	Indian (Rs in Lakhs)	Overseas (US \$)	Free Delegates	Company Logo on all Conf. Materials	Free Colour Ad in	Free Stall in TE	Free Slot in MP
Platinum	3.00	6000	6	✓	✓	✓	✓
Gold	2.00	4000	4	✓	✓	✓	✗
Silver	1.00	2000	2	✓	✓	✗	✗
Co-sponsor	0.50	1000	0	✓	✗	✗	✗

## Conference Registration

Professionals, researchers, business entrepreneurs and all other practitioners of Tribology from across the globe are invited to attend the Conference and get benefited by sharing advanced knowledge and experience. Registration in the Conference can be made by paying fee as per the details given below.

	(On or before 8th Nov.)
Student Delegate	2,500.00
Academic and R&D Institute	8,000.00
Industry Delegates	10,000.00
Foreign Delegates	US\$ 300
Foreign Delegates (Students)	US\$ 150
TSI Members (Academic/Industry on applicable rates)	Discount 20%

the registration fee for the Conference will cover participation in Technical Sessions, Conference Proceedings, Printed Materials, Conference Kit, Lunch, Tea/Coffee, Conference Banquet, etc.

## Payment Details

All payments related to registration of delegates, sponsorship, advertisements, technical exhibition, manufacturer's presentation, participation in educational course, etc. are to be made through crossed demand draft / cheque payable at par, drawn in favour of 'Registrar, IIT Roorkee' payable at Roorkee.

## About IIT Roorkee

The Indian Institute of Technology (IIT) Roorkee is the successor of the University of the Roorkee and is the oldest technical institution of the Indian sub-continent. It was established as the Roorkee College in 1847 and rechristened as the Thomson College of Civil Engineering in 1854. Recognizing its yeoman contribution for the development of the country for over 100 years. This temple of learning was elevated to the status of a University, the first technical university in India in 1949. The University of Roorkee was converted to IIT Roorkee as the nation's seventh Indian





Institute of Technology by the Government of India on September 21, 2001, thereby further elevating it to an institute of national importance. Over the years, it has built up and maintained an excellent academic reputation. The outstanding achievements of its alumni especially in the field of water related subjects are a testimony to this. The IIT Roorkee has academic departments in the area of Engineering, Sciences, Architecture and Planning, Management studies and Humanities and Social Sciences besides many centres of higher education and research.

### About the Department of Mechanical & Industrial Engineering

The Department of Mechanical Engineering came into being in the year 1946 and was renamed as Department of Mechanical & Industrial Engineering on its silver jubilee in 1971. At present it offers undergraduate courses in the area of Mechanical Engineering and Industrial Engineering. The department offers Master of Engineering courses in Machine Design Engineering, Production and Industrial



Systems Engineering, Thermal System Engineering, CAD/CAM & Robotics and Welding Engineering. It runs Ph. D. program in all the areas of specialization and about 55 research scholars are pursuing work for their Ph. D. degree at present. The department has completed a large number of sponsored R & D projects and a large number of consultancy works indicating its strength of competent faculty. IIT Roorkee is situated at the Foothill of the Himalayas, in Haridwar district, in the state of Uttarakhand.

### Tribology Society of India (TSI)

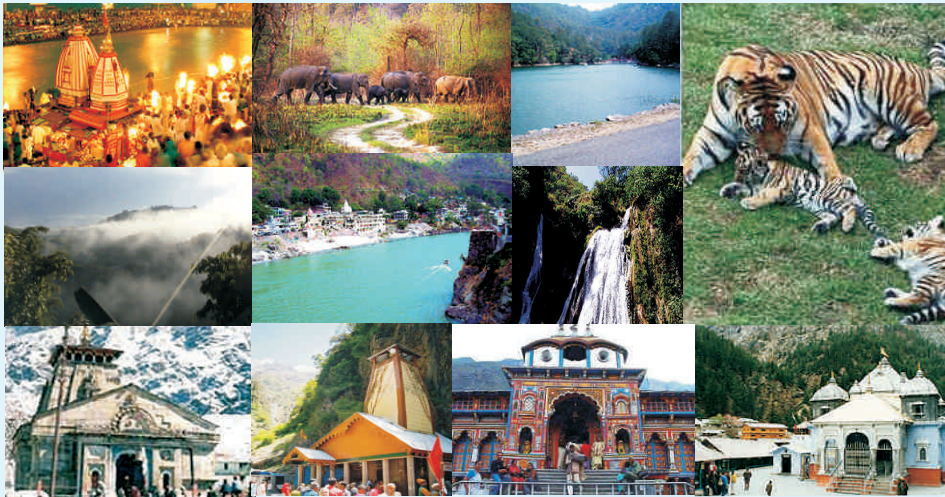
Tribology Society of India (TSI) was set up as a professional, non profit body of academicians, industry professional as well as researchers in Tribology to bring them on a common platform for better interactions between them. Its origin in the present form was in June 1989 with the headquarters at the Bharat Heavy Electrical Limited (BHEL), corporate R&D at Hyderabad. The society executive committee has wide representation from different sectors of Industry and from Academic and Research Institutions. It has presently about 570 life members and 20 institutional members. The society is affiliated to the International Tribology Council based in London, UK along with 36 other national Tribology societies spread all over the world. The society has seven local chapters responsible for organizing a number of activities like seminars, invited lecture series and workshops to increase interactions between the members of the society. The society has regular quarterly newsletters and a journal "Indian Journal of Tribology" which are circulated among the life members

### About Roorkee

The city of Roorkee (Longitude: 77 ° 90' E, latitude: 29° 87' N, average elevation above the sea level: 268 m) is situated in the foothills of the Himalayas and in District Haridwar of Uttarakhand State, India. It is considered to be the gateway to the pilgrimage of many renowned places like Haridwar, Rishikesh, Dehradun and Mussoorie. It is well connected by road: NH 58 at a distance of 185 km from Delhi. It has picturesque landscape with grand spectacle of Himalayan ranges stretching in the



east and northwest and is blessed with the holy Ganges Canal flowing through the centre of the city. Roorkee has world famous IIT, earlier known as University of Roorkee and other renowned institutions like CBRI, NIH, BEG&C etc. BHEL, Hardwar is only 30 Km away from this place. The month of December falls in winter season with temperature ranging between 10-20 °C. The nearest airports to Roorkee are Dehradun & Delhi.



## Get in to Roorkee

### By Road

Take the highway Delhi-Dehradun or Delhi-Haridwar, it passes through Roorkee. The city of Haridwar is located about 30 Km and Dehradun is located about 70 Km from Roorkee. Several buses run from various cities in North India and Bus service to Delhi is very frequent.

### By Air

Nearest domestic airport to Roorkee is Dehradun's Jolly Grant Airport (about 70 km) which has Kingfisher, Jet and Indian Airlines services from New Delhi. Nearest International airport is the New Delhi Airport which is about 200 kilometers away.

### By Train

Roorkee is connected with various Indian cities by several trains. Important Trains from Delhi are Shatabdi Express and Jan Shatabdi

Express (For more details: [www.irctc.co.in](http://www.irctc.co.in)). The most convenient way to get Roorkee from Delhi is by train.

### Important Trains halting at Roorkee

Train Name	Train Number
Delhi-Dehradun-Delhi (Shatabdi Express)	12017/12018
Lucknow-Saharanpur Express	15011/15012
Ujjain Express (Bi-weekly)	14310/14309
Sealdah-Jammu Tawi Express	13151/13152
Gang Sulej Express	13307/13308
Howrah-Amritsar Mail	13006/13005
Dehradun-Bombay Express	19020/19021
Janshatabdi Express	12056/12055
Chandigarh-Lucknow	12232/12231

### Accommodation

Roorkee offers a range of accommodation to suit every budget. Both economy and luxury class hotels are located within 5 km from the Conference Venue. Delegates are requested to book the accommodation in advance to get preferred choice. Some limited accommodation is available on payment basis at IIT Roorkee Guest House / in Student Hostel at nominal charges on first cum first basis. For assistance in advance booking, Conference Secretariat may be approached before November 25, 2011.

Place	Phone No.	Tariff (Rs.) Per Day
1. Motel Polaris (3 star)	01332-272648	3500.00
2. Motel Divine International	01332-272542	3000.00
3. Hotel Dynasty	01332-271428	2500.00
4. CBRI Guest House	01332-283380	1000.00
5. IIT Guest House	01332-284100	600.00
6. NIH Guest House	01332-272285	600.00
7. Student Hostel		100.00