



TSI NEWSLETTER

JULY 2019

11th TSI Summer School in Tribology (14 -18 May 2019) At IndianOil Institute of Petroleum Management (IIPM), Gurugram, Haryana

The 11th TSI Summer School in Tribology (11th SST) was organized during 14 -18 May 2019 at IndianOil Institute of Petroleum Management, Gurugram, Haryana. As in the past SST events, the program was supported by Industry.

The highlights of the event are briefly mentioned below:

- The Program was inaugurated by Dr SSV Ramakumar, Director, Indian Oil R&D Centre, Faridabad and President TSI. Mr C K Tiwari, ED - IIPM, was the Guest of Honour. Others present during the inaugural session were Mr Ajay Kumar, GM (Tribology), IndianOil R&D Centre and Secretary – TSI, Mr R Mahapatra, DGM (Tribology), IndianOil R&D Centre and Treasurer-TSI and Mr A K Mehta, ED -TSI.



IndianOil Geet being presented during the Inaugural Function of 11th SST

Dr SSV Ramakumar, President - TSI and Mr C K Tiwari, ED - IIPM, lighting the Inaugural Lamp



- The program was attended by 27 participants from academia and 18 from Industry. A group photograph taken on the first day of the event is placed below.



A Group Photograph of 11th Summer School in Tribology

- The Technical Program, across a wide spectrum of Tribology, was covered in 19 Technical sessions. In addition to 19 technical lectures, there were 4 guest lectures.
- * The details of day-wise technical program, guest lectures, topics covered, and the learned faculty members can be seen at the TSI Website at the link given below.



Dr SSV Ramakumar, President - TSI delivering the Inaugural Address



A view of the participants attending the technical program of 11th SST

- A 2-hour Multiple Choice Questions (MCQ) type Examination, based on the lectures delivered during the program, was conducted on the final day before the feedback session.
- Mr Anand Kumar, former Director, IndianOil R&D and Past President of TSI was the Chief Guest during the Concluding and Feedback Session. Mr C K Tiwari, ED - IIPM also graced the occasion.



Participants appearing in the examination on the last day of the program



Mr Anand Kumar, Mr C K Tiwari and others during the Concluding Session of the 11th SST

- At the end of the feedback session, all participants were given "Participation Certificate". The Chief Guest, Mr Anand Kumar and Guest of Honour, Mr C K Tiwari gave away these certificates.



Mr Anand Kumar and Mr C K Tiwari presenting the "Participation Certificate" to all the attendees



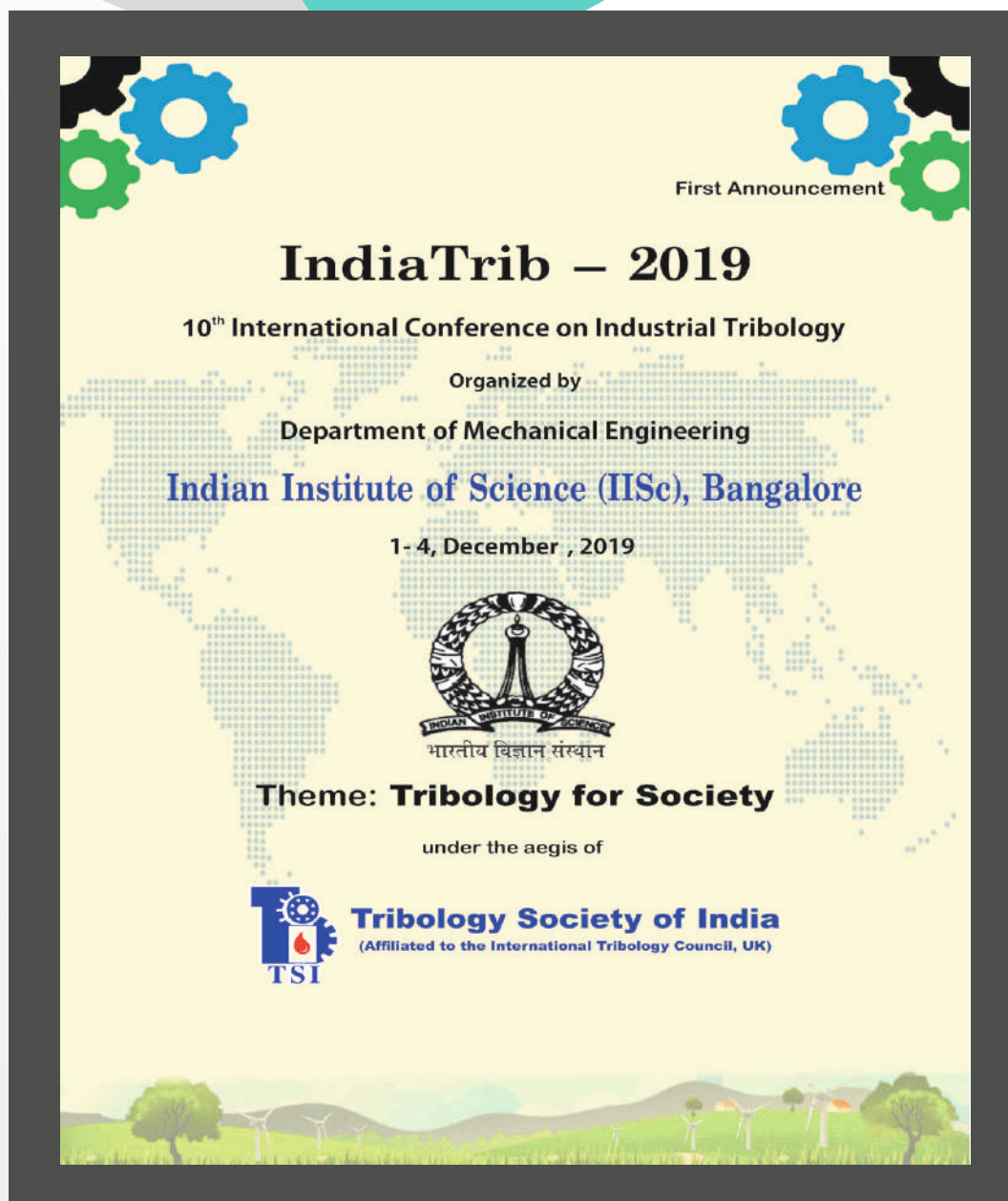
Mr Anand Kumar, Mr C K Tiwari, Mr S Acharya and SST participants at the Concluding Session

- Complete details of the SST event in the form of brochure and technical program etc. can be viewed at the link : http://tribologyindia.org/education_course_archives.htm



Message from *Prof. Satish Vasu Kailas*, Organizing Secretary - IndiaTrib2019

- **IndiaTrib-2019** is the upcoming mega event in the series of the International Conferences on Industrial Tribology, being organized by Tribology Society of India since the year 1997 when the first International Conference on Industrial Tribology was organized at Kolkata.
- **IndiaTrib-2019** is the rechristened 10th International Conference on Industrial Tribology being organized by the **Department of Mechanical Engineering, Indian Institute of Science (IISc), Bengaluru during 1-4 December 2019.**
- We are overwhelmed with the response for submitting technical papers in **IndiaTrib 2019**. We have over 240 technical abstracts / extended abstracts already received for the conference.
- **IndiaTrib 2019** is a unique conference with 6 Plenary, 12 Keynote and 20 Invited Talks by experts in the area of Tribology from all over the world, besides 88 oral and around 150 poster presentations. While all Plenary, Keynote and Invited presentations will be in plenary mode and delivered in main venue hall, the oral technical presentations will be conducted in 4 parallel sessions. Another unique event is that the poster presenters (interactive session) will be given a slot on the first day to present their work in two minutes. The presentation should cover the motivation (20 seconds), main results (60 seconds) and conclusions (40 seconds). While you might feel that it is impossible, we do sincerely believe that it is possible. This is an interesting challenge that all should take up. As the program is packed, it would be impossible to have more than 85 Oral presentations.
- The process of online registration for the conference is already on for different categories of delegates. All categories of delegates are entitled for a discount on the listed fees for early registration with payment prior to 30th September 2019.
- **IndiaTrib 2019** is also going to have two pre-conference education courses (on 1st December 2019), Business Meet Sessions and Technical Exhibition.
- While efforts are being made to provide accommodation to as many delegates as possible within the Institute, it is limited. The delegates are strongly advised to make their own arrangements for accommodation (within 4 km of IISc).
- Complete details of the of **IndiaTrib-2019** can be viewed at <http://tribologyindia.org/> on TSI website.



Young Research Scholars in Tribology



- Name of the Research Scholar** : **Dinesh Yashwant Dhande**
Title of the PhD Thesis : Analysis of Hydrodynamic Journal Bearing with Elastic Bushing (January 2018)
Supervisor : Dr. D W Pande, Professor and Dean R & D, College of Engineering, Shivajinagar, Pune -411005



- Name of the Research Scholar** : **Amol B. Kakade**
Title of the PhD Thesis : Investigations of Tribological Parameters on Design and Development of Three Roller Motorized System Similar to Sugar Mill under Various Operating Variables – A Case Study (2017)
Supervisor : Dr. D. V. Bhatt, Professor, Department of Mechanical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat (Gujrat)- 395007
Co-supervisor : Dr. J.V. Menghani, Assoc. Professor, Department of Mechanical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat (Gujrat)- 395007



Name of Research Scholar : **Manoj Kumar**
Title of Ph.D. Thesis : Erosion-Corrosion Studies of Nano-structured Ni-Cr Coatings on SAE 213-(T22) and SA 516 (Gr -70) (2016)
Supervisor : Dr. Harpreet Singh, Dean & Professor of Mechanical Engineering, Indian Institute of Technology, Ropar, Rupnagar, Punjab, India



Name of Research Scholar : **Nitin D Patel**
Title of Ph.D. Thesis : Theoretical Analysis of Some Problems in Lubrication (3rd December 2015)
Supervisor : Dr G M Deheri, Retd. Professor, Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar – 388 120, Gujarat India



Name of Research Scholar : **Vishal Tulshiram Mahale**
Title of Ph.D. Thesis : Development of Copper-Free NAO Brake-Pads (2018)
Supervisor : Prof. Jayashree Bijwe, ITMMEC, Indian Institute of Technology – Delhi.
Co-Supervisor : Prof. Sujeet Sinha, Dept. of Mechanical Engineering, Indian Institute of Technology – Delhi.



Name of Research Scholar : **Kinjal Niranjana Trivedi**
Title of Ph.D. Thesis : Tribological Properties of Magnetic Fluids (2019)
Supervisor : Professor R. V. Upadhyay , P D Patel Institute of Applied Sciences Anand, Gujarat



Name of Research Scholar : **Chacko Preno Koshy**
Title of Ph.D. Thesis : Studies on the Tribological Behaviour of Nano-lubricants (2019)
Research Supervisor : Dr. P.K. Rajendrakumar, Professor, Department of Mechanical Engineering, National Institute of Technology, Calicut
University Awarding the Degree : National Institute of Technology, Calicut

In Focus: Tribology Research & Testing Facilities at CMERI, Durgapur (W.B.)

- The Surface Engineering and Tribology (SET) Lab at CSIR - Central Mechanical Engineering Research Institute, Durgapur (W.B.) is devoted to the science and technology of Tribology. The main activities include fundamental and applied research in the field of friction and wear of engineering surfaces, micro/nano tribology, tribological instrumentation, used oil analysis and new generation Graphene based oil studies, as well as educating graduate and undergraduate students in this area. The Lab is dedicated to inter-disciplinary research among highly qualified manpower from different branches of science coming together under one umbrella. The SET Lab is now executing different high-value projects of national importance, like development of hybrid energy storage system for electrical vehicle and unmanned vehicle; Graphene based conductive ink; development of additive manufacturing machine etc. The SET Lab is equipped with following key facilities in the field of Tribology.

1. Viscometer
2. TAN/TBN Analyzer
3. Analytical Ferrography System
4. FTIR Spectrometer with Oil Express Analysis
5. Four Ball Tester
6. Nano Tribometer
7. Video Based Contact Angle Goniometer
8. Rheometer
9. Nanoparticle Size Analyzer with Zeta Potential
10. Emulsion Test Apparatus
11. Pensky Martens Flash Point Tester
12. Copper corrosion testing apparatus
13. Pin/Ball on Disc Tribometer
14. Foaming characteristics testing apparatus



RHEOMETER



FT - IR SPECTROMETER



TAN / TBN ANALYZER



NANO-TRIBOMETER



CONTACT ANGLE GONIOMETER



PIN/BALL ON DISC TRIBOMETER

The Oil Analysis Program is one of the highlights at CMERI and it offers the following benefits to industry:

- Reduction in unscheduled downtime
- Effective maintenance scheduling
- Improved equipment reliability
- Reduction in maintenance costs
- Determination of optimum oil service intervals
- Minimization of installation errors

For industries interested in associating their maintenance program with CMERI's Oil Analysis Program, the relevant contact at CMERI is as follows:

Head - Surface Engineering and Tribology, CSIR - Central Mechanical Engineering Research Institute,
M G Avenue, Durgapur -713209 (E-mail: murmu@cmeri.res.in)

New Members of Tribology Society of India (February - July 2019)

Sr No.	TSI LM #	Name	Affiliation
1	S-5891	Mr Mahesh Kumar Singh	Indian Institute of Science Bangalore
2	5892	Ms Kavita	IIT BHU Varanasi UP
3	S-5893	Mr Rajeshshyam Radhakrishnan	SASTRA Deemed University, Thanjavur, TN
4	5894	Mr Ranjeet Kumar Singh	MMMUT Gorakhpur, UP
5	5895	Mr Kishore Kumar Yalla	Shree Cement Limited, AP
6	5896	Mr P Chenga Reddy	SCSVMV Kanchipuram, TN
7	5897	Mr Ravi Kumar B N	DSATM, Bangalore
8	5898	Prof Nitya Nand Gosvami	IIT Delhi
9	5899	Dr B S Praveen Kumar	Presidency University, Yelahanka , Bangalore
10	5900	Prof V R Gaval	Institute of Chemical Technology, Mumbai
11	5901	Dr Amit P Pratap	Institute of Chemical Technology, Mumbai
12	S-5902	Mr Chethan S	Reva University Yelahanka, Bangalore
13	S-5903	Mr Darshan J V	Reva University Yelahanka, Bangalore
14	S-5904	Mr T M P Balaji	Reva University Yelahanka, Bangalore
15	5905	Dr M N K Prasad Bolisetty	Indian Oil R&D Centre, Faridabad HR

All Members are invited to send their publication materials, suggestions and feedback to Mr. A. K. Mehta, ED (TSI) at the email ID: office.tsi@tribologyindia.org

Compiled by Mr. A. K. Mehta, ED (TSI) and Edited by Dr. Barun Chakrabarti, Vice President (TSI), on behalf of Tribology Society of India. This publication is for free circulation among TSI Members.

