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TSI NEWS LETTER

ICIT-06 SPECIAL ISSUE

38

A Quarterly Newsletter from Tribology Society of India

April 2007

MESSAGE FROM PRESIDENT

Dear Tribologists,

A new Executive Committee has taken over post ICIT 2006. The biennial conferences organised by TSI over the years have played a historic role in promoting education and research in tribology at certain organization level but probably had less success in promoting wide spread application of advanced tribology as problem solving science for our day to day challenges. I sincerely hope during the tenure of present EC, TSI will not only try its best to fostering of scientific temper or better say tribological temper among our members but also endeavour to start consulting services of its own with the involvement of large number of experts on its roll. Tribology to take roots must pervade our way of thinking and our way of working. We see starting of Consultancy services by TSI as a stepping stone to make Tribology take deeper roots as an enabling technology with growing industrialization in India.

But it is easier said than done? While as a country we should be prepared to fund the needed research, we should not waste resources and effort to re-invent the wheel. Where we would need focus and investment is in promoting better utilization of existing knowledge and in disseminating this knowledge as widely as possible and this is the void which we will try to fill through setting up TSI Consultancy Services.

There are many concerns about the development of tribology in our country, that I wish to share with you in the hope that some of you will light our path at TSI. If I am not misinterpreted, let me boldly say that our best minds are not turning to tribology, and those who do, do not remain in it. We must find ways of making tribology more attractive to make career with. Are we creating the required environment for innovation, for experimentation, and for creativity in our institutions? Are our research laboratories and industries exciting places for the young, encouraging creativity and experimentation, or are we scaring them away with our bureaucratic ways and our hierarchical systems? Are we creating synergy between research and new initiatives in tribology, our teaching system and adaptation in Industry? Are we promoting public private partnerships, to increase funding for frontier areas of research in tribology? If we are not doing all this and more, chances are that we are not creating exciting career opportunities for tribologists.

The industry expects a lot from those among us who have had the privilege of good education in tribology. We must apply our knowledge to deal with the challenges of our times. Equally, we must encourage a new wave of creativity and experimentation among youth. Tribology needs a new boost, a new lease of life, a push into the future. In the final analysis, it is up to us, the scientists, the educationists, and administrators of research and educational institutions to take the lead and show the way forward. If TSI is able to kindle the fire of passion, called Tribology, among its large membership, we know for sure that Almighty has set us on right path.

Dr. G. K. Sharma



5th International Conference on Industrial Tribology 30th November to 2nd December 2006- A Round Up

The 5th International Conference on Industrial Tribology ICIT-06 was organized at Bangalore from 30th November to 2nd December 2006 at JN Tata Memorial Hall at Indian Institute of Science. This conference is held biennially under the aegis of Tribology Society of India. It is for the first time that the conference was organized by an Educational Institution.



Chief Guest Dr. Balaveera Reddy flanked by Mr. V.N. Sharma President TSI and Prof. N. Balakrishnan Inaugurates ICIT-06 by ceremonial lamp

The conference was inaugurated by Dr Balaveera Reddy, Vice Chancellor, Vishveswarayya Technical University, Belgaum., in a glittering ceremony held in the JN Tata Memorial Auditorium, IISc Bangalore. The highlight of this conference was presence of an ensemble of world leading Tribologists from the leading educational institutions from UK, USA, Japan, Singapore and Korea. A large number of dignitaries from major industrial organizations as well as



Prof SV Kailas Welcomes the delegates at ICIT 06

Heads of Academic and Research Institutions along with a large number of delegates who came from far and near places in India were in attendance during the Inauguration. Dr Reddy, the Chief Guest, briefly touched upon the progress of Tribology globally and in particular in the Indian scenario. He underlined the need for adoption of good tribological practices and reaping its benefits as envisaged in the Jost report of 1961.

During the Inaugural Function a theme lecture was delivered by Prof Hugh Spikes of Imperial College London. The topic of his talk was "Boundary Lubrication its History and Recent Developments." He traced the path from the days when fatty acids in form of animal and vegetable fats were in use to the present day use of Zinc, Phosphorous, sulfur and Soluble Molybdenum additives. The talk was liked by each and every delegate present at the venue. During the Inaugural Session Prof SK Biswas also delivered a talk on the subject of new class of Boundary Lubrication additives -Silane.



Prof Hugh Spikes Imperial College London, Delivers the Theme Lecture



Prof N Balakrishnan releases the proceedings of the conference as Prof B Reddy and Prof SK Biswas, Chairman Organising Committee extend their help.



Prof D.V. Singh delivering the Valedictory Address



Mr N.M.Dube, Organising Secretary (Organisational) ICIT-06 proposes Vote of Thanks



Mr V.N.Sharma, President TSI greets the Chief Guest.



Dr. Har Prashad delivering the Valedictory Address

Technical Sessions :

The technical sessions were divided in three categories namely; Plenary Sessions, Oral Sessions and Interactive Sessions.. In all about 200 papers were presented in the technical sessions. Eighteen Key Note papers were presented by the eminent Tribologists both from India and abroad in the six Plenary Sessions. About one hundred technical papers were presented in the nine Oral Sessions and about 75 papers were presented in the Interactive Sessions which was held in the evening at Hotel Ashoka during the Banquet Dinner.

Key Note Speakers :

There were Six Plenary Sessions and in each session three Key Note Papers were presented by world renowned eminent Tribologists. The highlight of the Plenary Sessions was that they were packed with some of the most impressive lectures in the area of Tribology which touched upon some of the latest research areas perused by various research institutions. The sessions were very much appreciated by the delegates and they were witness to presentations on some of the recent research work being conducted world over. Following are the Keynote speakers with topics on which they spoke.

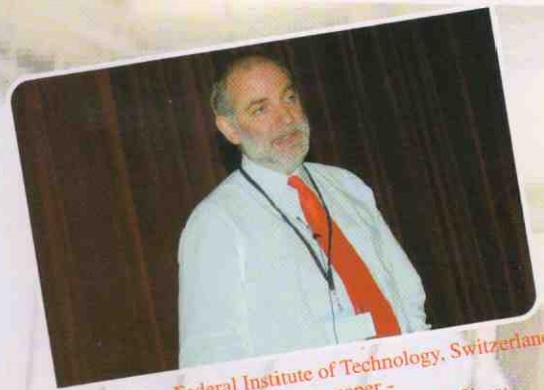


S.K. Biswas, Indian Institute of Science, India delivering his key note paper - Frictional Response of Silane Monolayers Self-Assembled On Silicon Wafer.

Key Note Speakers :



Steve Granick, University of Illinois at Urbana Champaign, USA,
delivering his key note paper -
What causes Low Friction? What Causes High Friction?.



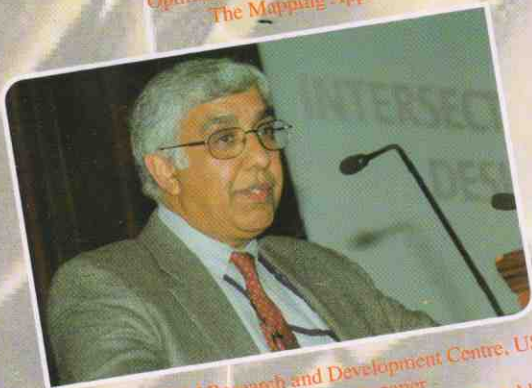
Nicholas Spencer, Swiss Federal Institute of Technology, Switzerland,
delivering his key note paper -
The Chemical Structure of Phosphate-Based Tribofilms:
A Combinatorial XPS Study.



She Chun Lim, National University of Singapore, Singapore,
delivering his key note paper -
Optimisation of Tribological Systems
The Mapping Approach.



G.K. Sharma, CIRT India,
delivering his key note paper -
Growing Indian Automotive Industry
Challenges in Tribology Research.



Anil Sachdev, GM Research and Development Centre, USA,
delivering his key note paper -
The Intersection Between Materials And Design To Address
Tribology Requirements In Internal Combustion Engines.



Uzi Landman, Georgia Institute of Technology, USA,
delivering his key note paper -
Hard and Soft Nano-Junctions.

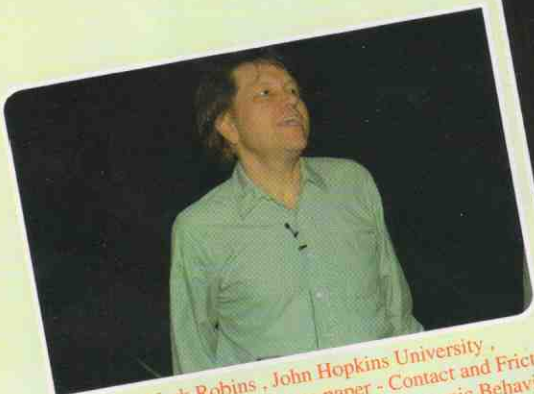


Hong Liang, Texas A & M University, USA,
delivering her key note paper -
Surface Roughness In Chemical
Mechanical Planarization.

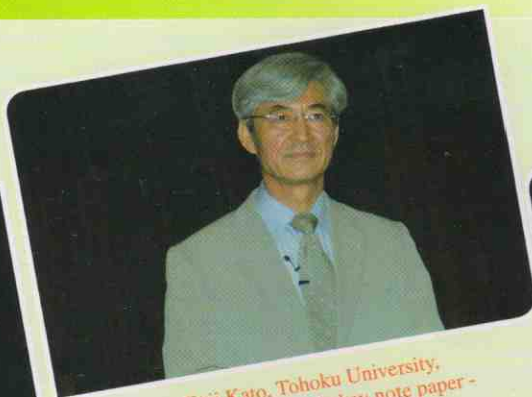


Ando Yasuhisa, National Institute of Advanced Industrial Science
and Technology, Japan, delivering his key note paper -
Micro Friction Tests in High Vacuum.

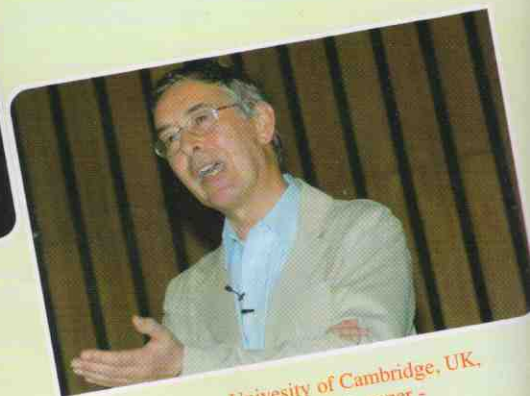
Key Note Speakers :



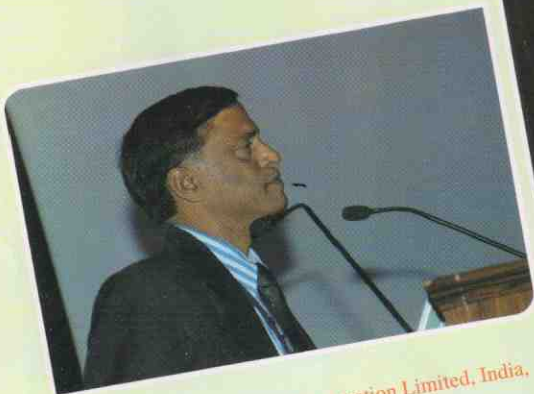
Mark Robins, John Hopkins University, USA, delivering his key note paper - Contact and Friction : Connecting Atomic dynamics to Macroscopic Behaviour.



Koji Kato, Tohoku University, Japan, delivering his key note paper - Tribolayers for Low Friction and Low Wear.



Ian Hutchings, University of Cambridge, UK, delivering his key note paper - Wear As A Manufacturing Process.



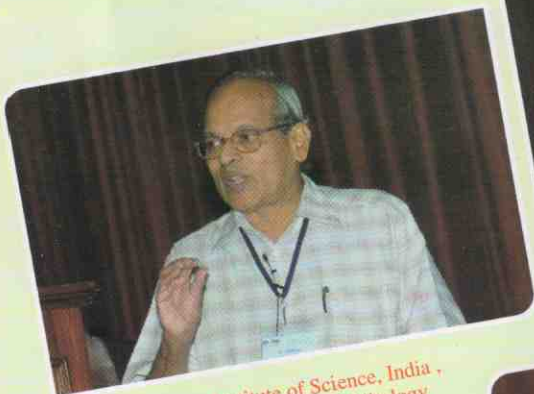
G Vasudev, Bharat Petroleum Corporation Limited, India, delivering his key note paper - An Overview On Importance of Improving The Reliability Of Equipment And The Challenge.



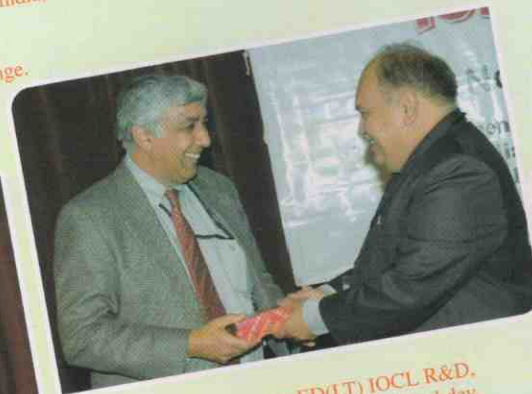
Jean Michel Martin, University of Institute of France, delivering his key note paper - Boundary Lubrication By Glycerol.



M Radhakrishnan, Central Manufacturing Technology of Institute, India, delivering his key note paper - Lubricants, Human, And The Environment.



N Raman, Indian Institute of Science, India, delivering his key note paper - Tribology of Piston Ring And Cylinder Liner Of I.C. Engines: Importance Of Metallurgical And Geometrical Characteristics of Surface.



Dr. R. K. Malhotra ED(LT) IOCL R&D, Presents a memento to Dr. Anil Sachdev, General Motors R&D USA



Dr. R. K. Malhotra ED(LT) IOCL R&D, Presents a memento to Dr. G. K. Sharma, Director, CIRT India



S. Joshi, International Advanced Research Centre For Powder Metallurgy and New Materials, India, delivering his key note paper - The Tribological Behaviour Of We-Co Based Thermal Spray Coatings: The Influence Of Phase Content & Micro Structure.

