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Under the Aegis of
Tribology Society of India
ICIT 2012
Theme : Tribology for Sustainable Development
7 – 9 December, 2012
The Westin Pune Koregaon Park, India
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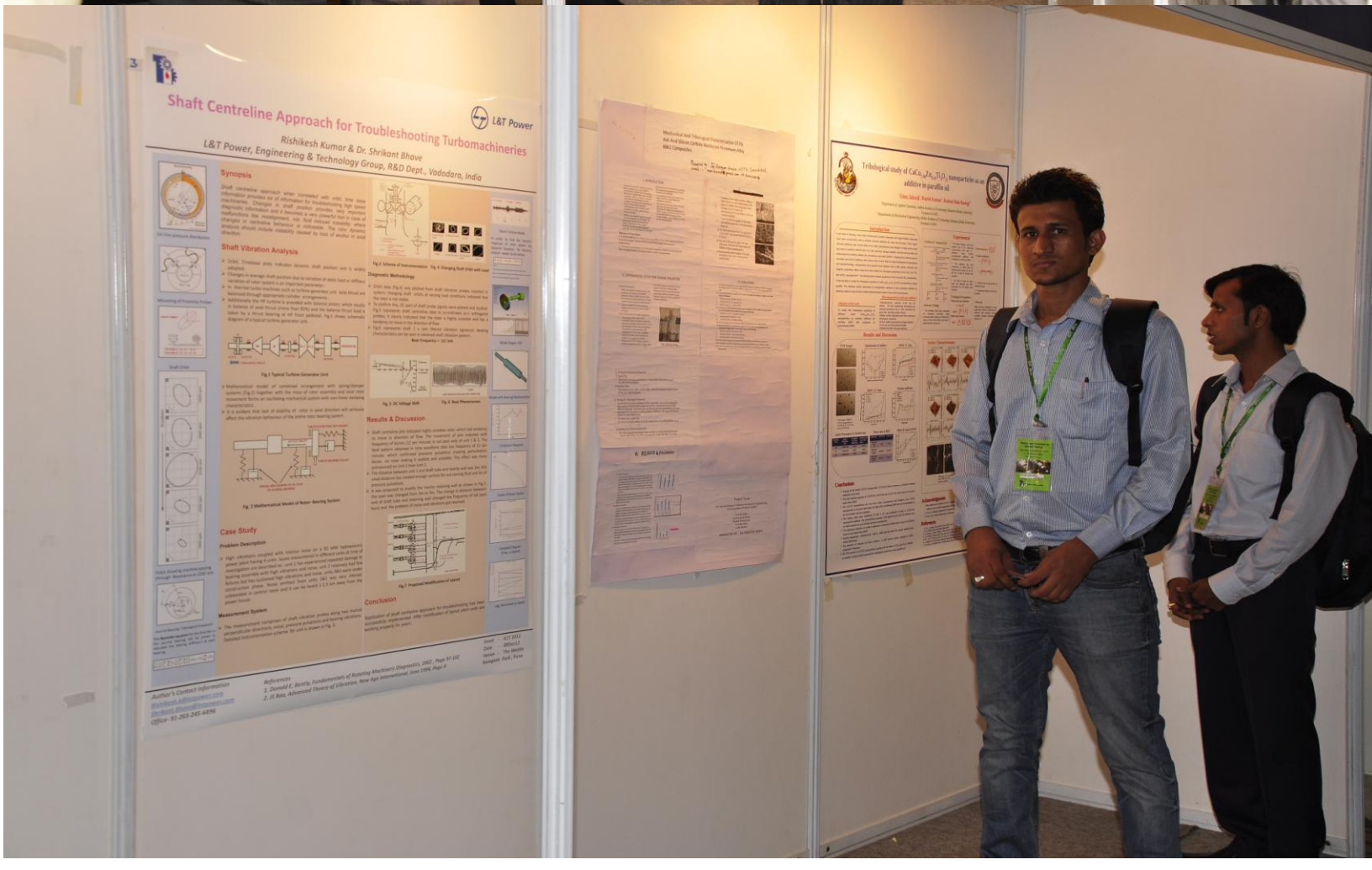
8th International Conference on Industrial Tribology
Technical Programme at a Glance
7th December 2012
Inauguration (Inspire Hall)
(9.00 Hrs. to 11.00 Hrs.)
Inauguration of Exhibition / Poster Session followed by Tea
Tea Break
(11.00 Hrs. to 11.30 Hrs.)
Plenary Session I (Inspire Hall)
(11.30 Hrs. to 13.00 Hrs.)
Prof Satish Kailas, Professor
Indian Institute of Science, Bangalore
"Sustainability: Closing the Cycle and Tribology"
Dr B Basu, Executive Director
Indian Oil Corporation Ltd, R&D Centre, Faridabad
"Formulating Lubricants Using Artificial Neural Networks (ANN's)"
Lunch
(13.00 Hrs. to 14.00 Hrs.)
Business Meet - I (Inspire Hall)
(14.00 Hrs. to 15.30 Hrs.)
STLE, Rtec, TSI
Tea Break
(15.30 Hrs. to 15.45 Hrs.)
Technical Session - I
(15.45 Hrs. to 17.45 Hrs.)
Cultural Program & Dinner
(19.00 Hrs. onwards)
8th December 2012
Plenary Session II (Inspire Hall)
(9.00 Hrs. to 11.00 Hrs.)
Mr. Jerry Byers, Manager
Product Research & Development Cimcool Fluid Technologies LLC
"Evaluation of Metalworking Fluids and Trends in the Industry"
Prof. Wilfried J. Bartz
Technische Akademie Esslingene. V. Germany
"Future Energy Sources for Mobility – Contribution of the Green Automobile"
Mr. George Plint
Phoenix Tribology Ltd, UK
"The Effects of Test Machine Dynamics on Tribological Response"
Tea Break
(11.00 Hrs. to 11.15 Hrs.)
Business Meet - II (Inspire Hall)
(11.15 Hrs. to 12.45 Hrs.)
SKF, BASF, MECPL
Lunch
(12.45 Hrs. to 13.30 Hrs.)
Technical Session - II
(13.30 Hrs. to 15.30 Hrs.)
Tea Break
(15.30 Hrs. to 15.45 Hrs.)
Technical Session - III
(15.45 Hrs. to 17.45 Hrs.)
GBM of TSI
(18.00 Hrs. onwards)
9th December 2012
Plenary Session III (Inspire Hall)
(9.00 Hrs. to 10.30 Hrs.)
Prof. Koshi Adachi
Head of Labaratory of Nanointerface Engineering, Tohoku University, Japan
"Creation of Nanointerface for Super-low Friction"
Dr. Georges Limbert
CEng MIMechE National Centre for Advanced Tribology
at Southamption (nCATS), UK
"When Tribology Meets Biology"
Tea Break
(10.30 Hrs. to 11.00 Hrs.)
Technical Session - IV
(11.00 Hrs. to 13.00 Hrs.)
Valedictory Session (Inspire Hall)
(13.00 Hrs. to 14.00 Hrs.)
Lunch
(14.00 Hrs. onwards)


Steady State Non-Newtonian THD Analysis of Journal Bearing Considering 3D Surface Roughness and Fluid Inertia Effects
E. Sujith Prasad, T. Nagaraju, K. N. Jagadeesha and J. Shanna Basavaraja
ABSTRACT: The combined influence of 3D surface roughness and fluid inertia effects is considered in the steady state non-Newtonian THD analysis of a journal bearing. Based on the Patir and Cheng's postulates, an average Reynolds equation is derived to include the surface roughness, fluid inertia and viscosity variation due to rise in fluid temperature as well as non-Newtonian behavior of lubricant. The matched solutions of modified average Reynolds, energy and conduction equations are obtained using finite element method and appropriate iterative schemes. The effects of surface roughness parameter, roughness orientations, and roughness characteristics of obtaining surfaces, on circumferential fluid-film pressure distribution, load carrying capacity and stability threshold speed of the bearing are studied by considering thermal, non-Newtonian behavior of lubricant and fluid-inertia effects.
Introduction
Mathematical Formulations
Results and Discussion
Conclusions
References:


Shaft Centreline Approach for Troubleshooting Turbomachineries
L&T Power
Rishikesh Kumar & Dr. Shrikant Bhave
L&T Power, Engineering & Technology Group, R&D Dept., Vadodara, India
Synopsis
Shaft Vibration Analysis
Diagnostic Methodology
Results & Discussion
Case Study
Problem Description
Measurement System
Conclusion
Author's Contact Information
References
Tribological study of CaCu3Zn4Ti4O12 nanoparticles as an additive in paraffin oil


ICIT 2012
A Design Guide for Preventing Stick-slip in Sliding Friction of Elastic Material
Satoru Maegawa[1], Kon Nakano[2], Fumihiro Itagawa[2], Takashi Nakamura[1]
[1] Nagoya Institute of Technology, [2] Yokohama National University
Through numerical simulation and experimental tests, it was found that the dynamic behavior of stick-slip motion strongly depends on the elastic deformation of sliding objects. For example, the local release of internal strain due to the elastic deformation of sliding objects triggers the occurrence of partial slip (called precursor), and it acts to decreases the value of effective static friction coefficient. It indicates that the effective static friction coefficient, which is calculated by the time changes of the tangential load, is not a material constant, we can control the amplitude of stick-slip by changing the system design parameters, such as contact length of sliding objects, cross-section area of sliding objects, and contact stiffness. These results obtained in this study will be helpful in finding the optimized design of sliding systems that make use of elastic materials.
Sliding friction of elastic objects
In-situ observation of contact surfaces
Typical results
Optical system
Parameters for determining static friction
Multi-DOF systems with coulomb friction
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A design guide for controlling friction
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SRV TEST
Scanning electron microscopy (SEM)
Attenuated total reflection


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& Dr. Shrikant Bhave
gy Group, R&D Dept., Vadodara, India
Diagnostic Methodology
Results & Discussion
Friction Based Comparison of Mechanical Shaft Seal and Dynamic 'O' Ring Seal Module Developed for Rudders and Fins of Autonomous Underwater Vehicle (AUV)
N. K. Singh, D. N. Badodkar and Manjit Singh
Bhabha Atomic Research Centre, Mumbai (INDIA)
E-mail: nsingh@barc.gov.in
ABSTRACT
INTRODUCTION
DESIGN
TESTING
ACKNOWLEDGEMENTS
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Stick-slip in Sliding Friction of Elastic Material
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Challenges in Nanotribology for Rubbing Elements
Prof. Sonawane Vishnu Y
Department of Production Engineering
Aissms College of Engineering Pune, Maharashtra, India
Optimization of Tribological behaviour of Al-10%SiC metal matrix composite using Taguchi based grey relational analysis
Shouvik Ghosh, Prasanta Sahoo, Goutam Sutradhar
Department of Mechanical Engineering, Jadavpur University, Kolkata 700 032, India
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Taguchi Method
Experimental Details
Results and
Conclusions
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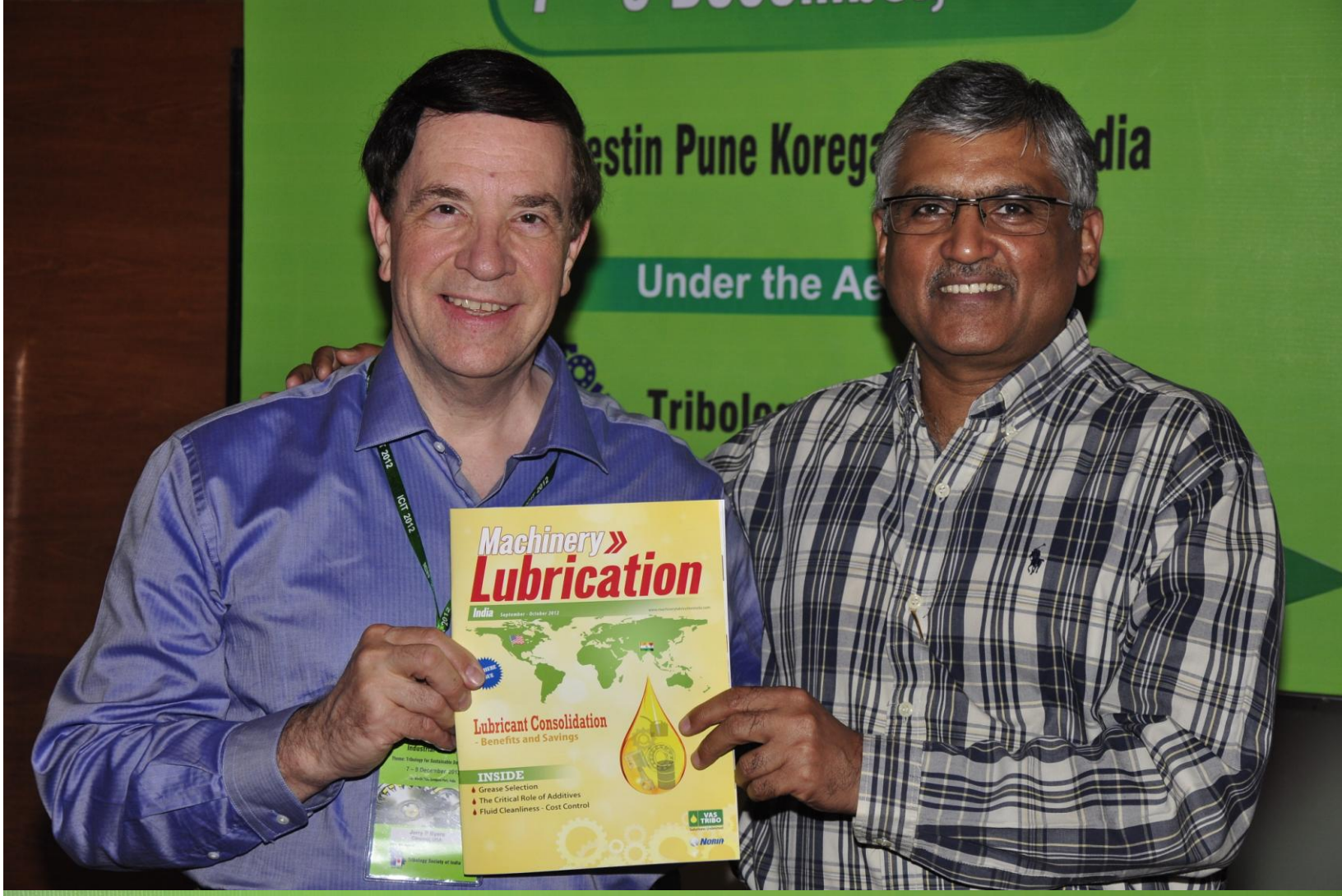
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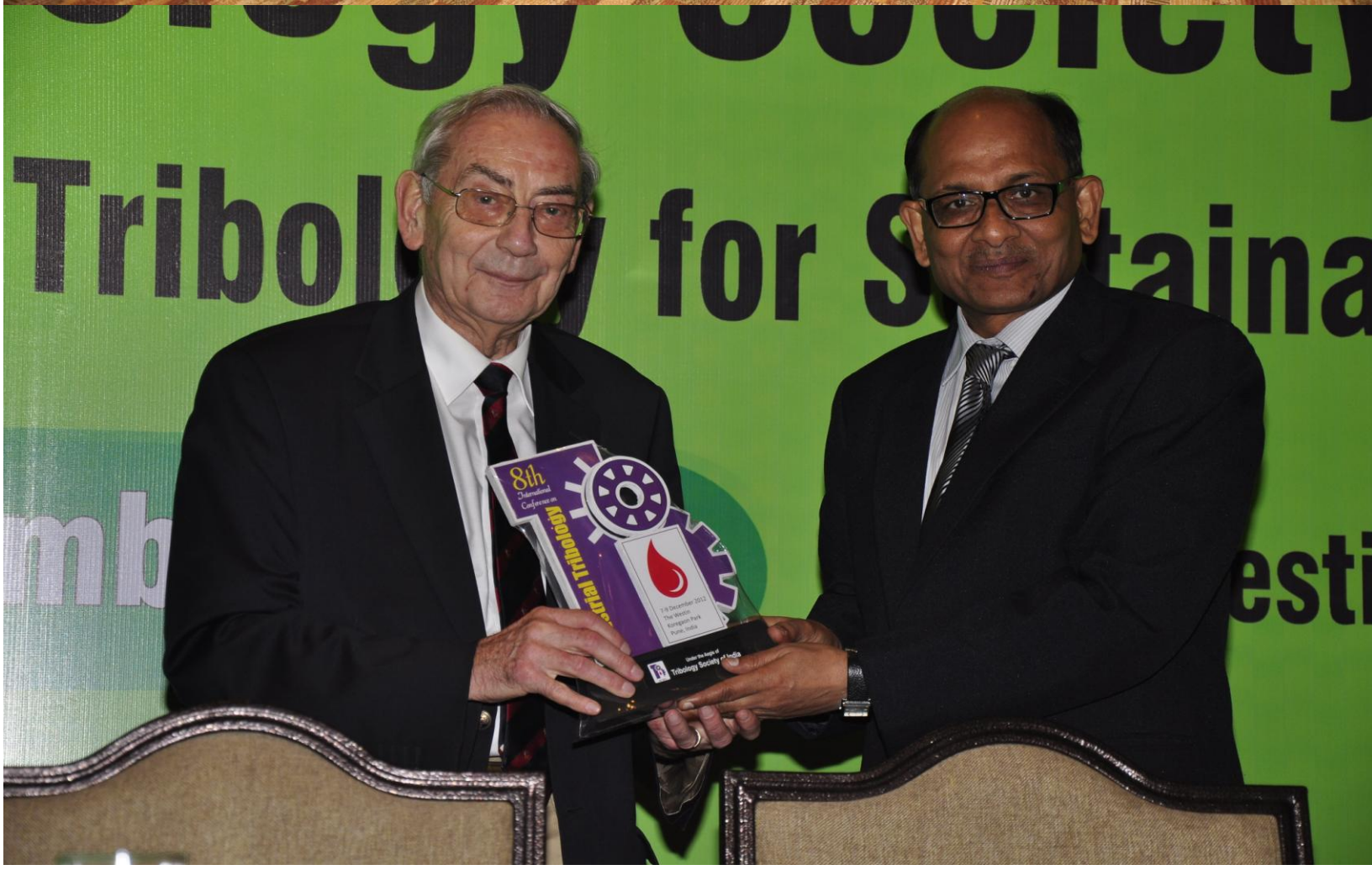
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