

National Tribology Conference (NTC) - 2011, Dec 08-10, 2011, IIT Roorkee

Programme Overview (NTC-11)

December 8, 2011 (Thursday)	
08:45-09:45	Registration
09:45-11:00	Inaugural Session Venue: (O. P. Jain Auditorium, Civil Engineering, Department)
11:00-11:15	Group Photograph Venue: In front of Mechanical & Industrial Engineering Department
11:15-11:30	Poster Session Inauguration Venue: Room No. 203, Mech.& Industrial Engg. Deptt.
11:30-12:15	HIGH TEA (Mechanical & Industrial Engineering Department Lawn)
12:15-13:00	Plenary Session Venue: (O. P. Jain Auditorium, Civil Engineering, Department) (A) Prof. D. Quinn , Professor, Department of Mechanical Engineering, University of Akron, USA Topic: “Friction Damping in large Scale Structural System Arising from Joints and Interfaces”.
1300-1400	LUNCH BREAK Venue: (Ravindra Bhawan Mess Lounge)
1400-1530	<u>Technical Session 1</u> Technical Session 1A: Bearing & Gear Tribology Venue: Room No. 216, MIED <i>Session Chair Persons:</i> <ul style="list-style-type: none">➤ <i>Prof. D. Quinn</i>, Professor, Department of Mechanical Engineering, University of Akron, USA.➤ <i>Dr. Barun Chakrabarti</i>, Jt. GM (R & D), L&T Ltd.

	<p>Paper Nos:</p> <p>NTC-201109: “Experimentation on Tilting Pad Thrust Bearing” P.B.Shinde, Dr.S.P.Chavan, Dr.R.K.Pandey</p> <p>NTC-201142: “Maintenance Free Bearings” Lijesh.K.P , Harish Hirani</p> <p>NTC-201150: “Reduction of Friction of 2-Lobe Four Pocket Hybrid Journal Bearing by Offsetting Bearing Shells” Vikas M. Phalle, Satish C. Sharma and S. C. Jain</p> <p>NTC-201153: “Assessment of Traction Coefficient of Engine Oils under EHD Contacts” Sanker Bhadhavath, Inder Singh, Ajay Kumar, V Martin, R K Malhotra,</p> <p>Technical Session 1B: Computational techniques in Tribology</p> <p>Venue: Room No. 254, MIED</p> <p><i>Session Chair Persons:</i></p> <ul style="list-style-type: none"> ➤ Prof. Michell Fillon, Professor, Universities de Poitiers, UFR Sciences, FRANCE. ➤ <p>Paper Nos:</p> <p>NTC-201104: “Unloading of an Elastic Plastic Spherical Stick Contact under Varying Strain Hardening-A Finite Element Study” Biplab Chatterjee, Prasanta Sahoo</p> <p>NTC-201125: “Prediction of Tribological Properties of Al6061- Tio₂ Composites Using Artificial Neural Network Approach” C. S. Ramesh, R. Keshavamurthy, Archana R. and D.Vineela</p> <p>NTC-201127: “Prediction of Slurry Erosive Wear Behavior of Al6061-Si₃n₄ Composites using Ann Approach” C. S. Ramesh, R.Keshavamurthy, D.Vineela, Archana R</p> <p>NTC-201133: “Nonlinear vibration analysis of cylindrical roller bearing with localized defect” U.A. Patel, A.S. Patel</p> <p>NTC-201145: “Predictive flank wear modeling of ceramic inserts using Artificial Neural Network (ANN) & Response Surface Methodology (RSM)” Nilrudra Mandal</p>
1530-1600	<p>Tea Break</p> <p>Venue: Room No. 205, Mech.& Industrial Engineering. Department</p>
1600-1730	<p style="text-align: center;"><u>Technical Session 2</u></p> <p>Technical Session 2A: Condition Monitoring and Maintenance</p> <p>Venue: Room No. 216, MIED</p>

Session Chair Persons:

- *Dr. Har Prashad, Ex. DGM (TBL), BHEL, Corporate R&D Division, CETR Consultant*
- *Prof. S.K.Nath, Professor, MMED, IIT Roorkee*

Paper Nos:

NTC-201122: "Vibration Based Analysis of Defects in Rotating Shafts" R. Singh, S. Sharma, V.P. Agrawal, P.K. Kankar

NTC-201128: "Hydraulic & Lube Oil Condition Monitoring and Preventive Maintenance" Anand Yesekar

NTC-201148: "Benefit of Wear Debris Analysis (WDA) in Reducing Critical Failures in Propel Gear Box of 10 M3 Excavators – Case Studies from South Eastern Coalfields Ltd." KAMAL MUKHERJEE

NTC-201151: "Rolling Bearing Diagnostics with advance signal processing methods" D.H.Pandya, S.H. Upadhyay, S.P. Harsha

NTC-201156: "Acoustic Emission- A New Condition Monitoring Tool" Dipak Sharma

Technical Session 2B: Bearing Lubrication & Additives

Venue: Room No. 254, MIED

Session Chair Persons:

- *Mr. Sudhir Singhal, Former Director, IIP Dehradun*



Paper Nos:

NTC-201101: "Effect Polytetrafluoroethylene on Wear Properties and Extreme Load Carrying Properties of Lubricating Oil" Sandesh S Ramteke

NTC-201103: "Evaluation of Rheological Behaviour of Lubricating Greases to Predict their Tribological Performance." G. D. Thakre, Sanat Kumar, M. R. Tyagi

NTC-201105: "Determination of Temperature Threshold Limit in Lubricant For Stable Operation Of Fluid Film Bearings" A. Ghosh Hazra, A.K. Mishra, R.B. Choudhary

NTC-201106: "Effect of Additives on Antiwear Properties of the Lubricating Greases" D. Kesavan, Jitendra Sahu, Manoj Jareth

NTC-201124: "Comparative Study of the Static Performance of Constant Flow Valve and Capillary Compensated Non-Recessed Hole-Entry Hybrid Journal Bearing Operating With Micropolar Lubricants" Nathiram, Satish C Sharma

18:00-18:45

TSI General Body Meeting

	Venue: Committee Room, Mechanical & Industrial Engineering Department)
1900-2130	Cultural Event followed by Dinner Cultural Event : Venue: (O. P. Jain Auditorium, Civil Engineering. Department) Dinner : Venue: (Ravindra Bhawan Mess Lounge)
December 9, 2011 (Friday)	
09:00-09:30 Hrs	Registration
0930-1100	Plenary Session Venue: (O. P. Jain Auditorium, Civil Engineering. Department) (A) Prof. Fillon, Professor, Universities de Poitiers, UFR Sciences, FRANCE Topic: Influences of Scratches on Journal Bearing performance; parametric & case study (B) Dr R T Mookken, GM (LT), IOC R&D, Faridabad Topic : “Lubricants & Additive Current Status and Future Trends”
11:00-11:30 Hrs	TEA BREAK
11:30-13:00 Hrs	<u>Technical Session 3</u> Technical Session 3A: Wear Mechanism Venue: Room No. 216, MIED Session Chair Persons: ➤ Dr. S. P.Nigam, Professor, Thapar University ➤ Prof. Rakesh Sehgal, Mech.Engg.Deptt., NIT Hamirpur Paper Nos: NTC-201117: “Dry Sliding Wear Behaviour Of Rice Husk (Rh) Char Reinforced Epoxy Composite” Gujjala Raghavendra* S.P.Samantarai, S.K.Acharya NTC-201119: “Dry Sliding Wear Behavior of Cu-Cr Alloy Based Composite Containing Sic” R. K. Gautam, Satish.C.Sharma, S.C.Jain, S.Ray NTC-201121: “Friction and Wear Behavior of Silica Carbide – Alumina Nano Composites” S.K.Acharya, K. Soma, Shekar Babu NTC-201132: “Friction and wear of commercially pure titanium and Ti-6Al-4V

	<p>sliding against SS316L in ambient condition” Ashok Raj J, Vani Bharatiya, Anindya Deb, Satish V Kailas</p> <p>Technical Session 3B: Fluid Film Bearings</p> <p>Venue: Room No. 254, MIED</p> <p><i>Session Chair Persons:</i></p> <ul style="list-style-type: none"> ➤ Prof. S. C. Jain, , Vice Chancellor, Mangalayatan University, Aligarh ➤ Prof. D.V.Bhatt, SVNIT,SURAT <p>Paper Nos:</p> <p>NTC-201108: “On the Performance of Pivoted Curved Slider Bearings: Rabinowitsch Fluid Model” Udaya Pratap Singh, R. S. Gupta, V. K. Kapur</p> <p>NTC-201110: “Selection Criteria of Automobile Lubricants” B.K. Sonigra, B.M.Sutaria</p> <p>NTC-201136: “Oil film thickness and wear measurement of PTFE based Composite thrust bearing pads” Dr. T. R. Choudhary</p> <p>NTC-201144: “Analysis of an Offset-halves Journal Bearing using different grade oils” Rakesh Sehgal, Amit Chauhan, Rajesh Kumar Sharma</p> <p>NTC-201162: “ Tribological Interventions for development of driveline and marin lubricants” Dr Ramakumar</p>
13:00-14:00	<p>LUNCH BREAK</p> <p>Venue: (Ravindra Bhawan Mess Lounge)</p>
14:00-15:30	<p style="text-align: center;"><u>Technical Session 4</u></p> <p>Technical Session 4A: Surface Treatment & Coatings I</p> <p>Venue: Room No. 216, MIED</p> <p><i>Session Chair Persons:</i></p> <ul style="list-style-type: none"> ➤ Mr. K. Ravi, DGM (P&AD),R&D Centre, BPC, Mumbai ➤ Dr. R. K. Pandey, IIT Delhi <p>Paper Nos:</p> <p>NTC-201114: “Control of Roll Wear during Hot Rolling By Modified Cooling Technology in Slabbing Mill” N Mondal, A K Marik, S R Ghantasala,A K Singh, D</p>

	<p>Chattopadhyay</p> <p>NTC-201126: "Prediction of Wear Coefficient Of Al6063-Tib2 In Situ Composites" C.S. Ramesh, Abrar Ahamed</p> <p>NTC-201135: "Tribology of Natural PEEK under water lubrication at slow sliding speeds" P.K.Limaye, N.L.Soni, R.J.Patel</p> <p>NTC-201138: "Evaluation of Cutting Forces and Surface Roughness on Turning AA 6061 using Vegetable Oils as Cutting Fluid" S.R.Jayaram, Y.M.Shashidhara</p> <p>Technical Session 4B: Surface Treatment & Coatings II</p> <p>Venue: Room No. 254, MIED</p> <p><i>Session Chair Persons:</i></p> <ul style="list-style-type: none"> ➤ <i>Dr. S.V.Joshi, Dy. Director, ARCI, Hyderabad</i> ➤ <i>Mr. Kamal Mukherjee, Chief Manager (Excvn), Central Excavation Work Shop, Gevra, South Eastern Coalfields Ltd</i> <p>Paper Nos:</p> <p>NTC-201131: "Development of a Ferro Spring" Satish B Purohit, S R Lapalikar, Ranjeeta Maheshwari</p> <p>NTC-201139: "Experimental determination of profile thickness variation and stress distribution pattern of deep drawn AA 6061 cups with vegetable oils as lubricant" Y.M.Shashidhara, S.R.Jayaram</p> <p>NTC-201141: "Selection Criterion of Automobile Lubricants" B.K. SONIGRA, B. M. Sutaria, D. V. Bhatt</p> <p>NTC-201147: "Wear behaviour of Nickel-Molybdenum alloy coatings with pulse electro-deposition technique" Kamlesh Joshi, Amarendra H J, G. P. Chaudhari, S. K. Nath</p>
15:30-16:00	<p>TEA BREAK</p> <p>Venue: Room No. 205, Mech.& Industrial Engineering. Department</p>
16:15-20:00	<p>Visit to Haridwar for Aarati</p>
20:00-21:30	<p>Dinner</p> <p>Venue: (Ravindra Bhawan Mess Lounge)</p>
December 10, 2011 (Saturday)	
0930-1015	<p>Plenary Session</p> <p>Venue: (O. P. Jain Auditorium, Civil Engineering. Department)</p>

	<p>(A) Dr S V Joshi, Dy. Director - International Advanced Research Centre for Powder Metallurgy & New Materials (ARCI), Balapur, Hyderabad 500005.</p> <p>Topic: “Advances in Surface Engineering to Combat Component Wear”.</p>
1015-1100	<p>PANEL DISCUSSION</p> <p>Venue: (O. P. Jain Auditorium, Civil Engineering, Department)</p>
11:00-11:30	<p>TEA BREAK</p>
11:30-13:00	<p style="text-align: center;"><u>Technical Session 5</u></p> <p>Technical Session 5A: Tribotesting</p> <p>Venue: Room No. 216, MIED</p> <p><i>Session Chair Persons:</i></p> <ul style="list-style-type: none"> ➤ <i>Dr R T Mookken, GM (LT), IOC R&D, Faridabad</i> ➤ <i>Mr. Ajay Kumar, Indian Oil R&D Centre, Faridabad</i> <p>Paper Nos:</p> <p>NTC-201112: “Fabrication and Study of Tribological Properties of Anodic Porous Alumina” Arti Yadav, M.S Bobji</p> <p>NTC-201115: “An Automotive Radiator – A Key System to Reduce Piston Ring Assembly (Pra) Friction in An Automotive I.C. Engine” Smriti Sahu, D.V.Bhatt</p> <p>NTC-201116: “An Experimental Study of Radiator Performance on Multicylinder Engine – A Case Study” Swati Khatnani, D.V. Bhatt</p> <p>NTC-201137: “Design of a Rig for Tribotesting in High Temperature Molten Alkali Metal Environment” Anshuman Dube, B. S. Paramesh, N. M. Dube</p> <p>NTC-201161: “Study of Multi-behavior agent Systems for supply chain planning in bearing industries” C. S. Bissa, Jayant Purohit, Kamlesh Purohit</p> <p>Technical Session 5B: Special Topics in Tribology</p> <p>Venue: Room No. 254, MIED</p> <p><i>Session Chair Persons:</i></p> <ul style="list-style-type: none"> ➤ <i>Prof. M. R. Tyagi, IIP Dehradun</i> ➤ <i>Prof. C.S. Ramesh, Depart.of Mech. Engg.P.E.S. Institute of Technology,</i>

	<p style="text-align: center;"><i>Bangalore</i></p> <p>Paper Nos:</p> <p>NTC-201155: "Tribology in hydrostatic extrusion – a review" P. Tomar, R. K. Pandey, and Y. Nath</p> <p>NTC-201120: "Tribological Behaviour of Natural Fiber Reinforced Polypropylene Composite" Pramendra Kumar Bajpai, Inderdeep Singh, Jitendra Madaan</p> <p>NTC-201140: "Experimental Evaluation of Friction Coefficient on Segmented Piston Ring Assembly of Automobile Engine" B. M. Sutaria, D. V. Bhatt, K. N. Mistry</p> <p>NTC-201143: "Role of Tribology in Machining: Components of MQCL System" Manoj Kumar Nayak, Rakesh Sehgal</p> <p>NTC-201160: "Enhance productivity using process integration by ERP software's: Application scenario in bearing industry" Jayant Purohit, C. S. Bissa, Kamlesh Purohit</p>
13:00-14:00	<p>LUNCH BREAK</p> <p>Venue: (Ravindra Bhawan Mess Lounge)</p>
14:00-15:30	<p>Valedictory Session</p> <p>Venue: (O. P. Jain Auditorium, Civil Engineering. Department)</p>
15:30-16:00	<p>TEA BREAK</p> <p>(Mechanical & Industrial Engineering Department Lawn)</p>

POSTER SESSION

Venue: Room No. 203, Mech.& Industrial Engg. Deptt.

NTC-201102: “Performance Model for Short Hydrodynamic Bearings Considering Non-Newtonian Fluid and Rough Surface” G. D. Thakre, Sachin Mittal, M. R. Tyagi
NTC-201107: “Study of Friction & Wear Reduction Techniques In Piston Rings in I.C. Engines” D.B.Jani, Mukesh
NTC-201111: “Recent Trends in Machinery Maintenance Philosophy & Failure Prognosis” D.H. Pandya, A. A. Darji, J. V. Desai
NTC-201113: “Bearing Fault Prediction Using Artificial Neural Network” J. P. Patel
NTC-201118: “Tribological Behaviour of Cast Al/Fe Composite Prepared By Stir Casting Route” R.K.Gautam*, Sandeep Dan, Sunil Mohan, Anita Mohand
NTC-201129: “To Increase Utilization of Tyre Industry Using Lean Methodology” M.Y.Patil, D.B.Jani, Ajit Chavda
NTC-201130: “Study of Friction & Wear Reduction Techniques in Piston Rings in I.C. Engines.” D.B.Jani, Mukesh R. Zala, Anishkhan Pathan
NTC-201149: “Experimental analysis and Modelling of erosive wear in typically unlubricated area of Excavator bucket using wear-bars instead of wear plates” MAYUKH SARKAR , KAMAL MUKHERJEE, P.S.MUKHREJEE, S.K.GHOSH
NTC-201152: “U Type Mild Steel Vibrating Electromechanical Coriolis Mass Flow Sensor” Pravin P. Patil, Satish C. Sharma
NTC-201154: “Thermal Effects in Lubrication of Pad Thrust Bearing gives significance of flocculation” Vijay Shankar, Nagvendra Kumar Kanoje
NTC-201157: “FEM analysis of Railway Wheel camber and Surface roughness considering Wear” Pankaj Bhardwaj Nagvendra Kumar Kanoje S.P.HARSHA, Satish C. Sharma
NTC-201158: “Non-linear Vibration Analysis of A Low-speed Rotating Shaft with Varied Number of Balls” Alok Misra, D.H. Pandya, S.H.Upadhyay, S.P.Harsha