

IndiaTrib-2024

Ozone Convention Center, Fairfield by Marriot

December 19–21, 2024 | Program

Day-1, Thursday 19th December 2024

Venue: MONARCH Hall

Time	Program	
08:00–09:00	Registration	
09:00–10:00	Inauguration	
10:00–10:15	Inauguration of Exhibition Stalls	
10:15–10:45	HIGH TEA (Monarch Hall)	
10:45–11:00	Conference Group Photo Session	
11:00–11:45	Plenary Talk 1: Prof. Satish V. Kailas (IISc Bangalore) <i>Evaluating the Stribeck Curve in the Boundary Lubrication Regime using a Force Controlled Tribometer</i>	Session Chair: Dr. Harprasad (ex-BHEL)
11:45–12:15	Keynote Talk 1: Dr. Manish Roy (DMRL, Hyderabad) <i>Tribology Related Issues in Missile and Artillery Systems</i>	
12:15–12:30	Business Meet 1: HPCL	Session Chair: Dr. T. Singh (Director, Business Development, Sidharth Grease)
12:30–12:45	Business Meet 2: IOCL	
12:45–13:00	Business Meet 3: PCS Instruments	
13:00–14:00	LUNCH (Terrace)	
14:00–14:45	Plenary Talk 2: Dr. Peter M. Lee (SwRI, USA) <i>Results from Electrification of Tribometers for EV Fluid Testing</i>	Session Chair: Mr. Ajay Harinarain (CGM, IOCL-R&D)
14:45–15:15	Keynote Talk 3: Dr. G. D. Thakre (IIP Dehradun) <i>Lubrication Capabilities of Cycloaliphatic Esters</i>	
15:15–16:00	TEA/COFFEE BREAK (Monarch)	

Parallel Sessions, Dec. 19th 16:00–18:15

DAY 1, SESSION A: GREEN TRIBOLOGY & SUSTAINABILITY

Venue: Monarch Hall

Session Chair: Dr. Tanmay Mathur, IIT Kanpur

Time	Abs. ID	Title of Presentation (Authors)
16:00-16:24	I01	Facilitating Indian Industrial Endeavour Towards Sustainability & Net Zero (Ajay K. Harinarain, IOCL)
16:24-16:48	I03	Designing Greases with Enhanced Lubricity and Environmental Responsibility (Ankit Saxena and Deepak Kumar, IIT Delhi)
16:48-17:00	C019	Investigation of the Impact of Biodiesel Dilution on the Oxidation and Tribological Properties of Engine Oil, and its Mitigation (Raktim Maji, Nikhil Kumar, M Rajendran)
17:00-17:12	C004	Tribo Analytics for Sustainability using Alternate Energy Source (Swarup Paul)
17:12-17:24	C111	Synergy of Tribology with Next Gen Fuels to achieve Net Zero in Marine Sector (Abhijit Sarkar, Shakti Prasad Mishra, Dr Aradhana Tripathi, Tarun Sharma)
17:24-17:36	C083	Tribological Behavior of Polytetrafluoroethylene and Polyurethane Coatings in Various Environments for Hydrogen Infrastructure Applications (Danavath Balu and Prabakaran Saravanan)
17:36-17:48	C060	Tribological studies on sustainable hydraulic oils (Abhishek Kardam, Shubham Saini, Sumit Bhaskaran, Rameshwar Chaudhary, Chanakya Tripathi and Kavita Rai)
17:48-18:00	C052	Polyol esters of Undecylenic Estolides: Multifunctional Lubricant Additive (Prasad Sanap, Somesh Patil, Rohan Thakur, Amit Pratap)
18:00-18:12	C099	Tribological Evaluation of Multilayer Polyimide Composite Coatings (Gulshan Verma, A. P. Harsha, Maziar Ramezani, Om P. Khatri)

Parallel Sessions, Dec. 19th 16:00–18:15

DAY 1, SESSION B: LUBRICATION, LUBRICANTS & ADDITIVES

Venue: Knight Hall 1

Session Chair: Mr. Kamal Mukherjee, ex-SECL

Time	Abs. ID	Title of Presentation (Authors)
16:00-16:24	I13	HFC-E Fluid Evaluation with Axial Piston Pump and Bent Axis Motor (Anjeeve George, Danfoss)
16:24-16:48	I07	Prospects And Future Directions of Advanced Lubricants (Jyoti Srivastava and Jyoti Prakash Singh, DMSRDE-DRDO)
16:48-17:00	C005	Tribological interaction studies of engine oil additives and their combinations (Chidambaram CT, Vinith Kumar S , Botta Sudhakar, Vidhya V, Adarsh Mahajan, Alluri Sharanya, Mrityunjy Dey, Kailash Veerappan)
17:00-17:12	C001	Development of Synthetic Barrier fluid for pressurized Seals with correct Viscosity configuration (Arindam Kashyap)
17:12-17:24	C102	Synergetic effect of Anti-oxidant/Antiwear combo of a fully synthetic turbine oil formulation in controlling oxidation (Ramanathan R , Monika, Anil Bhardwaj)
17:24-17:36	C100	Erosion Wear Behavior of Polymer Composites Reinforced with CNTs, GO, and Hybrid Nanoparticle-Coated Carbon Fiber using Taguchi Orthogonal Array (Mayank Singh , Srihari Dodla, R K Gautam)
17:36-17:48	C020	Effect of Base Oil Blend Viscosity (BOV) on various physical and chemical properties of heavy-duty diesel engine oils (Amitava Pal , Sumanta Mondal, Rajendran M, Sarvesh S Tomar, Dr. Tarunendr Singh)
17:48-18:00	C008	Carbon Nanostructures: Structural Features and Tribological Characteristics (Jyoti Prakash Singh , Jyoti Srivastava and Mayank Dwivedi)
18:00-18:12	C098	Comparative Tribo-Corrosion Resistance of SS316L, cpTi, and Ti-6Al-4V for Biomedical Implant Applications (Rupesh Kumar , R K Gautam)

Parallel Sessions, Dec. 19th 16:00–18:15

DAY 1, SESSION C: TRIBOLOGY IN METALWORKING

Venue: Knight Hall 2

Session Chair: Dr. Hiralal Bhowmick, TIET

Time	Abs. ID	Title of Presentation (Authors)
16:00-16:24	I12	Development of Ag-Doped CrAlN as Hard Solid Lubricant Coating for High Performance Cutting Application (Sumit Singh Rajput and Soumya Gangopadhyay, IIT Bhilai)
16:24-16:48	I11	Effect of Tool-Tip Rolling Motion in Metal Cutting (Ashish Kumar, Amrendra Chandan, Anirban Mahato, IIT Patna)
16:48-17:00	C018	Process parameter optimization of trochoidal toolpath in hybrid-electrochemical magnetorheological (H-ECMR) finishing (Atul Singh Rajput, Manas Das and Sajan Kapil)
17:00-17:12	C089	Wear characteristics of machined samples of SS316L (Sanjeev Kumar Patel , Shashank Shekhar)
17:12-17:24	C047	Nanoscale Frictional Characteristics of Titania Nanorod Patterned Surfaces (Debottam Datta , Enrico Gnecco, Nitya Nand Gosvami, J. P. Singh)
17:24-17:36	C078	Sliding Wear Behavior of Various Microstructures Made from Indian Rail Steel (Arun Rajput , A.P. Harsha)
17:36-17:48	C073	Tribological Behaviour of Additively Manufactured 17-4 PH Stainless Steel (Manik Barman, Ashutosh Raj, Sandip Kumar Sahu, Tapan Kr Barman, Suman Kalyan Das , Rajib Chakraborty)
17:48-18:00	C006	Tribological interaction studies of metalworking additives and their combinations (Chidambaram CT, Duddu Vinod Kumar, Kavirayani Navinkiran, Ravichandran S, Bolabattin Shivaraj , Varsha M, Preeti)
18:00-18:12	C118	Influence of Crystallographic Orientation on the Near-Surface Integrity in Wedge Sliding (Amrendra Chandan , Ashish Kumar, Anirban Mahato)

Day-2, Friday 20th December 2024

Venue: Empress Hall

Session Chair: Mr. Rajendra Mahapatra, GM-Tribology, IOCL-R&D

09:15–10:00	Plenary Talk 3: Mr. Sanjay Kumar (HPCL India) <i>Indian Lubricants Industry – Sustainability by Integrating Circular Economy</i>
10:00–10:30	Keynote Talk 4: Dr. Karthik Pondicherry (Anton Paar, Austria) <i>Exotic Tribology – Coffee to Catheters, and Bitumen Binders</i>
10:30–11:00	TEA/COFFEE BREAK (EMPRESS & KNIGHT)

Parallel Sessions, Dec. 20th 11:00–13:00

DAY 2, SESSION D: TRIBOLOGICAL MATERIALS

Session Chair: Dr. Arvind Rajput, IIT Jammu

Time	Abs. ID	Title of Presentation (Authors)
11:00-11:24	I06	Tribological of SiC Ceramics: Role of h-BN Reinforcement, Humidity and Temperature (Nilesh V. Dorkar, B. V. Manoj Kumar , IIT Roorkee)
11:24-11:36	C002	Effect of Abrasive Particle Size and Hardness on Slurry Abrasion Behaviour of Weld-Deposited Steels (Avishkar B. Rathod , Sanket Mehar, S.G Sapate)
11:36-11:48	C007	Dry sliding performance of thermomechanically treated structural steel (Brij Kishor , Kanchan Bharti, Sachin Kumar, Suneel Raju Pendem)
11:48-12:00	C032	Tribological behaviour of various base fluids used in Neat Cutting Oils (Madhusudhana Rao.P , M.C. Dash, P. Priyanka, A.K. Bhattacharya, S. Murali, V. Vijayabaskar & Raj Kumar Maity)
12:00-12:12	C035	Synergistic Tribological Effects of Cold Rolling and Heat Treatment on Inconel-718 at Room and High Temperature (Arun Kumar , Rajdip Mukherjee and Manjesh Kumar Singh)
12:12-12:24	C110	Influence of hydrogen content on fretting damage of Zr-2.5Nb alloy (Kamini Singh , Vijay Chaudhry, Satish Vasu Kailas)
12:24-12:36	C108	Dry sliding wear behavior of vacuum sintered transparent YAG ceramic (Divyansh Mittal , Amrita Kumari , Sandan Kumar Sharma, Jan Hostaša, Chandan Pandey)
12:36-12:48	C082	UHMWPE Based Composites for Artificial Hip Joint Applications (Sandip K. Nayak , Sujeet K. Sinha, Raj K. Pandey)
12:48-13:00	C080	High Temperature Wear Behaviour of Stellite 6 and Stellite 6 – TiC Metal Matrix Composite Coatings Fabricated via Additive Manufacturing (V. Tiwari , M. Sarkar, V. Mandal, A. Kumar <i>et al.</i>)
13:00-14:00	LUNCH BREAK (EMPRESS HALL)	

Parallel Sessions, Dec. 20th 11:00–13:00

DAY 2, SESSION E: MIXED TOPICS

Venue: Knight Hall 1

Session Chair: Mr. Sanjay Kumar, HPCL

Time	Abs. ID	Title of Presentation (Authors)
11:00-11:24	I05	Tribology and Sustainable Mobility- An Industry Perspective (Gopakumar P., 3M India Ltd.)
11:24-11:36	C062	Energy conservation in textile sector: go green – sustainability (Sarvesh Singh Tomar, M Rajendran, Shravan Kumar, Vivek Jain and Ashish Kumar Mishra)
11:36-11:48	C045	On the Triboelectric Energy Harvesting Performance of Fibrous Structures (Chirantan Shee , R. Alagirusamy, S. Wazed Ali)
11:48-12:00	C038	Experimental investigation into abrasive wear behaviour of terminalia chebula particulate reinforced epoxy composite (Suraj Kumar Mehar , Professor S.C Shrivastava, Samir Kumar Acharya)
12:00-12:12	C039	Solid Particles Erosive Study of 1.1 C Bainitic Alloy Steel (P. C. Mani, P. Patel , A. P. Harsha and R. Manna)
12:12-12:24	C050	Oblique collision of sphere on a flat surface: Effect of lubricant on the coefficient of restitution during low velocity impact (Gautam Revankar A , Kasula Vineethkumar and M S Bobji)
12:24-12:36	C056	Micro-Indentation Study of Poly-Ether-Ether-Ketone (PEEK) Using Experimental and Finite Element Methods (Kapil Muni Singh and Mihir Sarangi)
12:36-12:48	C061	Numerical Simulation of Two-Lobe Journal Bearing Operating with Magnetorheological Lubricant (Dr. Vivek Kumar)
12:48-13:00	C058	Performance of Positive Herringbone-Textured Sliding Surfaces: Experimental Hydrodynamic Assessment (Mizan Ahmed , Anoy Kumar Mondal, Mihir Sarangi)
13:00–14:00	LUNCH BREAK (EMPRESS HALL)	

Parallel Sessions, Dec. 20th 11:00–13:00

DAY 2, SESSION F: NANOTRIBOLOGY

Venue: Knight Hall 2

Session Chair: TBD

Time	Abs. ID	Title of Presentation (Authors)
11:00-11:24	I10	Nanotribology of 2D Materials using Atomic Force Microscopy (Himanshu Rai, Sourav Sahoo, Deepa Thakur, Jitendra Soni, Z. Ye, Om P. Khatri, V. Balakrishnan, N. M. Anoop Krishnan, Nitya Nand Gosvami, IIT Delhi)
11:24-11:36	C012	Enhancing the performance of concentrated tribo-contacts: Investigating the tribo-performance of nano grease lubricated textured concentrated contacts (Rameshwar Chaudhary , R. K. Pandey, S. K. Mazumdar)
11:36-11:48	C013	A review of tribological properties of bearings with nano-lubricant (Irshad M. Momin and Prof. Dr. S. H. Sawant)
11:48-12:00	C084	Advanced multifunctional nano lubricants utilizing synergy between surface functionalized hexagonal Boron Nitride nanoplatelets and imidazolium ionic liquid (Vikash Kumar Gupta , Anita Mohan)
12:00-12:12	C107	Study of Frictional and Nano properties of PDMS elastomer (Suneet Mungali , Susheel Kumar, Arun Kumar and Manjesh Kumar Singh)
12:12-12:24	C109	Comparative study of tribological properties and braking performances of additive-based MR fluids using MR drum brake (Rakesh Kumar Singh , Chiranjit Sarkar)
12:24-12:36	C090	Effect of Carbon nanotube and Graphene Addition on Mechanical and Tribological Properties of Ultra High Molecular Weight Polyethylene (Pooja Rani , Kantesh Balani)
12:36-12:48	C085	Exploring the tribological effect of TiO ₂ nano-additive in oil-in-water emulsions for forged steel-steel contacts (Ritesh Kumar Patel , Sidhant Kumar Sabar, Subrata Kumar Ghosh)
12:48-13:00	C086	Synergistic effects of rGO/MoS ₂ heterostructure and phosphonium ionic liquid on the tribological and thermophysical properties of polyalphaolefin based hybrid nanolubricants. (Bhimraj Singh , Anita Mohan)
13:00–14:00	LUNCH BREAK (EMPRESS HALL)	

Day-2, Friday 20th December 2024: Post Lunch

Venue: Empress Hall

Session Chair: Dr. Manjesh K. Singh

14:00–14:45	Plenary Talk 4: Prof. Martin Dienwiebel (KIT, Germany) <i>On the Humidity Dependence of Highly Loaded Graphite Contacts</i>
14:45–15:15	Keynote Talk 5: Prof. Lars Pastewka (University of Freiburg, Germany) <i>Insights into the Mechanics of Rough Contacts</i>
15:15–15:30	TEA/COFFEE BREAK

Parallel Sessions, Dec. 20th 15:30–17:30

DAY 2, SESSION G: SURFACE TREATMENT & COATINGS

Session Chair: Dr. Debajyoti Bhaduri, Cardiff University

Time	Abs. ID	Title of Presentation (Authors)
15:30-15:54	I08	Innovations in Plasma Spraying (Anup Kumar Keshri , IIT Patna)
15:54-16:06	C014	Tribological Behaviour of rGO-based Polymeric Superhydrophobic Coating (Rajat Kumar, Hiralal Bhowmick and Bikramjit Sharma)
16:06-16:18	C025	Low pressure nitrogen treatment of sisal fiber to improve tribo-performance of composites (Upendra S. Gupta, Moksha Gupta, Sudhir Tiwari , Uttam Sharma)
16:18-16:30	C105	Tribo-Mechanical Characterization of Electroless Ni-P-MXene Coating under Dry Lubricating Conditions (Samvas Mukherjee, Nilrudra Mandal and Rashmi Ranjan Sahoo)
16:30-16:42	C119	Electrified Contacts: Characterizing the Effect of Applied Voltage on Component Wear (Rory McAllister , Eleanor Barrett, Kieran Nar)
16:42-16:54	C092	Microstructural and Tribomechanical Investigation of Tin-Stabilized Bi-layer Electroless Ni-B Coatings (Subhash Kumar , Arkadeb Mukhopadhyay, Arun Kumar Kadian, Anil Chandra Mahato, Mukesh Sharma)
16:54-17:06	C071	Friction and Wear Behaviour of Heat-Treated Ni-B-W Coatings (Manik Barman, Tapan Kr Barman , Prasanta Sahoo)
17:06-17:18	C072	Reverse Pulse Plating of Ni-Co-P Coatings: The Influence of Cobalt on Microhardness and Wear Resistance (Anurag Chakraborti, Shouvik Ghosh , Prasanta Sahoo and Suman Kalyan Das)
17:18-17:30	C064	Multi-scale tribological behavior of Fe-based (Fe ₆₃ Cr ₉ P ₅ B ₁₆ C ₇ , at.%) amorphous/nanocrystalline coating (Anil Kumar)
17:30–19:00	TSI GENERAL BODY MEETING (KNIGHT HALL)	
19:00–22:00	GALA DINNER (EMPRESS HALL)	

Parallel Sessions, Dec. 20th 15:30–17:30

DAY 2, SESSION H: FRICTION & WEAR

Venue: Knight Hall 1

Session Chair: TBD

Time	Abs. ID	Title of Presentation (Authors)
15:30-15:54	I14	Experimental and Simulation Rolling Sliding Fatigue Study of Rail Wheel Contact (Sudhanshu Kumar, Surajit K Paul, Mayank Tiwari, Mayank Tewari , IIT Palakkad)
15:54-16:06	C003	Evolution of surface roughness and correlation with friction using in-situ profilometry (Debdutt Patro , Anirudh Dube, Fabio Alemano and Deepak Veeregowda)
16:06-16:18	C022	Tribological Characteristics of Meso-scale Air Bearing with Texture (Nilesh D Hingawe and Skylab Paulas Bhole)
16:18-16:30	C043	Tactile friction under boundary lubrication: Reduction in fingertip friction using surfactants (Suyash Gairola , Sanjeev Kumar and M.S. Bobji)
16:30-16:42	C077	Wear and Corrosion Behaviour of TiB2 Reinforced Functionally Graded Aluminum Matrix Composites by Centrifugal Casting (Basudeb Rajak , Rupesh Kumar, Rakesh Kumar Gautam, Uppu Srinivas Rao)
16:42-16:54	C051	Tribological Characteristics of Additively Manufactured H13 Tool Steel against alumina Ball under Dry Sliding Condition (Sumit Katiyar , Murugaiyan Amirthalingam, S. Ganesh Sundara Raman)
16:54-17:06	C081	Tribological behavior of Al ₂ O ₃ -based bimodal composites prepared by spark plasma sintering (Shalini Kushwaha , Kantesh Balani)
17:06-17:18	C079	Effect of Lubrication on Aluminum Alloy (Al4032) for Different Surface Texture Geometries (Vikas Kumar Sahu , Pravesh Chandra Shukla, Soumya Gangopadhyay)
17:18-17:30	C076	Effect of Aging Time on the Fretting Wear Behaviour of Selective Laser Melted (SLM), 15-5 PH Stainless Steel Against a Zirconia Ceramic Ball (Praveen Kumar Pandey , S.V.S. Murty, K. Suresh, K. Mondal)
17:30–19:00	TSI GENERAL BODY MEETING (KNIGHT HALL)	
19:00–22:00	GALA DINNER (EMPRESS HALL)	

Parallel Sessions, Dec. 20th 15:30–17:30

DAY 2, SESSION I: TRIBOLOGY OF MACHINE ELEMENTS

Venue: Knight Hall 2

Session Chair: TBD

Time	Abs. ID	Title of Presentation (Authors)
15:30-15:54	I04	The Role of Carbides and Retained Austenite in Mitigating White Etching Areas Formation in Bearing Steel (P. Ramkumar, IIT Madras)
15:54-16:06	C114	Misaligned operation of PVP lubricated conical hybrid journal bearing (Arvind K. Rajput , Vishal Singh)
16:06-16:18	C011	Electrified Tribology: Revolutionizing EV Lubricant Testing (Rakesha Sharma C R , Anshuman Dube, Amar Sheelwant, Sravan Josyula)
16:18-16:30	C087	Performance Analysis of Conical Journal Bearing under Varying Supply Pressure and Cone Angle (Prasad Kulkarni, Meiraj Ahmed Shaikh , Vikas M. Phalle, Vishwadeep Handikhedkar)
16:30-16:42	C088	Performance analysis of water-lubricated hydrostatic journal bearing (Deeplaxmi Vaidya , Dr. Vishwadeep Handikherkar, Dr. Vikas M Phalle, Dr. Sumit Patil)
16:42-16:54	C034	Screening and performance evaluation of UTTO (Universal Tractor Transmission Oil) using LVFA test rig and Bench Top Tribometer (Suman Das , Saurabh Mishra, Dr. Rameshwar Chaudhary, Dr. Ratnadeep Joshi, Dr. Mukesh Kumar Dubey, Dr. Sarita Seth, Sanker Bhadhavath, Rajendra Mahapatra, Ajay Kumar Harinarain)
16:54-17:06	C067	A novel approach to conveyor chain lubrication: synthetic chain conveyor fluid (Sarvesh Singh Tomar, M Rajendran, Shravan Kumar, Ashish Kumar Mishra and Vivek Jain)
17:06-17:18	C057	Optimization of PVD-Magnetron Sputtering Parameters for Zirconium-Based Coating on Ti6Al4V (P. Jeyalakshmi, Anandu Aravind , and P. Ramkumar)
17:18-17:30	C117	Effect of Load on the Friction Moment in a Ball Bearing (Harsh Kumar , Mayank Tiwari)
17:30–19:00	TSI GENERAL BODY MEETING (KNIGHT HALL)	
19:00–22:00	GALA DINNER (EMPRESS HALL)	

Day-3, Saturday 21st December 2024

Venue: Empress Hall

Session Chair: Prof. Satish Vasu Kailas, IISc Bangalore

09:15–10:00	Plenary Talk 5: Prof. R. Gnanamoorthy (IIT Madras) <i>Tribo Behaviour of Agrowaste Based Sustainable Composites</i>
10:00–10:30	Keynote Talk 6: Prof. M. S. Bobji (IISc. Bangalore) <i>Impact Mechanics of Contacts: Genesis of Friction</i>
10:30–11:00	TEA/COFFEE BREAK (EMPRESS & KNIGHT)

Parallel Sessions, Dec. 21st 11:00–12:45

DAY 3, SESSION J: CONTACT & ADHESION

Session Chair: Dr. Rashmi Ranjan Sahoo, CMERI Durgapur

Time	Abs. ID	Title of Presentation (Authors)
11:00-11:24	I02	Adhesion Control at the Interface of the Two Complementary Rough Surfaces of the Elastomer (PDMS) (Susheel Kumar, Krishnacharya Khare, Manjesh K. Singh, IIT Kanpur)
11:24-11:36	C106	Mechanical characterization of crack-induced hybrid Gr/hBN nanosheets reinforced to the Ti-based nanocomposites: A Molecular Dynamics study (Jashveer Singh , Rakesh Sehgal, Rajesh Kumar)
11:36-11:48	C048	Adhesive contact of elastic asperities using body-force formulation (Uzair Iqbal , M. S. Bobji)
11:48-12:00	C044	Effect of local cyclic stresses due to predetermined cracks on rolling contact fatigue behaviors of AISI 52100 TH bearing steel (Arivu Y , Kesavan D)
12:00-12:12	C031	The rolling contact fatigue behaviour of transmission lubricants (Dr. Mukesh Kumar Dubey , K. N. Yadav, Dr. Rameshwar Chaudhary, Dr. Ratnadeep Joshi, Dr. Sarita Seth, Rajendra Mahapatra, Ajay Kumar Harinarain, Mukul Maheshwari)
12:12-12:24	C074	Flattening Contact Analysis of Carbon Nanotube (CNT) Reinforced Functionally Graded Matrix (Rakesh Bhadra, Tamonash Jana, Anirban Mitra and Prasanta Sahoo)
12:24-12:36	C036	Study of adhesion behaviour of the PDMS elastomer against borosilicate glass-slide by varying the curing conditions (Susheel Kumar , Krishnacharya Khare, and Manjesh Kumar Singh)
12:36-12:48	C010	Tribological behaviour Under High Vacuum: Introducing the Ducom Vacuum Tribometer VT 3.0 (Anshuman Dube, Amar Sheelwant, Sravan Josyula)
12:50–13:15	VALEDICTORY SESSION (EMPRESS HALL)	
13:15–14:30	LUNCH BREAK (EMPRESS HALL)	

Parallel Sessions, Dec. 21st 11:00–12:45

DAY 3, SESSION K: TRIBOLOGY IN DESIGN & MANUFACTURING

Venue: Knight Hall 1

Session Chair: Mr. Anjeeve George, Danfoss

Time	Abs. ID	Title of Presentation (Authors)
11:00-11:24	I09	Assessment of Energy Consumption, Friction & Wear Losses vis-à-vis CO2 Emission in the Heavy Earth Moving Machines - A Case Study from A Mega Indian Open Cast Coal Mine (Kamal Mukherjee , Rajendra Mahapatra, Ajay Kumar Harinarain & Satish V Kailas, SECL)
11:24-11:36	C033	Lubrication Management – Key to Plant Reliability (G.R.P. Singh , Tata Steel)
11:36-11:48	C069	Machine Learning-Based Fault Diagnosis in Spur Gearboxes Under Combined Gear and Bearing Faults (Ramesh Bhandare, Vishwadeep Handikherkar and Vikas Phalle)
11:48-12:00	C075	Tribological behavior of Inconel 617 superalloy at room and high temperatures (Vivek Kumar Sahu , Soumya Gangopadhyay, Purnendu Das, Rajiv Prakash)
12:00-12:12	C065	Design and Development of Novel Strain Wave Generating Bearing for Harmonic Drive for Higher Mechanical and Tribological Performance Requirements (Bikash Routh)
12:12-12:24	C054	A variable speed traction drive for rotary wing UAV applications (Devesh Sootail , and Tanmay Dutt Mathur)
12:24-12:36	C097	Investigating Surface Wear Pattern by Nozzle Exhaust Flow on the Enclosure Wall with Variation in Pressure – Temperature (Meiraj Ahmed Shaikh , Dr. Vishwadeep Handikherkar and Dr. Vikas M. Phalle)
12:36-12:48	C042	An Energy Dissipation Approach to Study the Tribological Behaviour of Chocolate During Mastication Using a Pendulum Tribometer (Vikas Kumar Singh , Tom Briggs, Marc Masen, Kamini Singh, Satish V. Kailas)
12:50–13:15	VALEDICTORY SESSION (EMPRESS HALL)	
13:15–14:30	LUNCH (EMPRESS HALL)	

Parallel Sessions, Dec. 21st 11:00–12:45

DAY 3, SESSION L: COMPUTATION, AI & ML

Venue: Knight Hall 2

Session Chair: TBD

Time	Abs. ID	Title of Presentation (Authors)
11:00-11:24	I15	Machine Learning Based Fault Identification in Journal Bearing (Vikas M. Phalle, Pallavi Khaire, VJTI Mumbai)
11:24-11:36	C024	A Smart Cloud-Based Monitoring and Fault Detecting System for Identifying Surface Defects Rolling Element Bearing (Pallavi Khaire , Vikas Phalle , Christu Nesam David and Pritha Bhattacharya)
11:36-11:48	C093	Mechanical and Tribological Properties of Cross-Linked Polymer Networks (Ajay Kumar, Manoj Kumar Maurya and Manjesh Kumar Singh)
11:48-12:00	C037	Study of fracture mechanics behavior and mechanism of hydrogen embrittlement in nickel using molecular dynamics simulation (Vikash Kumar , Manjesh Kumar Singh)
12:00-12:12	C041	Efficient MATLAB Implementation of FEM for Fluid Film Bearing System (Pankaj Baranwal and Abhishek Kumar)
12:12-12:24	C049	Employment of Cohesive Zone Modelling to study the interfacial delamination in coated hip implants using FEM (Manish Kukreja , K Nitish Prasad, Ramkumar P)
12:24-12:36	C053	Wear estimation of steering linkage ball joints under real-time load conditions using FEM (A Sivasankar, K Nitish Prasad , P Ramkumar)
12:36-12:48	C101	Design of a Test rig for water lubricated hydrostatic conical bearing (Vivek Wagadiya , Saish Manjunath, Veer Gupta, Deeplaxmi Vaidya, M. A. Shaikh, Dr. V. M. Phalle)
12:50–13:15	VALEDICTORY SESSION (EMPRESS HALL)	
13:15–14:30	LUNCH (EMPRESS HALL)	