

TRIBOINDIA 2021 - An International Virtual Tribology Conference

02 – 04 December, 2021

Organized by  
Department of Mechanical Engineering,  
Saintgits College of Engineering (Autonomous),  
Kottayam, Kerala – 686532, India

Under the Aegis of  
Tribology Society of India (TSI)



Programme Schedule

Virtual Platform: ZOOM

Inauguration Function, Plenary  
Lectures, Business Talk, and  
Closing Ceremony

<https://us06web.zoom.us/j/96594883171?pwd=SURxT01dkc3dklTnVjSlpUSk03QT09>

Parallel sessions

Room No 1: Zoom Link	Room No 2: Zoom Link	Room No 3: Zoom Link
<a href="https://us06web.zoom.us/j/96594883171?pwd=SURxT01dkc3dklTnVjSlpUSk03QT09">https://us06web.zoom.us/j/96594883171?pwd=SURxT01dkc3dklTnVjSlpUSk03QT09</a>	<a href="https://zoom.us/j/92460450124?pwd=Ym00UnlUSHRRY3VjSlpUSk03QT09">https://zoom.us/j/92460450124?pwd=Ym00UnlUSHRRY3VjSlpUSk03QT09</a>	<a href="https://zoom.us/j/94568527328?pwd=aS9BTHJ5Z0NrSW5DUUE5cjJIT2dlZz09">https://zoom.us/j/94568527328?pwd=aS9BTHJ5Z0NrSW5DUUE5cjJIT2dlZz09</a>

DAY 1 (02 December, 2021)

09:30am - 10:30am	<b>INAUGURATION</b>
10:30am - 11:30am	<b>Plenary Lecture - 1: Prof. Dr. Satish V Kailas</b> , Professor, Department of Mechanical Engineering, IISc, Bangalore Topic: <i>An Energy Loss Approach to Evaluate Lubricants in the Boundary Lubrication</i>
11:30am - 12:15pm	<b>Plenary Lecture - 2: Dr. Om P Khatri</b> , Principal Scientist, IIP, Dehradun Topic: <i>2D Nanostructured Layered Materials for Tribological Applications</i>
12:15pm - 01:00pm	<b>Plenary Lecture - 3: Prof. Dr. Satish C Sharma</b> , Professor, Department of Mechanical and Industrial Engineering, IIT Roorkee Topic: <i>Tribological Performance of Textured Surfaces</i>
<i>Lunch Break (01:00pm - 01:30pm)</i>	

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	ROOM 1 Technical Session 1A: <b>Contact Mechanics and Friction</b> Session Chair: Dr. Cherian Paul, Saintgits, Kottayam Session Co-Chair: Dr. Ajith Kuriakose Mani, Saintgits, Kottayam	ROOM 2 Technical Session 1B: <b>Wear of Materials - I</b> Session Chair: Dr. Jitendra Kumar Katiyar, SRM Institute of Science and Technology, Tamil Nadu Session Co-Chair: Dr. Jiju V Elias, Saintgits, Kottayam	ROOM 3 Technical Session 1C: <b>Lubricants and lubrication</b> Session Chair: Dr. Vimal Edachery, IISc, Bangalore Session Co-Chair: Dr. Amith Aravind, Saintgits, Kottayam
01:30pm - 02:45pm			
Contributory Paper (01:30pm - 01:45pm)	<b>TI210189:</b> Friction Models for the Simulation and Modeling of Multibody Dynamic Systems Madhukumar T K Rajiv Gandhi Institute of Technology, Kottayam	<b>TI210108:</b> Study the effect of Microstructure on Wear behaviour of Edger Roll Materials used in Hot Strip Mills Pradip Sahana, Sk Thakur, And P Pathak R&D Centre for Iron and Steel, Steel Authority of India Ltd., Ranchi- 834002	<b>TI210127:</b> Friction and Wear analysis of cylindrical wall surface in damper's by using bio-lubricant oil based on MR fluid S.S.Stalin 1, M.Uthayakumar 1, 3, P.Balamurugan 1, Magdalena Niemczewska-Wójcik 2, M.S Abdul Masjid 3 1 Faculty of Mechanical Engineering, Kalasalingam Academy of Research and Education, Krishnankoil, India. 2 Faculty of Mechanical Engineering, Cracow University of Technology, Cracow, Poland. 3 Faculty of Mechanical Engineering Technology, University Malaysia Perlis (UniMAP), Perlis, Malaysia
Contributory Paper (01:45pm - 02:00pm)	<b>TI210178:</b> Optimization of Predicted Wear and Friction for Electroless Ni-P By RSM, Fuzzy Logic and Anfis using Topsis Mobassir Salim National Institute of Technology, Raipur	<b>TI210145:</b> Comparative study on the hardness and wear behaviour of Cu-Sn processed by casting and powder metallurgy with microwave and conventional assisted sintering Rajesh R , Balakrishnan Shankar, Karthik N , Eshwara Moorthy P R Department of Mechanical Engineering, Amrita Vishwa Vidyapeetham, Amritapuri, India	<b>TI210141:</b> Experimental assessment of lubrication effectiveness of Mustard oil as a Bio-lubricant Sachidanandan C K, Sajeeb Ayamannil , Saijal Kizhakke Kodakkattu Department of Mechanical Engineering, Government Engineering College, Kozhikode
Contributory Paper (02:00pm - 02:15pm)	<b>TI210134:</b> Finite Element Analysis of Adhesive Interaction of an Elastic Cube with a Semi-infinite Rigid Body Rojin Mathews, T.R. Sreesastha Ram, U.B. Jayadeep National Institute of Technology Calicut	<b>TI210146:</b> Fretting wear behaviour of Al-Si-Mg-Ni hypoeutectic alloy with varying solutionising time and normal loads Govind V 1, Praveen Kumar K 2, Ajan Vishnu 1, Jithin Vishnu 3, Geetha Manivasagam 3, Karthik V Shankar 1, Vaira Vignesh 4 1 Department of Mechanical Engineering, Amrita Vishwa Vidyapeetham, Amritapuri, India 2 School of Mechanical Engineering, Vellore Institute of Technology, Vellore 632014, Tamil Nadu, India 3 Centre for Biomaterials, Cellular and Molecular Theranostics, Vellore Institute of Technology, Vellore 632014, Tamil Nadu, India 4 Department of Mechanical Engineering, Amrita Vishwa Vidyapeetham, Coimbatore, India	<b>TI210166:</b> Wear and Lubricant Oil Degradation in a Compression Ignition Engine Fueled with Biodiesel Derived from Waste Cooking Oil. Arvind P 1, Asok Kumar N 1 1 Department of Mechanical Engineering, College of Engineering, Trivandrum, India
Contributory Paper (02:15pm - 02:30pm)	<b>TI210158:</b> A Theoretical Study Of Shliomis Model-Based Ferrofluid On Curved Porous Squeezed Annular Plates Considering Slip Velocity, Porous Structure And Viscosity Variation Niru C. Patel and Jimit R. Patel Department of Mathematical Sciences, P. D. Patel Institute of Applied Sciences, CHARUSAT University, Changa-388 421, Anand, Gujarat, India.	<b>TI210151:</b> Effect Of Squeeze Pressure And Strontium Addition on Tribological And Mechanical Properties Of Al-Si Piston Alloy With Varying Amount of Ni K. Pratheesh a, V V Monikandan b a Mangalam College of Engineering, Kottayam b Research Associate, Materials Research and Innovation Centric Solutions, Nagercoil	<b>TI210195:</b> Tribological Characterization of Some Inedible Vegetable Oils Sandeep Singh Department of Mechanical Engineering, North Eastern Regional Institute of Science and Technology, Nirjuli, Itanagar , Arunachal Pradesh 791109, India

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Contributory Paper (02:30pm - 02:45pm)	<b>TI210200:</b> Finite Element Study Of Nanoscale Adhesive Contact Between Elastic Bodies Uzair Iqbal and M. S. Bobji Department of Mechanical Engineering, Indian Institute of Science, Bangalore, India	<b>TI210179:</b> Influence of Post Processing and Build Direction on the Wear Behavior of Maraging Steel Produced by Selective Laser Melting Vinay Katari, Jino Joshy, Basil Kuriachen Department of Mechanical Engineering, National Institute of Technology Calicut, India	<b>TI210204:</b> Property Variations of Vegetable oil (Coconut oil) Compounded with Cu, Ce and Ti Nanoparticle Oxides Manu V. Thottackkad 1, Abhilash S S 2 1 Department of Mechanical Engineering, Government Engineering College Calicut, Kerala, India-673601, 2 Department of Mechanical Engineering, Sree Chitra Thirunal College of Engineering, Trivandrum, Kerala India 695018
<i>Tea Break (02:45pm - 03:00pm)</i>			
03:00pm - 03:45pm	<b>Plenary Lecture - 4: Prof. Dr. Nicholas Spencer</b> , Professor, ETH Zurich, Switzerland Topic: <i>Molecular Design of Polymer-Brush-Forming Additives for Lubricants</i>		
03:45pm - 04:30pm	<b>ROOM 1</b> <b>Technical Session 1D: High Temperature Tribology - I</b> Session Chair: Dr. Deepak G Dilip, MBCET, Thiruvananthapuram Session Co-Chair: Dr. Ajith Kuriakose Mani, Saintgits, Kottayam	<b>ROOM 2</b> <b>Technical Session 1E: Bearing and Gear Tribology - I</b> Session Chair: Dr. Jibin T Philip, AJCET, Kanjirappally Session Co-Chair: Er. Liju Mathew Alexander, Saintgits, Kottayam	<b>ROOM 3</b> <b>Technical Session 1F: Bio-Tribology - I</b> Session Chair: Dr. P S Suvin, NIT, Suratkal Session Co-Chair: Dr. Tijo D, Saintgits, Kottayam
Contributory Paper (03:45pm- 04:00pm)	<b>TI210104:</b> Repeatability of Friction and Wear of Different Material Pairs at 1000°C under Unidirectional Sliding Motion Sravan Josyula <sup>1</sup> , Harish Prasanna <sup>1</sup> , Debdutt Patro <sup>1</sup> , Fabio Alemano <sup>2</sup> , Deepak Veeragowda <sup>2</sup> , <sup>1</sup> Global Applications Lab, Ducom Instruments, India <sup>2</sup> Global Applications Lab, Ducom Instruments, Europe B.V., Groningen, the Netherlands	<b>TI210196:</b> Prediction of Morphological Features of Wear Particles Through Ferrography and Image Analysis Puja More College of Engineering Pune	<b>TI210126:</b> A comparative experimental surface morphology study of CAD/CAM milled and 3-D printed Zirconia: Dental application Ashwini Patil, Davidson Jebaseelan.D Phd School of Mechanical Engineering (SMCE), VIT University, Chennai-600127, Tamilnadu, India.
Contributory Paper (04:00pm- 04:15pm)	<b>TI210137:</b> Performance Analysis of friction of LM25-SiC Metal Matrix Composite at Elevated Temperature by Using Taguchi Technique M.S.Mhaske A&B, Dr.R.R.Navthar C a. Research Scholar, Mechanical Engineering Department, Dr. Vishalrao Vikhe Patil College of Engineering Ahmednagar,India b. Associate Professor, Mechanical Engineering Department, Pravara Rural Engineering College,Loni,413 736,India c. Research Guide, Mechanical Engineering Department, Dr. Vishalrao Vikhe Patil College of Engineering Ahmednagar,India	<b>TI210180:</b> Experimental Study on Textured Meso Scale Air Journal Bearing Nilesh D. Hingawe, Skylab P. Bhere Rotor Dynamics and Vibration Diagnostics Lab, Department of Mechanical Engineering, Motilal Nehru National Institute of Technology Allahabad, Prayagraj 211004, India	<b>TI210131:</b> Improved Adhesion and Bio-tribological Performance of Heat Treated and DLC Coated Ti6Al4V Vivek Kashyap And P. Ramkumar Machine Design Section, Department of Mechanical Engineering, Indian Institute of Technology Madras, Chennai – 600036, India

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Contributory Paper (04:15pm- 04:30pm)	<p><b>TI210140:</b> Effect of temperature variation on the tribological behavior of SiC-reinforced aluminum matrix composites V. V. Monikandan A, A. Mandal a School of Minerals, Metallurgy and Materials Engineering, IIT Bhubaneswar, 752050, Bhubaneswar, India</p>	<p><b>TI210115:</b> A study of ER lubrication on the performance of hybrid annular recess thrust pad bearing compensated with constant flow valve restrictor. Narendra Kumar, Prof Satish C. Sharma Department of Mechanical and Industrial Engineering, Tribology Laboratory, Indian Institute of Technology, Roorkee, 247667, India</p>	<p><b>TI210132:</b> Magnesium based metal matrix composites for biomedical applications Vighnesh Raj 1, Dr. Sabarinath. S 2, Dr. R. Vaira Vignesh 3 1 Research scholar, Department of Mechanical Engineering, Amrita School of Engineering, Amritapuri, Amrita Vishwa Vidyapeetham, India 2 Assistant Professor, School for Sustainable Development / Department of Mechanical Engineering - Amrita School of Engineering, Amritapuri campus, Amrita Vishwa Vidyapeetham, India 3 Assistant Professor, Department of Mechanical Engineering, Amrita School of Engineering, Coimbatore, Amrita Vishwa Vidyapeetham, India</p>
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DAY 2 (03 December, 2021)			
	ROOM 1	ROOM 2	ROOM 3
09:00am - 09:30am	<b>Technical Session 2G: Tribo-testing and Advanced Condition Monitoring</b> Session Chair: Dr. Jason Cherian Issac, Saintgits, Kottayam Session Co-Chair: Prof. Sajan Thomas, Saintgits, Kottayam	<b>Technical Session 2H: Tribology of Composites and Alloys - I</b> Session Chair: Dr. Chacko Preno Koshy, Saintgits, Kottayam Session Co-Chair: Er. Tobin Thomas, Saintgits, Kottayam	<b>Technical Session 2I: Industrial Applications of Tribology and Case Studies</b> Session Chair: Dr. Jacob T Varghese, Saintgits, Kottayam Session Co-Chair: Prof. Anilkumar G, Saintgits, Kottayam
Contributory Paper (09:00am - 09:15am)	<b>Ti210102:</b> Traction, Stribeck and scuffing characteristics of lubricants in rolling-sliding contacts using twin disc Sravan Josyula, Harish Prasanna, Anshuman Dube, Debdutt Patro Global Applications Lab, Ducom Instruments, India	<b>Ti210152:</b> Tribological And Mechanical Behavior Of Graphite/Silicon Carbide Reinforced Hybrid Aluminium Metal Matrix Composite Aakash1, P. Baskara Sethupathi2, J. Chandradass3, A. Eakambaram4 And R. Silambarasan5 1 UG Student, Department of Automobile Engineering, SRMIST, Kattankulathur – 603203 2 Research Scholar, Centre for Automotive Materials, Department of Automobile Engineering, SRMIST, Kattankulathur – 603203 3 Associate Professor, Centre for Automotive Materials, Department of Automobile Engineering, SRMIST, Kattankulathur – 603203 4 Associate Professor, Department of Automobile Engineering, Arunai Engineering College, Tiruvannamalai - 606601 5 Assistant Manager, Chassis Engineering, RNTBCI, Chennai - 603002	<b>Ti210121:</b> Study of Generation of Sinter Return Fines During Transportation: A Comprehensive View for Sinter Making in Rourkela Steel Plant Anup Kumar Dutta, Prasanta Kumar Padhi, Souvagya Mohanty, Jyoti Prakash Das, M. Sreenivas Rao, Santanu Mahanto, Prasanta Kumar Mitra Steel Authority of India Limited, Rourkela Steel Plant, Rourkela
Contributory Paper (09:15am - 09:30am)	<b>Ti210118:</b> Oil Condition Monitoring Complements Vibration Analysis to Identify Gear & Bearing Deterioration Hemant Bari, Atul Deshpande, Suhas Patil Department of Maintenance Planning, Condition Monitoring Cell, Adani Electricity Mumbai Limited, Adani Dahanu Thermal Power Station, 2x250 Mw, Dahanu, Mumbai, INDIA.	<b>Ti210160:</b> Influence of Tib2 Content on Sliding Wear Behaviour of Sic-Tib2 Composites Surya Prakasarao Chodiseti Indian Institute of Technology Roorkee	<b>Ti210143:</b> Use of Various Tribological Test Rigs for Studying Tribological Behaviour of Lubricating Greases S. Murali , A. K. Bhattacharya , A. Chattopadhyay Balmer Lawrie & Co.Ltd., Applications Research Laboratory, Kolkata – 700 088, India.
09:30am - 10:15pm	<b>Plenary Lecture - 5: Prof. Dr. Prasanta Sahoo</b> , Professor, Department of Mechanical Engineering, Jadavpur University, Kolkata Topic: <i>Contact of Solids: Modeling and Related Issues</i>		
10:15am - 11:00am	<b>Plenary Lecture - 6: Dr. Nitya N Gosvami</b> , Department of Material Science and Engineering, IIT Delhi Topic: <i>Nanotribology</i>		
11:00am - 11:45pm	<b>Plenary Lecture - 7: Prof. Dr. Dae Eun Kim</b> , Professor, Mechanical Engineering, Yonsei University Topic: <i>Bridging the Gap Between Science and Engineering in Tribology</i>		
11:45am - 12:30pm	<b>Plenary Lecture - 8: Prof. Dr. Sujeet Kumar Sinha</b> , Professor, Department of Mechanical Engineering, Indian Institute of Technology Delhi Topic: <i>Bio-tribological studies of non-UHMWPE polymeric alternatives for the hip implant application</i>		
Lunch Break (12:30pm - 01:00pm)			
01:00pm - 01:20pm	<b>Business Talk - 1: Optimal Instruments</b>		

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01:20pm- 01:40pm	<b>Business Talk - 2: DUCOM Instruments</b>		
01:40pm- 02:00pm	<b>Business Talk - 3: Hindustan Petroleum Corporation Ltd.</b>		
<b>02:00pm - 03:15pm</b>	<b>ROOM 1</b>	<b>ROOM 2</b>	<b>ROOM 3</b>
	<b>Technical Session 2J: Hydrodynamic Bearings</b> Session Chair: Dr. M D Mathew, Saintgits, Kottayam Session Co-Chair: Er. Nandu S, Saintgits, Kottayam	<b>Technical Session 2K: Nano Tribology</b> Session Chair: Dr. Anirudhan P, GEC, Calicut Session Co-Chair: Er. Sailesh K S, Saintgits, Kottayam	<b>Technical Session 2L: Bio-Tribology - II</b> Session Chair: Dr. Saijal K K, GEC, Calicut Session Co-Chair: Er. Bibin Varkey, Saintgits, Kottayam
Contributory Paper (02:00pm - 02:15pm)	<b>TI210106:</b> Synergistic use of trapezoidal pocket and nature-inspired texture for performance improvement of hydrodynamic journal bearings Manas Ranjan Pattnayak, Raj Kumar Pandey, Jayanta Kumar Dutt Department of Mechanical Engineering, I.I.T. Delhi, New Delhi-110016, India	<b>TI210142:</b> Scanning Electron Microscopy Analysis of ZDDP Tribofilm with Nanolubricants Abdulhakeem Javeed 1 And Bibin John 2 1 Research Scholar, School of Mechanical Engineering, Vellore Institute of Technology, Vellore – 632 014 2 Associate Professor, School of Mechanical Engineering, Vellore Institute of Technology, Vellore – 632 014	<b>TI210138:</b> Formulation of Bio-grease from the blend of chemically modified Rice bran oil and Calophyllum inophyllum oil Prasanth M A Toc H Institute of Science and Technology, Arakunnam, Ernakulam
Contributory Paper (02:15pm - 02:30pm)	<b>TI210111:</b> Influence of ER Lubricant Behavior on 2-Lobe geometrically Imperfect Slot Entry Hybrid Journal Bearing Krishnkant Sahu 1, Satish C Sharma 2 1,2 Department of Mechanical and Industrial Engineering, Tribology Laboratory, Indian Institute of Technology, Roorkee, 247667, India	<b>TI210161:</b> Combo-Nanoparticles in Oils for Exploration of Synergism For Enhanced EP and AW Performance Vinay Saini 1, Jayashree Bijwe 1, Sarita Seth 2 & SSV Ramakumar 2 1 Centre for Automotive Research & Tribology (CART), former (ITMMEC), Indian Institute of Technology Delhi, India – 110016. 2 Indian Oil Corp Ltd. R&D Centre, Faridabad, India-121007	<b>TI210149:</b> Understanding frictional aspects of eye contact lens application Niharika Chowdary. A., Kaushik. N.Ch. SOET, BML Munjal University, Sidhrawali Gurugram, Haryana, India-122413.
Contributory Paper (02:30pm - 02:45pm)	<b>TI210120:</b> Evaluation the Stiffness and Damping Coefficients of Porous Hydrodynamic Journal Bearing under Micropolar Lubrication with Isotropic Roughness Effects Ujjal Baidya 1, Sanjoy Das 2 and Santanu Das 3 1 Dept. of Mechanical Engg., Medinipur Sadar Govt. Polytechnic College, Khasjungle- 721102, India and Dept. of Mechanical Engg., Kalyani Govt. Engineering College, Kalyani- 741235, India 2 Dept. of Engineering and Technological Studies, Kalyani University 3 Dept. of Mechanical Engg., Kalyani Govt. Engineering College, Kalyani- 741235, India	<b>TI210190:</b> Tribological Analysis of Engine Oil with CuO and ZnO Nanoparticles Prasanth M A, Ritwik A Toc H Institute of Science and Technology, Arakunnam, Ernakulam	<b>TI210183:</b> Biotribology Study of Bioactive Composite Hydrogel for Orthopedic Applications: A Review Sandeep Bhoi a, Mamilla Ravi Sankar b a Mechanical Engineering Department, Parala Maharaja Engineering College, Berhampur, Odisha, 761003, India b Mechanical Engineering Department, Indian Institute of Technology Tirupati, Andhra Pradesh, 517506, India
Contributory Paper (02:45pm - 03:00pm)	<b>TI210155:</b> ER Lubricated Recessed Conical Hybrid Journal Bearing System Compensated With Orifice Restrictor Abhishek Kumar 1 And Satish C. Sharma 2 1 Research Scholar and 2 Professor, 1,2 Tribology Laboratory, Mechanical and Industrial Engineering Department, Indian Institute of Technology, Roorkee-247667, India	<b>TI210110:</b> Recent nanotribological tools used in industries for condition monitoring Swati Kamble, Dr. Rajiv B. College of Engineering, Pune.	<b>TI210182:</b> Resin-Based Dental Composite Materials: A Review Mukesh Tilwani a,b, Mukesh Kumar a, Anoj Meena a, Ashiwani Kumar c a Mechanical Engg. Dept., Malaviya National Institute of Tech., Jaipur-302017, Rajasthan, INDIA b Mechanical Engg. Dept., M.L.V. Textile & Engineering College, Bhilwara, 311001, Rajasthan, India c Mechanical Engg. Dept., Feroze Gandhi Institute of Engg. & Tech., Raebareli-229316, U.P., INDIA

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Contributory Paper (03:00pm- 03:15pm)		<b>TI210214:</b> Test methodology for evaluation of engine oils in horizontal and inclined planes with oil recirculation system using line and area contact configuration in SRV Tribometer Saurabh Mishra, Suman Das, Rameshwar Chaudhary, Sarita Seth, Shanker Bhadhavath, Rajendra Mahapatra, Ajay Kumar Harinarain, Deepak Saxena Indian Oil Corporation Ltd., R&D Centre, Sector 13, Faridabad-121007, India	<b>TI210206:</b> Tribological investigation of Vegetable Oil Methyl Ester based Bio-Lubricant blends with commercial lubricant Samuel Gemsprim M 1 and Ashoka Varthanan P 2 1 Department of Automobile Engineering, Hindusthan College of Engineering and Technology, Coimbatore, India. 2 Department of Mechanical Engineering, Sri Krishna College of Engineering and Technology, Coimbatore, India.
<i>Tea Break (03:15pm - 03:30pm)</i>			
<b>03:30pm - 04:30pm</b>	<b>ROOM 1</b> <b>Technical Session 2M: Corrosion and Surface Engineering</b> Session Chair: Dr. Vineesh P K, NIT, Calicut Session Co-Chair: Er. Aneesh T, Saintgits, Kottayam	<b>ROOM 2</b> <b>Technical Session 2N: Friction Materials</b> Session Chair: Dr. Jacob T Varghese, Saintgits, Kottayam Session Co-Chair: Er. Varun Mathew Idiculla, Saintgits, Kottayam	<b>ROOM 3</b> <b>Technical Session 2O: Wear of Materials - II</b> Session Chair: Dr. Vipindas K, IITDM, Kurnool Session Co-Chair: Er. Arun K Varghese, Saintgits, Kottayam
Contributory Paper (03:30pm- 03:45pm)	<b>TI210136:</b> Corrosion behavior of AZ31-B4C nanocomposites Vikram P.Titarmare, Sudip Banerjee, Prasanta Sahoo Department of Mechanical Engg. Jadavpur University, Kolkata-700032	<b>TI210133:</b> Review on the recent advances in the mechanical and tribological properties of epoxy nanocomposites brake pad materials Vysakh Raveendra Kurup 1, Sabarinath S 2 , Balakrishnan Shankar 3 1 Research scholar, Department of Mechanical Engineering, Amrita Vishwa Vidyapeetham 2 Assistant professor, School for Sustainable Development/ Department of Mechanical Engineering, Amrita Vishwa Vidhyapeetham 3 Chairman, Department of Mechanical Engineering, Amrita Vishwa Vidhyapeetham	<b>TI210147:</b> Influence of Solutionizing Temperature and aging on the Tribological Behaviour of Al-Si-Mg-Ni Alloy Vasudev R 1, K. Venkateswarlu 2, Aravind Senan V R 3, Karthik V Shankar 1 1 Department of Mechanical Engineering, Amrita Vishwa Vidyapeetham, Amritapuri, India 2 Material Science Division, CSIR – National Aerospace Laboratories (CSIR – NAL), Bangalore – 560017, Karnataka 3 Department of Material Science and Engineering, KTH Royal Institute of Technology, 100 44, Stockholm, Sweden
Contributory Paper (03:45pm- 04:00pm)	<b>TI210162:</b> Recent Trends In Laser Cladding And Alloying In Fe Based Alloys - A Review P. Mahendru, I K Bhat Department of Mechanical Engineering, Manav Rachna University, Faridabad, India	<b>TI210116:</b> Analytical Investigation of Heat Transfer Coefficient of Disc Brake using CFD Vikash Kumar Agrawal 1, H.P. Khairnar 2 1 Research scholar 2 Assistant professor Veermata Jijabai Technological Institute	<b>TI210203:</b> Wear Characteristics of Stir Casted Al 6061-Mg Hybrid Metal Matrix Composite Spur Gear with Gr-SiCp Additions V. Vijayakumar 1, M. Senthil Kumar 2, W. Ruban 3 1 Department of Mechanical Engineering, PSG college of Technology, Coimbatore, India 2 Department of Production Engineering, PSG College of Technology, Coimbatore, India 3 Centre for Biomaterials, Cellular and Molecular Theranostics (CBCMT), Vellore Institute of Technology, Vellore
Contributory Paper (04:00pm- 04:15pm)	<b>TI210172:</b> Resistance to Slurry Erosion by WC-10Co-4Cr and Cr3C2 – 25(Ni20Cr) Coatings Deposited By HVOF Stainless Steel Ishfaq Amin Maekai NIT Srinagar	<b>TI210173:</b> Effects of Load Variation on Friction and Wear Behaviour of Automotive Brake Pad Material Ashish Saurabh a, Piyush Chandra Verma a a Department of Mechanical Engineering, BITS Pilani – Hyderabad Campus, Hyderabad 500078, India	<b>TI210125:</b> Tribological Characterization of Epoxy Composites Reinforced with NaOH Treated Areca Nut Fibers Aju Jo Sankarathil 1, R Raja 1, SJ Vijay 1 and Rittin Abraham Kurien 2 1 Department of Mechanical Engineering, Karunya Institute of Technology and Sciences, Coimbatore - 641114, India 2 Department of Mechanical Engineering, Saintgits College of Engineering, Kerala

## Programme Schedule

Virtual Platform: ZOOM

Inauguration Function, Plenary Lectures, Business Talk, and Closing Ceremony

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<https://zoom.us/j/94568527328?pwd=aS9BTHJ5Z0NrSWS5DUUE5cjJlT2dlZz09>

Contributory Paper (04:15pm- 04:30pm)	<p><b>TI210177:</b> Ytria Stabilized Zirconia Thermal Barrier Coatings: A Comprehensive Review                      Mohammed Thalib Basha G a, Jacob Thottathil Varghese b , Akella Srikanth a, Rajasekhara Reddy Mutra a , B.Venkateshwarlu a, Basil George Thomas b, Arjun Venugopal b                      a Department of Manufacturing, School of Mechanical Engineering, Vellore Institute of Technology, Vellore-632014, India.                      b Mechanical Engineering Department, Saintgits College of Engineering, Kottayam-686532, India.</p>	<p><b>TI210163:</b> Tribo-Mechanical Behaviour of Ti6Al4V: A Review                      Jibin T Philip, Ananthkrishnan R, Rubin Binu Roy, Atul Sundaresan, And Robin Santhan                      Amal Jyothi College of Engineering, Kanjirappally-686518, Kottayam, Kerala, India</p>	<p><b>TI210212:</b> Experimental Study to Evaluate the Tribological Performance of PMA as VII in Lubricated Contacts                      Yatika Gori a, Ashwani Kumar b, Pravin P. Patil a, M R Tyagi c                      a Department of Mechanical Engineering, Graphic Era Deemed to be University, Dehradun, Uttarakhand, India                      b Technical Education Department, Uttar Pradesh Kanpur India                      c Former Head, Tribology division, Indian Institute of Petroleum, Dehradun, India</p>
Contributory Paper (04:30pm- 04:45pm)	<p><b>TI210150:</b> Burr Formation in PCB Micro drilling: A short review                      Jobin Joy a,c, Jacob Thottathil Varghese b,c                      a Providence College of Engineering, Chengannur, Kerala, India                      b Saintgits College of Engineering, Kottayam, Kerala, India                      c APJ Abdul Kalam Technological University, Thiruvananthapuram, Kerala, India</p>	<p><b>TI210201:</b> Microstructural, Mechanical and Tribological Properties Evolution of GTA Surface Modified Cu-10Sn-xNi Alloy                      Cherian Paul, Steffan M Cherian, Chacko Preno Koshy, Rittin Abraham Kurian                      Department of Mechanical Engineering, Saintgits College of Engineering, Kottayam, Kerala, India-686532</p>	<p><b>TI210213:</b> Wear mapping mechanism of C45 under dry sliding operating condition                      Swati Kamble, Dr. Rajiv B                      College of Engineering, Pune</p>



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DAY 3 (04 December, 2021)			
09:00am - 09:30am	<b>ROOM 1</b> Technical Session 3P: <b>Tribology of Polymer Composites - I</b> Session Chair: Dr. Praveen K M, MITS, Kochi Session Co-Chair: Er. Philip Jacob Perakathu, Saintgits, Kottayam	<b>ROOM 2</b> Technical Session 3Q: <b>Tribology in AI and ML</b> Session Chair: Dr. T V V L N Rao, MITS, Andhra Pradesh Session Co-Chair: Er. Tobin Thomas, Saintgits, Kottayam	<b>ROOM 3</b> Technical Session 3R: <b>Nano-lubricants and nano lubrication</b> Session Chair: Dr. Manu V. Thottackkad, GEC, Calicut Session Co-Chair: Er. Sreekumar C, Saintgits, Kottayam
Contributory Paper (09:00am - 09:15am)	<b>TI210159:</b> Comparative Mechanical And Morphological Properties Of Duck Feather-Jute Fiber Reinforced Hybrid Composites Rittin Abraham Kurien, Alan Biju, Akhil K Raj, Ashin Chacko, Bevin Joseph, Chacko Preno Koshy, Cherian Paul a Department of Mechanical Engineering, Saintgits College of Engineering, Kottayam, 686532, Kerala, India	<b>TI210139:</b> Experimental investigation and computational intelligence on tribological characteristics of blend of coconut and mustard oil based nano-lubricant Dr. Sajeeb A M Government Engineering College Kozhikode	<b>TI210113:</b> ZnTiO <sub>3</sub> nanoparticles for potential enhancement of Antiwear and EP properties of lubricating oils Upendra M 1, V. Vasu 2 1,2 Department of Mechanical Engineering National Institute of Technology, Warangal, India 506004
Contributory Paper (09:15am - 09:30am)	<b>TI210164:</b> Dry Sliding Wear Behaviour Of Palmyra Palm Leaf Stalk Fiber (Pplsf) Reinforced Polymer Hybrid Composite Chetana Tripathy 1, Chitta Ranjan Deo 2 1 PhD.ResearchScholar, Department of Mechanical Engineering,VSSUT, Burla,Odisha,India 2 Associate Professor, Department of Mechanical Engineering, VSSUT, Burla,Odisha,India	<b>TI210208:</b> Fault Diagnosis of Rolling Element Bearing Having Defect at Inner Race Using Machine Learning Pallavi Khaire 1, V. M. Phalle 2 1 Research Scholar, Veermata Jijabai Technological Institute, Mumbai, Assistant Professor, Fr. C. Rodrigues Institute of Technology, Vashi, India 2 Associate Professor, Veermata Jijabai Technological Institute, Mumbai, India	<b>TI210135:</b> Enhancement study on thermal conductivity and viscosity of sunflower vegetable base oil by using ZnTiO <sub>3</sub> , BN, CuO to form Nanofluids for machining of Inconel 718 under Minimum Quantity Lubrication(MQL). Pandri Jyothish NIT Warangal
09:30am - 10:15am	<b>Plenary Lecture - 9: Prof. Dr. Hong Liang</b> , Professor, Mechanical Engineering, Texas A&M University Topic: <i>Lubrication for Electric Vehicles</i>		
10:15am - 11:00am	<b>Plenary Lecture - 10: Prof. Dr. Jayashree Bijwe</b> , Reliance Chair Professor (2016-2021), Centre for Automotive Research & Tribology (CART), IIT Delhi Topic: <i>Tribo-mechanisms - Nano-particles in oils, greases and composites</i>		
11:00am - 11:40am	<b>Plenary Lecture - 11: Prof. Dr. A P Harsha</b> , Professor, Department of Mechanical Engineering, IIT (BHU) Topic: <i>Galling evaluation of steel pairs</i>		
11:45am - 12:45pm	<b>ROOM 1</b> Technical Session 3S: <b>Surface Engineering and Additive Manufacturing</b> Session Chair: Dr. Rani S, CET, Thiruvananthapuram Session Co-Chair: Er. Arjun Venugopal, Saintgits, Kottayam	<b>ROOM 2</b> Technical Session 3T: <b>Tribology of Polymer Composites - II</b> Session Chair: Dr. Chacko Preno Koshy, Saintgits, Kottayam Session Co-Chair: Er. Jenny John Mattom, Saintgits, Kottayam	<b>ROOM 3</b> Technical Session 3U: <b>Bearing and Gear Tribology - II</b> Session Chair: Dr. Sajeeb A M, GEC, Kozhikode Session Co-Chair: Er. Basil Geroge Thomas, Saintgits, Kottayam
Contributory Paper (11:45am- 12:00pm)	<b>TI210157:</b> Performance of Textured Hybrid Hole-Entry Spherical Journal Bearing Lubricated with ER Lubricant Adesh Kumar Tomar 1, Satish C. Sharma 2 Research Scholar 1, Professor 2 1,2 Department of Mechanical and Industrial Engineering, Tribology Laboratory, Indian Institute of Technology, Roorkee, 247667, India	<b>TI210109:</b> Experimental Investigation on dry sliding wear behavior of wood filler reinforced hybrid polymer composites Divya H.V 1, Jeevan T.P 2, Ashrith H.S 3, Rudresh B.M 4, Yogesha B 5 1,2,3,5 Department of Mechanical Engineering, Malnad College of Engineering, Hassan, Karnataka, India. 4 Department of Mechanical Engineering, Government Engineering College, K R Pet, Karnataka, India.	<b>TI210154:</b> Fem Analysis Of A Hybrid Spherical Constant Flow Valve Compensated Thrust Bearing Nitin Agrawal 1, Satish C. Sharma 2 Research Scholar 1, Professor 2 1,2 Department of Mechanical and Industrial Engineering, Tribology Laboratory, Indian Institute of Technology, Roorkee, 247667, India

## Programme Schedule

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Contributory Paper (12:00pm- 12:15pm)	<p><b>TI210202:</b> Influence of the Rolling Process and Thermal Treatment on Reciprocating Wear Behavior of Additively Manufactured AlSi10Mg Alloy Sosten Magweva, D. Kesavan Indian Institute of Technology Palakkad, Palakkad - 678 623, India</p>	<p><b>TI210165:</b> Study Of Abrasive Wear Behaviour Of Kenaf / Glass Reinforced Polyester Hybrid Composite Chandrakanta Mishra 1, Chitta Ranjan Deo 2, Kiran Kumar Ekka 3 1 PhD.ResearchScholar, Department of Mechanical Engineering, VSSUT, Burla,Odisha,India 2 Associate Professor, Department of Mechanical Engineering, VSSUT, Burla,Odisha,India 3 Assistant Professor, Department of Mechanical Engineering, VSSUT, Burla,Odisha,India</p>	<p><b>TI210117:</b> A comparative study of slider bearings with various contact geometry based on numerical analysis Shraddha Shigare And Shrinivas Chippa Department of Mechanical Engineering, Vishwakarma Institute of Technology, Pune, India</p>
Contributory Paper (12:15pm- 12:30pm)	<p><b>TI210209:</b> Investigation on mechanical properties of ER70S2 copper coated steel wire sample produced by wire arc additive manufacturing (WAAM) Gideon Ganesh M Dr. Mahalingam College of Engineering and Technology</p>	<p><b>TI210174:</b> Experimental Investigation On The Synergetic Effect Of Synthetic And Natural Fiber Reinforced Composite For Automobile Application Rohith 1, Bidyudipta Das 1, P. Baskara Sethupathi 2, J. Chandradass 3, A. Eakambaram 4 And R. Silambarasan 5 1 UG Student, Department of Automobile Engineering, SRMIST, Kattankulathur – 603203 2 Research Scholar, Centre for Automotive Materials, Department of Automobile Engineering, SRMIST, Kattankulathur – 603203 3 Associate Professor, Centre for Automotive Materials, Department of Automobile Engineering, SRMIST, Kattankulathur – 603203 4 Associate Professor, Department of Automobile Engineering, Arunai Engineering College, Tiruvannamalai - 606601 5 Assistant Manager, Chassis Engineering, RNTBCI, Chennai - 603002</p>	<p><b>TI210156:</b> A Study On The Performance Of Porous Hybrid Plain Journal Bearing Considering The Effect Of Surface Irregularities Anil Singh 1, Satish C. Sharma 2 Research Scholar 1, Professor 2 1,2 Department of Mechanical and Industrial Engineering, Tribology Laboratory, Indian Institute of Technology, Roorkee, 247667, India</p>
Contributory Paper (12:30pm- 12:45pm)	<p><b>TI210215:</b> Study of the effects of additives on dynamic grease life Hafiz Mayeen, Rahul Meshram, Sanker Bhadhavath, Naveen Kumar Pokhriyal, Rajendra Mahapatra, Ajay Kumar Harinarain, Deepak Saxena Indian Oil Corporation Limited, Research &amp; Development Center, Faridabad-121007, Haryana, India.</p>	<p><b>TI210217:</b> Sustainable Development of Foil Bearings by Selecting Appropriate Foil Material by using FEM-MCDM approaches Vishal Mourya Motilal Nehru National Institute of Technology Allahabad</p>	<p><b>TI210197:</b> A Mathematical Model For Condition Monitoring Of Bearings With Pitting And Surface Waviness Defects In Raceway J. Prabu 1, C. Shrivankumar 1, J. K. Katiyar 1 And TVVLN Rao 2 1 Department of Mechanical Engineering, SRM Institute of Science and Technology, Kattankulathur 2 Madanapalle Institute of Technology and Science, Madanapalle</p>
<b>Lunch Break (12:45pm - 01:00pm)</b>			
01:00pm - 02:30pm	<p><b>ROOM 1</b>  <b>Technical Session 3V: Solid Lubricants and Composites</b>                      Session Chair: Dr. Sabarinath S, Amritha University, Kollam                      Session Co-Chair: Dr. Manu Remanan, Saintgits, Kottayam</p>	<p><b>ROOM 2</b>  <b>Technical Session 3W: Surfaces and Coatings</b>                      Session Chair: Dr. Mamilla Ravishankar, IIT, Thirupathi                      Session Co-Chair: Dr. Rittin Abraham Kurien, Saintgits, Kottayam</p>	<p><b>ROOM 3</b>  <b>Technical Session 3X: Industrial Applications of Tribology</b>                      Session Chair: Dr. Shan M Aziz, MCET, Pathanamthitta                      Session Co-Chair: Er. Mathews Joseph, Saintgits, Kottayam</p>

## Programme Schedule

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**Room No 3: Zoom Link**

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Contributory Paper (01:00pm - 01:15pm)	<p><b>Ti210101:</b> High Temperature Calcium Fluoride (CaF<sub>2</sub>) Solid Lubricant Material: A Review Suneeth Sukumaran a,b, Francis Xavier L a, Deepanraj B b a Christ (Deemed to be University), Bengaluru,560029, Karnataka, India. b Jyothi Engineering College, Thrissur,679531, Kerala, India.</p>	<p><b>Ti210103:</b> Insitu imaging to identify scratch damage of BCR 692 reference DLC coating Sravan Josyula, Prasad Kangralkar, Anshuman Dube, Debdutt Patro Global Applications Lab, Ducom Instruments, India</p>	<p><b>Ti210210:</b> Evaluation of model tribosystems based on ultrasonic emission on the translational oscillating tribometer (SRV®) Gregor Patzer Optimol Instruments Prüftechnik GmbH</p>
Contributory Paper (01:15pm - 01:30pm)	<p><b>Ti210170:</b> Dry Sliding Wear Characterization of 7075Al Alloy Composite Reinforced with 37 µm WC-Co Particulate Gopal Krishna U B 1, Vasudeva B 2, Virupaxi Auradi 2 And Madeva Nagara 3 1 Research Scholar, Dept. of ME, SIT, Tumkur and Assistant Professor, Dept. of ME AIET, Moodbidri, Karnataka, 2 Associate Professor, Dept. of ME, SIT, Tumkur, Karnataka, 3 Deputy Manager, HAL, Bengaluru, Karnataka</p>	<p><b>Ti210144:</b> Development of TiC coating on HSS tool steel using Electro-Discharge Energy by TiC-Cu powder compact electrodes Tijo D and Manoj Masanta Saintgits College of Engineering, Kerala</p>	<p><b>Ti210211:</b> Experimental Study to Evaluate Performance of PIB as Viscosity Index Improver Yatika Gori a, Ashwani Kumar b, Pravin P. Patil a, M R Tyagi c a Department of Mechanical Engineering, Graphic Era Deemed to be University, Dehradun, Uttarakhand, India b Technical Education Department, Uttar Pradesh Kanpur India c Former Head, Tribology division, Indian Institute of Petroleum, Dehradun, India Technical Education Department Uttar Pradesh (Government of Uttar Pradesh) Kanpur India</p>
Contributory Paper (01:30pm - 01:45pm)	<p><b>Ti210175:</b> Stacking Sequence Effect on the Abrasive Wear Behavior of Natural Fiber Reinforced Hybrid Composite Ved Prakash, Subhrajit Pradhan, Samir Kumar Acharya NIT Rourkela, Rourkela, Odisha, India</p>	<p><b>Ti210194:</b> Experimental Investigations on the Influence of Areal Surface Parameters on the Tribological Behavior of Ti6Al4V Moram Venkata Krishna , Basil Kuriachen, M L Joy Department of Mechanical Engineering, National Institute of Technology Calicut, India</p>	<p><b>Ti210176:</b> Impact of 2Wt% CNTs Reinforcement on Microstructural Characteristics and Tribological Behavior of Plasma Sprayed Conventional Ceramic Coatings Mohammed Thalib Basha G a, Jacob Thottathil Varghese b, Venkateshwarlu B a a Department of Manufacturing, School of Mechanical Engineering, Vellore Institute of Technology, Vellore-632014, India. b Mechanical Engineering Department, Saintgits College of Engineering, Kottayam-686532, India.</p>
Contributory Paper (01:45pm - 02:00pm)	<p><b>Ti210181:</b> Parametric Optimization and Ranking Analysis of AA2024–Al<sub>2</sub>O<sub>3</sub>/AlN Alloy Composites under Dry Sliding Wear Investigation Mukesh Kumar 1, Ravi Kumar 1, Sourabh Bhaskar 1, Ashiwani Kumar 2, Subash Harizan 3 1 Mechanical Engg. Dept., Malaviya National Institute of Tech., Jaipur-302017, Rajasthan, INDIA 2 Mechanical Engg. Dept., Feroze Gandhi Institute of Engg. &amp; Tech., Rae Bareilly-229316, U.P., INDIA 3 Computer Science and Engg. Dept., National Institute of Tech., Sikkim 737139, INDIA</p>	<p><b>Ti210171:</b> Influence of Additives on Characteristics of Thermal Barrier Coatings: A Comprehensive Review Akella Srikanth a, Mohammed Thalib Basha G a, Jacob Thottathil Varghese b, Venkateshwarlu Bolleddu a, a Department of Manufacturing, School of Mechanical Engineering, Vellore Institute of Technology, Vellore-632014, India. b Mechanical Engineering Department, Saintgits College of Engineering, Kottayam-686532, India.</p>	<p><b>Ti210192:</b> Ranking Optimization Investigation on Hybrid AA2024 — Ceramic Particulate Alloy Composites using Hybrid AHP-Topsis MCDM Technique Sourabh Bhaskar a, Mukesh Kumar b, Amar Patnaik b, Ashiwani Kumar c a Mechanical Engg. Dept, Arya Institute of Engineering &amp; Tech., Jaipur-302028, Rajasthan, INDIA b Mechanical Engg. Dept., Malaviya National Institute of Tech., Jaipur-302017, Rajasthan, INDIA c Mechanical Engg. Dept., Feroze Gandhi Institute of Engg. &amp; Tech., Raebareilly-229316, U.P., INDIA</p>
Contributory Paper (02:00pm - 02:15pm)	<p><b>Ti210184:</b> Investigation Of SiC Reinforced Aluminium Matrix Composites for Engine Cylinder Liner Application G.Kumaresan 1, E. Machlin Jawahar 2, P.Senthilkumar 3 1,2 Department of Production Technology, MIT Campus, Anna University, Chennai-600044, India 3 Department of Automobile Engineering, MIT Campus, Anna University, Chennai-600044, India</p>	<p><b>Ti210191:</b> Multi Response Optimisation of HVOF Process Parameters in Ferrous Alloys Resmi V Prasad Noorul Islam Centre for Higher Education</p>	<p><b>Ti210207:</b> Sonochemical synthesis of Substituted Triazine containing pyrazoline moiety by utilizing Amberlyst-15 as a catalyst Amit A. Patil a, Sandip R. Patil b a Department of Chemistry, P. R. High School Society's A.S.C.College, Dharangaon, Maharashtra- 425105 b P.G.&amp; Research Department of Chemistry, M.G.S.M's A.S.C. College, Chopda, Maharashtra.- 425107</p>

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Contributory Paper (02:15pm- 02:30pm)	<p><b>TI210128:</b> Influence of 2D solid lubricants over mechanical and tribological behavior of AA 7XXX series metal matrix composites - A Comprehensive Review Beyanagari Sudheer Reddy, Arulvel Sivalingama, Jayakrishna Kandasamy, Department of Manufacturing, School of Mechanical Engineering, Vellore Institute of Technology, Vellore, Tamil Nadu - 632014, India.</p>	<p><b>TI210198:</b> MoS<sub>2</sub>-hBN-Graphene Heterostructure Coatings for Wear and Corrosion Resistance Antony Joseph, And Sajith V a School of Materials Science and Engineering, National Institute of Technology Calicut, Kozhikode, Kerala, India - 673601</p>	<p><b>TI210124:</b> Mechanical Characterization and Evaluation of Epoxy Composites Reinforced with NaOH Treated Chopped Areca Nut Fibers Aju Jo Sankarathil 1, R Raja 1, Sj Vijay 1 and Rittin Abraham Kurien 2 1 Department of Mechanical Engineering, Karunya Institute of Technology and Sciences, Coimbatore - 641114, India 2 Department of Mechanical Engineering, Saintgits College of Engineering, Kerala</p>
<i>Tea Break (02:30pm - 02:45pm)</i>			
02:45pm - 04:00pm	<p><b>ROOM 1</b> <b>Technical Session 3Y: Tribology of MMCs</b> Session Chair: Dr. Remil George, MBITS, Thiruvananthapuram Session Co-Chair: Er. Sajeev A, Saintgits, Kottayam</p>	<p><b>ROOM 2</b> <b>Technical Session 3Z: Green Tribology and Tribology for Reliability and Life</b> Session Chair: Dr. V V Monikandan, IIT Bhubaneswar Session Co-Chair: Er. Aju Zachariah Mani, Saintgits, Kottayam</p>	<p><b>ROOM 3</b> <b>Technical Session 3AA: Tribology of Composites and Alloys - II</b> Session Chair: Dr. Basil Kuriachen, NIT, Calicut Session Co-Chair: Er. Aju Jo Sankarathil, Saintgits, Kottayam</p>
Contributory Paper (02:45pm- 03:00pm)	<p><b>TI210186:</b> Tribological Response of Copper Matrix Composites Reinforced with Diamond Micro-Particles Nixon Poullose 1, P Selvakumar 2, Jibin T Philip 3 1,2 PSN College of Engineering and Technology, Tirunelveli, Tamil Nadu, India. 1,3 Amal Jyothi College of Engineering, Kottayam, Kerala, India</p>	<p><b>TI210205:</b> Experimental Evaluation of Rheological, Thermal, Tribological and Application in Four-stroke Petrol Engine of Coconut Oil as a Sustainable and Eco-friendly Bio-lubricant Chacko Preno Koshy 1,2, Tobin Thomas 1,2, Sailesh K S 1,2, Perikinalil Krishnan Rajendrakumar 3,4 1 Department of Mechanical Engineering, Saintgits College of Engineering, Kottayam, Kerala, India 2 APJ Abdul Kalam Technological University, Thiruvananthapuram, Kerala, India 3 Department of Mechanical Engineering, National Institute of Technology, Calicut, Kerala, India 4 School of Nano Science and Technology, National Institute of Technology, Calicut, Kerala, India</p>	<p><b>TI210107:</b> Formation of Tribo-oxide layer during fretting of zircaloy-4 under varying conditions Bharat Kumar 1, Deepak Kumar 1 And Vijay Chaudhry 2 1 Center for Automotive Research and Tribology (CART), Indian Institute of Technology Delhi, New Delhi, India 2 NTPC, Mumbai</p>
Contributory Paper (03:00pm- 03:15pm)	<p><b>TI210187:</b> Investigation on Physical, Mechanical and Sliding Wear Characteristics of Chromium Metal Powder Reinforced AA7075 Alloy Composite Fabricated by High Vacuum Casting Machine under lubrication condition Ashiwani Kumar 1, Vinod Kumar 1, Mukesh Kumar 2, Sourabh Bhaskar 3, Piyush Chandra Verma 4, Prateek Srivastava 5 1 Department of Mechanical Engineering, FGIET Raebareli, Uttar Pradesh India 2 Department of Mechanical Engineering, M.N.I.T. Jaipur, 302017, India 3 Department of Mechanical Engineering, AIET, Jaipur, 302028, India 4 Department of Mechanical Engineering, BITS Pilani-Hyderabad, Telangana, India 5 Department of Mechanical Engineering, Chitkara University institute of Engineering and Technology, Chitkara.</p>	<p><b>TI210153:</b> Wetting Behavior Of A Green Cutting Fluid (Gcf); Influence of Surface Roughness And Surface Energy Of Titanium, Aluminum, And Steel Vimal Edachery a, Sindhu Ravi a, Abel Tomy a, Aliya Farook Badiuddin a, Suvin P.S b, Satish V. Kailas a a Department of Mechanical Engineering, Indian Institute of Science, Bengaluru, 560012, India b National Institute of Technology Karnataka, Mangaluru, 570025, Karnataka, India</p>	<p><b>TI210114:</b> Effect of Electromagnetic Stirring on the Reciprocating Wear Characteristics of Al-5Ti-B Refined A390 Alloy Juwel Varghese College of Engineering, Trivandrum</p>

## Programme Schedule

Virtual Platform: ZOOM

Inauguration Function, Plenary Lectures, Business Talk, and Closing Ceremony

<https://us06web.zoom.us/j/96594883171?pwd=SURxT01dkc3dklTnVjSlpUSk03QT09>

Parallel sessions

**Room No 1: Zoom Link**

<https://us06web.zoom.us/j/96594883171?pwd=SURxT01dkc3dklTnVjSlpUSk03QT09>

**Room No 2: Zoom Link**

<https://zoom.us/j/92460450124?pwd=Ym00UnlUSHRRY3VuS2luTnh4ZlNHZz09>

**Room No 3: Zoom Link**

<https://zoom.us/j/94568527328?pwd=aS9BTHJ5Z0NrSW5DUUE5cjJlITdlZz09>

Contributory Paper (03:15pm- 03:30pm)	<p><b>TI210188:</b> Fracture Toughness and Thermo-Mechanical Studies of AA7075-Cobalt Alloy Composites for Gear Applications Ashiwani Kumar 1, Mukesh Kumar 2 1 Mechanical Engg. Dept., Feroze Gandhi Institute of Engg. &amp; Tech., Rae Bareilly-229316, U.P, INDIA 2 Mechanical Engg. Dept., Malaviya National Institute of Tech., Jaipur-302017, Rajasthan, INDIA</p>	<p><b>TI210167:</b> Selection of Rails for Running 25-Ton Axle Load on Indian Railways At 100 Kmph Sanjeev Kumar, S K Jha, R P Singh, A Maitra, Praveen Kumar R&amp;D Centre for Iron and Steel, Steel Authority of India Limited, Ranchi-834002</p>	<p><b>TI210123:</b> Influence of Load and Counter Body on the Sliding Wear Behavior of AlSi10Mg Alloys Fabricated by DMLS Vineesh Vishnu 1, Vineesh K P 1, T. Ramprabhu 2 1. Department of Mechanical Engineering, National Institute of Technology Calicut 673601, India 2. CEMILAC, Defence R&amp;D Organization, Bangalore 560093, India</p>
Contributory Paper (03:30pm- 03:45pm)	<p><b>TI210130:</b> Morphological, Hardness and Wear Behaviour of Cu-Sn-SiC Metal Matrix Composite developed by Microwave Processing Rajesh R, Balakrishnan Shankar, Amal Krishna Rajeev, V. Govind, Karthik V Shankar, Nibin George, Rishikesh Vijay Department of Mechanical Engineering, Amrita Vishwa Vidyapeetham, Amritapuri, India</p>	<p><b>TI210193:</b> An Investigation on Variation in Life of Power Plant Bearings based on Sommerfeld Number Sandeep Singh Department of Mechanical Engineering NERIST, Nirjuli, Itanagar 791109 Arunachal Pradesh</p>	<p><b>TI210185:</b> An Investigation on Fatigue Crack and Life of Weldment on Rail-Wheel-Weld Assembly using Finite Element Analysis with Ansys Prakash Kumar Sen O P Jindal University</p>
Contributory Paper (03:45pm- 04:00pm)	<p><b>TI210218:</b> Tribological Behavior of Polyvinylalcohol Polyme Nagamadhu M.1, S. B. Kivade2, Niranjan Pattar3, Basavaraju S4, Sachinkumar Patil 5 1 Department of Mechanical Engineering, BMS Institute of Technology and Management, Doddaballapur Main Road, Avalahalli, Yelahanka, Bengaluru, Karnataka - 560064, India 2 Department of Mechanical Engineering, JSS Science and Technology University, Mysore, Karnataka - 570017, India 3 Department of Mechanical Engineering, KLE Dr. M S Sheshgiri College of Engineering and Technology, Belagavi, Karnataka, 590008 India. 4 Department of Mechanical Engineering, Sapthagiri College of Engineering, Bengaluru, Karnataka-560057, India 5 School of Mechanical Engg. REVA University, Bengaluru, Karnataka -560064, India</p>	<p><b>TI210216:</b> Finite Element Method Based Transient Wear Modelling Using Constant Extrapolation Technique for Steel-On-Steel Dry Sliding Contact Vedant Joshi, Penchaliah Ramkumar Machine Design Section, Department of Mechanical Engineering, IIT Madras</p>	<p><b>TI210199:</b> Development of High Entropy Alloy Coating on Cutting Tool Insert Lalit Kumar Sharma, Maheshwar Dwivedy, AK Prasada Rao, Abhimanyu Singh Rana BML Munjal University, Gurugram</p>
<b>04:00pm - 04:30pm</b>	<b>CLOSING CEREMONY</b>		