



National Institute of Technology Silchar

Department of Mechanical Engineering

3rd International Conference on Recent Advancements in Mechanical Engineering
(ICRAME 2022)



Time	Day 1: 04.02.2022
09:30 AM – 10:45 AM	<p>Inauguration Ceremony (Hybrid) Offline: Dr. Bhupen Hazarika Auditorium, NIT Silchar Online Meeting Link: meet.google.com/bnf-rino-ztc</p>
11:00 AM – 11:45 AM	<p>Keynote Talk 1: Dr. T. Sudarshan (Hybrid) Offline: Dr. Bhupen Hazarika Auditorium, NIT Silchar Meeting Link: meet.google.com/bnf-rino-ztc</p>



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Time	Day 1: 04.02.2022
12:05 PM – 01:30 PM	<p data-bbox="1016 306 1503 379" style="text-align: center;">Technical Session 1: Offline Session Venue: Dr. Bhupen Hazarika Auditorium</p> <p data-bbox="367 443 1205 517">Paper ID 03: Investigation of Greenhouse Solar Dryer in Passive Mode <i>[Prayag Raj Chanda and Agnimitra Biswas]</i></p> <p data-bbox="367 571 2152 644">Paper ID 23: Evaluation of Performance, Combustion And Emission Characteristics of A Ci Engine Using Diesel-Propanol-Diethyl Ether Ternary Blends <i>[Parthasarathi Deb and Abhishek Paul]</i></p> <p data-bbox="367 705 1951 778">Paper ID 41: Influence of Filler Content on the Mechanical and Wear Properties of Hemp Filler Reinforced Polymer Matrix Composites <i>[Geetakshi Teli and Sumit Bhowmik]</i></p> <p data-bbox="367 833 2168 906">Paper ID 94: Thermal Analysis of A Novel Jet Impingement Solar Air Heater Design Using Optimal Training Function in an Artificial Neural Network <i>[Supreme Das, Agnimitra Biswas and Biplab Das]</i></p> <p data-bbox="367 970 1541 1043">Paper ID 100: Thermal Characterization of Polydopamine (Pd) Based Vitriimer Polymer Composites <i>[Lakshmi Nandan Borah, Chandrangith K P and Sudipta Halder]</i></p>
01:30 PM – 02:30 PM	Lunch Break



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12:05 PM – 01:30 PM	<p data-bbox="1021 304 1518 331">Technical Session 02: (Online Session)</p> <p data-bbox="981 349 1559 376">Meeting Link: meet.google.com/nvf-qqhb-dgo</p> <p data-bbox="360 442 1980 512">Paper ID 06: Application of Micromagnetic Method in Ultrasonic Vibration Assisted Grinding to Estimate the Surface Integrity of Tool Steel [Abhimanyu Chaudhari, Ashwani Sharma, Mohd Zaheer Khan Yusufzai and Meghanshu Vashista]</p> <p data-bbox="360 571 1429 641">Paper ID 11: Optimization of Parameters in Electrochemical Machining by Applying VIKOR [Jagdish Paikaray Alon Rongphar, Subhankur Dutta and Amit Kumar Singh]</p> <p data-bbox="360 700 1350 770">Paper ID 12: Optimizing Parameters of Ultrasonic Machining Using TOPSIS Method [LBongpai Konyak, Longshibemo Jami, Subhankar Dutta and Amit Kumar Singh]</p> <p data-bbox="360 829 1973 900">Paper ID 15: Role of Multi-Agent Technology in Preventing Breakdown Probabilities: Exploring Research Domain From Literature Review [Nirbhay Sharma and Somesh Sharma]</p> <p data-bbox="360 959 1644 1029">Paper ID 71: Ann Modeling of Performance Exhaust Emissions of CRDI Engine Under Diesel-Butanol Blends [Vivek Kumar Mishra, Subrata Bhowmik and Rajsekhar Panua]</p> <p data-bbox="360 1088 2058 1158">Paper ID 89: Heat Transfer Analysis In Human Skin During Hyperthermia Treatment Using Dual Phase Lag Model: A Finite Difference Approach [Aishik Dinda, Jnanaranjan Acharya and Dipankar Bhanja]</p>
01:30 PM – 02:30 PM	Lunch Break



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Time	Day 1: 04.02.2022
12:05 PM – 01:30 PM	<p style="text-align: center;">Technical Session 03: (Online Session) Meeting Link: meet.google.com/ugh-kfzh-tnv</p> <p>Paper ID 20: The Sector Finite Element for Thermal Buckling Analysis of Isotropic Annular Disc <i>[Ashwani Kumar, Ravikiran Kadoli and Sharnappa Joladarshi]</i></p> <p>Paper ID 36: Analytical Model for Combined Ride And Handling in Commercial Vehicle <i>[Anandakumar S., Sujatha Chandramohan and Suryanarayana Prasad]</i></p> <p>Paper ID 61: Comparative Study of A Patient-Specific TMJ Implant – Finite Element Analysis Approach <i>[Anik Banerjee, Amit Roy Chowdhury and Subrata Saha]</i></p> <p>Paper ID 67: Hybrid Ann-Moga-li-Ahp Based Performance-Emission Optimization of Diesel-Ethanol Fueled Crdi Engine <i>[Subrata Bhowmik, Abhishek Paul and Rajsekhar Panua]</i></p> <p>Paper ID 92: Effect of Imperfection and Various Contact Algorithms on the Simulation of Quasi-Static Collapse of Thin-Walled Energy Absorbers Using Abaqus/Explicit <i>[Sudhanwa Kulkarni, Vemu Priyal, Kiran Mali and Dhananjay Kulkarni]</i></p>
01:30 PM – 02:30 PM	Lunch Break



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Time	Day 1: 04.02.2022
03:00 PM – 03:45 PM	<p style="text-align: center;">Keynote Talk 2: Prof. B. B. Saha (Hybrid) Offline: Dr. Bhupen Hazarika Auditorium, NIT Silchar Meeting Link: meet.google.com/bnf-rino-ztc</p>
03:45 PM – 04:05 PM	Tea Break



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Time	Day 1: 04.02.2022
04:05 PM – 05:30 PM	<p data-bbox="1048 304 1547 331">Technical Session 04: (Online Session)</p> <p data-bbox="1010 349 1585 376">Meeting Link: meet.google.com/nvf-qqhb-dgo</p> <p data-bbox="443 442 1709 517">Paper ID 14: CFD Analysis of Cactus and Inverted Trapezoidal Shape Fin Profile for Four Stroke IC Engine [Sarvesh Vartak, Sagar Vaze and Rishabh Melwanki]</p> <p data-bbox="443 580 1615 655">Paper ID 31: Numerical Investigations on the Thermal Performance of A Single Cylinder S.I Engine [Prodipta Dutta, Paragmoni Kalita and Partha Pratim Dutta]</p> <p data-bbox="443 719 1787 794">Paper ID 58: Experimental Study on A Solar Photovoltaic Thermal Module Integrated with Phase Change Material [Amit Kumar and Lalit Prasad]</p> <p data-bbox="443 858 1939 933">Paper ID 63: Separated Flow Around Dragonfly Inspired Corrugated Airfoil At Large Angle of Attack in Free Stream Turbulence [GS Biradar, Sumit Bankey, Majid Hasan Khan, Ganapati Joshi and Amit Agarwal]</p> <p data-bbox="443 997 1420 1056">Paper ID 72: A Development of Micropump Based on Cooling System For Laptops [Suraj Suresh Patil, Mohit S., Navin Karanth P., and S. M. Kulkarni]</p>



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Time	Day 1: 04.02.2022
04:05 PM – 05:30 PM	<p data-bbox="1061 363 1563 395">Technical Session 05: (Offline Session)</p> <p data-bbox="1061 408 1563 440">Venue: Dr. Bhupen Hazarika Auditorium</p> <p data-bbox="430 501 2087 580">Paper ID 07: Estimation of Ultimate Tensile Strength and Percentage of Elongation in Friction Stir Weld Joints of Cryo-Rolled Al-Mg-Si Alloys <i>[Pohor Pratik Debbarma, Manas Mohan Mahapatra and Bipul Das]</i></p> <p data-bbox="430 641 1527 721">Paper ID 30: Harmonic Analysis of Ultrasonic Machining Tool through Finite Element Method <i>[Mehadi Mehtab Mirad, Saka Abhijeet Rajendra, Jasper Ramon and Bipul Das]</i></p> <p data-bbox="430 782 1617 861">Paper ID 60: An Overview of Research on FFF Based Additive Manufacturing of Polymer Composite <i>[Jitendra Kumar, Vishal Mishra and Sushanta Negi]</i></p> <p data-bbox="430 922 2101 1002">Paper ID 70: Comparative Study on the Structural Make-Up, Physical and Antibacterial Behavior of Nitride Based and Silicon Doped Coatings <i>[Syed Mahammad Shafi, Saikat Ranjan Maity and Lokeswar Pattanayak]</i></p> <p data-bbox="430 1062 1653 1142">Paper ID 74: Fabrication of Al and Mg-Based Metal Matrix Composites with Sic Reinforcement Particles <i>[Pallab Sarmah and Promod Kumar Patowar]</i></p> <p data-bbox="430 1203 2024 1283">Paper ID 88: Effect of External Step Heating In Biological Tissue using Dual Phase Lag Bioheat Transfer Model: A Numerical Approach <i>[Jnanaranjan Acharya, Aishik Dinda, Dipankar Bhanja and Rahul Dev Misra]</i></p>



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Time	Day 1: 04.02.2022
04:05 PM – 05:30 PM	<p data-bbox="1070 363 1554 395" style="text-align: center;">Technical Session 6: (Online Session)</p> <p data-bbox="1021 411 1603 443" style="text-align: center;">Meeting Link: meet.google.com/ugh-kfzh-tnv</p> <p data-bbox="430 504 1469 536">Paper ID 51: Passive and Active Vibration Control of Hybrid Composite Sandwich Beam <i>[Nagiredla Suryarao, Joladarshi Sharnappa, and Kumar Hemantha]</i></p> <p data-bbox="430 641 1505 673">Paper ID 66: Aerodynamic analysis of a Hypersonic Space shuttle with a conical aerospike. <i>[Muiraja K., T Nilavarasan, Sunil Chandel and Ganapati Joshi]</i></p> <p data-bbox="430 778 1845 810">Paper ID 84: Study on Aerodynamic efficiency of Cascade fin by using locally swept planar members at subsonic speed. <i>[Vipin Yadav, Ganapati Joshi, Ajay Misra and Manish Tripathi]</i></p> <p data-bbox="430 916 1814 948">Paper ID 99: Comparative Study of Moodie Young's Method and Largest Candidate Rule In Assembly Line Balancing <i>[Bikashjyoti Das, Sarthak Dwivedi, Abhishek Kumar, Vishwash Singh and Sujit Kumar Pattanayak]</i></p> <p data-bbox="430 1053 1774 1085">Paper ID 101: Assessment of Weld Imperfections Occurring During Friction Stir Cladding of Copper on Aluminium <i>[Mithlesh Kumar Mahto, Adarsh Kumar, Meghanshu Vashita and Mohd Zaheer Khan Yusufzai]</i></p>



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Time	Day 2: 05.02.2022
09:30 AM – 10:15 AM	<p>Keynote Talk 3: Prof. V. K. Jain (Hybrid) Venue: Dr. Bhupen Hazarika Auditorium Meeting Link: meet.google.com/bnf-rino-ztc</p>
10:30 AM – 11:15 AM	<p>Invited Talk 1: Prof. S. Venugopal (Hybrid) Venue: Dr. Bhupen Hazarika Auditorium Online Meeting Link: meet.google.com/bnf-rino-ztc</p>
11:15 AM – 12:00 Noon	<p>Invited Talk 2: Prof. U. S. Dixit (Hybrid) Venue: Dr. Bhupen Hazarika Auditorium Online Meeting Link: meet.google.com/bnf-rino-ztc</p>



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Time	Day 2: 05.02.2022
12:05 PM – 01:30 PM	<p data-bbox="1064 309 1559 336">Technical Session 07: (Online Session)</p> <p data-bbox="1025 352 1601 379">Meeting Link: meet.google.com/nvf-qqhb-dgo</p> <p data-bbox="427 445 1451 472">Paper ID 34: Optimization of MRR and KW of SS 316 in Wire EDM by RSM Technique <i>[Satarupa Biswas, Yogesh Singh and Manidipto Mukharjee]</i></p> <p data-bbox="427 584 1592 611">Paper ID 55: Process Optimisation for CI Engine Characteristics With Waste Cooking Oil Biodiesel <i>[Bidisha Chetia and Prasanta Kumar Choudhury]</i></p> <p data-bbox="427 722 1890 750">Paper ID 73: CFD Investigation of 180° Shrouded Intake Valve For Assessment of Pressure Variation on Its Shroud Surface <i>[Bidesh Roy, Rahul Dev Misra, Krishna Murari Pandey and Anupam Singh]</i></p> <p data-bbox="427 861 1771 888">Paper ID 76: Performance Analysis of A Regenerative Rankine Cycle with Emphasis on Component Level Design <i>[Animesh Goswami and T K Gogo]</i></p> <p data-bbox="427 1000 1935 1027">Paper ID 78: Investigations on Hydro-Thermal Performance of A Microchannel Heat Exchanger Using Microchambers with Ribs <i>[K Krishna Murty]</i></p> <p data-bbox="427 1139 2101 1166">Paper ID 85: Numerical Investigation on Effect of Tool Geometry and Process Parameters on Forces During Backward Flow Forming Process <i>[Mahesh Naik and Ravi Bhatt]</i></p>



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Time	Day 2: 05.02.2022
12:05 PM – 01:30 PM	<p data-bbox="1061 368 1561 395">Technical Session 08: (Offline Session)</p> <p data-bbox="1061 411 1561 438">Venue: Dr. Bhupen Hazarika Auditorium</p> <p data-bbox="427 507 1939 534">Paper ID 42: Numerical Analysis Of Hemp Fiber Reinforced Epoxy Composites For Evaluating Micro-Mechanical Characteristics <i>[Abir Saha, Santosh Kumar, Kshounish Brahma and Sumit Bhowmik]</i></p> <p data-bbox="427 644 2130 671">Paper ID 43: Influence Of Filler Support And Applied Load On The Wear Characteristics Of The Bamboo Powder Supported Polymer Composite <i>[Rajdeep Paul, Vijay Kumar Mahakur and Sumit Bhowmik]</i></p> <p data-bbox="427 782 1648 809">Paper ID 54: A Review On Fabrication And Properties Of Magnesium Metal Matrix Composite Materials <i>[Sudhir Kumar and Rajeev Nayan Gupta]</i></p> <p data-bbox="427 919 1323 946">Paper ID 65: Stochastic Deflection Analysis Of Laminated Composite Shells <i>[Karthik C B, Vaishali Gupta and Sudip Dey]</i></p> <p data-bbox="427 1056 1563 1083">Paper ID 69: Machine learning based uncertain machining time mapping in WEDM of NAB alloy. <i>[Devendra Kumar Sonkar, Subhankar Saha, Kritesh Kumar Gupta, Saikat Ranjan Maity and Sudip Dey]</i></p> <p data-bbox="427 1193 1536 1220">Paper ID 75: Design And Development Of Ni-Ti Alloy (SMA) Based Complaint Linear Actuator <i>[Sunny Saurabh and Yogesh Singh]</i></p>



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Time	Day 2: 05.02.2022
01:30 PM – 02:00 PM	<p data-bbox="1061 308 1559 336">Technical Session 09: (Offline Session)</p> <p data-bbox="1061 352 1559 381">Venue: Dr. Bhupen Hazarika Auditorium</p> <p data-bbox="427 445 1312 521">Paper ID 95: Parametric Studies on Vibration Response of Fg Shell Panels [Shashi Kumar, Anwesha Pal, Anjua Roy and Atanu Sahu]</p> <p data-bbox="427 585 1742 662">Paper ID 96: Vibration Control of Composite Shell Panels By Spring -Mass Resonators In Thermal Environment [Bhavyashree N, Ashish Singh, Shashi Kumar, Anwesha Pal, Sourav Chandra, Anjua Roy and Atanu Sahu]</p> <p data-bbox="427 726 1417 802">Paper ID 97: Numerical Analysis of Flow Over Slitted Cylinder Under High Blockage [Sumit Rai, Bhaskar Ranjan Tamuli and Sujit Nath]</p> <p data-bbox="427 866 1666 943">Paper ID 98: Experimental and Computational Analysis of Symmetrical And Unsymmetrical Naca Profiles [Lav Dhar Dubey, Kalugotla Vijaya Raju, Rajat Gupta and Anal Ranjan Sengupta]</p>
02:00 PM – 03:00 PM	Lunch Break



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Time	Day 2: 05.02.2022
03:00 PM – 04:00 PM	<p>Keynote Talk 4: Prof. P. K. Sahoo (Hybrid) Venue: Dr. Bhupen Hazarika Auditorium Meeting Link: meet.google.com/bnf-rino-ztc</p>
04:00 PM – 05:00 PM	<p>Invited Talk 3: M. F. Wani (Hybrid) Venue: Dr. Bhupen Hazarika Auditorium Online Meeting Link: meet.google.com/bnf-rino-ztc</p>



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Time	Day 3: 06.02.2022
09:30 AM – 10:30 AM	Invited Talk 4: Prof. S. Bhaumik (Hybrid) Venue: Dr. Bhupen Hazarika Auditorium, NIT Silchar Online Meeting Link: meet.google.com/bnf-rino-ztc
10:45 AM – 11:15 AM	Inauguration of ICRAME 2022 Research Conclave (Offline) Venue: 3rd Floor, Administrative Building, NIT Silchar
11:15 AM – 01:00 PM	Poster presentation under ICRAME Research Conclave – 2022 (Offline) Venue: 3rd Floor, Administrative Building, NIT Silchar
01:00 PM – 02:00 PM	Lunch Break
02:15 PM – 03:00 PM	Invited Talk 5: Prof. P. Mahanta (Hybrid) Venue: Dr. Bhupen Hazarika Auditorium, NIT Silchar Online Meeting Link: meet.google.com/bnf-rino-ztc
03:00 PM – 03:30 PM	Panel Discussion (Offline) Venue: Dr. Bhupen Hazarika Auditorium, NIT Silchar
03:45 PM – 05:00 PM	Valedictory Ceremony (Hybrid) Venue: Dr. Bhupen Hazarika Auditorium, NIT Silchar Online Meeting Link: meet.google.com/bnf-rino-ztc