



**22nd ISME International Conference on
“Recent Advances in Mechanical Engineering
for Sustainable Development”
(ISME-2024)
July 11-13, 2024**



Venue: Pragyan Hall, 2nd Floor Administration Building, DTU, Delhi, India

PROGRAMME SCHEDULE (Day 1: Thursday, 11th July 2024)

9:00 - 9:30 AM	Registration		
9:30 - 11:00 AM	<ul style="list-style-type: none"> • National Anthem, Lighting of Lamp and Saraswati Vandana • Floral Welcome to the Guests, ISME-2024 • About the Conference by Prof. Amit Pal, Conference Chair, ISME-2024 • About the Dept. of Mechanical Engineering by Prof. B. B. Arora, HOD-MED, DTU • Address by Prof. Madhusudan Singh, Registrar, DTU, Delhi • Address by Prof. S. P. Singh, ISME Chairman • Address by Prof. Prateek Sharma, Hon'ble Vice Chancellor, DTU, Delhi • Release of BOOK OF ABSTRACTS • Address by the Chief Guest Dr. Pradeep Mohan, Managing Director, Humanetics India • Vote of Thanks by Prof. Vijay Gautam, Conference chair, ISME-2024 		
11:00 - 11:30 AM	High Tea		
	<p style="text-align: center;">Keynote Lectures (11:30 AM- 1:30 PM)</p> <p style="text-align: center;">Chair 1: Prof. D. Ravi Kumar (IITD) Chair 2: Prof. S. P. Singh (IITD)</p> <p style="text-align: center;">Coordinator: Prof. Vijay Gautam (DTU)</p> <p>Speakers:</p> <ol style="list-style-type: none"> 1. Dr. Pradeep Kundu, KU Leuven University, BELGIUM 2. Dr. Varun Chaudhary, Chalmers University of Technology, SWEDEN 3. Dr. Sanjay K. Thakur, Kintsugi Consultancy, SINGAPORE 4. Prof. S. S. Kachhwaha, PDEU, Gandhinagar, INDIA 		
1:30 - 2:30 PM	Lunch		
2:30 - 4:30 PM	<p style="text-align: center;">Technical Session T1 – Thermal, RAC and IC Engine (Pragyan Hall)</p> <p style="text-align: center;">Session Chair 1: Prof. K. A. Subramanian (IITD) Chair 2: Prof. RajKumar Singh (DTU)</p> <p style="text-align: center;">Coordinator: Amit Sahu (amitsahu_2k21phdme506@dtu.ac.in) & Afroj Alam (afrozvision@gmail.com)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Paper ID</td> <td style="text-align: center;">12, 51, 85, 116, 201, 206, 238, 328, 329, 350</td> </tr> </table>	Paper ID	12, 51, 85, 116, 201, 206, 238, 328, 329, 350
Paper ID	12, 51, 85, 116, 201, 206, 238, 328, 329, 350		
2:30 - 4:30 PM	<p style="text-align: center;">Technical Session T2 – Production, Manufacturing and Material Sciences (Vigyan Hall)</p> <p style="text-align: center;">Session Chair 1: Prof. S. Aravindan (IITD) Chair 2: Dr. M. S. Niranjan (DTU)</p> <p style="text-align: center;">Coordinator: Bijendra Parsad (bijendra121@gmail.com) & Kapil Pandey (kapildev143pandey@gmail.com)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Paper ID</td> <td style="text-align: center;">43, 112, 123, 146, 147, 176, 189, 248, 298, 315</td> </tr> </table>	Paper ID	43, 112, 123, 146, 147, 176, 189, 248, 298, 315
Paper ID	43, 112, 123, 146, 147, 176, 189, 248, 298, 315		
4:30 - 6:00 PM	<p style="text-align: center;">Poster Session P1 ALL TRACKS – (Pragyan & Vigyan Hall Lobby)</p> <p style="text-align: center;">Chair 1: Prof. Avdhesh Kr. Sharma (DCRUST) Chair 2: Prof. S. Hegde (IITD)</p> <p style="text-align: center;">Chair 3: Prof. N. R. Chauhan (IGDTUW) Chair 4: Prof. Sachin Maheshwari (NSUT)</p> <p style="text-align: center;">Coordinator: Md Gulam Mustafa (gulammustafa_2k18phdme504@dtu.ac.in) & Afroj Alam (afrozvision@gmail.com) & Sachin Kumar (sachinchauhan443@gmail.com)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Paper ID</td> <td style="text-align: center;">11, 89, 122, 142, 156, 190, 220, 234, 243, 250, 252, 259, 276, 289, 293, 295, 301, 305, 314, 324</td> </tr> </table>	Paper ID	11, 89, 122, 142, 156, 190, 220, 234, 243, 250, 252, 259, 276, 289, 293, 295, 301, 305, 314, 324
Paper ID	11, 89, 122, 142, 156, 190, 220, 234, 243, 250, 252, 259, 276, 289, 293, 295, 301, 305, 314, 324		
7:00 PM	Conference Dinner		

DAY 2: Friday, 12th July 2024**9:30 - 11:15 AM****Technical Session T3 – Thermal, RAC and IC Engine (Pragyan Hall)**Session Chair 1: **Prof. S. S. Kachhwaha (PDEU)** Chair 2: **Prof. Rajesh Kumar (DTU)**Coordinator: **Vijay Shekhar Sharma (vss7694@gmail.com)** &**Afroj Alam (afrozvision@gmail.com)****Paper ID**

59, 96, 140, 222, 249, 256, 267, 284, 286

Technical Session T4 – Industrial Engineering & Management (Vigyan Hall)Session Chair 1: **Dr. Saurabh Agarwal (DTU)** Chair 2: **Dr. Pravin Kumar (DTU)**Coordinator: **Dhruv Kumar (dhruvkumar_2k21phdme504@dtu.ac.in)** &**Gaurav Mishra (gauravmishra1200@gmail.com)****Paper ID**

38, 124, 157, 181, 198, 207, 208, 322

11:15 - 11:45 AM**Tea Break****11:45 - 1:30 PM****Technical Session T5 – Design (Pragyan Hall)**Session Chair 1: **Prof. S. P. Singh (IITD)** Chair 2: **Prof. R. K. Pandey (IITD)**Coordinator: **Shivendra Singh (shivendrasingh_2k21phdme01@dtu.ac.in)** &**Pulijala Pawan Kumar (pulijalapawankumar_2k22phdme501@dtu.ac.in)****Paper ID**

3, 84, 128, 205, 232, 235, 254, 260, 290

Technical Session T6 - Production, Manufacturing and Material Sciences (Vigyan Hall)Session Chair 1: **Prof. Harish Kumar (NIT, Delhi)** Chair 2: **Prof. Quasim Murtaza (DTU)**Coordinator: **Ashutosh Bagchi (ashutoshbagchi_2k21phdme02@dtu.ac.in)** &**Bijendra Parsad (bijendra121@gmail.com)****Paper ID**

5, 9, 64, 113, 197, 251, 270, 291, 320

1:30 - 2:00 PM**Lunch****2:00 - 4:00 PM****Technical Session T7 (Online) – Thermal, RAC and IC Engine**Google meet link: <https://meet.google.com/qnq-pjdi-ehm>Session Chair 1: **Prof. J. L. Bhagoria (MANIT)** Chair 2: **Dr. Vinod S. Yadav (NIT, Uttarakhand)**Coordinator: **Sumeet Singh (sumeetsingh_23phdme502@dtu.ac.in)** & **Md Gulam Mustafa****Paper ID**

36, 50, 79, 91, 94, 98, 107, 117, 132, 170, 203, 209, 296

Technical Session T8 (Online) – Industrial Engineering & ManagementGoogle meet link: <https://meet.google.com/qge-axeg-vdf>Session Chair 1: **Prof. R. K. Singh (MDI)** Chair 2: **Prof. Hargovind Soni (NIT, Delhi)**Coordinator: **Gaurav Mishra (gauravmishra1200@gmail.com)****Paper ID**

2, 10, 27, 35, 61, 143, 194, 240, 265, 303, 304, 312

Technical Session T9 (Online) – Production, Manufacturing and Material SciencesGoogle meet link: <https://meet.google.com/ofn-smjt-yfv>Session Chair 1: **Prof. Santosh Rane (SPCE, Mumbai)** Chair 2: **Prof. Reeta Wattal (DTU)**Coordinator: **Praveen Kumar Singh (praveenkumarsingh_2k22phdme504@dtu.ac.in)****Paper ID**

37, 75, 83, 127, 137, 144, 161, 164, 192, 228, 331, 347

Technical Session T10 (Online) – DesignGoogle meet link: <https://meet.google.com/uye-nnqi-gku>Session Chair 1: **AVM Anoop Ghosh (MoD)** Chair 2: **Dr. K. Srinivas (DTU)**Coordinator: **Durvesh (durvesh_2k19phdme504@dtu.ac.in)****Paper ID**

21, 39, 56, 109, 149, 163, 166, 169, 172, 173, 184, 213

Online Plenary SessionGoogle meet link: <https://meet.google.com/pfb-ejcg-fbq>**Session Coordinators: Prof. S K Garg (DTU) & Dr. Hariharan K (IIT, Madras)****4:00 - 6:00 PM**

- Speakers:**
1. **Prof. Yogi Goswami**, University of South Florida, USA
 2. **Prof. HC Lim**, Pusan National University, SOUTH KOREA
 3. **Prof. Brian Norton**, Technological University Dublin, IRELAND
 4. **Prof. Nitin Upadhye**, University of Modern Sciences, Dubai
 5. **Dr. Afzal Husain**, Sultan Qaboos University, OMAN

DAY 3: Saturday, 13th July 2024**Technical Session T11 (Online) – Thermal, RAC and IC Engine**Google meet link: <https://meet.google.com/hyj-wfwf-zvr>Session Chair 1: **Prof. P. Srinivasan (BITS, Pilani)** Chair 2: **Dr. Om Prakash (BIT, Mesra)**Coordinator: **Sachin Kumar** (sachinchauhan443@gmail.com)

Paper ID	46, 55, 67, 97, 118, 121, 126, 130, 135, 152, 153, 193, 229
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Technical Session T12 (Online) – Design and OtherGoogle meet link: <https://meet.google.com/nst-kbpx-siw>Session Chair 1: **Prof. Talha Mohammad (IIT, Mandi)** Chair 2: **Dr. Sushila Rani (DTU)**Coordinator: **Pulijala Pawan Kumar** (pulijalapawankumar_2k22phdme501@dtu.ac.in)

Paper ID	24, 52, 54, 57, 90, 100, 160, 177, 187, 233, 268, 354
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9:30 - 11:30 AM**Technical Session T13 (Online) – Production, Manufacturing and Material Sciences**Google meet link: <https://meet.google.com/ctf-xgqa-nyd>Session Chair 1: **Prof. Subhasis Maji (IGNOU)** Chair 2: **Dr. Sanjay Kumar (DTU)**Coordinator: **Durvesh** (durvesh_2k19phdme504@dtu.ac.in)

Paper ID	15, 58, 105, 119, 129, 133, 155, 227, 231, 247, 343
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Technical Session T14 (Online) – DesignGoogle meet link: <https://meet.google.com/nuo-kwse-dvz>Session Chair 1: **Prof. D. Goldar (DTU)** Chair 2: **Dr. Paras Kumar (DTU)**Coordinator: **Shivendra Singh** (shivendrasingh_2k21phdme01@dtu.ac.in)

Paper ID	29, 72, 77, 78, 139, 165, 168, 191, 244, 271, 273, 294
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Technical Session T15 - Thermal, RAC and IC Engine (Pragyan Hall)Session Chair 1: **Mr. Bhupinder Godara (IITD)** Chair 2: **Prof. M. R. Ravi (IITD)**Coordinator: **Md Gulam Mustafa** (gulammustafa_2k18phdme504@dtu.ac.in) &**Sumeet Singh** (sumeetsingh_23phdme502@dtu.ac.in)

Paper ID	8, 28, 88, 180, 182, 185, 196, 221, 344, 356
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11:30 - 1:30 PM**Technical Session T16 – Design and Other (Vigyan Hall)**Session Chair 1: **Dr. Sanjay K. Thakur (KC, Singapore)** Chair 2: **Prof. Atul Agarwal (DTU)**Coordinator: **Gaurav Kumar** (gauravkmr716@gmail.com)

Paper ID	69, 76, 115, 145, 171, 210, 216, 246, 262, 263, 310, 316
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1:30 - 2:30 PM**Valedictory Session****2:30 - 3:00 PM****Lunch****Delhi Sight Seeing Tour****(3:00 – 7:00 PM)**

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Technical Session T1 – Thermal, RAC and IC Engine (Pragyan Hall)

Day 1: Thursday, 11th July 2024 (2:30 PM to 4:30 PM)

Session Chair 1: Prof. K. A. Subramanian (IITD)

Chair 2: Prof. RajKumar Singh (DTU)

*Coordinator: Amit Sahu (amitsahu_2k21phdme506@dtu.ac.in) &
Afroj Alam (afrozvision@gmail.com)*

Time	Paper Id	Authors	Title
02:30 PM to 02:40 PM	12	Raju Chintakindi	Design and Experimental Validation of a Battery Management System-Powered Mini-UPS for Networking Applications
02:40 PM to 02:50 PM	51	Mohammad Zunaid, Md Gulam Mustafa, Himanshu Rao Bharti, Afzal Husain, Arko Sardar	Mathematical Analysis of Heat Transfer in Inclined Micro-Jet Impingement Heat Sink
02:50 PM to 03:00 PM	85	Prashant Narayan Panday, Aditya Bandopadhyay, Prasanta Kumar Das	Walking Behavior of an Oil Droplet at an Air-Liquid Interface Driven by a Surface Wave
03:00 PM to 03:10 PM	116	Prashant Narayan Panday, Abhinesh Kumar, Aditya Bandopadhyay, Prasanta Kumar Das	Coalescence Dynamics of Oil Droplets on an Air-Water Interface Driven by Surface Waves
03:10 PM to 03:20 PM	201	Syed Farhan Javed, Mohammad Emran Khan, Anil Kumar Sharma	Micromixing Inside Offset T Microchannel with Cylindrical Obstacles
03:20 PM to 03:30 PM	206	N. Kapilan, Amaresh G, I V Manoj, Atilla Bıyıkoğlu, Hargovind Soni, Savant Panwar, Raj Soni	Analysis of Input Parameters of Evaporative Cooling System Using Taguchi's Method
03:30 PM to 03:40 PM	238	Gaurav Aggarwal, Surendra Singh Kachhwaha	Exergy Analysis of a Brackish Water Reverse Osmosis Desalination System
03:40 PM to 03:50 PM	328	Shalin Maurya, Surendra Singh Kachhwaha	Heat Loss Reduction Using Novel Insulating Materials for Thermocline Based Thermal Energy Storage Tank Used in a District Cooling System
03:50 PM to 04:00 PM	329	Kshitij Singh, SS Kachhwaha	Cooling Performance Analysis of a District Cooling System
04:00 PM to 04:10 PM	350	Afroj Alam, M Zunaid, R S Mishra	Enhancing Heat Transfer in Microchannel Heat Sinks Using Nanofluids: A Comprehensive Review

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Technical Session T2 – Production, Manufacturing, and Material Sciences (Vigyan Hall)

Day 1: Thursday, 11th July 2024 (2:30 PM to 4:30 PM)

Session Chair 1: Prof S. Aravindan (IIT, Delhi)

Chair 2: Dr. M. S. Niranjan (DTU)

*Coordinator: Bijendra Prasad (bijendra121@gmail.com) &
Kapil Pandey (kapildev143pandey@gmail.com)*

Time	Paper Id	Authors	Title
02:30 PM to 02:40 PM	43	Baibhav Kumar, Anshuman Piyush, Anant Vohra, Qasim Murtaza	Analysis of Surface Integrity for Inconel 718 Post Wire EDM and its Effect on Fatigue Life
02:40 PM to 02:50 PM	112	Munna Pati, Ashish Dahiya, Suman Chakraborty, Supriyo Pal	Exploring the Effects of Open-Air Cooling on the Formation of Microstructure in Cast A356 Aluminum Alloy
02:50 PM to 03:00 PM	123	Piyush Sharma, Adepu Kumaraswamy, Mithilesh Kumar Dewangan	Lethality Analysis of SS 304 Spherical Fragments on 2mm thick Steel 1006 Target Plate
03:00 PM to 03:10 PM	146	Prashant, Kaushik, Shashi Prakash	Effect of Laser Surface Texturing on Microstructure and Contact Angle of Al-Mg Alloy
03:10 PM to 03:20 PM	147	Aditya Shukla, Anand Jha, Vishal Tyagi, Shubham Pahal, Ajay Solanki	Fabrication of a Hand Gesture Controlled Wheelchair
03:20 PM to 03:30 PM	176	Tanmay Medhekar, Rajendra Kumar Gupta, Sunil Nimje	Study of Strength of Composite Laminates with Ply-Discontinuities Using FEM
03:30 PM to 03:40 PM	189	Anil Kumar M, Mantesh Basappa Khot	Micromechanical Analysis of Hemp Fibre Reinforcement Epoxy Composite
03:40 PM to 03:50 PM	248	Mohit Raj, Pratyush Sambher, Vijay Gautum	Experimental Studies on the Formability of Different Steel Sheets
03:50 PM to 04:00 PM	298	Stuti Bansal, Suruchi Maurya, Rishika Bhadani, Aashika Sharma, Nathi Ram Chauhan, Pooja Bhati	Computational Analysis of Stress Distribution in Dental Crowns: A Review
04:00 PM to 04:10 PM	315	Sameen Mustafa, Elias Ganthaler, Thomas Villgrattner, Franco Concli Angelika Peer	Determination of Crack Limits in Sinter Components by Compaction Process Performance Analysis

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Poster Session P1 – ALL TRACKS – (Pragyan & Vigyan Hall Lobby)

Day 1: Thursday, 11th July 2024 (4:30 PM to 6:00 PM)

Chair 1: **Prof. Avdhesh Kr. Sharma (DCRUST)**

Chair 2: **Prof. S. Hegde (IITD)**

Chair 3: **Prof. N. R. Chauhan (IGDTUW)**

Chair 4: **Prof. Sachin Maheshwari (NSUT)**

Coordinator: **Md Gulam Mustafa & Afroj Alam (afrozvision@gmail.com) & Sachin Kumar (sachinchauhan443@gmail.com)**

Time	Paper Id	Authors	Title
4:30 PM to 06:00 PM	11	Neeraj Kant, Subhrajit Roy, Ojas Vinayak, Rishab Dandriyal, Jayant Rao, Tuhin Basu, Ritik Gupta, Pushpendra Singh	Investigating the Feasibility of Basalt Fiber as a Carbon Fiber Substitute in Composites for Automotive Applications
	89	Rishank Pal, Shivam Jaiswal, Jiyaul Mustafa, Mohd Iqbal, Sangeeta Bhati	Experimental Investigation of Damping Coefficients in Various Fluid Media for Single Degree of Freedom Systems
	122	Suvarna Mujumdar, Vikash Kumar, Pulkit Goel, Raghavendra Singh, Prashant Upadhyay, Rishita Yadav	LabVIEW Controlled I-Bin Person Detection & Waste Segregation
	142	Sharad N. Pachpute, Ningegowda B M, Kamesh M R, Anbalagan M	Predictions of Emission from CNG Burners with and Without Swirl
	156	Vaibhav Birla, Vishal, Vinit Tanwar, Gaurav Kumar, Raj Kumar Singh	Comparative Analysis of Aerodynamic Coefficients: Rotating Dumbbell and Cylinder in Airflow
	190	Akash Singh, Aaryan Chaturvedi, Angesh Kumar	Comparative Thermal Analysis of Solid and Perforated Conical Fins Under Steady State Condition
	220	Aditya Punia, Aditya Narera, K. Manjunath	Thermal analysis of a Smart Solar Cooker
	234	Kevalish Chawla, Krishang Gupta, Akhilesh Arora	Predicting the Lithium-Ion Battery Pack’s Coolant Parameters Using Genetic Algorithms
	243	Bijendra Prasad, Vijay Gautam	Mechanical Characterization and Formability Analysis of Two-Ply Clad Sheet Metal
	250	Amit Sahu, Mohammad Zunaid, Rajesh Kumar	A Review on Microfluidic-Based Electrowetting on Dielectric (EWOD) In State-of-the-Art Adaptive Electronic Cooling
	252	Arian Gidwani, Saisha Mastakar, Abhishek Priyam	Simulation of Heat Transfer in Automotive Radiator
	259	Priyanka Verma, Shagun Maurya	Design & Analysis of Vortex Bladeless Wind Turbine
	276	Akhilesh Arora, Lavish Prajapati, Mohul Katyal, Gaurav	Sensible Heating and Humidification During Winters in New Delhi
	289	Mohammad Haris, Maulik Pant, Mohit Saini, Mohammad Zunaid	Numerical Analysis of Non Newtonian Blood Flow Through Arteries
	293	Shourya Vashistha, Suryansh Gangwar, Samarth Sachdeva, Ajay Solanki	Enhancing Underwater Manipulator Performance with Shape Memory Alloys
	295	Ashish Rajeshwar Kulkarni, Ayush Shukla, Bharat, Harshit Kumar	Retrofitting of an IC Engine Vehicle to Electric Vehicle with Cost & Performance Analysis
	301	Aditya Singh, Amaan Khan, Harsh Ghosh, Kishu Kumar, RC Singh	Design and Fabrication of Two-Stage Single Speed Reduction Gearbox for an Electric Four-Wheeler
305	Anirudh Acharya, Aditya Vikram Kochar, Azmayeen Ahmed	CFD Analysis of NACA 24XX and 2X12 Series with Different Turbulence Models	
314	Mohammad Zunaid, Arko Sardar, Ankush Kapoor, Brijan Kumar	Comparative Analysis & Design Optimization of Radially Arranged Inclined Jet Impingement Cooling	
324	Sumeet Singh, Naushad Ahmad Ansari, Manjunath K	Advancement of Solar Photovoltaic Power Production Using Deep Learning	

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Technical Session T3 – Thermal, RAC and IC Engine (Pragyan Hall)

Day 2: Friday, 12th July 2024 (9:30 AM to 11:30 AM)

Session Chair 1: Prof. S. S. Kachhwaha (PDEU)

Chair 2: Prof. Rajesh Kumar (DTU)

*Coordinator: Vijay Shekhar Sharma (vss7694@gmail.com) &
Afroj Alam (afrozvision@gmail.com)*

Time	Paper Id	Authors	Title
09:30 AM to 09:40 AM	59	Neha Vashisht, Neha Saini, Rahul Kundara, Sarita Baghel	A Comprehensive Study of (NH ₄) ₃ Sb ₂ I ₉ -lead Free Perovskite Solar Cells: A SCAPS -1D Simulation
09:40 AM to 09:50 AM	96	Yash Doshi, Nidhul Kottayat	Thermal Analysis for Breast Cancer Detection Using Infrared Thermography
09:50 AM to 10:00 AM	140	Girish Bhiogade, Nsv Prudhvi Raj, Mantri Sujan, Nakanaboyina Karthik, Nalli Rakesh	Investigation on Performance and Emission Characteristics of 4 Stroke SI engine used in the Go-Kart vehicle
10:00 AM to 10:10 AM	222	Vikrant Mishra, Amit Pal	Decarbonizing the Transportation Sector with Biohydrogen as a Vehicular Fuel: A Comprehensive Review
10:10 AM to 10:20 AM	249	Padamveer Singh Chouhan, Amit Pal	Multivariate Analysis of Diesel Engine Performance: Integrating PCA and TOPSIS for Comprehensive Evaluation and Ranking of Operating Parameters
10:20 AM to 10:30 AM	256	Ayush Kumar, Harshit Kumar, Amit Kumar, Ashok Kumar, Vineet Kumar Vashishtha	Effect of Ethanol blending on performance behavior of VCR CI Engine
10:30 AM to 10:40 AM	267	Abhed Sethi, Saket Kumar, Gaurav Kumar, Raj Kumar Singh	CFD Simulation of IC Engine Combustion for Biodiesel Fueled CI Engine
10:40 AM to 10:50 AM	284	Aditya Poddar, Bhavishek Gautam, M.S. Niranjana, A.K. Madan	Solar Cells Integrated in Non-Building Structures
10:50 AM to 11:00 AM	286	Shubham Kumar, Sawan Kapoor, Neeraj Budhraj, Amit Pal	Biogas Production Potential of Rice Straw at Variable Temperature and Feed Ratio

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Technical Session T4 – Industrial Engineering & Management (Vigyan Hall)

Day 2: Friday, 12th July 2024 (9:30 AM to 11:30 AM)

Session Chair 1: Dr. Saurabh Agarwal (DTU)

Chair 2: Dr. Pravin Kumar (DTU)

*Coordinator: Dhruv Kumar (dhruvkumar_2k21phdme504@dtu.ac.in) &
Gaurav Mishra (gauravmishra1200@gmail.com)*

Time	Paper Id	Authors	Title
09:30 AM to 09:40 AM	38	Rutuja Shivdas, Sagar Sapkal	Reconfigurable Manufacturing System: Key to Smart Manufacturing
09:40 AM to 09:50 AM	124	Saugat Mohanty, Sambhav Jain, Shivam Agrawal, Pravin Kumar	Feasibility Analysis of India Middle East Europe Economic Corridor
09:50 AM to 10:00 AM	157	Mayank Mishra, Rishabh Bharadwaj, Netavya Kapoor	Management 4.0: New Management Systems in Industry 4.0
10:00 AM to 10:10 AM	181	Sanjeev Kumar, Kiran Pal, Himanshu Saini	Selection of Battery System Usable in Electric Vehicles in Order to Enhance Sustainability
10:10 AM to 10:20 AM	198	Kiran Pal, Dhruv Saraswat	Utilizing the Mathematical Models to Analyse and Rank Environment Friendly and Sustainable Fuels
10:20 AM to 10:30 AM	207	Armaan Ibn Mushtaq, Kiran Pal	Deciding the Best Material to Make Automotive Engine Pistons, Using MCDM techniques
10:30 AM to 10:40 AM	208	Saksham Khanna, Kiran Pal	Ranking System for Selecting Optimal Smartphones
10:40 AM to 10:50 AM	311	Sheetal Sharma, Mohd. Shuaib	Sustainable Last-Mile Logistics: A Critical Analysis of Factors Affecting Last-Mile Delivery using Fuzzy AHP
10:50 AM to 11:00 AM	322	Gaurav Mishra, Pravin Kumar, Suresh Kumar Garg	Modeling of Cloud Computing Enablers and its Impact on Supply Chain of the Electronics Industry During Covid-19 Era Using Dematel Approach

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Technical Session T5 – Design (Pragyan Hall)

Day 2: Friday, 12th July 2024 (11:45 AM to 01:30 PM)

Session Chair 1: Prof. S. P. Singh (IITD)

Chair 2: Prof. R. K. Pandey (IITD)

*Student Coordinator: Shivendra Singh (shivendrasingh_2k21phdme01@dtu.ac.in) &
Pulijala Pawan Kumar (pulijalapawankumar_2k22phdme501@dtu.ac.in)*

Time	Paper Id	Authors	Title
11:45 AM to 11:55 AM	3	Prashant Iyer, Jinu Krishnan, Mansoor K.S., Sheethal Antony	Mathematical Modelling of Helicopter Twin Sling Underslung Dynamics using Kane’s Matrix Formulation
11:55 AM to 12:05 PM	84	Siddharth Garg, Rhythm Aggarwal, Vaibhav Kumar, Priyanshu Sinha, Raghvendra Gautam	Design and Development of Drivetrain for Fully Faired Hybrid Recumbent Bicycle
12:05 PM to 12:15 PM	128	Medha Sahani, Keerthi B, Abinaya Srikanth, Mandara B M Saranbassappa S Patil	Braking Dynamics of a Tadpole Type Three-wheeler
12:15 PM to 12:25 PM	205	Divyansh Sharma, Gunraj Singh, Girish Kumar	Identification and rating of factors affecting operational safety of assembly lines
12:25 PM to 12:35 PM	232	Nitin Sehra, Sushila Rani	Experimental Evaluation of Residual Stress in L-0 Low-Pressure Steam Turbine Blade using X-Ray Diffraction (XRD) with Cos α Method
12:35 PM to 12:45 PM	235	Farzan Shahid, Harsh Tiwari, Mayank Panwar, Vijay Gautam	Side Impact Crashworthiness of EVs: A Numerical Study in Material Efficacy
12:45 PM to 12:55 PM	254	Ameya Desai, Abhishek Priyam, Asif Momin	Heat Transfer Analysis in Cross Flow Heat Exchanger using CFD
12:55 PM to 01:05 PM	260	Shiv Prasad Singh, Vijay Gautam	Design Optimization of the Grid Pattern on the Mechanical Housing wall and Mounting Schemes
01:05 PM to 01:15 PM	290	Utsav Kumar Singh , Shashvat Pandey	Design, Analysis, And Optimization Of Universal Joint

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Technical Session T6 – Production, Manufacturing and Material Sciences (Vigyan Hall)

Day 2: Friday, 12th July 2024 (11:45 AM to 01:30 PM)

Session Chair 1: Prof. Harish Kumar (NIT, Delhi)

Chair 2: Prof. Quasim Murtaza (DTU)

Coordinator: Ashutosh Bagchi (ashutoshbagchi_2k21phdme02@dtu.ac.in) & Bijendra Parsad (bijendra121@gmail.com)

Time	Paper Id	Authors	Title
11:45 AM to 11:55 AM	5	Atul Verma, Achal Srivastava, Mahendra Kumar	Optimization of Welding Parameters in Shielded Metal Arc Welding for Welding of S-Ten 1 Material Using Taguchi Method and ANOVA Analysis
11:55 AM to 12:05 PM	9	Raju Chintakindi	Design and Experimental Validation of an Electromagnetic-Based Low-Cost Lightweight Induction Stove
12:05 PM to 12:15 PM	64	Vedangini Singh, Pooja Bhati, Aiman Zakir	A Systematic Review on Current Applications of Machine Learning in 3D Printing
12:15 PM to 12:25 PM	113	Rahul Kumar Choubey, Prashant Kumar Jain	Novel Process Approach for Extrusion-Based Metal Wire Additive Manufacturing Using Induction Heating as a Heat Source
12:25 PM to 12:35 PM	197	Eresh Mittal, Quasim Murtaza	NeuroPrint: Neural Network-driven Blueprint Conversion for Digital Fabrication
12:35 PM to 12:45 PM	251	Kapil Dev Pandey, Narayana Yuvaraj, Sanjay Kumar	A Critical Review of Wire Arc Additive Manufacturing Using Cold Metal Transfer
12:45 PM to 12:55 PM	270	Harsh Mehta, Aakarsh Dwivedi, Shivika Pande, Indrajeet Singh, Qasim Murtaza	Effect of Power Source on Metallurgical Characterization of Laser Welding of AA8011 and SS304
12:55 PM to 01:05 PM	291	Agrim Srivastva, Tridev Singh, Rakesh Kumar	Restoration of Statues and Artifacts Using Additive Manufacturing
01:05 PM to 01:15 PM	320	Dhruv Kumar, Vipin, Reeta Wattal	Exploring Multi-Material Structures: An Overview of Arc Additive Manufacturing

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Technical Session T7 (Online) – Thermal, RAC and IC Engine

Day 2: Friday, 12th July 2024 (02:00 PM to 04:00 PM)

Session Chair 1: Prof. J. L. Bhagoria (MANIT)

Chair 2: Dr. Vinod S. Yadav (NIT, Uttarakhand)

*Coordinator: Sumeet Singh & Md Gulam Mustafa
(sumeetsingh_23phdme502@dtu.ac.in)*

Google meet link: <https://meet.google.com/qnq-pjdi-ehm>

Time	Paper ID	Authors	Title
2:00 PM to 2:10 PM	36	Ramesh Chandra Nayak, Bindu Sagar Mohanty, Asish Lenka, Manmatha K. Roul	Enhancement of Natural Convection Heat Flow From the Heated Source Through Vertical Tubewith Internal Rings
2:10 PM to 2:20 PM	50	Namrata Mohanty, Neeraj Kumar Goyal, V N Achutha Naikan	Improved Electric Vehicle Battery State of Health Estimation Using Hybrid Machine Learning Models
2:20 PM to 2:30 PM	79	Vikas Pare, Ankur Nagori, Athar Khan	Role of Machine Learning in Air Pollution Control and Monitoring: A Recent Review
2:40 PM to 2:50 PM	91	Vivek Mathew Jose	Performance Evaluation of Synthetic Jet Cooling with Cross Flow
2:50 PM to 3:00 PM	94	Yashashwin Doranala, Nidhul Kottayat	Numerical Analysis of Natural Convective Heat Transfer Over a Solid Horizontal Cylinder for Various Configurations
3:00 PM to 3:10 PM	98	Sreeshanth Reddy, Manas Gandhi, Akash Jadhav, Vilas Kalamkar	Investigation of Hybrid Nanofluids and Hybrid Ribs for Enhancing Heat Transfer
3:10 PM to 3:20 PM	107	Jaskaran Singh Phull, Harmandar Kaur, Ravinder Kumar, Deep Kamal Kaur Randhawa	Detection of Cigarette Smoke by Graphene-hBN Lateral Heterostructure: A First Principles Study
3:20 PM to 3:30 PM	117	Mahadev Shyam Pande, S S Bhandari, Ankur Haldar	Computational Study on Nano-Enhanced Phase Change Materials in a Horizontal Latent Heat Storage Configuration with an Oblong Tube
3:30 PM to 3:40 PM	132	Santosh K Barik, Chetan M Patel, V N Lad	Experimental And Dem Study Of Flow Behaviour Of Microcrystalline Cellulose Powders Mix From Conical Silos
3:40 PM to 3:50 PM	170	Jaskaran Singh Phull, Harmandar Kaur, Manjit Singh, Butta Singh, Himali Sarangal	Investigation of Electronic Transport Characteristics of Co-doped B40 Molecular Junction for Detection of Isoprene: A DFT Study
3:50 PM to 4:00 PM	203	Niyaj Shikalgar, Avinash Deshmukh, C S Choudhary	Performance Assessment of a Refrigerator with a Hot-Wall Condenser Under O-To-D Grooved Geometrical Conditions
4:00 PM to 4:10 PM	209	Madhurjya Mahanta, Sahastranshu K. Kumar	Performance Analysis of a Regenerative Rankine Cycle
4:10 PM to 4:20 PM	296	Alphaus Nkandu, Alpha Omar Jallow, Towett Samuel, Ashish Kulkarni, Amit Pal	Performance Study of a Retrofitted Electric Two-Wheeler Using GT-Suite

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Technical Session T8 (Online) – Industrial Engineering & Management

Day 2: Friday, 12th July 2024 (02:00 PM to 04:00 PM)

Session Chair 1: Prof. R. K. Singh (MDI)

Chair 2: Prof. Hargovind Soni (NIT, Delhi)

Coordinator: Gaurav Mishra (gauravmishra1200@gmail.com)

Google meet link: <https://meet.google.com/qge-axeg-vdf>

Time	Paper Id	Authors	Title
2:00 PM to 2:10 PM	2	Rohit Pandey	A Systematic Review of Industry 4.0 Technologies in the Production and Manufacturing Sector
2:10 PM to 2:20 PM	10	Neeraj Kant, Nikhil Yadav, Prasann Verma, Prempal Kumar, Md.Adnan Ali Khan, Sachin Kumar, Nishant Yadav, Nikhil Yadav	Solar Waste Management in India A Critical Review and Sustainable Solutions for a Growing Industry
2:20 PM to 2:30 PM	27	Stuti Jain, Sanyam Jain, Sourabh Sonker	A Review of Blockchain's Influence in Combating Counterfeits within Supply Chains
2:30 PM to 2:40 PM	35	Anwesa Kar, Rajiv Nandan Rai	A Neutrosophic DEMATEL-ANP- Neural Network-based Six Sigma Evaluation Approach for Sustainable Supplier Selection
2:40 PM to 2:50 PM	61	Arunima R S, Devalla Sai Durga Bhavani, Harikrishnan R	Leveraging Life Cycle Assessment to Enhance MSME Supply Chain Sustainability: A Case-based Analysis on Coir Industry
2:50 PM to 3:00 PM	143	Divya Mary Biji, Justin Varghese, Libin Chacko	Churn Prediction Model in Banking – A Hybrid Classifier
3:00 PM to 3:10 PM	194	Abhijeet Chatterjee, Chandni Keswani, Saransh Gupta, Shweta Upadhyay, Sneha Garg	Unveiling the Techno-Era: Navigating Industry 4.0's Tapestry of Cloud Kitchens
3:10 PM to 3:20 PM	240	Abhishek Sahu, Gaurav Mishra	Implementation of Industry 4.0 and Circular Economy to Achieve Sustainable Development: A Case of Indian Manufacturing Industry
3:20 PM to 3:30 PM	265	Subadeep Das, Gaurav Mishra	Forecasting the Growth of Electric Two-Wheeler Market in India: A Study of Demand and Market Trends
3:30 PM to 3:40 PM	303	Vatan Singh, Mohd Shuaib	Industry 4.0 Transformation: Prioritizing Challenges to Blockchain Adoption in Supply Chain Using Best-Worst Method
3:40 PM to 3:50 PM	304	Shubham Saurabh, Mohd Shuaib	Assessing Supply Chain Finance Adoption Barriers in Indian Banking: A Best-Worst Method Framework Analysis
3:50 PM to 4:00 PM	312	Subadeep Das, Suresh Garg	Implementation of Machine Learning in Supply Chain Management for Efficient Supplier Selection

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Technical Session T9 (Online) – Production, Manufacturing and Material Sciences

Day 2: Friday, 12th July 2024 (02:00 PM to 04:00 PM)

Session Chair 1: Prof. Santosh Rane (SPCE, Mumbai)

Chair 2: Prof. Reeta Wattal (DTU)

Coordinator: Praveen Kumar Singh

Google meet link: <https://meet.google.com/ofn-smjt-yfv>

(praveenkumarsingh_2k22phdme504@dtu.ac.in)

Time	Paper Id	Authors	Title
2:00 PM to 2:10 PM	37	Rushikesh Gohad, Swanand Kulkarni	Estimation of Young's Modulus of Cast Aluminum Alloys Due to the Effect of the Alloying Elements by Using ANN
2:10 PM to 2:20 PM	75	Mukesh Kumar Nag, Parmanand Kumar	Mechanical and Morphological Analysis of Jute/Manila Hemp Hybrid Composites for Enhanced Structural Performance
2:20 PM to 2:30 PM	83	Subir Datta, Tuhin Kar, Swarup S Deshmukh, Arjyajyoti Goswami	A Review on Micro Hot Embossed Fresnel Lenses
2:30 PM to 2:40 PM	127	Arjav Jain, Abhinab Haldar, Badal Singh	Finite Element Simulation of Single-Particle Impact Behavior for Copper and Aluminum Cold Spray Coatings
2:40 PM to 2:50 PM	137	Jayanth Datta Thota, Navaneeth Manikonda, Venkateswararao Mendol, Balakrishnamurthy Vallabaneni	Exploring the Influence of Numerical Models on Static Response of Underwater Capsule
2:50 PM to 3:00 PM	144	T Malyadri, Mamidi Jyothika Priya Laxmi, Pattamsetti Nityasri, Banothu Vivek, Mittapalli Sathwik	Design and Fabrication of Composite Roof Sheet
3:00 PM to 3:10 PM	161	Aditya Dixit, Vibha Kiran, Divya Gowda, Abhay Ramesh, Supriya B	Comparative Study on the Effect of Corrosion Resistance on Friction Stir Processed Aluminium Metal Matrix Composites
3:10 PM to 3:20 PM	164	Anirudh R. Katgeri, Chirag R., Ankith Kachinthaya, Ashish S, Chandrashekara C. V.	Variable Stiffness Characteristics of Tapered Curved Beam
3:20 PM to 3:30 PM	192	Aashitha Pamarthi, Sunil Reddy Guntaka, Prakash Babu Kanakavalli	Modeling Microscale Defects in CFRP Composites: An FEA Approach
3:30 PM to 3:40 PM	228	Dhruv Kumar, Subodh Barthwal, Praveen Pachauri	Review of the Impact of Reinforcing Particles on the Mechanical, Wear and Temperature Characteristics of Aluminum Alloy Composites
3:40 PM to 3:50 PM	331	Kamalkishor Maniyar, Smita Suhane. Aarti Puri, Bhagwat Gidhad, Ramdas Biradar, Jagannath Gawande	Evaluation of Machining Parameters for Metal Matrix Composites
3:50 PM to 4:00 PM	347	Deepak K Pawar, Narasimhan Swaminathan, Ratna Kumar Annabattula	Insights into Mesoscopic Deformation Behavior of Lithium-Based Ellipsoidal Pebbles under Triaxial Compression using DEM

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Technical Session T10 (Online) - Design
 Day 2: Friday, 12th July 2024 (02:00 PM to 04:10 PM)

Session Chair 1: AVM Anoop Ghosh (MoD)

Chair 2: Dr. K. Srinivas (DTU)

Coordinator: Durvesh (durvesh_2k19phdme504@dtu.ac.in)

Google meet link: <https://meet.google.com/uve-nnqi-qku>

Time	Paper ID	Authors	Title
2:00 PM to 2:10 PM	21	Rugved Patkar, Sharnappa Joladarashi	Modal and Random Vibration Analysis of Pneumatic Actuator of Wastegate Turbocharger using Finite Element Method
2:10 PM to 2:20 PM	39	Kalyani Nadagouda, Balasai Chayaraju	Assessment of flood flow using HEC-HMS Software
2:20 PM to 2:30 PM	56	Siddharth Suman, Prabhat Kumar	Numerical Investigation, Modelling and Vibrational Dynamics of an Unbalanced Rigid Rotor with Two Offset Discs Levitated by Air Foil Bearings
2:40 PM to 2:50 PM	109	Kalyani Mahindrakar, Mukesh Kumar, Adepu Kumaraswamy, Gokul Bhagat, Gaurav Sharma	Integrating Experimental Validation of Marine Genset Vibration Analysis with Finite Element Method
2:50 PM to 3:00 PM	149	Kartikeya Tiwari, Harsh Vardhan, Ayush Anand, Amit Kumar Srivastava, Gaurav Kumar	Blast analysis of stand-alone CSFT column
3:00 PM to 3:10 PM	163	Prajwala Kumar, Tejashri Suresh, Bhuvan K K, Chandrashekara C V	Dynamic Characteristics Analysis of multi-ill-effected Rotor-bearing System
3:10 PM to 3:20 PM	166	Chandan A, Kiran M	Design and Analysis of Foldable Basketball Post
3:20 PM to 3:30 PM	169	Prajwala Kumar, Bhuvan K K, Chandrashekara C V	Simulation Analysis of a multi-ill-effected Rotor-bearing System
3:30 PM to 3:40 PM	172	Rahul Deore, Rachayya Arakerimath	Structure Analysis and Design of Laptop Support Mechanism Components Used in Console of Light Vehicles
3:40 PM to 3:50 PM	173	Shabaz Baig, Prajwala Kumar, Chandrashekara C V	Dynamic characteristics analysis of a beam attached with discrete springs and masses
3:50 PM to 4:00 PM	184	Sunil Kumar, Romi Dhakad, Anil Kumar	Elastomer Based Shock Isolation Design Of Laptop Hard Disk Drive
4:00 PM to 4:10 PM	213	Hemanth S N, Sachhidananda M H	Design and Analysis of a Wall-mounted Collapsible Basketball Post

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Technical Session T11 (Online) – Thermal, RAC and IC Engine

Day 3: Saturday, 13th July 2024 (09:30 AM to 11:40 AM)

Session Chair 1: **Prof. P. Srinivasan (BITS, Pilani)**

Chair 2: **Dr. Om Prakash (BIT, Mesra)**

Coordinator: **Sachin Kumar (sachinchauhan443@gmail.com)**

Google meet link: <https://meet.google.com/hvj-wfwf-zvr>

Time	Paper ID	Authors	Title
09:30-09:40 AM	46	Abhishek Sahu, Shubhankar Bhowmick	Lattice Boltzmann solution of transient heat conduction problem in an infinite slab coupled with non-linear heat generation
09:40-09:50 AM	55	Ahammed Kabeer V P, Ranjith Maniyeri, Anish S	An Iterative Algorithm for Designing and Scaling of a Parabolic Trough Collector Based Solar Agro-Drying System
09:50-10:00 AM	67	Sandeep Singh, Harshit Kumar Taneja	Data Science Approach for Location and Time Optimization of Electric Vehicle Charging Station
10:00-10:10 AM	97	Aditya Sawaitul, Saumya Sawarkar, Akash Jadhav, Vilas Kalamkar	Numerical study of solar air heater with novel rib roughness
10:10-10:20 AM	118	Afzal Husain, Mahmood Al-Abdali, Nasser Al-Azri, Nabeel Al-Rawahi, Nawaz Ahmed, Mohd Zunaid	Performance Optimization of a PCM-based PV/T Panel with Fin-and-Tube Absorber
10:20-10:30 AM	121	Rani Kiran, Imran Ullah Khan	Advanced Architectural Innovations in Double-Gate MOSFETs for Enhanced Performance in VLSI Applications
10:30-10:40 AM	126	Sukanta Nayak, M. A. Hassan, Manikant Paswan	Thermal performance analysis of flat-plate solar collector using Al ₂ O ₃ /water nanofluids under laminar flow conditions: An experimental study
10:40-10:50 AM	130	Mohammad Usama, Sonam Kumari, Namrata Sengar, Aashish Upadhyay, Rahul Rathore	Design-Development and Study of a Small Size Solar Water Heater for Cottage Textile Industry
10:50-11:00 AM	135	Ganesh Jeughale, J. M Mallikarjuna	Optimization of Water to Fuel Ratio for Spray Guided Gasoline Direct Injection Engine– A CFD Analysis
11:00-11:10 AM	152	Dheeraj Kumar Dhaked, Aman Goyal, Muskan Suman, Dinesh Birla	Design and Calculation of Solar Roof-top Plant for Petroleum Building of RTU, Kota: A Case Study
11:10-11:20 AM	153	Amit Sharma, Namrata Sengar	Experimental Study of Steam Generation through Solar Parabolic Trough Collector for Prospective Use in Small Industries
11:20-11:30 AM	193	Koushal Shring, Namrata Sengar	Comparative Study of Four Transparent Hydrophobic Coatings for Water Saving Potential in Dust Cleaning context of Solar Power Plants
11:30-11:40 AM	229	Sampurna Panda	Grid Integrated Renewable Energy Sources: Benefits, Drawbacks and Opportunities

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Technical Session T12 (Online) – Design and Other

Day 3: Saturday, 13th July 2024 (09:30 AM to 11:30 AM)

Session Chair 1: Prof. Talha Mohammad (IIT, Mandi)

Chair 2: Dr. Sushila Rani (DTU)

Student Coordinator: Pulijala Pawan Kumar

Google meet link: <https://meet.google.com/nst-kbxp-siw>

(pulijalapawankumar_2k22phdme501@dtu.ac.in)

Time	Paper Id	Authors	Title
09:30 AM to 09:40 AM	24	Allen Pinto	Suitable Material for a Trellis Frame: A Comparative Study of Aluminium 6061 And Steel AISI 4130
09:40 AM to 09:50 AM	52	Rajeev Kamal Sharma, Preeti Sharma	A Latest Survey of Machine Learning Approaches for Heat Anomaly Detection Applications
09:50 AM to 10:00 AM	54	Rajeev Kamal Sharma, Kinny Garg, Preeti Sharma	A Critical Review of the Application of Machine Intelligence Methods for the Risk Assessment of Structural Cracks
10:00 AM to 10:10 AM	57	Allen Pinto	Design and Development of a Quadcopter UAV for High-Altitude Operations in Tropical Monsoon Rainforest Climates: A Case Study in the Hilly Region of Assam
10:10 AM to 10:20 AM	90	Vishwanil Sarnaik, Mekala Anil, Satyajit Panda, S. Kanagaraj	Modeling of Viscoelastic Composite Curved Panel for the Time Domain Analysis Using TTBDF, Bathe and Newmark Method
10:20 AM to 10:30 AM	100	Ranjith Ram C S, Sai Chetan P R, S Yajna Shetty, Vidhant V Shetty, Sachhidananda M H	Design and Analysis of Gantry robot for Pick and Place Application
10:30 AM to 10:40 AM	160	Sagar Jarande, S.S. Bhavikatti, Aniket Sane, Bheemashankar Malipatil	Design and Development of Variable Positioning Mechanism for Patient Table used in Medical Diagnostic Equipment
10:40 AM to 10:50 AM	177	Ramya Chinthamani, Sai Keerthi Chavan, Bhagyath Badduri, Balakrishna Murthy Vallabhaneni	Modeling Of Micro-Level Defects In CFRP And GFRP Composites For The Prediction Of Coefficient Of Thermal Expansion
10:50 AM to 11:00 AM	187	Keshav Nath, Harshit Gupta, Qasim Murtaza	A Novel Deep Learning Framework for Image-Based Predictive Maintenance of Ball Screw Drives
11:00 AM to 11:10 AM	233	Parthkumar Rohit, Jitendra Hole, Pavankumar Sonawane	Design, Analysis, and Performance of 3-D Printed Gear Drives with Enhanced Torque Limiting Capabilities
11:10 AM to 11:20 AM	268	Dhruv Bihani, Keshav Aggarwal, Akhilesh Arora	Design and Analysis of Differential based on Selector Mechanism
11:20 AM to 11:30 AM	354	Anurag Dubey	Vibration Based Condition Monitoring Of Structures Using Normalized Frequency Parameter

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Technical Session T13 (Online) – Production, Manufacturing and Material Sciences

Day 3: Saturday, 13th July 2024 (09:30 AM to 11:30 AM)

Session Chair 1: Prof. Subhasis Maji (IGNOU)

Chair 2: Dr. Sanjay Kumar (DTU)

Coordinator: Durvesh (durvesh_2k19phdme504@dtu.ac.in)

Google meet link: <https://meet.google.com/ctf-xgqa-nyd>

Time	Paper Id	Authors	Title
09:30 AM to 09:40 AM	15	Pravin Jadhav	Improvement in Productivity with Multispindle Drilling Head Attachment: A Case Study
09:40 AM to 09:50 AM	58	Allen Pinto	Design and Analysis of a Mass-Spring-Damper System for Active Stabilization of a Dynamic Platform
09:50 AM to 10:00 AM	105	T. U. Siddiqui, Zahid A. Khan, A. N. Siddiquee, V. Kumar	Experimental Investigations for Assessment of Carbon Emissions and Tool temperature in Dry Turning operation using Al1070 Alloy
10:00 AM to 10:10 AM	119	Suman Kumar Saurabh, Prabha Chand, Umacharan Singh Yadav	Microscopic, fracture, and tensile strength assessment of laser welded joint of Nimonic 80A: An optimization
10:10 AM to 10:20 AM	129	Amritbir Singh, Shiva S	Effect Of Build Height on Microstructure and Mechanical Properties of Hollow Tubes Fabricated using Arc-DED Process
10:20 AM to 10:30 AM	133	Saloni Malviya, Supen Kumar Sah	A Refined Shear Deformation Theory for Natural Frequency Analysis of Power Law Based Functionally Graded Sandwich Plate
10:30 AM to 10:40 AM	155	Ajay Trivedi, Shaileshkumar Pandya	Investigation of Microstructure and Mechanical Properties of Al Alloys Lap Joints by Friction Stir Welding
10:40 AM to 10:50 AM	227	Nikhil Gupta, Subodh Barthwal, Praveen Pachauri	A Comprehensive Review of Magnesium Matrix Composites (MMCS) and its Manufacturing Techniques
10:50 AM to 11:00 AM	231	Pavan Meena, Ramkishor Anant	Importance of Different Filler Material on Residual Stress Mitigation in Dissimilar Joining of Nuclear Grade T/P92 and AISI304 Steel
11:00 AM to 11:10 AM	247	Yash Junagade, Sanjiv M Sansgiri, Y.V. Patel	Linear Static Analysis of Single-Stage Telescoping Pipe for Different Pipe Thicknesses and Working Angles
11:10 AM to 11:20 AM	343	Manish Kumar Jindal, Jinesh Kumar Jain, Rajendra Kumar Goyal, Yashwant Koli	Wire-Arc Additive Manufacturing (WAAM) of Metal Component: A Review of Recent Developments in Research

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Technical Session T14 (Online) – Design

Day 3: Saturday, 13th July 2024 (09:30 AM to 11:30 AM)

Session Chair 1: Prof. D. Goldar (DTU)

Chair 2: Dr. Paras Kumar (DTU)

*Coordinator: Shivendra Singh
 (shivendrasingh_2k21phdme01@dtu.ac.in)*

Google meet link: <https://meet.google.com/nuo-kwse-dvz>

Time	Paper Id	Authors	Title
09:30 AM to 09:40 AM	29	Dulal Goldar	Transverse Impact on Beams
09:40 AM to 09:50 AM	72	Satyendra Kumar, Arun Kumar Gangwar	Stabilization and Tracking Control of X-Z Inverted Pendulum via Variable Structure Control
09:50 AM to 10:00 AM	77	Rhik Banerjee, Nidhul Kottayat	Porous Medium Based Cooling Design for Temperature Homogeneity in Lithium AM to Ion Battery Pack
10:00 AM to 10:10 AM	78	Ganesh Badiger, Pavankumar Sonawane, Namdev Patil, Gunwant Shelake, Sandip Jadhav	Investigating the Influence of Nano Coolant and Cross AM to Sectional Variations on Microchannel Cooling for Electronic Devices
10:10 AM to 10:20 AM	139	Vipul Sharma, Vidhit Mandia, Yash Chandra, Gaurav Kumar, Raj Kumar Singh	Aerodynamics Properties of Winglets of an Aircraft Using CFD
10:20 AM to 10:30 AM	165	Rakesha H S, Chandrashekara C. V.	Design and Analysis of Portable Cricket Ball Bowling Machine
10:30 AM to 10:40 AM	168	Chirag R, Ankith Kachinthaya Anirudh R. Katgeri, Chandrashekara C. V.	Numerical Simulation Analysis of Lever Supported Curved Beam for Variable Stiffness Characteristics
10:40 AM to 10:50 AM	191	Jayanth Datta Thota, Murali Karthik Degala, Rahul Gandiboyina, Balakrishnamurthy Vallabaneni	Investigating the Impact Of Numerical Models On Buckling And Dynamic Response Of Underwater Capsule
10:50 AM to 11:00 AM	244	Gaurav Kapoor, Gaurav Saini, Mohammad Zunaid	Design and Numerical Modelling of Highway Vertical Axis Wind Turbine
11:00 AM to 11:10 AM	271	Sarthak Sinha, Shalini Nawariya, Kunal Saini, Mohammad Zunaid	Low Fidelity Design of Tail Sitter UAV
11:10 AM to 11:20 AM	273	Abhishek Singh, Aashu Gupta, Anshutosh Bisht	Using Computational Fluid Dynamics Development Of Iot Based Thermoelectric Refrigerator
11:10 AM to 11:20 AM	294	Aman Mishra, Akshun Sharma, Armaan Armaan	Integration of YOLOv7 Object Detection with a 3-DOF Robotic Arm for Efficient Fire Detection and Extinguishment

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Technical Session T15 – Thermal, RAC and IC Engine (Pragyan Hall)

Day 3: Saturday, 13th July 2024 (11:30 AM to 1:30 PM)

Session Chair 1: Mr. Bhupinder Godara (IITD)

Chair 2: Prof. M. R. Ravi (IITD)

Coordinator: Md Gulam Mustafa (gulammustafa_2k18phdme504@dtu.ac.in) & Sumeet Singh (sumeetsingh_23phdme502@dtu.ac.in)

Time	Paper ID	Authors	Title
11:30 AM to 11:40 AM	8	Neha Athia, Mukesh Pandey, Mohan Sen, Seema Saxena	Multi Objective Optimization and Technical Investigation of Hybrid Energy System Based on the Green Hydrogen Economy to Power the Load Demand of an Academic Research Building in India
11:40 AM to 11:50 AM	28	Awadhesh Kumar, Zakir Ali Hyderi, Deepak Kumar Bhaskar, Shivam Agrahari, Ashok Kumar Singh	Applied Approach for Vacuum Tube Collector in Renewable Energy Systems
11:50 AM to 12:00 PM	88	Arpit Jain, Aryan Singh, Anoop Nair, Rahul Kundara, Sarita Baghel, Yogendra Kumar Meena	Performance Optimization of RbGeI3 Based Perovskite Solar Cell by Employing SCAPS-1D
12:00 PM to 12:10 PM	180	Rajneesh Kashyap, Kaushik Saha, Subramanian K. A.	Molecular Dynamics Modelling on Effects of Fuel Injection Pressure on Bulk Modulus in a Constant Volume Chamber with Methanol Gasoline Blend Fuel
12:10 PM to 12:20 PM	182	Ambika Priyadarshini	Study of Interference Effect on Tall Hexagonal Two Building and Three Buildings Configuration at Different Wind Incidence Angles
12:20 PM to 12:30 PM	185	Ashutosh Kumar, Subramanian K.A.	Performance Analysis of 1 kW Open Cathode PEM Fuel Cell
12:30 PM to 12:40 PM	196	Ekta Jakhar, K. A. Subramanian	Assessment of Critical Material Requirements for Renewable Energy Systems and Green Hydrogen Production in India
12:40 PM to 12:50 PM	221	Krishna Kumar Karothiya, Manjunath K, R. S. Mishra	Recent Advancements in Biomass-Based Photothermal Material for Interfacial Solar Steam Generation
12:50 PM to 01:00 PM	344	Gaurav Sharma, Ashok Kumar Dewangan, Ashok Kumar Yadav	Hydrogen Fuel in Internal Combustion Engines: A Sustainable Path to Net-Zero Emissions
01:00 PM to 01:10 PM	356	Yogendra Prasad Upadhyay, Amit Pal, S. K. Sharma	Production of Biodiesel from Microalgae (Chlorella V. Species)

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Technical Session T16 – Design and Other (Vigyan Hall)

Day 3: Saturday, 13th July 2024 (11:30 AM to 1:30 PM)

Session Chair 1: Prof. Vijay Gautam (DTU)

Chair 2: Prof. Atul Agarwal (DTU)

Coordinator: Gaurav Kumar (gauravkmr716@gmail.com)

Time	Paper Id	Authors	Title
11:30 AM to 11:40 AM	69	Vikram Narula, Vijay Gautam, Devendra Kumar	Speed-Sensitive Smart Speed Bump for Efficient Traffic Management
11:40 AM to 11:50 AM	76	Bhavye Gautam, Satpal Sharma, Anurag Singh Baghel, Raunaq Dua	Experimental Investigations on Strength of a Nano Doped 3D Printed Circuit Board for Application in Electronics Industry
11:50 AM to 12:00 PM	115	Likki Shiva Sai Tharun Kumar, Elaya Perumal Annamalai, Sheetal Prajapati, V S Devika Thampuratty, Rohitsagar Mogalapuri	Advancement in Micro Thrusters For Micro and Nano Satellites Application: Review
12:00 PM to 12:10 PM	145	Shilpa Pal, Anshoo Yadav, Khyati Saggi	Assessment of Shear Bond Strength of Triplets Using Different Joint Thicknesses and Mortar Types
12:10 PM to 12:20 PM	171	Pulijala Pawan Kumar, Raj Kumar Singh	CFD Analysis of Savonius Hydrokinetic Turbines with C-Deflectors in an Open Channel Flow
12:20 PM to 12:30 PM	210	Bhashi Bhashi, Sreejath S, S. P. Singh	Experimentation Evaluation of Dynamics of Steel Wire Rope
12:30 PM to 12:40 PM	216	Shivendra Singh, Atul Kumar Agrawal	NACA 2412 Aerofoil: An Aerodynamic Study Using CFD at Low Reynold’s Number
12:40 PM to 12:50 PM	246	Bijendra Prasad, Vijay Gautam	Effect of Strain Rate on The Stress-Strain Behaviour of Aluminium Alloy at Different Temperatures
12:50 PM to 01:00 PM	262	M Anbalagan, Vijay Gautam	Numerical Study on Heat Transfer Enhancement in an Inclined Channel
01:00 PM to 01:10 PM	263	M Anbalagan, Vijay Gautam	Experimental Study on Heat transfer Enhancement in an Inclined Channel Using Fins
01:10 PM to 01:20 PM	310	Krishang Gupta, Kevolish Chawla, Akhilesh Arora	Review of Different Electric Vehicles Battery Packs
01:20 PM to 01:30 PM	316	Rohin Verma, Mahendra Singh Niranjana, Saatvik Sagar, Rohan Kumar, Rohan Chopra	Selection of Optimal Design of Bike Swing Arm Through Generative Approach