

# International Conference on Thermal Sciences and Sustainable Energy

(ICTSE-2026)

January 23-24, 2026

*Organized By*

Department of Mechanical Engineering,  
National Institute of Technology Warangal

## Detailed Program Schedule

**Day 1 - 23/01/2026**

### Keynote Session 1 (Ambedkar Learning Centre)

**Keynote 1: 10:40 – 11:15**

**Speaker:** Prof. Alexandre Presas Batlló, Director, CDIF-UPC, Spain

**Title:** Innovation and trends in Pumped Storage Operation: The project STOR-HY

**Keynote 2: 11:15 – 11:50**

**Speaker:** Dr. S.V. Ramana Murty, Director, Gas Turbine Research Establishment, Bengaluru, India

**Title:** Advanced Technologies for Aero Gas Turbine Engines

**Keynote 3: 11:50 – 12:25**

**Speaker:** Prof. P S Lee, NUS Singapore

**Title:** Beyond the Thermodynamic Wall: Heat Transfer Limits and Liquid Cooling Architectures for AI Infrastructure

**Lunch Break (12:30 to 14:00)**

### Session 1 Time - 14:00 – 15:00 (Seminar Hall Complex)

**Bose hall**

**T1 (Thermal Sciences)**

Topics: Heat Transfer Enhancement Techniques and devices

**Session Chairs - Dr. B Suresh, GTRE, DRDO**

**Dr. Satyanarayan Patel, IIT Indore,**

SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:00–14:12	T501	Process parameter optimization of Al <sub>2</sub> O <sub>3</sub> /distilled water-based nanofluid for higher thermal conductivity and stability using the Taguchi-Grey method.	Jagdish B. Pawar*
2	14:12–14:24	T504	Numerical Simulation and Optimization of Wavy Grooved Cylindrical Pin Fin Heat Sink	Abhijith Raj B*, Gijoy S, Rejin S, Praveen A, Jyothish Abraham
3	14:24–14:36	T506	Thermal Performance Factor of Heat Transfer Augmentation for Air Flow Inside a Smooth Circular Duct Facing Series of Vertically Heated Circular Discs Configuration at Right Angle Using CFD Analysis	Bamaniya Jayesh Pravinbhai*, Dr. Mayur D Kevat and Dr. Amit R Patel
4	14:36–14:48	T508	Numerical investigation of heat transfer in a 2d sudden expansion channel with partially heated bottom wall.	V Murugashri*, Rahul P, Nithesh S V, Seranthian Ramanathan
5	14:48–15:00	T509	Numerical study on jet impingement cooling on a vertically oriented rotating disc with localised heating	Dinesh D.*, Akhil Sivadas, Deepu M.

<p style="text-align: center;"><b>Homi Bhabha hall</b>  <b>T2 (Thermal Sciences)</b>            Topics: <b>Refrigeration and Air conditioning</b></p>				
<b>Session Chairs – Prof. V Vinayaka Ram, BITS Hyderabad Campus,</b>			<b>Prof. K Kiran Kumar, NITW</b>	
<b>SI No.</b>	<b>Time</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Authors</b> (* - presenting author)
1	14:00–14:12	<b>T902</b>	Numerical Investigation Of Green Filamentous Algae Natural Fiber As A Sustainable Insulating Material For Refrigerator Units	<b>Muhammed Shahnad M*</b> , Gijoy S, Anver Sadath A, Jijith P K
2	14:12–14:24	<b>T907</b>	Advanced Refrigeration Control and Optimization: AI and IoT- Based Smart Refrigeration Energy-Efficient Defrosting Strategies	Anand K, <b>Swetha N*</b> , Santhiya M
3	14:24–14:36	<b>T909</b>	Solar Powered Evaporative Air Cooler with Clay Pot-Based Cooling Medium	<b>Gautham Narayan*</b> , Gijoy S, Praveen A, Lasithan L.G
4	14:36–14:48	<b>T912</b>	Performance Modelling and Experimental Validation of a R134a based Ejector in Refrigeration System	<b>Nyjal Benedict*</b> , Anandakrishnan N, M Mohandas, M Srinivas
5	14:48–15:00	<b>T913</b>	Flow characteristics of Mixed Refrigerant in an Expansion Capillary Used in Joule Thomson Refrigerators	<b>Rajeev Kumar Mandal*</b> , G. Rajasekaran and S. S. Harish Kruthiventi
6	15:00–15:12	<b>T914</b>	Experimental Analysis of Vapour Compression Refrigeration System Using Bi2O3 Nano Lubricant	<b>V.Dhana Raju *</b> , A.Aruna Kumari, K.Appa Rao, M.B.S.Sreekara Reddy, K.Sai Babu
<p style="text-align: center;"><b>Ramanujan hall</b>  <b>E1 (Energy and Sustainability)</b>            Topics: <b>Solar Energy Equipment and Processes</b></p>				
<b>Session Chairs - Dr. Ravi Kumar, NIT Patna</b>			<b>Prof. V P Chandramohan, NITW</b>	
<b>SI No.</b>	<b>Time</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Authors</b> (* - presenting author)
1	14:00–14:12	<b>E702</b>	CFD and 4E comparison of Air and Spray Cooling of Photovoltaic Panels using Eulerian-Lagrangian two-phase approach	<b>Sushmitha Mohan*</b> , Kottayat Nidhul
2	14:12–14:24	<b>E703</b>	Statistical Analysis of CSP Plant Design for Water-Scarce Regions Using Taguchi S/N Method and ANOVA Approach	<b>Mudar Youssef Taha1*</b> , Ravi K. Peetala1
3	14:24–14:36	<b>E705</b>	Performance and Sustainability Metrics of Solar Drying Systems: A Case Study of Bitter Gourd with and Without Thermal Energy Storage.	<b>Desai Sathyra Narayana Rao*</b> , V.P. Chandra Mohan
4	14:36–14:48	<b>E706</b>	Performance Comparison Between Pentagonal and Right-angle Triangle Ribbed Solar Air Collectors by Varying Both Rib Pitch and Height	<b>Shekher Sheelam*</b> , V.P. Chandra Mohan
5	14:48–15:00	<b>E730</b>	A Comprehensive Review: Managing Waste Solar Panels for a Sustainable Future.	<b>Shrutakirti A. Mahajan*</b> , Hansa Jeswani
<p style="text-align: center;"><b>Raman Hall</b>  <b>E2 (Energy and Sustainability)</b>            Topics: <b>Waste to energy</b></p>				
<b>Session Chairs - Dr. R. Parameshwaran, BITS Hyderabad Campus</b>			<b>Prof. G. Amba Prasad Rao, NITW</b>	
<b>SI No.</b>	<b>Time</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Authors</b> (* - presenting author)
1	14:00–14:12	<b>E805</b>	Performance Analysis Of TPMS-Enhanced Thermoelectric Generator For Waste Heat Recovery System	<b>Roopan R*</b> , Pranesh M, S Balamurugan
2	14:12–14:24	<b>E806</b>	LNG Cold Energy Recovery through ORC for Power Generation and Cold Storage Applications	<b>Hemant Pratap Singh*</b> , Nishant Modi, Satyanarayanan Seshadri
3	14:24–14:36	<b>E809</b>	Catalytic Valorization of Petroleum-Derived Oily Sludge using a Fixed Bed Pyrolyzer	<b>Ajay Pawar*</b> , Santanu De
4	14:36–14:48	<b>E812</b>	Performance Enhancement of Graphite Felt Anode by Coating Coconut Shell Biochar and Magnetite Nanoparticles in Microbial Fuel Cells	<b>Shaista Shabbi*</b> , <b>Harshith Pisupati*</b> , Rahul Yadav, Prashant S. Kulkarni

5	14:48– 15:00	<b>E814</b>	Development and Characterization of Biodegradable Films from Talipot Palm Starch for Sustainable Packaging Applications	<b>Kailas V*</b> , Mohan B Nair, Rejin S , Gijoy S, Lasithan L
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### **Khurana hall**

#### **F1 (Fluid Sciences)**

Topics: **Biofluidics, Compressible fluid flow**

**Session Chairs - Dr Harikrishnan S, CUSAT**

**Prof. V Rajesh Khana Raju, NITW**

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:00– 14:12	<b>F201</b>	Analysis of Magneto-Hemodynamic pulsatile blood flow through porous arteries with different stenosis geometry	<b>Sarathkumar D*</b> , R. Padma
2	14:12– 14:24	<b>F202</b>	Numerical Analysis of MHD Nanofluid Blood flow through a Diseased Artery	<b>Nathiya M*</b> , R. Padma
3	14:24– 14:36	<b>F204</b>	ADM-Based Analysis of MHD Jeffery-Hamel Blood Flow With DTM Comparison	<b>N. Keerthana*</b> , B. Dhanushri, R. Padma
4	14:36– 14:48	<b>F205</b>	Design Optimization and Performance Evaluation of Centrifugal Left Ventricle Assisted Device for Physiological Blood Flow	<b>Akil Namitha Perumal*</b> , Micha Premkumar, <b>Rohit Rupish Ramesh*</b> , Seralathan Sivamani
5	14:48– 15:00	<b>F301</b>	Investigation on Characteristics of Subsonic-Supersonic Shear Layers in a Co-flowing Rocket Nozzle	Abhilash Narayan, <b>Akhil Sivadas*</b> , Bijukumar KS, Deepu M

### **Chandrashekhar hall**

#### **F2 (Fluid Sciences)**

Topics: **Multiphase Flows**

**Session Chairs - Dr. K.N.V. Adinarayana, AERB**

**Prof. Karthik Balasubramanian, NITW**

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:00– 14:12	<b>F702</b>	Numerical Study of Turbulence influence along with particle shape and size distribution in Pelton injector	Rahul Vishwakarma, <b>Chandra Shekhar Pant*</b>
2	14:12– 14:24	<b>F901</b>	Subcritical and Supercritical CO <sub>2</sub> Phase Interfacial Instability Analysis.	<b>Tabish Wahidi*</b> , Sultan Alshehery and Shankar Kodate
3	14:24– 14:36	<b>F902</b>	A Novel Approach for Modelling Gas-solid Fluidization in a Fluidized Bed Gasifier.	<b>Shahul V Hameed*</b> , Sumer B Dirbude
4	14:36– 14:48	<b>F906</b>	Numerical Analysis of Bubble Dynamics in Ship Wake Signatures	<b>Ashwin V Suresh*</b> , <b>Rishikesh S A*</b> , Ashish Alex Sam
5	14:48– 15:00	<b>F909</b>	Machine learning-based optimization of agricultural spray dynamics: minimizing drift and enhancing deposition.	Abhijith Krishnan, Arun B Prasad, Jeevan Jacob Alex, Sooraj Subash, <b>Aravind Raju*</b> , Akash K A and Manish M
6	14:00– 14:12	<b>F801</b>	Design and Development of a Low-cost Portable Contact Angle Measurement Device.	Ranjith S Kumar, Robin David, <b>Athul B*</b> , Nidhin Lal M, Kannan A, <b>Abey Joseph*</b>

## Keynote Sessions 2 (Seminar Hall Complex - Boss Hall)

**Keynote 4: 15:05 – 15:40**

**Speaker:** Prof. Prakash C Ghosh, IIT Bombay

**Title:** Rising of green H<sub>2</sub> as an energy carrier from the niche to the mass market

**Session 2 – 23/01/2026 Time - 16:00 – 17:40 (Seminar Hall Complex)**

**Bose hall**

**T3 (Thermal Sciences)**

Topics: Heat Transfer Enhancement Techniques and devices

**Session Chairs – Dr A S Krishnan, Coimbatore Institute of Technology**

**Prof. H P rani, NITW**

SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	16:00-16:12	T511	Investigating the criticality of a fin base for effective cooling of a solar PV module	Shubham Kumar*, P M V Subbarao
2	16:12-16:24	T516	Flow and heat transfer characteristics of an impinging jet array with varying surrounding jet inclination angles	Abdoul-enziz Imamou, S Harikrishnan*, A Harish
3	16:24-16:36	T517	Diatom-Inspired Fin Geometries for Enhanced Convective Heat Transfer in Heat Sinks	Arjun M B*, Nithin Pradeep*, Sidharth M R*, Vignesh Girish, Gijoy .S, Jyothish Abraham
4	16:36-16:48	T518	Temperature management in large-scale planetary vertical mixers for solid propellant manufacturing	Sai Teja Tumu*, Jayaraju Thirumani and G Ramesh Babu
5	16:48-17:00	T519	Performance and Flow Analysis of Concave-Convex Heat Exchangers with Staggered Circular Welding Spot Patterns	Ramesh Kumar*
6	17:00-17:12	T520	Advanced Heat Transfer Methods for Enhanced Thermal Management in Contemporary Engineering Systems	Shreeyash Mhatre* ,Abhishek Shinde, Vikas Jadhav,Avinash Somatkar, Athary Lohakare
7	17:12-17:24	T523	Comparative investigation of steady and pulsed air jet impingement for improving heat transfer rate through various parameters	Shaikh Sohel. Mohd Khalil*, Mahammd salman Warimani, Rai Sujeet Nath Sahai, Khizar Ahmed Pathan
8	17:24-17:36	T524	Investigation of Torridity Capabilities from Steady and Pulsed Air Jet Impingement.	Shaikh Sohel. Mohd Khalil*, Mohd Salman Warimani, Khizar Ahmed Pathan, Ashutosh Digamber Yetalkar
9	17:36-17:48	T525	Role of Separator in Jet Impingement Cooling System	Manikanta Bandlamudi*, Siva Krishna Karnati and Lakshmi Sirisha Maganti

**Homi Bhaba hall**

**T4 (Thermal Sciences)**

Topics: Combustion, IC engines

**Session Chairs – Dr.Jagdish Babusing Pawar, SJCEM, Palghar**

**Prof. G. Naga Srinivasulu, NITW**

SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	16:00-16:12	T202	Effect of Heat Release on Longitudinal Acoustic Modes in a Bluff Body Combustor	M. Srinivasa Rao*, R. Narasimha Rao
2	16:12-16:24	T203	Numerical investigation of impact of H <sub>2</sub> enrichment on CH <sub>4</sub> swirl flames: Flow-field, flame structure and NO <sub>x</sub> emissions	Ganivada Prasanth*, Amrit B Sahu
3	16:24-16:36	T204	Enhancing Biogas Combustion Stability in Sandia Burner: Insights from OpenFOAM Simulations with Hydrogen Addition	Harish Abubaker*, Saleel Ismail
4	16:36-16:48	T205	Thermodynamic Simulation of Spirulina Biodiesel Blends in a Single Cylinder DI Diesel Engine using Diesel-RK across Compression Ratio	B. Varun Kumar, M. Karuppaiah Rajkumar,

				S.Rajkumar, <b>Harish J H*</b> , Rathish saravanan
5	16:48-17:00	<b>T703</b>	The Impact of Diethyl Ether as a Biofuel Additive on the Performance and Emissions of a Diesel Engine Fueled with Karanja Oil	Vetrivel Kumar Kandasamy, Bothiraj Thandiyappan, Silambarasan Rajendran, <b>Karthikeyan S*</b>
6	17:00-17:12	<b>T704</b>	Optimization-of-Engine-Performance and-Emission Reduction in-Single Cylinder-Di Diesel-Engine by-using Selective-Catalytic Reduction-Technology	Vetrivel Kumar Kandasamy, Bothiraj Thandiyappan, Silambarasan Rajendran, <b>Dharanitharan M*</b>
7	17:12-17:24	<b>T706</b>	Experimental investigations of Performance and Emission Characteristics of a diesel engine fueled with Jatropha Methyl Ester using Nano Additives	Vetrivel Kumar Kandasamy, S Geetha, Silambarasan Rajendran, <b>Maahesh M*</b>
8	17:24-17:36	<b>T708</b>	Advances in Diesel Engine Optimization Using Biodiesel Blends: Performance, Emission Control, and AI/ML Driven Approach:A Review	<b>Ramavath Suman*</b> , A. Aruna Kumari
9	17:36-17:48	<b>T709</b>	Investigating emission characteristics and combustion performance of a CRDI engine utilizing novel biodiesel derived from Animal tallow and butanol blends	<b>Ajmeera Naresh*</b> , Ravi Kumar Puli
10	17:48-18:00	<b>T716</b>	Evaluation of Biodiesel from Rubber Seed Oil and Performance Test	Vetrivel Kumar Kandasamy, S Joseph Dominic Vijayakumar, Tamil Selvan M , <b>Mohammed Jaffar Hussian J*</b>

### Ramanujan hall

#### E3 (Energy and Sustainability)

#### Solar Energy, Equipment and Processes

**Session Chairs –Dr. Md. Qaisar Raza, NIT Patna**

**Dr. Subhadip Roy, CVRDE, DRDO**

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	16:00–16:12	<b>E709</b>	4E Assessment of a Solar Still with Inbuilt Condenser and Ultrasonic Fogger for Enhanced Potable Water Production.	<b>Nagendra prasad Pandey*</b> , Ravindra Gupta and Yogesh Sahu
2	16:12–16:24	<b>E710</b>	Performance Assessment, Exergy Evaluation, and Sustainability Analysis of a Triple-Slope Solar Still Operating Under the Subtropical Climate of Prayagraj.	<b>Rahul Patel*</b> , Rahul Dev, Ajaya Bharti
3	16:24–16:36	<b>E711</b>	Investigation on water depth in phase change material and pulsating heat pipe-based hybrid solar still productivity enhancement.	Jay R. Patel, <b>Parth Gaud*</b> , Y. Naresh
4	16:36–16:48	<b>E714</b>	Numerical Investigation of Rim Angle Influence on Optical Performance of Parabolic Dish Concentrators.	<b>Muhammed Mustafa Chonari*</b> , Sendhil Kumar Natarajan
5	16:48–17:00	<b>E715</b>	Influence of Vapor Pressure on the Performance of Double Slope Solar Still.	<b>N.Srinivasa Rajneesh*</b> , Dr.S.Nawazish Mehdi, Dr.B.Hadya
6	17:00–17:12	<b>E716</b>	A Study of Solar Chimney for Underpass Tunnel.	<b>Rahul Dev*</b> , Madhu Sudan, Suraj Gupta, Riya Garg, Yashav Bharti, and Sumit Kumar
7	17:12–17:24	<b>E717</b>	Performance Enhancement of Solar Desalination Using Multistage Air Gap Photothermal Membrane Desalination.	<b>Pavan Kumar Shakya*</b> , Jishnu Bhattacharya
8	17:24–17:36	<b>E718</b>	Receiver Size Optimization in Central Receiver Tower using Particle Swarm Optimization.	<b>Manish Raj*</b> , Jishnu Bhattacharya

### Raman hall

#### E4 (Energy and Sustainability)

Fuel cell, Wind turbines, Nuclear Energy

Session Chairs - Dr. Aneesh A. M., Bits Pilani

Prof. Murali Mohan Seepana, NITW

SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	16:00-16:12	<b>E304</b>	Development And Performance Evaluation Of Microbial Fuel Cells For Sustainable Electricity Production	Gopi Vasudeven*, Avinash Sivam, Ganta Venkata Satya Sai Sireesha, Islavath Baburao,Pulukunta Lokanadha Reddy, and Sendhil Kumar Natarajan
2	16:12-16:24	<b>E601</b>	Experimental Evaluation of Passive Containment Cooling Concept Towards Nuclear Safety	<b>K N V Adinarayana*</b> , Seik Mansoor Ali
3	16:24-16:36	<b>E901</b>	Effect of Solidity on performance characteristics and wake structure of Helical Vertical Axis Wind Turbine	<b>D Unnikrishnan*</b> , Ratna K Velamati, Rakul A Ravi, K Srirangan, Akram Mohammad, Tharun Suresh, Sai Karthik J
4	16:36-16:48	<b>E902</b>	Digital Manufacturing through Dynamic Simulation for Sustainable Upgradation of Wind Turbine Blade Manufacturing Facilities	<b>Malladi Krishna Prasad*</b> , Gamini Suresh, V Vasu
5	16:48-17:00	<b>E906</b>	CFD-Based Investigations of Airfoil Aerodynamics for Offshore Wind Turbine Applications	<b>Renju Raj*</b> , Beena Mary John
6	17:00-17:12	<b>E815</b>	Enhanced biogas production using Achyranthes aspera derived biogenic Fe-Zn-Mn oxide nanocomposites: effects on vermicomposting efficiency and Cicer arietinum growth	Swati Kumari, Abhay Kumar, Shikha Singh, Harish Hirani, <b>Praveen Kumar Srivastava*</b>
7	17:12-17:24	<b>E213</b>	Nano-Magnetite Enhanced Phase Change Microbeads for Energy Storage Applications	Adarsh Arya*, Pathireddy Vishwak Reddy*, Sriharsha Rathna Vardhan Paruchuri*, Aryan Rae*, Prof. R. Parameshwaran, Prof. V. Vinayaka Ram

### Khurana hall

#### F3 (Fluid Sciences)

Aerodynamics

Session Chairs – Dr. Sangamesh C Godi, B. M. S CE, Bengaluru

Prof. Ravi Kumar Peetala, NITW

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	16:00 – 16:12	<b>F101</b>	Design and Aerodynamic Characterization of a Camber Based Aerofoil for Race Car Rear Wings Using Thin Aerofoil Theory and CFD Techniques	<b>Sharath Ramesh*</b> , P B Nagaraj, Gururaj Lalgi
2	16:12 – 16:24	<b>F102</b>	Comparative CFD Analysis of Aerodynamic Parameters for Reentry Capsules Across the Full Spectrum of Flight Regimes	<b>Anay Deshpande*</b> , <b>Atharv Jadhav*</b> , <b>Hemangi Kulkarni*</b> , Manasi Shete
3	16:24 – 16:36	<b>F103</b>	Design and Implementation of an Altitude-Based Parachute Recovery System for Drones	<b>Hisham Mohammed Asim Khan*</b> , Abdul Samee, Chebrolu Preethi , Yagya Dutta Dwivedi
4	16:36 – 16:48	<b>F104</b>	Investigation Of Boundary Layer Control At Low Reynolds Number Using Passive Devices	<b>N Sri Tejaswini*</b> , Syeda Fatima Ziaularifeen, Harsh Tiwari, Yagya Dutta Dwivedi
5	16:48 – 17:00	<b>F105</b>	Aerodynamic Analysis on Different Delta Wing Configurations	Desaboina Archana, <b>Phanindra Pathuri*</b> , Anirudh S, Y.D. Dwivedi
6	17:00 – 17:12	<b>F108</b>	Design and Analysis of Blended Wing Body	<b>Sai Abhimanyu Yenamandra*</b> , Aushetti Manas, <b>Sri Priaanka Yeddanapudi*</b> , Yagya Dutta Dwivedi

7	17:12 – 17:24	<b>F114</b>	Numerical Comparative Study of Flow over a Cylinder with Splitter Plates using CFD	Bhimu Daddimani, <b>Arumuga Perumal D*</b> , Somashekara Rao Todeti
8	17:24- 17:36	<b>F404</b>	Heatline visualization and stationary bifurcation analysis of mixed convection in a rectangular enclosure with anti-parallel motion of walls	<b>Mrittika Das*</b> , Hari Ponnamma Rani

**Chandrashekhar hall**

**M1 (Interdisciplinary)**

**AI/ML for thermohydraulic systems**

**Session Chairs - Dr. Pankaj P. Gohil, SVET, Surat**

**Prof. Shivraman, NITW**

SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	16:00- 16:12	<b>M101</b>	A machine learning based analysis of latent heat storage systems using air as heat transfer fluid and paraffin as phase change material.	<b>Lanka Sandeep Raj*</b> , Sane Sreenivasulu, Bandaru Durga Prasad
2	16:12- 16:24	<b>M102</b>	Stability aware AI model for predicting thermal properties of nanofluids	<b>R Rakesh Pillai, Faheem Muhammad*</b> , JS Sreelekshmi, Hanna Mariyam Harise, <b>E K Suhaib*</b>
3	16:24- 16:36	<b>M301</b>	Computational Analysis of Thrust Characteristics and Longevity in Micro Scale Hybrid Electric Thrusters.	<b>Vadlamani Ananth Vamsi*, Panchireddi Tejash Krishna*, P.P.S Keerthi</b>
4	16:36- 16:48	<b>M501</b>	Mechanical, Morphological, Thermal, Kinetic and Flammability studies of compatibilized micro/nano filled ternary PP/PS/HDPE polymer blends.	<b>C Surej Rajan*</b> , Lity Alen Varghese, Shiny Joseph, Soney C George
5	16:48- 17:00	<b>M510</b>	Analytical solutions for functionally graded nanobeams.	<b>Gajula Supriya*</b> , Umesh Basappa
6	17:00- 17:12	<b>M517</b>	Barriers, Opportunities, and Technological Trends in Metal Additive Manufacturing: Insights from the Vidarbha Region of India	<b>Surendrakumar S. Nagpure*</b> , Minhaj Ahemad Rehman

<b>Keynote Sessions 3 (Seminar Hall Complex - Boss Hall)</b>	
<b>Keynote 5: 9:30 – 10:10</b>	
<b>Speaker:</b> Prof. Tanmay Basak, IIT Madras	
<b>Title:</b> Finite Element Implementation on Invisible Energy Flow: Heat functions and Boundary Conditions	
<b>Keynote 4: 10:10 – 10:50</b>	
<b>Speaker:</b> Prof. P. Sankar Ganesh, BITS Pilani Hyderabad	
<b>Title:</b> Deciphering the Trade-Off between Thermal Regimes and Biogas Productivity under High Organic-Loaded Anaerobic Digester	

<b>Session 3 – Time - 11:15 – 13:00 (Seminar Hall Complex)</b>				
<b>Bose hall</b>				
<b>T5 (Thermal Sciences)</b>				
<b>Thermal Management of EV components</b>				
<b>Session Chairs - Shri. Tumu Sai Teja, SDSC SHAR, ISRO</b>				<b>Prof. S Srinivasa Rao, NITW</b>
SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	11:15–11:27	T101	Comprehensive review on Thermal Management of Electric Vehicle Battery Cells	Neeraj Raj P*, P B Nagaraj, Ashok Kumar K, Sumukh S Rao*, Sajja Sri Gowtham*
2	11:27–11:39	T104	Thermal Management of Li-ion Battery using a Phase Change Material (PCM) for Electric Vehicles	Indrajit Bag*, Arup Kundu, Nilkanta Barman, Sudip Simlandi
3	11:39–11:51	T105	Battery Thermal Management System Using Oscillating Heat Pipes in Electric Vehicles	Sebastian Jerry J*, Suresh Kumar R, Jayanthi N, Mukesh A, Arjun M, Naagendra U
4	11:51–12:03	T106	CFD Analysis of Hollow Triangular Spoiler Integration for Improved Temperature Uniformity in Air-Cooled Battery Packs	Illandula Venu*, Kumar Sourav, Nagireddy Praveena Devi
5	12:03–12:15	T107	Review of Battery Thermal Management Techniques in Electric Vehicles	Anand K, Manjuswetha S V*, Mohamed Vaseem J, Mouleeshwaran P.
6	12:15–12:27	T108	Thermal Modeling of a Cylindrical Lithium-Ion Battery with Nano-Enhanced PCM	Rajasekhar Bandela*, Farooq Shaik
7	12:27–12:39	T109	Numerical Investigation on Cooling Characteristics of an Induction Motor	Bikram Barik*, Asish Tripathy, Prokash Chandra Roy, Nilkanta Barman
8	12:39–12:51	T114	Thermal Runaway Propagation in EV Battery Pack Delay by Using Three Air Cooled Channel	Zaid Javed*, Fatima Hana
<b>Homi Bhaba hall</b>				
<b>T6 (Thermal Sciences)</b>				
<b>Electronics and electrical equipment Cooling, Micro and nanoscale heat transfer</b>				
<b>Session Chairs - Dr. Syed M Hussaini, NSAKCET, Hyderabad</b>				<b>Dr. Shaikh S M K, HTIT, Sambhajinagar</b>
SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	11:15–11:27	T301	Impact of Inclination on Thermal Performance of Heat Sink	Junaid Uddin Syed*, Jaya Krishna Devanuri, SM Hussaini
2	11:27–11:39	T302	Electronic Cooling of a Raspberry Pi using an Experimental - Numerical Approach	Keshav Raj*, Anant Kumar Rai, Chinige Sampath Kumar
3	11:39–11:51	T303	Numerical Study on the Effect of Variable Server Fan Speed on the Data Center Flow Field	Rajan Jaswal*, P.M.V. Subbarao
4	11:51–12:03	T305	Evaluation of Performance and Emissions Analysis of Methanol-Diesel Blends in a CRDI Dual Fuel Diesel Engine	Ganesh Vantepaka*, Boda Hadya, Kunturu Srinivasulu, T. Pavan Kumar

5	12:03–12:15	<b>T306</b>	Fin design and airflow confinement effects on automotive LED headlamp cooling	Brajesh Nagar, Aditya Gaur, Mohit Singhal and <b>Satyanarayan Patel*</b>
6	12:15–12:27	<b>T801</b>	Pulse-Electrodeposited Ni–CNT Hybrid Coatings on Copper for Stable, High-Flux Pool Boiling Enhancement	<b>M. Selvamuthukumar*</b> , Sanjay Kumar Gupta, Ajoy Kumar Nandy, Karthik Blasubramanian
7	12:27–12:39	<b>T803</b>	Enhancement of Heat Transfer in Microchannel Heat Exchanger with Micro Chambers using Multi Wall Carbon Nanotube Nanofluids	<b>Kuruva Krishna Murthy*</b> , Dangeti Sarath Chandra*, P. Aparna3
8	12:39–12:51	<b>T804</b>	Numerical Study of Heat Transfer in Micro Fin: A Case Study for Constant Perimeter, Area, and Size using Finite Element Method	<b>R.Yuvraj*</b> , D.Senthilkumar
9	12:51–13:03	<b>T602</b>	Investigation of capillary-fed boiling with aqueous solutions of surfactant and alcohols	Rabindra Baitha, <b>Md. Qaisar Raza*</b> , Amar Kumar, Kumar Shanu Rajan, and Ravi Kumar

### Ramanujan hall

#### E5 (Energy and Sustainability)

Solar Energy Equipment and Processes, Waste to energy

**Session Chairs - Dr. Unnikrishnan D, Amrita School of Engineering**

**Prof. Anjana PA, NITW**

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	11:15–11:27	<b>E719</b>	PCM-Assisted Air-Gap Photothermal Membrane Desalination for Enhanced Distillate Flux.	<b>Deepti Sachan*</b> , Pavan Kumar Shakya, Jishnu Bhattacharya
2	11:27–11:39	<b>E724</b>	Design and Development of Active Green House Solar Dryer For Potential Food Products	Vasud M. Vaghani, Jeet K. Patel, <b>Vikram P. Rathod*</b> , Vimal K. Patel
3	11:39–11:51	<b>E726</b>	Effect of Metal Foam and Nanofluid Integration on Thermal Performance of a Solar Flat Plate Collector: A Numerical Study.	<b>Syed Mustafkhadri*</b> , Banjara Kotresha, Kishan Naik and Kishorkumar
4	11:51–12:03	<b>E727</b>	Numerical Study of Local Heat Transfer in a Solar Air Heater with Staggered Rectangular Fin-Integrated in Rectangular Duct	<b>Guguloth Harish*</b> , Satyanand Abraham
5	12:03–12:15	<b>E728</b>	Indoor experimental performance assessment of a monocrystalline PV panel under controlled solar irradiance and tilt angle	Sourabh Jain, <b>Aneesh A.M.*</b>
6	12:15–12:27	<b>E731</b>	Energy Performance Characterization and RSM-Driven Optimization of a Direct Expansion Solar-Assisted Heat Pump with a Novel Hybrid Collector-Evaporator.	<b>Rahul Ashok Patil*</b> , Vaibhav Deshmukh
7	12:27–12:39	<b>E804</b>	Techno-Economic Design Optimization and Environmental Analysis of Hybrid Renewable Energy Systems-A case study of NIT Patna Health Centre	<b>Ravi Kumar*</b> , Md. Qaisar Raza
8	12:39–12:51	<b>E810</b>	Evaluation of Influencing Variables of Industry 4.0 Driven Green Manufacturing Practices: A Comprehensive Review in the Vidarbha Region.	<b>Aditya Khandare*</b> Minhaj Ahemad A. Rehman
9	12:51–13:03	<b>E818</b>	A Smart Multi-Temperature Peltier Water Dispenser with Dual-Block Heat Exchange, Touchless Dispensing, and Wastewater Recovery.	Jyothilakshmi R, Hemanthkumar K. J, B. Sadashive Gowda, K R Nandeesh, <b>Umang Kumar Prasad*</b> , Ashmit Kumar Saw, Nithin V

### Raman hall

#### E6 (Energy and Sustainability)

Biofuels and Biomass, Energy Storage Systems

**Session Chairs - Dr. Nagendra Prasad Pandey, Parul university      Prof. Hari Krishna Chilukoti, NITW**

SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	11:15–11:27	E107	Assessment of Performance, Combustion, and Emission Characteristics of Sustainable Jatropha–Butanol Ternary Blends in a Diesel Engine	Nagesh Babu Vemula*, Farooq Shaik, Radha Krishna Gopidesi
2	11:27–11:39	E108	Impact Assessment of biogas Plant in India	Rahul Kumar Rajak*, Gaurav Dwivedi, Prashant Baredar
3	11:39–11:51	E110	From Field to Flywheel: Performance Analysis of a Bagasse Biogas-Powered Dual-Fuel Engine	Hemanthkumar K J*, B. SadashiveGowda, Jyothilakshmi R
4	11:51–12:03	E111	Evaluation of Tyre Pyrolysis Oil-Diesel Blends as Alternative Fuels for Sustainable HCCI Engine Applications	Dilip S. Borkar*, Sushant S. Satputale, Santosh P. Alone and Nikhil A. Bhave
5	12:03–12:15	E207	Charging and Discharging Behaviours of a PCM-based Energy Storage Device: A Numerical Study	Sarama Malik* Nilkanta Barman, Sudip Simlandi
6	12:15–12:27	E209	Comparative Review of Tube Arrangements in PCM-Based Shell and Tube Thermal Energy Storage System	Dharmarapu Laxmi Prasanna*, D. Jaya Krishna
7	12:27–12:39	E007	Design Optimization and CFD Analysis of Vertical Axis Hydrokinetic Turbines for Enhanced Power Generation in Low-Head Water Streams	Shwetha G*, Shwetha sreelakshmi G*, Naveen Kumar B K, Apoorva G C, Vaishnavi M Sattigeri

### Khurana hall

#### F4 (Fluid Sciences)

Fluid structure interaction, Hydro machinery, Turbulent Flows

**Session Chairs - Dr. Tabish Wahidi, Xitadel CAE Technologies      Prof. Prasanth Anand K L, NITW**

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	11:15 – 11:27	F601	Effect of Corner Radius on Aerodynamic Characteristics of a 2D Square Cylinder	Dhaval A Suthar*, Dhaval T Solanki* and Dharmendra S Sharma
2	11:27 – 11:39	F603	Starting Flow and Its Sustenance Due to a Flapping Plate in a Quiescent Fluid	Abikrishnaa Parimelalagan*, Snehaunshu Chowdhury, Majid Hassan Khan
3	11:39 – 11:51	F704	Blade profile optimization using control points through theta angle and its rotational effects on the Pump As Turbine (PAT) impeller	Bhukya Naveen Kumar*, Anant Kumar Rai
4	11:51 – 12:03	F707	Computational Assessment of Hydrokinetic Turbines Using Augmentation Technique for Sustainable Power Generation in Low-Velocity Canals	Pankaj P. Gohil*
5	12:03 – 12:15	F001	CFD Simulation of Helium and Steam Distribution in THAI HM-1 Test for Turbulence Model Evaluation in Large-Volume Species Transport Studies	Tushar A. Ghoradkar*, Rupak Kumar Raman, R. S. Rao, Utkarsh S. C., Sanjeev Gupta
6	12:15 – 12:27	F002	Effect of Tube Arrangements on Pressure Drop across Tube Bundles	Sam Solomon D P*, Krishnan A S* and Balamurali V

7	12:27 – 12:39	<b>F003</b>	Optimization of winglet designs for drag reduction	G Jagadesh, <b>Dandu Yashaswini Yadav*</b> , Mohammed Abdul Rahman and Yagya Dutta Dwivedi
8	12:39 – 12:51	<b>F004</b>	Development of a Governing Equation for Wells Turbines with Passive Flow Control Under Oscillating Flow	Krishnan K, Suganthan P, <b>Madurya Kalichamy*</b> , <b>Jaya Shree V</b> ,
9	12:51- 13:03	<b>F005</b>	Computational Fluid Dynamics Analysis of Turbulent Flows in Industrial Piping Systems	<b>Atharv Lohakare*</b> , Vikas Jadhav, Om Kale, Avinash Somarkar , Tushar Bagade
10	13:03- 13:15	<b>F008</b>	Numerical Investigation of Turbulent Flow Transition in the Presence of Radiating Fluid	<b>Shashikant Cholake*</b> , Sangamesh Godi, Rahul Yadav

### **Chandrashekhar hall**

#### **M2 (Interdisciplinary)**

Heat and fluid flow in advanced manufacturing techniques, Relevant topics

**Session Chairs - Dr Surej Rajan C, AJCET**

**Prof. P Bangarubabu, NITW**

<b>Sl No.</b>	<b>Time</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Authors (* - presenting author)</b>
1	11:15 – 11:27	<b>M202</b>	Thermal Stress Dynamics during a Pulse Laser Joining of Dissimilar Materials: Steel and Brass.	<b>Asish Tripathy*</b> , Himadri Chattopadhyay, Nilkanta Barman
2	11:27 – 11:39	<b>M203</b>	Environmental Policies for air quality regulation and assessing regional air pollution trends: A case study of Central India region.	<b>Sakshi Sarathe*</b> , Prashant Baredar, Gaurav Dwivedi
3	11:39 – 11:51	<b>M511</b>	Mechanical stress and Analysis in Rotor of Interior Permanent Magnet Synchronous Motor.	<b>Ramesh Kumar*</b> , Poonam Kumari, Ratheesh P, Atul Thakur, Akhilendra Singh, Ashwani Assam,
4	11:51 – 12:03	<b>M512</b>	AI-Powered Predictive Maintenance for Energy-Intensive Manufacturing Sectors.	Shreeyash Mhatre, Abhishek Shinde,Atharv Lohakare , Avinash Somatkar , <b>Atharva Shinde*</b>
5	12:03 – 12:15	<b>M513</b>	Human - Machine Collaboration Frameworks for Next-Generation Smart Factories	<b>Vikas Jadhav*</b> , Avinash Somatkar, Om Kale, Atharva Shinde, Tushar Bagade
6	12:15 – 12:27	<b>M516</b>	Design of multi-cellular wing structure for weight reduction.	<b>Arugula Sai Krishna Goud*</b> , mustafa raza aarif khan, neha kengerla, yagya dutta dwivedi
7	12:27 – 12:39	<b>M518</b>	Post-Harvest Drying Technologies in Transition: Benchmarking Efficiency, Cost-Effectiveness and Usability.	<b>Rukaiya Beevi M*</b> , Brathikan VM and Krisnan K
8	12:39 – 12:51	<b>M520</b>	Design and Fabrication of an Energy-Efficient Ultrasonic Radar Prototype for Missile Defense Simulation.	<b>Pooja Kharade*</b> , <b>Sarthak Salunke*</b> , <b>Shreyash Raut*</b> , <b>Rutuja Mule*</b> , Dinesh Kumar Bajaj.

**Session 4 – Time - 14:30 – 16:00 (Seminar Hall Complex)**

**Bose hall**

**T7 (Thermal Sciences)**

**Thermal Management of EV components**

**Session Chairs - Dr. K.N.V. Adinarayana, AERB**

**Prof. P. V. Suresh, NITW**

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:30-14:42	<b>T116</b>	Numerical Investigations on Immersion Cooling Strategies for Battery Thermal Management	<b>Matte Rashmi Matte*</b> , Chinige Sampath Kumar
2	14:42-14:54	<b>T119</b>	Self-Tuned Oscillating Flow Control for Real-Time Thermal Management in Electric Vehicle Batteries	<b>Nandini Chitteti*</b> , <b>K. Neha*</b> , Yagya Dutta Dwivedi
3	14:54-15:06	<b>T120</b>	Next-Generation Thermal Management Strategies for High-Power Lithium-Ion Battery Systems- A Review	Mohsin IAR Sheikh, Sumantu S Salokhe, <b>Samrudh R Nayak*</b> , Disha S Shendure, Rugved K Gurav, Rohan U Patil
4	15:06-15:18	<b>T121</b>	A Numerical Analysis Of Liquid-Based Battery Thermal Management System For Electric Vehicles With Wavy Fin Designs Of Micro Channel Cold Plate	<b>Pranushaa Aruri *</b> , Karthik Balasubramanian and Vishal Warule
5	15:18-15:30	<b>T122</b>	Numerical investigation of heat transfer in a LiFePO4 Battery cooling system using novel hybrid nanofluids	<b>Ranjeet D Ghavate*</b> , K.V. Sharma, T V V L N Rao
6	15:30-15:42	<b>T123</b>	Influence of Electrolyte Thickness and Material Selection on Thermo-Mechanical Stress in All-Solid-State Batteries	<b>Javid Mulani*</b> , Ravi Kumar Peetala
7	15:42-15:54	<b>T513</b>	Analytical and Numerical Evaluation of Heat Sink Designs for Enhanced Thermal Management in Electronics	<b>Gudepu Sridevi*</b> , Farooq Shaik

**Homi Bhaba hall**

**T8 (Thermal Sciences)**

**IC engines**

**Session Chairs - Dr. Arumuga Perumal D, NIT Karnataka**

**Prof. G. Amba Prasad Rao, NITW**

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:30-14:42	<b>T710</b>	Parametric study of hydrogen-diesel dual-fuel engine: The synergistic effects of hydrogen injection duration and pilot diesel injection timing	<b>Anabayan Krishnamoorthy*</b> , Nataraj Ganesan
2	14:42-14:54	<b>T711</b>	Combustion, Performance, and Emissions Analysis in an Enriched CNG Diesel Dual-Fuel Engine Operating Under Different Injection Pressures	<b>Sai Leela Vanapalli *</b> , Ravi Kumar Puli
3	14:54-15:06	<b>T712</b>	Experimental Investigation of Performance, Emissions, and Combustion Attributes of a Hydrogen-Enriched Ternary-Fuelled Diesel Engine at Variable Injection Pressures	<b>Sai Leela Vanapalli*</b> , Ravi Kumar Puli
4	15:06-15:18	<b>T713</b>	Influence of Injection Strategy on Dual-Fuel Diesel Engine Performance with Hydrogen and CNG under Varying Load Conditions	<b>Balaji chouhan*</b> , Ravi kumar Puli
5	15:18-15:30	<b>T717</b>	Transient analysis of engine cooling system	<b>Subhadip Roy*</b> , N Ganesh
6	15:30-15:42	<b>T908</b>	Computational Fluid Dynamics Study of Airflow, Heat Transfer, and CO <sub>2</sub> Buildup in Refrigerated Containers for Vaccine Logistics	<b>Nenavath Sunkesh Naik*</b> , Dr. Kiran Kumar.Kupireddi

**Ramanujan hall**

**T9 (Thermal Sciences)**

**Relevant Topics**

**Session Chairs – Dr. S. Ramanathan, Kumaraguru College of Tech. Prof. G. Naga Srinivasulu, NITW**

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
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1	14:30-14:42	<b>T001</b>	Performance, Lubrication and Wear Mechanism in Reciprocating Air Compressor.	<b>Syed Azmaan Ali Madni*</b> , P B Nagaraj, Lokesha K, <b>Prajwal K H*</b> , Rohit Kumar*
2	14:42-14:54	<b>T003</b>	CFD Analysis of Air Intake Distortion in Jet Engines.	<b>Shaik Samrin*</b> , Shaik Shoaib Akther, Amgoth Jyosthna, P. TEjesh, Yagya Dutta Dwivedi
3	14:54-15:06	<b>T004</b>	Thermal Analysis of Disc Brake Rotors Using Heat Pipe Cooling and Profile Enhancement Techniques.	<b>Md Salahuddin*</b> , Ravi Kumar Puli, Balaji Chouhan
4	15:06-15:18	<b>T005</b>	Computational analysis of heat transfer mitigation of a hypersonic ballistic vehicle by forward-facing cavity cylindrical and parabolic geometries.	<b>Jahnavi J*</b> , Sudarshan B
5	15:18-15:30	<b>T006</b>	Soft Computing-Assisted Validation of Coaxial Thermal Probe for Heat Flux Detection.	<b>Manoja Kumar Mishra*</b> , Biranchi Narayana Das, Santosh Kumar Hotta and Anil Kumar Rout
6	15:30-15:42	<b>T007</b>	Waste Heat Recovery Using Novel 3D Lattice Structure.	<b>Ashok Kumar*</b> , N. Gnanasekaran
7	15:42-15:54	<b>T008</b>	Analysis of Activation Energy for Thermal Degradation of Various Plastic Wastes Using Thermogravimetric Techniques.	<b>K.P.A. Fahmi*</b> , A. Shaija, and N. Baranwal
8	15:54-16:06	<b>T012</b>	Rotating Magnetoconvection of Inclined Planar Layer: Linear Stability Analysis	<b>Anjali S. Chauhan*</b> , Krishnendu Nayak, Hari Ponnamma Rani
9	16:06-16:18	<b>T013</b>	Linear Stability Analysis of Horizontally Rotating Magnetoconvection	<b>Anjali Hulamani*</b> , Krishnendu Nayak, Hari Ponnamma Rani

### Raman hall

#### Online 1

Relevant Topics

Session Chairs - Dr Kuruva Krishna Murthy, VNRVJIET

Prof. Prasanth Anand KL, NITW

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:30-14:42	<b>E005</b>	Environmental Sustainability in MSMEs: A Review of Green Manufacturing Techniques in western India	<b>Amisha Harish Malviya*</b> , Minhaj Ahemad Rehman
2	14:42-14:54	<b>E011</b>	Green Synthesis And Characterization Of Zinc Oxide Nanoparticles Using Neem Leaf Extract	<b>Rajeswari Velaga*</b> , Basanth kumar palai, Chiranjeeva Rao Seela
3	14:54-15:06	<b>E212</b>	A Comprehensive Review of Cooling Systems for Lithium-Ion Batteries in Electric Vehicles	<b>Kundlik B. Kshirsagar*</b> , R.K. Kavade, Dilip S. Choudhari
4	15:06-15:18	<b>E214</b>	Performance Of Solar Dehydration System With Novel Heat Retention Element	<b>Arunkumar P M*</b> ,Balaji N, Sarvayeswaran L, Shree Ram G S
5	15:18-15:30	<b>E301</b>	Advancements and Challenges in Hydrogen Fuel Cell Production Technologies: A review	<b>Sahadev Jadhav*</b> , Sagar B. Manedesmukh, Aditi A. Patil, Sonali S. Basu
6	15:30-15:42	<b>E302</b>	Optimization of Ascorbic Acid Concentration in Direct Liquid Fuel Cells for Enhanced Electrochemical Performance	<b>Ashish P. Umarkar*</b> , Rajkumar Chadge, Jayant Giri, Naveen Shriwastava

### Khurana hall

#### Online 2

Relevant Topics

Session Chairs - Dr Sam Solomon, Coimbatore Institute of Technology

Prof. Ravi Kumar Peetala, NITW

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:30-14:42	<b>T503</b>	Convective Heat Transfer of Pure and Doped ZnO Nanofluids in a Heat Exchangers and Tribological Applications-A Review	<b>T. Siva Krishna*</b> , L.S.V Prasad, K. P. V. Krishna Varma
2	14:42-14:54	<b>T521</b>	Transient Heat Transfer Analysis of Conductive – Convective – Radiative Fins Attached to $\beta$ – Type Stirling Engine	<b>Ishita Rai*</b> , Rajeev Kumar

3	14:54-15:06	<b>T014</b>	Refinery Thermic Fluid Heat Transfers Fluids Oil contamination failure and its mitigation.	<b>Kaushik Sengupta*</b> Dilip Kr Singh, Sudhanshu Singh, Arpan Kr Mondal, and Sneha Singh
4	15:06-15:18	<b>T802</b>	Numerical Investigation of Aspect Ratio Effects on the Thermo-Hydraulic Performance of Solid–Porous Compound Wavy Microchannel Heat Sinks	<b>Ajoy Kumar Nandy*</b> , Sanjay Kumar Gupta, Karthik Balasubramanian
5	15:18-15:30	<b>E701</b>	Development of a Dual-Axis Solar Tracking System Integrated with Maximum Power Point Tracking Charge Controller	<b>Debashree Debadatta Behera*</b> , Ramesh Chandra Mohanty, Shiv Sankar Das, Bijaya Bijeta Nayak, Dillip Kumar Mohanta
6	15:30-15:42	<b>E905</b>	Smart Wind Turbine with IoT-Based Yaw Control and Real-Time Speed Monitoring	<b>Chiranjeeva Rao Seela*</b> , Bade Venkata Suresh and T. S. Kishore

### Chandrashekhar hall

#### Online 3

#### Relevant Topics

**Session Chairs - Prof. R Raghavendra, NITW**

**Prof. Tamarai Selvan, NITW**

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:30-14:42	<b>F122</b>	Parametric Analysis Of NACA 6412 Airfoil Using Machine Learning	<b>B. Venkata Sai Raghu Vamsi*</b> , T. Narasimha Suri, Malladi R. Ch. Sastry
2	14:42-14:54	<b>F502</b>	Investigation of acid corrosion in a tri-sector RAPH using computational fluid dynamics	<b>Manas Ranjan Padhi*</b> , Prakash Ghose, Amar Kumar Das, Taraprasad Mohapatra
3	14:54-15:06	<b>M104</b>	Analysis of Sloshing in Rectangular Tank using Machine Learning Algorithms	<b>Jacob Varghese Karingottu*</b> , Premchand V P
4	15:06-15:18	<b>M105</b>	Artificial Intelligence for Space Autonomy: Opportunities and Challenges in Future Missions	<b>Sai Prashant Bhosale*</b> , Sanjivani Sunil Sawant, Siddharth Pandi, Dinesh Kumar Bajaj
5	15:18-15:30	<b>M204</b>	Application of N2 gas Foam Inerting for Hydrocarbon storage tank	<b>Dilip Kumar Singh*</b> , Anar Mehdiev, Kaushik Sengupta, Dr. Arpan Kr Mondal , Sudhanshu Singh
6	15:30-15:42	<b>M508</b>	Weight optimization of traditional Differential gearbox for EV use	<b>Digvijay Gabahne*</b> , Mohammad Saifullah Khan
7	15:42-15:54	<b>M107</b>	AI Enhanced Digital Twin for Real Time Diagnostics and Control of Li-ion and Redox Flow Battery Systems Unified Multi Physics Multi Domain Framework.	<b>S Hemavathi*</b>
8	15:54-16:06	<b>M205</b>	Controlled Revival and Diagnostic Requalification of Severely Imbalanced Lithium Iron Phosphate Battery Packs for Electric Vehicles.	<b>S Hemavathi*</b>
9	15:06-16:18	<b>T308</b>	Hybrid Immersion Cooling and AI Driven Thermal Energy Management for Li Ion Battery Packs in Renewable Storage	<b>S Hemavathi*</b>

**Valedictory Session 16:20 – 17:00**