

**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 ₂ O ₃ /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.

Homi Bhabha hall

T2 (Thermal Sciences)

Topics: **Refrigeration and Air conditioning**

Session Chairs – **Prof. V Vinayaka Ram, BITS Hyderabad Campus, Prof. K Kiran Kumar, NITW**

SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:00–14:12	T902	Numerical Investigation Of Green Filamentous Algae Natural Fiber As A Sustainable Insulating Material For Refrigerator Units	Muhammed Shahnad M* , Gijoy S, Anver Sadath A, Jijith P K
2	14:12–14:24	T907	Advanced Refrigeration Control and Optimization: AI and IoT- Based Smart Refrigeration Energy-Efficient Defrosting Strategies	Anand K, Swetha N* , Santhiya M
3	14:24–14:36	T909	Solar Powered Evaporative Air Cooler with Clay Pot-Based Cooling Medium	Gautham Narayan* , Gijoy S, Praveen A, Lasithan L.G
4	14:36–14:48	T912	Performance Modelling and Experimental Validation of a R134a based Ejector in Refrigeration System	Nyjal Benedict* , Anandakrishnan N, M Mohandas, M Srinivas
5	14:48–15:00	T913	Flow characteristics of Mixed Refrigerant in an Expansion Capillary Used in Joule Thomson Refrigerators	Rajeev Kumar Mandal* , G. Rajasekaran and S. S. Harish Kruthiventi
6	15:00–15:12	T914	Experimental Analysis of Vapour Compression Refrigeration System Using Bi2O3 Nano Lubricant	V.Dhana Raju * , A.Aruna Kumari, K.Appa Rao, M.B.S.Sreekara Reddy, K.Sai Babu

Ramanujan hall

E1 (Energy and Sustainability)

Topics: **Solar Energy Equipment and Processes**

Session Chairs - **Dr. Ravi Kumar, NIT Patna**

Prof. V P Chandramohan, NITW

SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:00–14:12	E702	CFD and 4E comparison of Air and Spray Cooling of Photovoltaic Panels using Eulerian-Lagrangian two-phase approach	Sushmitha Mohan* , Kottayat Nidhul
2	14:12–14:24	E703	Statistical Analysis of CSP Plant Design for Water-Scarce Regions Using Taguchi S/N Method and ANOVA Approach	Mudar Youssef Taha1* , Ravi K. Peetala1
3	14:24–14:36	E705	Performance and Sustainability Metrics of Solar Drying Systems: A Case Study of Bitter Gourd with and Without Thermal Energy Storage.	Desai Sathya Narayana Rao* , V.P. Chandra Mohan
4	14:36–14:48	E706	Performance Comparison Between Pentagonal and Right-angle Triangle Ribbed Solar Air Collectors by Varying Both Rib Pitch and Height	Shekher Sheelam* , V.P. Chandra Mohan
5	14:48–15:00	E730	A Comprehensive Review: Managing Waste Solar Panels for a Sustainable Future.	Shrutakirti A. Mahajan* , Hansa Jeswani

Raman Hall

E2 (Energy and Sustainability)

Topics: **Waste to energy**

Session Chairs - **Dr. R. Parameshwaran, BITS Hyderabad Campus**

Prof. G. Amba Prasad Rao, NITW

SI No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	14:00–14:12	E805	Performance Analysis Of TPMS-Enhanced Thermoelectric Generator For Waste Heat Recovery System	Roopan R* , Pranesh M, S Balamurugan
2	14:12–14:24	E806	LNG Cold Energy Recovery through ORC for Power Generation and Cold Storage Applications	Hemant Pratap Singh* , Nishant Modi, Satyanarayanan Seshadri
3	14:24–14:36	E809	Catalytic Valorization of Petroleum-Derived Oily Sludge using a Fixed Bed Pyrolyzer	Ajay Pawar* , Santanu De
4	14:36–14:48	E812	Performance Enhancement of Graphite Felt Anode by Coating Coconut Shell Biochar and Magnetite Nanoparticles in Microbial Fuel Cells	Shaista Shabbi* , Harshith Pisupati* , Rahul Yadav, Prashant S. Kulkarni

5	14:48–15:00	E814	Development and Characterization of Biodegradable Films from Talipot Palm Starch for Sustainable Packaging Applications	Kailas V* , 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	F201	Analysis of Magneto-Hemodynamic pulsatile blood flow through porous arteries with different stenosis geometry	Sarathkumar D* , R. Padma
2	14:12–14:24	F202	Numerical Analysis of MHD Nanofluid Blood flow through a Diseased Artery	Nathiya M* , R. Padma
3	14:24–14:36	F204	ADM-Based Analysis of MHD Jeffery-Hamel Blood Flow With DTM Comparison	N. Keerthana* , B. Dhanushri, R. Padma
4	14:36–14:48	F205	Design Optimization and Performance Evaluation of Centrifugal Left Ventricle Assisted Device for Physiological Blood Flow	Akil Namitha Perumal* , Micha Premkumar, Rohit Rupish Ramesh* , Seralathan Sivamani
5	14:48–15:00	F301	Investigation on Characteristics of Subsonic-Supersonic Shear Layers in a Co-flowing Rocket Nozzle	Abhilash Narayan, Akhil Sivadas* , 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	F702	Numerical Study of Turbulence influence along with particle shape and size distribution in Pelton injector	Rahul Vishwakarma, Chandra Shekhar Pant*
2	14:12–14:24	F901	Subcritical and Supercritical CO ₂ Phase Interfacial Instability Analysis.	Tabish Wahidi* , Sultan Alshehery and Shankar Kodate
3	14:24–14:36	F902	A Novel Approach for Modelling Gas-solid Fluidization in a Fluidized Bed Gasifier.	Shahul V Hameed* , Sumer B Dirbude
4	14:36–14:48	F906	Numerical Analysis of Bubble Dynamics in Ship Wake Signatures	Ashwin V Suresh* , Rishikesh S A* , Ashish Alex Sam
5	14:48–15:00	F909	Machine learning-based optimization of agricultural spray dynamics: minimizing drift and enhancing deposition.	Abhijith Krishnan, Arun B Prasad, Jeevan Jacob Alex, Sooraj Subash, Aravind Raju* , Akash K A and Manish M
6	14:00–14:12	F801	Design and Development of a Low-cost Portable Contact Angle Measurement Device.	Ranjith S Kumar, Robin David, Athul B* , Nidhin Lal M, Kannan A, Abey Joseph*

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 H₂ 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, Atharv 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 Bhabha 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 ₂ enrichment on CH ₄ swirl flames: Flow-field, flame structure and NO _x 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, Harish J H* , Rathish saravanan
5	16:48-17:00	T703	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, Karthikeyan S*
6	17:00-17:12	T704	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, Dharanitharan M*
7	17:12-17:24	T706	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, Maahesh M*
8	17:24-17:36	T708	Advances in Diesel Engine Optimization Using Biodiesel Blends: Performance, Emission Control, and AI/ML Driven Approach: A Review	Ramavath Suman* , A. Aruna Kumari
9	17:36-17:48	T709	Investigating emission characteristics and combustion performance of a CRDI engine utilizing novel biodiesel derived from Animal tallow and butanol blends	Ajmeera Naresh* , Ravi Kumar Puli
10	17:48-18:00	T716	Evaluation of Biodiesel from Rubber Seed Oil and Performance Test	Vetrivel Kumar Kandasamy, S Joseph Dominic Vijayakumar, Tamil Selvan M, Mohammed Jaffar Hussian J*

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	E709	4E Assessment of a Solar Still with Inbuilt Condenser and Ultrasonic Fogger for Enhanced Potable Water Production.	Nagendra prasad Pandey* , Ravindra Gupta and Yogesh Sahu
2	16:12–16:24	E710	Performance Assessment, Exergy Evaluation, and Sustainability Analysis of a Triple-Slope Solar Still Operating Under the Subtropical Climate of Prayagraj.	Rahul Patel* , Rahul Dev, Ajaya Bharti
3	16:24–16:36	E711	Investigation on water depth in phase change material and pulsating heat pipe-based hybrid solar still productivity enhancement.	Jay R. Patel, Parth Gaud* , Y. Naresh
4	16:36–16:48	E714	Numerical Investigation of Rim Angle Influence on Optical Performance of Parabolic Dish Concentrators.	Muhammed Musthafa Chonari* , Sendhil Kumar Natarajan
5	16:48–17:00	E715	Influence of Vapor Pressure on the Performance of Double Slope Solar Still.	N.Srinivasa Rajneesh* , Dr.S.Nawazish Mehdi, Dr.B.Hadya
6	17:00–17:12	E716	A Study of Solar Chimney for Underpass Tunnel.	Rahul Dev* , Madhu Sudan, Suraj Gupta, Riya Garg, Yashav Bharti, and Sumit Kumar
7	17:12–17:24	E717	Performance Enhancement of Solar Desalination Using Multistage Air Gap Photothermal Membrane Desalination.	Pavan Kumar Shakya* , Jishnu Bhattacharya
8	17:24–17:36	E718	Receiver Size Optimization in Central Receiver Tower using Particle Swarm Optimization.	Manish Raj* , 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	E304	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	E601	Experimental Evaluation of Passive Containment Cooling Concept Towards Nuclear Safety	K N V Adinarayana* , Seik Mansoor Ali
3	16:24-16:36	E901	Effect of Solidity on performance characteristics and wake structure of Helical Vertical Axis Wind Turbine	D Unnikrishnan* , Ratna K Velamati, Rakul A Ravi, K Srirangan, Akram Mohammad, Tharun Suresh, Sai Karthik J
4	16:36-16:48	E902	Digital Manufacturing through Dynamic Simulation for Sustainable Upgradation of Wind Turbine Blade Manufacturing Facilities	Malladi Krishna Prasad* , Gamini Suresh, V Vasu
5	16:48-17:00	E906	CFD-Based Investigations of Airfoil Aerodynamics for Offshore Wind Turbine Applications	Renju Raj* , Beena Mary John
6	17:00-17:12	E815	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, Praveen Kumar Srivastava*
7	17:12-17:24	E213	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	F101	Design and Aerodynamic Characterization of a Camber Based Aerofoil for Race Car Rear Wings Using Thin Aerofoil Theory and CFD Techniques	Sharath Ramesh* , P B Nagaraj, Gururaj Lalgi
2	16:12 – 16:24	F102	Comparative CFD Analysis of Aerodynamic Parameters for Reentry Capsules Across the Full Spectrum of Flight Regimes	Anay Deshpande* , Atharv Jadhav* , Hemangi Kulkarni* , Manasi Shete
3	16:24 – 16:36	F103	Design and Implementation of an Altitude-Based Parachute Recovery System for Drones	Hisham Mohammed Asim Khan* , Abdul Samee, Chebrolu Preethi, Yagya Dutta Dwivedi
4	16:36 – 16:48	F104	Investigation Of Boundary Layer Control At Low Reynolds Number Using Passive Devices	N Sri Tejaswini* , Syeda Fatima Ziaularifeen, Harsh Tiwari, Yagya Dutta Dwivedi
5	16:48 – 17:00	F105	Aerodynamic Analysis on Different Delta Wing Configurations	Desaboina Archana, Phanindra Pathuri* , Anirudh S, Y.D. Dwivedi
6	17:00 – 17:12	F108	Design and Analysis of Blended Wing Body	Sai Abhimanyu Yenamandra* , Aushetti Manas, Sri Priaanka Yeddanapudi* , Yagya Dutta Dwivedi

7	17:12 – 17:24	F114	Numerical Comparative Study of Flow over a Cylinder with Splitter Plates using CFD	Bhimu Daddimani, Arumuga Perumal D* , Somashekara Rao Todeti
8	17:24- 17:36	F404	Heatline visualization and stationary bifurcation analysis of mixed convection in a rectangular enclosure with anti-parallel motion of walls	Mrittika Das* , 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	M101	A machine learning based analysis of latent heat storage systems using air as heat transfer fluid and paraffin as phase change material.	Lanka Sandeep Raj* , Sane Sreenivasulu, Bandaru Durga Prasad
2	16:12- 16:24	M102	Stability aware AI model for predicting thermal properties of nanofluids	R Rakesh Pillai, Faheem Muhammad* , JS Sreelekshmi, Hanna Mariyam Harise, E K Suhaib*
3	16:24- 16:36	M301	Computational Analysis of Thrust Characteristics and Longevity in Micro Scale Hybrid Electric Thrusters.	Vadlamani Ananth Vamsi* , Panchireddi Tejash Krishna* , P.P.S Keerthi
4	16:36- 16:48	M501	Mechanical, Morphological, Thermal, Kinetic and Flammability studies of compatibilized micro/nano filled ternary PP/PS/HDPE polymer blends.	C Surej Rajan* , Lity Alen Varghese, Shiny Joseph, Soney C George
5	16:48- 17:00	M510	Analytical solutions for functionally graded nanobeams.	Gajula Supriya* , Umesh Basappa
6	17:00- 17:12	M517	Barriers, Opportunities, and Technological Trends in Metal Additive Manufacturing: Insights from the Vidarbha Region of India	Surendrakumar S. Nagpure* , Minhaj Ahemad Rehman

Keynote Sessions 3 (Seminar Hall Complex - Boss Hall)

Keynote 5: 9:30 – 10:10

Speaker: Prof. Tanmay Basak, IIT Madras

Title: Finite Element Implementation on Invisible Energy Flow: Heat functions and Boundary Conditions

Keynote 4: 10:10 – 10:50

Speaker: Prof. P. Sankar Ganesh, BITS Pilani Hyderabad

Title: Deciphering the Trade-Off between Thermal Regimes and Biogas Productivity under High Organic-Loaded Anaerobic Digester

Session 3 – Time - 11:15 – 13:00 (Seminar Hall Complex)

Bose hall

T5 (Thermal Sciences)

Thermal Management of EV components

Session Chairs - Shri. Tumu Sai Teja, SDSC SHAR, ISRO Prof. S Srinivasa Rao, NITW

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

Homi Bhabha hall

T6 (Thermal Sciences)

Electronics and electrical equipment Cooling, Micro and nanoscale heat transfer

Session Chairs - Dr. Syed M Hussaini, NSAKCET, Hyderabad Dr. Shaikh S M K, HTIT, Sambhajinagar

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	T306	Fin design and airflow confinement effects on automotive LED headlamp cooling	Brajesh Nagar, Aditya Gaur, Mohit Singhal and Satyanarayan Patel*
6	12:15–12:27	T801	Pulse-Electrodeposited Ni–CNT Hybrid Coatings on Copper for Stable, High-Flux Pool Boiling Enhancement	M. Selvamuthukumar* , Sanjay Kumar Gupta, Ajoy Kumar Nandy, Karthik Blasubramanian
7	12:27–12:39	T803	Enhancement of Heat Transfer in Microchannel Heat Exchanger with Micro Chambers using Multi Wall Carbon Nanotube Nanofluids	Kuruva Krishna Murthy* , Dangeti Sarath Chandra*, P. Aparna3
8	12:39–12:51	T804	Numerical Study of Heat Transfer in Micro Fin: A Case Study for Constant Perimeter, Area, and Size using Finite Element Method	R.Yuvraj* , D.Senthilkumar
9	12:51–13:03	T602	Investigation of capillary-fed boiling with aqueous solutions of surfactant and alcohols	Rabindra Baitha, Md. Qaisar Raza* , 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	E719	PCM-Assisted Air-Gap Photothermal Membrane Desalination for Enhanced Distillate Flux.	Deepti Sachan* , Pavan Kumar Shakya, Jishnu Bhattacharya
2	11:27–11:39	E724	Design and Development of Active Green House Solar Dryer For Potential Food Products	Vasud M. Vaghani, Jeet K. Patel, Vikram P. Rathod* , Vimal K. Patel
3	11:39–11:51	E726	Effect of Metal Foam and Nanofluid Integration on Thermal Performance of a Solar Flat Plate Collector: A Numerical Study.	Syed Mustafkhadri* , Banjara Kotresha, Kishan Naik and Kishorkumar
4	11:51–12:03	E727	Numerical Study of Local Heat Transfer in a Solar Air Heater with Staggered Rectangular Fin-Integrated in Rectangular Duct	Guguloth Harish* , Satyanand Abraham
5	12:03–12:15	E728	Indoor experimental performance assessment of a monocrystalline PV panel under controlled solar irradiance and tilt angle	Sourabh Jain, Aneesh A.M.*
6	12:15–12:27	E731	Energy Performance Characterization and RSM-Driven Optimization of a Direct Expansion Solar-Assisted Heat Pump with a Novel Hybrid Collector-Evaporator.	Rahul Ashok Patil* , Vaibhav Deshmukh
7	12:27–12:39	E804	Techno-Economic Design Optimization and Environmental Analysis of Hybrid Renewable Energy Systems-A case study of NIT Patna Health Centre	Ravi Kumar* , Md. Qaisar Raza
8	12:39–12:51	E810	Evaluation of Influencing Variables of Industry 4.0 Driven Green Manufacturing Practices: A Comprehensive Review in the Vidarbha Region.	Aditya Khandare* Minhaj Ahemad A. Rehman
9	12:51–13:03	E818	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, Umang Kumar Prasad* , 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	F003	Optimization of winglet designs for drag reduction	G Jagadesh, Dandu Yashaswini Yadav* , Mohammed Abdul Rahman and Yagya Dutta Dwivedi
8	12:39 – 12:51	F004	Development of a Governing Equation for Wells Turbines with Passive Flow Control Under Oscillating Flow	Krishnan K, Suganthan P, Madurya Kalichamy* , Jaya Shree V ,
9	12:51- 13:03	F005	Computational Fluid Dynamics Analysis of Turbulent Flows in Industrial Piping Systems	Atharv Lohakare* , Vikas Jadhav, Om Kale, Avinash Somarkar, Tushar Bagade
10	13:03- 13:15	F008	Numerical Investigation of Turbulent Flow Transition in the Presence of Radiating Fluid	Shashikant Cholake* , 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

Sl No.	Time	Paper ID	Paper Title	Authors (* - presenting author)
1	11:15 – 11:27	M202	Thermal Stress Dynamics during a Pulse Laser Joining of Dissimilar Materials: Steel and Brass.	Asish Tripathy* , Himadri Chattopadhyay, Nilkanta Barman
2	11:27 – 11:39	M203	Environmental Policies for air quality regulation and assessing regional air pollution trends: A case study of Central India region.	Sakshi Sarathe* , Prashant Baredar, Gaurav Dwivedi
3	11:39 – 11:51	M511	Mechanical stress and Analysis in Rotor of Interior Permanent Magnet Synchronous Motor.	Ramesh Kumar* , Poonam Kumari, Ratheesh P, Atul Thakur, Akhilendra Singh, Ashwani Assam,
4	11:51 – 12:03	M512	AI-Powered Predictive Maintenance for Energy-Intensive Manufacturing Sectors.	Shreeyash Mhatre, Abhishek Shinde, Atharv Lohakare, Avinash Somatkar, Atharva Shinde*
5	12:03 – 12:15	M513	Human - Machine Collaboration Frameworks for Next-Generation Smart Factories	Vikas Jadhav* , Avinash Somatkar, Om Kale, Atharva Shinde, Tushar Bagade
6	12:15 – 12:27	M516	Design of multi-cellular wing structure for weight reduction.	Arugula Sai Krishna Goud* , mustafa raza aarif khan, neha kengerla, yagya dutta dwivedi
7	12:27 – 12:39	M518	Post-Harvest Drying Technologies in Transition: Benchmarking Efficiency, Cost-Effectiveness and Usability.	Rukaiya Beevi M* , Brathikan VM and Krisnan K
8	12:39 – 12:51	M520	Design and Fabrication of an Energy-Efficient Ultrasonic Radar Prototype for Missile Defense Simulation.	Pooja Kharade* , Sarthak Salunke* , Shreyash Raut* , Rutuja Mule* , 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	T116	Numerical Investigations on Immersion Cooling Strategies for Battery Thermal Management	Matte Rashmi Matte* , Chinige Sampath Kumar
2	14:42-14:54	T119	Self-Tuned Oscillating Flow Control for Real-Time Thermal Management in Electric Vehicle Batteries	Nandini Chitteti* , K. Neha* , Yagya Dutta Dwivedi
3	14:54-15:06	T120	Next-Generation Thermal Management Strategies for High-Power Lithium-Ion Battery Systems- A Review	Mohsin IAR Sheikh, Sumantu S Salokhe, Samrudh R Nayak* , Disha S Shendure, Rugved K Gurav, Rohan U Patil
4	15:06-15:18	T121	A Numerical Analysis Of Liquid-Based Battery Thermal Management System For Electric Vehicles With Wavy Fin Designs Of Micro Channel Cold Plate	Pranushaa Aruri * , Karthik Balasubramanian and Vishal Warule
5	15:18-15:30	T122	Numerical investigation of heat transfer in a LiFePO4 Battery cooling system using novel hybrid nanofluids	Ranjeet D Ghavate* , K.V. Sharma, T V V L N Rao
6	15:30-15:42	T123	Influence of Electrolyte Thickness and Material Selection on Thermo-Mechanical Stress in All-Solid-State Batteries	Javid Mulani* , Ravi Kumar Peetala
7	15:42-15:54	T513	Analytical and Numerical Evaluation of Heat Sink Designs for Enhanced Thermal Management in Electronics	Gudepu Sridevi* , Farooq Shaik

Homi Bhabha 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	T710	Parametric study of hydrogen-diesel dual-fuel engine: The synergistic effects of hydrogen injection duration and pilot diesel injection timing	Anabayan Krishnamoorthy* , Nataraj Ganesan
2	14:42-14:54	T711	Combustion, Performance, and Emissions Analysis in an Enriched CNG Diesel Dual-Fuel Engine Operating Under Different Injection Pressures	Sai Leela Vanapalli * , Ravi Kumar Puli
3	14:54-15:06	T712	Experimental Investigation of Performance, Emissions, and Combustion Attributes of a Hydrogen-Enriched Ternary-Fuelled Diesel Engine at Variable Injection Pressures	Sai Leela Vanapalli* , Ravi Kumar Puli
4	15:06-15:18	T713	Influence of Injection Strategy on Dual-Fuel Diesel Engine Performance with Hydrogen and CNG under Varying Load Conditions	Balaji chouhan* , Ravi kumar Puli
5	15:18-15:30	T717	Transient analysis of engine cooling system	Subhadip Roy* , N Ganesh
6	15:30-15:42	T908	Computational Fluid Dynamics Study of Airflow, Heat Transfer, and CO ₂ Buildup in Refrigerated Containers for Vaccine Logistics	Nenavath Sunkesh Naik* , 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	T001	Performance, Lubrication and Wear Mechanism in Reciprocating Air Compressor.	Syed Azmaan Ali Madni* , P B Nagaraj, Lokesha K, Prajwal K H* , Rohit Kumar*
2	14:42-14:54	T003	CFD Analysis of Air Intake Distortion in Jet Engines.	Shaik Samrin* , Shaik Shoaib Akther, Amgoth Jyosthna, P. TEjesh, Yagya Dutta Dwivedi
3	14:54-15:06	T004	Thermal Analysis of Disc Brake Rotors Using Heat Pipe Cooling and Profile Enhancement Techniques.	Md Salahuddin* , Ravi Kumar Puli, Balaji Chouhan
4	15:06-15:18	T005	Computational analysis of heat transfer mitigation of a hypersonic ballistic vehicle by forward-facing cavity cylindrical and parabolic geometries.	Jahnavi J* , Sudarshan B
5	15:18-15:30	T006	Soft Computing-Assisted Validation of Coaxial Thermal Probe for Heat Flux Detection.	Manoja Kumar Mishra* , Biranchi Narayana Das, Santosh Kumar Hotta and Anil Kumar Rout
6	15:30-15:42	T007	Waste Heat Recovery Using Novel 3D Lattice Structure.	Ashok Kumar* , N. Gnanasekaran
7	15:42-15:54	T008	Analysis of Activation Energy for Thermal Degradation of Various Plastic Wastes Using Thermogravimetric Techniques.	K.P.A. Fahmi* , A. Shaija, and N. Baranwal
8	15:54-16:06	T012	Rotating Magnetoconvection of Inclined Planar Layer: Linear Stability Analysis	Anjali S. Chauhan* , Krishnendu Nayak, Hari Ponnamma Rani
9	16:06-16:18	T013	Linear Stability Analysis of Horizontally Rotating Magnetoconvection	Anjali Hulamani* , 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	E005	Environmental Sustainability in MSMEs: A Review of Green Manufacturing Techniques in western India	Amisha Harish Malviya* , Minhaj Ahemad Rehman
2	14:42-14:54	E011	Green Synthesis And Characterization Of Zinc Oxide Nanoparticles Using Neem Leaf Extract	Rajeswari Velaga* , Basanth kumar palai, Chiranjeeva Rao Seela
3	14:54-15:06	E212	A Comprehensive Review of Cooling Systems for Lithium-Ion Batteries in Electric Vehicles	Kundlik B. Kshirsagar* , R.K. Kavade, Dilip S. Choudhari
4	15:06-15:18	E214	Performance Of Solar Dehydration System With Novel Heat Retention Element	Arunkumar P M* , Balaji N, Sarvayeswaran L, Shree Ram G S
5	15:18-15:30	E301	Advancements and Challenges in Hydrogen Fuel Cell Production Technologies: A review	Sahadev Jadhav* , Sagar B. Manedeshmukh, Aditi A. Patil, Sonali S. Basu
6	15:30-15:42	E302	Optimization of Ascorbic Acid Concentration in Direct Liquid Fuel Cells for Enhanced Electrochemical Performance	Ashish P. Umarkar* , 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	T503	Convective Heat Transfer of Pure and Doped ZnO Nanofluids in a Heat Exchangers and Tribological Applications-A Review	T. Siva Krishna* , L.S.V Prasad, K. P. V. Krishna Varma
2	14:42-14:54	T521	Transient Heat Transfer Analysis of Conductive – Convective – Radiative Fins Attached to β – Type Stirling Engine	Ishita Rai* , Rajeev Kumar

3	14:54-15:06	T014	Refinery Thermic Fluid Heat Transfers Fluids Oil contamination failure and its mitigation.	Kaushik Sengupta* Dilip Kr Singh, Sudhanshu Singh, Arpan Kr Mondal, and Sneha Singh
4	15:06-15:18	T802	Numerical Investigation of Aspect Ratio Effects on the Thermo-Hydraulic Performance of Solid–Porous Compound Wavy Microchannel Heat Sinks	Ajoy Kumar Nandy* , Sanjay Kumar Gupta, Karthik Balasubramanian
5	15:18-15:30	E701	Development of a Dual-Axis Solar Tracking System Integrated with Maximum Power Point Tracking Charge Controller	Debashree Debadatta Behera* , Ramesh Chandra Mohanty, Shiv Sankar Das, Bijaya Bijeta Nayak, Dillip Kumar Mohanta
6	15:30-15:42	E905	Smart Wind Turbine with IoT-Based Yaw Control and Real-Time Speed Monitoring	Chiranjeeva Rao Seela* , 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	F122	Parametric Analysis Of NACA 6412 Airfoil Using Machine Learning	B. Venkata Sai Raghu Vamsi* , T. Narasimha Suri, Malladi R. Ch. Sastry
2	14:42-14:54	F502	Investigation of acid corrosion in a tri-sector RAPH using computational fluid dynamics	Manas Ranjan Padhi* , Prakash Ghose, Amar Kumar Das, Taraprasad Mohapatra
3	14:54-15:06	M104	Analysis of Sloshing in Rectangular Tank using Machine Learning Algorithms	Jacob Varghese Karingottu* , Premchand V P
4	15:06-15:18	M105	Artificial Intelligence for Space Autonomy: Opportunities and Challenges in Future Missions	Sai Prashant Bhosale* , Sanjivani Sunil Sawant, Siddharth Pandi, Dinesh Kumar Bajaj
5	15:18-15:30	M204	Application of N2 gas Foam Inerting for Hydrocarbon storage tank	Dilip Kumar Singh* , Anar Mehdiev, Kaushik Sengupta, Dr. Arpan Kr Mondal , Sudhanshu Singh
6	15:30-15:42	M508	Weight optimization of traditional Differential gearbox for EV use	Digvijay Gabahne* , Mohammad Saifullah Khan
7	15:42-15:54	M107	AI Enhanced Digital Twin for Real Time Diagnostics and Control of Li-ion and Redox Flow Battery Systems Unified Multi Physics Multi Domain Framework.	S Hemavathi*
8	15:54-16:06	M205	Controlled Revival and Diagnostic Requalification of Severely Imbalanced Lithium Iron Phosphate Battery Packs for Electric Vehicles.	S Hemavathi*
9	15:06-16:18	T308	Hybrid Immersion Cooling and AI Driven Thermal Energy Management for Li Ion Battery Packs in Renewable Storage	S Hemavathi*

Valedictory Session 16:20 – 17:00