

## **Programme Schedule**



**ICRAMERD-20**

### **International Conference on “Recent Advances in Mechanical Engineering Research and Development”**

**Organized by  
Department of Mechanical Engineering,  
Institute of Technical Education and Research  
Siksha ‘O’ Anusandhan (Deemed to be) University  
Bhubaneswar, Odisha-751030**

**24<sup>th</sup> to 25<sup>th</sup> July 2020**

**Conference website: [www.icramerd.soa.ac.in](http://www.icramerd.soa.ac.in)**

## ICRAMERD-2020 PROGRAMME SCHEDULE

Date	Time (IST) GMT + 5:30	Programme	
<b>Day 1, 24<sup>th</sup> July 2020, Friday</b>	10:00 AM	Inauguration <b>Link: <a href="https://meet.google.com/ijk-pyfy-qbo">meet.google.com/ijk-pyfy-qbo</a></b>	
	10:30-11:00AM	Speakers, affiliation, Title	Mr. Ashok Kumar Mishra AGM, NTPC, Delhi Title: Energy Transition-Looking Back to Future <b>Link: <a href="https://meet.google.com/ijk-pyfy-qbo">meet.google.com/ijk-pyfy-qbo</a></b>
	11:00-11:30AM		Professor P. Mahanta Director NIT, Arunachal Pradesh Title: Synergy of Conventional Energy with Renewables in Power Generation <b>Link: <a href="https://meet.google.com/ijk-pyfy-qbo">meet.google.com/ijk-pyfy-qbo</a></b>
	11:30-12:00 N		Mr. Amit Chand, Vice President Aditya Birla Group Title: Maintenance Management Post Covid <b>Link: <a href="https://meet.google.com/ijk-pyfy-qbo">meet.google.com/ijk-pyfy-qbo</a></b>
	12:00N-12:15PM	Tea Break	
	12:15-12:45PM	Speakers, affiliation, Title	Dr. Somnath Roy, Associate Professor IIT Kharagpur Title: Efficient mixing in turbulent stirred tanks- a CFD based approach <b>Link: <a href="https://meet.google.com/ijk-pyfy-qbo">meet.google.com/ijk-pyfy-qbo</a></b>
	12:45-1:15PM		Professor L. M. Das Ex-Professor, IIT Delhi Title: Potential of Hydrogen Fuel for Sustainable Transport <b>Link: <a href="https://meet.google.com/ijk-pyfy-qbo">meet.google.com/ijk-pyfy-qbo</a></b>
	1:15-2:30PM	Lunch Break	
	2:30-4:30 PM	Technical Session (TS)	
	4:30-5:00PM	Tea Break	
	5:00-6:00PM	Speakers, affiliation, Title	Professor S. A. Sherif, Academic Head, Florida University, USA Title: Latest Trends in Energy Research and the Drive to Net-Zero Energy <b>Link: <a href="https://meet.google.com/jqr-jprc-bsy">meet.google.com/jqr-jprc-bsy</a></b>

Date	Time (IST) GMT + 5:30	Programme	
<b>Day 2, 25<sup>th</sup> July 2020, Saturday</b>	10:00-10:30AM	Speakers, affiliation, Title	<p style="text-align: center;">Dr. S.S Thipse Dy. Director, ARAI, Pune Title: Hybrid Vehicle <b>Link: <a href="https://meet.google.com/djr-pvdm-oby">meet.google.com/djr-pvdm-oby</a></b></p>
	10:30-11:00AM		<p style="text-align: center;">Professor A.K.Nath IIT Kharagpur Title: Looking into Laser Material Processing and Additive Manufacturing through Online Monitoring of Thermal History <b>Link: <a href="https://meet.google.com/djr-pvdm-oby">meet.google.com/djr-pvdm-oby</a></b></p>
	11:00-11:30AM		<p style="text-align: center;">Dr. Amiya Pattnaik CM(TQ) and TO to D(P), NALCO Title: Supply Chain Management <b>Link: <a href="https://meet.google.com/djr-pvdm-oby">meet.google.com/djr-pvdm-oby</a></b></p>
	11:30-12:00N	Tea Break	
	12:00N-12:30PM	Speakers, affiliation, Title	<p style="text-align: center;">Professor S. L. Soni Director, NIT, Uttarakhand Title: Alternate Fuels <b>Link: <a href="https://meet.google.com/djr-pvdm-oby">meet.google.com/djr-pvdm-oby</a></b></p>
	12:30-1:00PM		<p style="text-align: center;">Dr. B. Mishra Consultant Title: Renewable Materials for Future Graphene <b>Link: <a href="https://meet.google.com/djr-pvdm-oby">meet.google.com/djr-pvdm-oby</a></b></p>
	1:00-2:30PM	Lunch Break	
	2:30-4:30 PM	Technical Session (TS)	
	4:30-5:00 PM	Tea Break	
	5.00PM-6:00 PM	Speakers, affiliation Title	<p style="text-align: center;">Dr. Enzo Galloni, Associate Professor University of De Casino, Italy Title: Organic Rankine cycle for waste heat recovery in a light duty vehicle <b>Link: <a href="https://meet.google.com/imp-iiyw-usj">meet.google.com/imp-iiyw-usj</a></b></p>
6:00-6:30PM	Valedictory Function		

**Technical Session (TS)****Day 1, 24<sup>th</sup> July 2020, Friday**

<b>TS-1</b>			
<b>Session Chair</b>	<b>Dr. Trinath Biswal</b>		
<b>Session Coordinator</b>	<b>Dr. Prasanta Kumar Sahoo</b>		
<b>Link</b>	<a href="https://meet.google.com/vvo-kedk-znv">https://meet.google.com/vvo-kedk-znv</a>		
<b>Time (IST) GMT + 5:30</b>	<b>Manuscript ID</b>	<b>Authors Name</b>	<b>Paper Title</b>
2:30 to 2:40 PM	MS-003	J Paridaa, S C Mishra, A Behera and S Sahoo	Corrosion Behavior of Plasma Processed LM6 Alloy
2:40 to 2:50 PM	MS-004	Basanta K. Panigrahi, Debashis Sitikantha, A. Bhuyan, HS Panda, Kalyani Mohanta	Dielectric and Ferroelectric properties of PVDF thin film for biomechanical energy harvesting
2:50 to 3:00 PM	MS-005	Ankur Soam, Rabisankar Dash and Prasanta Kumar Sahoo	Preparation of ZnO Layer for Solar Cell Application
3:00 to 3:10 PM	MS-006	Soumya Saswati Sarangi	Study of Young's Modulus of Metal Nanowires using Classical Molecular Dynamics Simulations
3:10 to 3:20 PM	MS-008	Ipsita Jena Sasmita Kar	A Study on Moisture Absorption Test of Alkali Treated Green Fibers
3:20 to 3:30 PM	MS-009	Soumya Sundar Parui, Naveen Kumar, Priyanshu Tiwari, Nidhi Tiwari, and Ram Narayan Chauhan	Zinc Oxide and Cupric Oxide Based Thin Films for Solar Cell Applications
3:30 to 3:40 PM	MS-010	Jyotirmoy Nandy, Seshadev Sahoo, Hrushikesh Sarangi	Study on shape dependency of Al-alloy nanoparticles during coalescence in direct metal laser sintering: A molecular dynamics approach
3:40 to 3:50 PM	MS-011	Naveen Kumar, Soumya Sundar Parui, Priyanshu Tiwari, Nidhi Tiwari, Dev Kumar mahato and Ram Narayan Chauhan	Structural and Optical Properties of Sol Gel Derived CuO and Cu <sub>2</sub> O Nanoparticles
3:50 to 4:00 PM	MS-012	S. Behera, R. Behura, P. Mohanty, Bigyan R. Jali	Acoustical Studies of Rilpivirine Drug in Dimethyl sulfoxide
4:00 to 4:10 PM	MS-013	S. K. Pradhan, S. N. Das and S. Bhuyan	Structural, Morphological and Capacitive Features of [(Pb <sub>0.5</sub> Bi <sub>0.25</sub> Y <sub>0.25</sub> )(Fe <sub>0.5</sub> Ti <sub>0.5</sub> )O <sub>3</sub> ] Solid State System

<b>TS-2</b>			
<b>Session Chair</b>	<b>Dr. S. K. Kamila</b>		
<b>Session Coordinator</b>	<b>Dr. Ankur Soam</b>		
<b>Link</b>	<a href="https://meet.google.com/whc-umup-epr">meet.google.com/whc-umup-epr</a>		
2:30 to 2:40 PM	MS-015	Tanaya Nayak, Bisawranjan Swain, Durga Prasanna Kar, Praveen Priyaranjan Nayak, Satyanarayan Bhuyan	Performance Evaluation of Material Dependency on Non-Contact Simulation of Piezo-Actuators
2:40 to 2:50 PM	MS-016	Trinath Biswal	Biopolymers for tissue engineering applications

2:50 to 3:00 PM	MS-018	A. Tripathy, S. N. Das, S. Bhuyan, R. N. P. Choudhary	Capacitive behavior of Lead free BiNdMnNiO <sub>6</sub> Double Perovskite Electronic Material
3:00 to 3:10 PM	MS-019	Satish K Samal, Sarbasri Halder, R. N. P Choudhary, Manas Kumar Mallick and Satyanarayan Bhuyan	Electrical Properties of (Pb <sub>0.6</sub> Gd <sub>0.2</sub> Bi <sub>0.2</sub> )(Fe <sub>0.4</sub> Ti <sub>0.6</sub> )O <sub>3</sub> Material
3:10 to 3:20 PM	MS-020	Tanaswini Patra, Jagannath Panda, Prachi Palai, Tapas Ranjan Sahoo	Synthesis of Mn <sub>3</sub> O <sub>4</sub> nanoparticles via microwave combustion route for electrochemical energy storage application
3:20 to 3:30 PM	MS-022	Viresh Kumar, Bibhuti Bhusan Sahoo, Himanshu Sekhar Panda and Prasanta Kumar Sahoo	Enhancement of Electrochemical properties of Carbon Solution Doped Bismuth Ferrite for Supercapacitor Application
3:30 to 3:40 PM	MS-024	Munmun Priyadarsini, Trinath Biswal	Bioremediation of plastic material by using Nanotechnology
3:40 to 3:50 PM	MS-025	Munmun Priyadarsini, Trinath Biswal	Recent progress in polymer Nano composite for the treatment of water and waste water
3:50 to 4:00 PM	MS-027	Nanda Kumar Hota, Bibhu Prasad Sahoo	Single-walled Carbon Nanotube Filled Thermoplastic Polyurethane Nanocomposites: Influence of Ionic Liquid on Dielectric Properties
4:00 to 4:10 PM	MS-037	Bibhuti Bhusan Sahoo, Kiranmayee Biswal, Archana Jena, Brundabana Naik, Nimai C. Nayak, Barada P. Dash, Bhabani Sankar Mahanto, Ankur Soam, Prasanta Kumar Sahoo	Pd supported on 3D graphene aerogel as potential electrocatalyst for alkaline direct methanol fuel cells

### TS-3

<b>Session Chair</b>		<b>Dr. Ranjan Swain</b>	
<b>Session Coordinator</b>		<b>Dr. Shakti Prakash Jena</b>	
<b>Link</b>		<a href="https://meet.google.com/mcf-evif-wxg">meet.google.com/mcf-evif-wxg</a>	
2:30 to 2:40 PM	ME-003	Debasis Dey, Dibyansu Sekhar Sahu	Experimental study in a natural convection cavity using nanofluids
2:40 to 2:50 PM	ME-005	Pradeepa Kumar Mohanty and Ritesh Kumar Patel	Free vibration analysis of laminated composite tapered beam
2:50 to 3:00 PM	ME-006	Bhabani Shankar Mahanto, Subikasha Swain	A Brief and Comparative Investigation for Stress and Strain in the Flex Gear of a Harmonic Drive using FEM
3:00 to 3:10 PM	ME-007	Sweta Rani Biswal, Tapasmini Sahoo, Seshadev Sahoo	Prediction of grain boundary of a composite microstructure using digital image processing: A comparative study
3:10 to 3:20 PM	ME-008	Lalatendu Pattanayak, Biranchi Narayana Padhi	LNG cold energy utilization in a proposed method for performance enhancement of gas/steam turbine CCPP
3:20 to 3:30 PM	ME-009	Chinmay Deheri, Ambica Prasad Mohanty, Saroj Kumar Acharya	Effect of the inoculum ratio to produce methane during the anaerobic digestion of food wastes.
3:30 to 3:40 PM	ME-010	Chinmay Deheri, Ambica Prasad Mohanty, Saroj Kumar Acharya	An experimental approach to produce hydrogen from food waste, cow dung, and sludge solution
3:40 to 3:50 PM	ME-011	Amaresh Mohapatra, Abinash Sahoo, Premananda Pradhan	Biogas Production from Arrowroot leaves through Anaerobic Digestion

3:50 to 4:00 PM	ME-013	D. K. Nayak, P.K. Jena, M. Pradhan, P.R. Dash	Theoretical analysis of free Vibration of a Sandwich beam on Pasternak foundation with Temperature gradient
4:00 to 4:10 PM	ME-014	Subash Misra, Raj Vardhan Patel, Anil Kumar Virendra Patel, Anshul Yadav	An Experimental Investigation and Performance Analysis of Single Slope Solar Still
4:10 to 4:20 PM	ME-017	Shashendra kumar Sahoo, L.N.Panda, H. C. Das	Dynamic instability of cantilever pipe conveying fluid

<b>TS-4</b>			
<b>Session Chair</b>	<b>Dr. M.K. Mohanty</b>		
<b>Session Coordinator</b>	<b>Dr. Binayak Pattanayak</b>		
<b>Link</b>	<a href="https://meet.google.com/fvf-wpnq-nkb">meet.google.com/fvf-wpnq-nkb</a>		
2:30 to 2:40 PM	ME-019	Ambica Prasad Mohanty, Chinmay Deheri, Saroj Kumar Acharya	Production of hydrogen from food waste: A review
2:40 to 2:50 PM	ME-020	Rishikesh Sharma, S. Ganguly, D.P. Mishra, Praveen Mishra, A.N.S.S. Swain	Analysis of thermo-fluidic and phase change behaviour of liquid steel in a continuous billet caster mould: Effect of casting speed
2:50 to 3:00 PM	ME-021	Shailesh Kumar Sarangi, Dipti Prasad Mishra	Effect of Tube Shape on Thermo-fluid Performance of a Winglet Supported Fin-and-tube heat Exchanger Having Staggered Tubes
3:00 to 3:10 PM	ME-022	Abhishek Behera, Chandan kumar Sethi, Pragyan P.Patnaik, Saroj Kumar Acharya	Performance analysis of flat plate solar air collector with baffles
3:10 to 3:20 PM	ME-023	Ramesh Chandra Nayak, Manmatha K. Roul, Saroj Kumar Sarangi, Abinash Sahoo	Enhancement of Natural Convection Inside Vertical Tubes using Internal obstacles as Rings with Different Arrangments
3:20 to 3:30 PM	ME-025	Manish Kumar, Praveen Mishra, Apurba Kumar Roy	Experimental Optimization of Submerged Entry Nozzle Submergence Depth to Reduce Meniscus Fluctuations: A Water Model Study
3:30 to 3:40 PM	ME-026	Malwika Choudhary, Dhaneshwar Mahto	Study of Solar Operated Thermoelectric Portable Refrigerator for Medical Purpose: An Experimental Approach
3:40 to 3:50 PM	ME-027	Abhishek Behera, Pragyan P.Patnaik, Chandan kumar Sethy, Saroj Kumar Acharya	Performance analysis of V-grooved solar air collector
3:50 to 4:00 PM	ME-028	Vivek Kumar, Sweety Dutta, Prasad Kopparthi, Praveen Mishra	Modelling of Column Flootation Using CFD
4:00 to 4:10 PM	ME-029	Mallapi Debashree Gayatri Reddy, Ruby Mishra, Suman Dey	Finite element analysis of a single coil straight distal tip microcatheter
4:10 to 4:20 PM	ME-030	Amaresh Mohapatra, Harsh Pandey, Amit Kumar Prusty, Jajneswar Nanda, Sankar Narayan Das	Potential refrigerants and their effect on the environment – A review

<b>TS-5</b>			
<b>Session Chair</b>	<b>Dr. Sudhansu Sahoo</b>		
<b>Session Coordinator</b>	<b>Dr. Sikata Samantaray</b>		
<b>Link</b>	<a href="https://meet.google.com/icn-eroj-bbm">meet.google.com/icn-eroj-bbm</a>		
2:30 to 2:40 PM	ME-031	Sanjaya Kumar Mishra, Premananda Pradhan, Shakti Prakash Jena	Factors Affecting Co-gasification of CS and MSW in An Updraft Gasifier
2:40 to 2:50 PM	ME-032	Kishan Dash, Sikata Samantaray, Dharendra Nath Thatoi	Experimental studies on preventing cavitation in a Centrifugal Pump Acting as Turbine for Micro Hydropower
2:50 to 3:00 PM	ME-033	Chandan Kumar Sethi, Saroj Kumar Acharya	A Review on Solar Drying of Marine Applications
3:00 to 3:10 PM	ME-034	Adarsh Dash, Ashok Kumar Sahoo, Anshul Yadav, Virendra Patel	Computational modelling of the freezing of water droplet impacting on an ice surface
3:10 to 3:20 PM	ME-035	Shakti Prakash Jena, Sankalp Mahapatra, Saroj Kumar Acharya	Optimization of Performance and Emission Characteristics of a diesel engine fueled with Karanja biodiesel using Taguchi method
3:20 to 3:30 PM	ME-037	Shubhamshree Avishek, Sikata Samantaray	Sensitivity Analysis of Critical Parameters Affecting the Efficacy of Microwave Thermal Ablation on Lungs
3:30 to 3:40 PM	ME-038	Ramakanta Behera, Trinath Biswal, R B Panda	Recent Progress in Explosives: A brief Review
3:40 to 3:50 PM	ME-039	Trinath Biswal	Hazards of Microplastic in oceanic environment; An assessment
3:50 to 4:00 PM	ME-040	Manish Kumar, Saugata Mandal, Rajan Lakra, Mrigank Sahai, P.C Joshi	Optimization of Regression Rate of Solid Fuel Grain in Hybrid Rocket Motor Physical Method
4:00 to 4:10 PM	ME-056	Saswat Kumar Bhuyan, Debajit Mohapatra	An Investigation on Surface Ceramic Coating of Compression Ignition Engine Piston Using Finite Element Analysis
4:10 to 4:20 PM	ME-042	Elavarasan E, Yogesh Kumar, Mouresh R, Sendhil Kumar Natrajan	Study of drying kinetics of Tomato in a solar dryer

<b>TS-6</b>			
<b>Session Chair</b>	<b>Dr. B. N. Padhi</b>		
<b>Session Coordinator</b>	<b>Dr. Premananda Pradhan</b>		
<b>Link</b>	<a href="https://meet.google.com/pcj-tdwn-hfw">meet.google.com/pcj-tdwn-hfw</a>		
2:30 to 2:40 PM	ME-043	Rounak Mahakul, Dharendra Nath Thatoi, Sasanka Choudhury, Pragyan Patnaik	Design and numerical analysis of spur gear using SolidWorks simulation technique
2:40 to 2:50 PM	ME-044	Rabiranjana Prusty, Trinath Biswal	Prospectives of phytoremediation for removal of heavy metals from water and soil: a brife review
2:50 to 3:00 PM	ME-045	Pratap Kumar Swain, Trinath Biswal, R B Panda	Role of Microalgae as Biofertilizer for sustainable environment
3:00 to 3:10 PM	ME-050	Dharendra Nath Thatoi, Diptark Chowdhury, Abinash Mahapatro, Sasanka Choudhury	Geometrical performance evaluation of a laboratory-scale heat exchanger
3:10 to 3:20 PM	ME-051	N. Pradhan, S. K. Sarangi, B. Basa	Nonlinear Behavior of Smart Functionally Graded Beam using Active Fiber Composite Under Thermal Environment
3:20 to 3:30 PM	ME-053	Anupama Routray, M.K.Padhy, D. Das	Additives the panacea of coal water slurry

3:30 to 3:40 PM	ME-054	D Panda, J K Mohanty, S S Das, P. Sarkar, P K Pradhan	Detection of Inadequate Lubrication in ID Fan of a Super Thermal Power Plant Using Vibration Analysis
3:40 to 3:50 PM	ME-059	S. Beura, R. Ray, U.K. Mohanty, D.N. Thatoi	Heat Transfer in the Annular Region of a Double Tube Heat Exchanger with Continues Longitudinal Rectangular Fins under Turbulent Flow Condition
3:50 to 4:00 PM	ME-060	Mohit Kumar Saini, Ashok Kumar Bagha, Sanjay Kumar, Shashi Bahl	Predicting the Modal-Model of Natural Fibers by using Finite Element Analysis
4:00 to 4:10 PM	ME-061	P.P. Patnaik, C. Deheri S.K. Acharya, D.N.Thatoi	An experimental investigation on emission parameters of CI Engine Using additives
4:10 to 4:20 PM	ME-063	Priyadarshi Das , Chakurkar Vedant D and Shishir Kr. Sahu	Finite Element Modeling of Composite Beam with Transverse Cracks under Free Vibration with Experimental Validation

<b>TS-7</b>			
<b>Session Chair</b>	<b>Dr. Niranjana Nayak</b>		
<b>Session Coordinator</b>	<b>Dr. Anupama Routray</b>		
<b>Link</b>	<a href="https://meet.google.com/izv-xwqh-gbr">meet.google.com/izv-xwqh-gbr</a>		
2:30 to 2:40 PM	MS-014	Durga P Kar, S. N. Das, Praveen P. Nayak, Satyanarayan Bhuyan	Copper Conducting Surface: A Zero Impedance Surface
2:40 to 2:50 PM	MS-026	Biswaranjan Swain, Jayshree Halder, N. Swain, D. Patnaik, P. P. Nayak, S. Bhuyan	Performance Evaluation of Optimized Piezoelectric Material Smart Structure for Active Vibration Control
2:50 to 3:00 PM	ME-001	Niranjana Nayak, Snigdha Sucharita Swain, Sagarika Mohanty	Self-Tuned PI Controller To Damp Out The Electro Mechanical Oscillation for Multi Machine VSC-HVDC Transmission Link
3:00 to 3:10 PM	ME-036	Durga P Kar, S. K. Pradhan, Satyanarayan Bhuyan	Analysis of Electromagnetic Waves in Non-Zero Conducting Mediums
3:10 to 3:20 PM	ME-041	Dipti Patnaik, Biswaranjan Swain, Praveen Priyaranjan Nayak, Satyanarayan Bhuyan	Medium Dependency of Acoustic Energy Transfer System
3:20 to 3:30 PM	ME-047	Akshaya Kumar Patra, Bidyadhar Rout, Ramachandra Agrawal, Dillip Kumar Subudh	Control of Vehicle Suspension System based on Genetic Algorithm PID Controller (GA-PIDC)
3:30 to 3:40 PM	ME-048	Niranjana Nayak, Ansuman Satpathy, Soumya Ranjan Sahoo, Surya Kanta Swain	Power Quality Improvement in Hybrid Micro Grid with Optimized Shunt Active Power Filter
3:40 to 3:50 PM	ME-055	L.M.Satpathy,A. K. Mishra , A. K. Patra, A. Gantayet	Performance analysis of various DC-DC converters in PV based micro grid environment
3:50 to 4:00 PM	ME-080	Satyajit Pasayat , Pravati Nayak, Srinivash Dash and Ranjan Kumar Mallick	Islanding Detection of microgrid using extreme learning machine
4:00 to 4:10 PM	ME-083	Biswaranjan Swain, Jayshree Halder, S. Sahany, P. P. Nayak, S. Bhuyan	Artificial Intelligence Based Human Assisted Multipurpose Robot



<b>TS-8</b>			
<b>Session Chair</b>	<b>Dr. Bamadev Sahoo</b>		
<b>Session Coordinator</b>	<b>Dr. Bhabani Shankar Mohanto</b>		
<b>Link</b>	<a href="https://meet.google.com/xcw-aaoo-rjt">meet.google.com/xcw-aaoo-rjt</a>		
2:30 to 2:40 PM	ME-064	Mr. Swapnil Bhurat, Dr. Shyam Pandey, Dr. Venkateshwarlu Chintala, Mr. Sachin Sharma	Influence of compression ratio and exhaust gas recirculation on light duty diesel engine
2:40 to 2:50 PM	ME-065	Bhabani Shankar Kamilla and Dharendra Nath Thatoi	A Study on Steadiness of Parametric Vibration with Internal Resonance of a kinematic beam
2:50 to 3:00 PM	ME-066	Nitin Gupta, Ashok Kumar Bagha, Shashi Bahl	Application of state space method to predict the modal-model of a five degree of freedom spring mass vibratory system
3:00 to 3:10 PM	ME-068	Sachin Sharma, Randip Kumar Das, Kishor Kulkarni	Performance evaluation of solar air heater using sine wave shape obstacle
3:10 to 3:20 PM	ME-069	AlokKumar, Abinash Mahapatro, Pinakeswar Mahanta	Hydrodynamic Behavior of Sawdust in a Pressurized Fluidized Bed
3:20 to 3:30 PM	ME-070	Sajid Mohammad Chhipa, Pramod Kumar, Ashok Kumar Bagha, Shashi Bahl	Removing uncertainty in the boundary condition of five degree of freedom spring mass vibratory system using direct updating method
3:30 to 3:40 PM	ME-071	Hirakh Jyoti Das, Abinash Mahapatro, Pinakeswar Mahanta, Rituraj Saikia	Comparison of Hydrodynamic Behaviour of Conical Fluidized Bed Risers with a Columnar Fluidized Bed Riser
3:40 to 3:50 PM	ME-072	Manoj Kumar Muni, Dayal R. Parhi, Priyadarshi Biplab Kumar, Prasant Ranjan Dhal, Saroj Kumar, Chinmaya Sahu, Abhishek Kumar Kashyap, Debajit Mohapatra	Probability Plot Result Comparison with Recurrent Neural Network Approach for Path Navigation of a Humanoid in Complex Terrain
3:50 to 4:00 PM	ME-074	Bidyadhar Basa, Saroj Kumar Sarangi, Nibedita Pradhan	Transient Response of Sandwich Shells with Opening in a Shear damping mode using AFC
4:00 to 4:10 PM	ME-078	Rajaram Mohanty, Shantanu Kumar Mishra, Suryaranjan Samantaray, Sibashankar Mohapatra, Binayak Pattanayak	Extraction of Sio <sub>2</sub> from Alumina extracted coal fly ash
4:10 to 4:20 PM	ME-081	Anagh S Bhanu, Elavarasan E, Sendhil Kumar Natarajan, Anandu A, Senin H M	Experimental Investigation of Drying Kinetics of Poovan Banana under Forced Convection Solar Drying

### Technical Session (TS)

**Day 2, 25<sup>th</sup> July 2020, Saturday**

<b>TS-9</b>			
<b>Session Chair</b>	<b>Dr. R. N. Mahapatra</b>		
<b>Session Coordinator</b>	<b>Dr. Prasanta Kumar Sahoo</b>		
<b>Link</b>	<a href="https://meet.google.com/fsk-pfyr-px">https://meet.google.com/fsk-pfyr-px</a>		
<b>Time (IST) GMT + 5:30</b>	<b>Manuscript ID</b>	<b>Authors Name</b>	<b>Paper Title</b>
2:30 to 2:40 PM	MS-028	Bibhu Prasad Sahoo	Fabrication of Electron Beam Crosslinked and Multiwalled Carbon Nanotube Reinforced Ethylene Acrylic Elastomer Nanocomposites: Evaluation of Mechanical, Dynamic Mechanical, Thermal and Dielectric Properties

2:40 to 2:50 PM	MS-029	Rajan Lakra, Rahul Kumar, Dhirendranath Thatoi and Ankur Soam	Synthesis and Characterization of Cobalt Oxide Nanoparticles
2:50 to 3:00 PM	MS-030	Tapas Dakhinaray, Barada P. Dash, Prasanta Kumar Sahoo, Naresh K. Sahoo, Nimai C. Nayak, Himanshu Mohapatra, Jyotirmayee Nanda and Brundabana Naik	Role of Graphene nanocomposite photocatalysts in Photo-reduction of Cr (VI) for wastewater treatment
3:00 to 3:10 PM	MS-031	Kalyani Dash, Bibhu Prasad Sahoo	Dielectric Relaxation Phenomena of TiO <sub>2</sub> filled Polyurethane and Polyaniline Blend Nanocomposites
3:10 to 3:20 PM	MS-032	Jhilirani Nayak, Dilip Kumar Mishra, Priyabrata Pattanaik	Numerical modelling and Simulation of a 1-DSilicon Solar cell
3:20 to 3:30 PM	MS-033	Suwendu Padhi, Suryakanta parida, Prasant K.Sahoo, Brundabana Naik, Nimai C. Nayak	Dielectric behaviour of EVA /EPDM/HNT ternary nanocomposites
3:30 to 3:40 PM	MS-034	Deeptimayee Khatua, and R. N. P.Choudhary, P.GangaRajuAchary	Styrene butadiene rubber and Barium hexaferrite Based Flexible Elastomer – Inorganic Dielectric Systems
3:40 to 3:50 PM	MS-038	Suryakanta Parida, R.K.Parida, Nimai C. Nayak	Dielectric properties of xGnP filled EVA / EOC blends: Effects of blend ratio
3:50 to 4:00 PM	MS-039	Chandan Singh, Krishna Chaitanya Katakam, Ganesh Katakareddi, and Natraj Yedla	Creep behavior of polycrystalline Al (metal)-Cu <sub>50</sub> Zr <sub>50</sub> (metallic glass) cold welds

<b>TS-10</b>			
Session Chair	Dr. Praveen Mishra		
Session Coordinator	Dr. Binayak Pattanayak		
Link	<a href="https://meet.google.com/vxe-vbuw-ecm">meet.google.com/vxe-vbuw-ecm</a>		
2:30 to 2:40 PM	ME-076	Shashendrakumar Sahoo, LoknathPanda, Harish Chandra Das	Dynamic analysis of axially accelerating string
2:40 to 2:50 PM	ME-082	S.N.Sahoo	Micropolar Fluid over a Stretching Sheet with Newtonian Heating in presence of Heat Source
2:50 to 3:00 PM	ME-086	Abinash Mahapatro, Binayak Pattanayak, Dhirendra Nath Thatoi	Effect of specularly co-efficient on bed hydrodynamics and heat transfer characteristics of a PCFB riser
3:00 to 3:10 PM	ME-087	Ankit Singh, Ruby Mishra, Abhishek Sarkar, Ashwani Kumar Singh, Dhawal Toppo, Aditya kumar	Design and Analysis of Agri-Rover for Farming
3:10 to 3:20 PM	ME-088	Agrawal K.K., Panda C. and Bhuyan M.K	Water quality evaluation of Daya River, Bhubaneswar (India) based on National Sanitation Foundation's water quality index
3:20 to 3:30 PM	ME-090	Subhabrata Mishra, Sikata Samantaray, Prabhas C. Beuria	Application of nanofluids in a ground source heat pump for space cooling; theoretical and numerical investigation for Indian climate
3:30 to 3:40 PM	ME-091	Sasmita Jena, Amiya Kumar Naik, Sanjeeb Kumar Kar	Deriving Significant Amount of Power from Conventional Solar PV System through Cogeneration with employment of Thermoelectric Concept

3:40 to 3:50 PM	ME-092	Khadersab Adamsab, Marwa Saif , Sultan Saif,Ishaq Khamis, Wafa Talib	Hybrid powered intelligent irrigation system using Oman Falaj and solar energy
3:50 to 4:00 PM	ME-093	Dr.Khadersab A	Numerical Investigation of Forcing function for Rotating Machinery Bearing Faults
4:00 to 4:10 PM	MANU-002	B. K. Barik, N. Sahu, A. Ekka, P. Ekka, S. Padhan, G. Behera, R. Chabra, L. Swain	Concept of Smart Manufacturing
4:10 to 4:20 PM	MANU-004	B. K. Barik, N. Sahu, A. Ekka, P. Ekka, S. Padhan, G. Behera, R. Chabra , L. Swain	Manufacturing Paradigms and Evolution

<b>TS-11</b>			
<b>Session Chair</b>	<b>Dr. Manas Das</b>		
<b>Session Coordinator</b>	<b>Dr. Hrushikesh Sarangi</b>		
<b>Link</b>	<a href="https://meet.google.com/dpe-jbyr-smi">meet.google.com/dpe-jbyr-smi</a>		
2:30 to 2:40 PM	MANU-005	Kuldeep A Mahajan, Raju Pawade, R. Balasubramaniam	Experimental investigation of influence of machining parameters on profile error in diamond turning of PMMA
2:40 to 2:50 PM	MANU-006	Satyajeet Kumar, Anshul Yadav, Anil Kumar, Virendra Patel	Characterization of SiC particulate reinforced Cu alloy based MMC
2:50 to 3:00 PM	MANU-007	Tapaswinee Das, Jayanta Kumar Nath	Bending Response in Smart Functionally Graded Panels using a Zigzag Theory
3:00 to 3:10 PM	MANU-008	Soumya Ranjan Giri, Jayanta Kumar Nath, Tapaswinee Das	Design and Manufacturing of Completely Flexible Drilling Machine
3:10 to 3:20 PM	MANU-010	Ghulam Rasul Nazami, Seshadev Sahoo	Finite element simulation of residual stress in direct metal laser sintering of AlSi10Mg built part: Effect of laser spot overlapping
3:20 to 3:30 PM	MANU-011	Abhishek Anand, Ajay Kumar Behera and Sudhansu Ranjan Das	Analysis on tool vibration in hard turning of AISI D3 steel using new-generation SiAlON ceramic cutting inserts
3:30 to 3:40 PM	MANU-012	Naishadh P. Patel , Daulatkumar Sharma , Gautam H. Upadhyay	Effect of Activated Fluxes on Weld Penetration and Mechanism Responsible for Deeper Penetration of Stainless Steels – A review
3:40 to 3:50 PM	MANU-013	Sangita Sarangi, Ajit Kumar Mishra	Development of heat shield by coating Lanthanum Phosphate through Plasma deposition
3:50 to 4:00 PM	MANU-014	Anup Choudhury, Jajneswar Nanda, Sankar Narayan Das, Aman kumar Singh	Bio-Waste Reinforced an alternative way of increasing performance of Aluminum Metal Matrix Composites
4:00 to 4:10 PM	MANU-015	S. A. Ohid and J. K. Nath	Efficient shear deformation theory for composite shells
4:10 to 4:20 PM	MANU-016	Shubhashree Mohapatra , Hrushikesh Sarangi, U.K. Mohanty	Analysis of chip tool contact length for developed centrifugal cutting tool and conventional high speed cutting tool using predictive models

## TS-12

<b>Session Chair</b>	<b>Dr. Prases Mohanty</b>		
<b>Session Coordinator</b>	<b>Dr. Anupama Routray</b>		
<b>Link</b>	<a href="https://meet.google.com/bcf-ufxk-gri">meet.google.com/bcf-ufxk-gri</a>		
2:30 to 2:40 PM	MANU-019	Nagamani Bankupalli, Dr. D. Srinivasa Rao, T.S. Vamsi krishna	Effect of process parameter and butadiene content on friction and wear behaviour of abs components
2:40 to 2:50 PM	MANU-021	Tanmayee khuntia, Sandhyarani Biswas	The Effects of Diammonium Phosphate concentration on Mechanical Properties of Coir Reinforced Polymer Composites
2:50 to 3:00 PM	MANU-023	Badavath Mounika, Sandhyarani Biswas, Tanmayee Khuntia	A study on the effect of fiber orientation on the tensile strength of jute/banana epoxy composites
3:00 to 3:10 PM	MANU-024	Arkajyoti Jha, Amit Choudhary, Batta Renuka, Pawar Sagar Dadasaheb, Muvvala Gopinath	A study on the influence of cooling rate on evolution of microstructure in laser surface remelting of Inconel 718
3:10 to 3:20 PM	MANU-025	Akshay Gaur, Dungali Sreehari , Lalta Prasad	Experimental Investigations on Natural Fiber Composite with and without Chemical Treatment
3:20 to 3:30 PM	MANU-026	Angshuman Chattopadhyay, Sagar Sarkar, Ashish Kumar Nath	Effect of active flux MgF <sub>2</sub> on weld geometry and joint strength in LBW of titanium
3:30 to 3:40 PM	MANU-029	Biswajit Mohapatra, Sasmita Kar	A comparative study on Tensile Strength of Silk and Sisal Fibre by Regression Modelling
3:40 to 3:50 PM	MANU-030	Ashok Kumar Bagha, Shashi Bahl	Strain energy and finite element method to predict the mechanical properties of VGCF reinforced polypropylene nanocomposites
3:50 to 4:00 PM	MANU-031	Surjeet Singh, Shashi Bahl, Sandeep Trehan, Deepam Goyal, Ashok Kumar Bagha	Prediction of thermal aspects for brass material based natural convection heat transfer system by using adaptive neuro-fuzzy inference system
4:00 to 4:10 PM	MANU-032	Srinath Gudur, Vishwanath Nagallapati, Sagar Pawar, Gopinath Muvvala, Suryakumar Simhambhatla	A study on the effect of substrate heating and cooling on bead geometry in wire arc additive manufacturing and its correlation with cooling rate
4:10 to 4:20 PM	MANU-033	N. Pallavi Senapati, D. K. Panda, Rajat Kumar Bhoi	Prediction of Multiple Characteristics of Friction-Stir Welded Joints by Levenberg Marquardt algorithm based Artificial Neural Network

## TS-13

<b>Session Chair</b>	<b>Dr. S. K. Sarangi</b>		
<b>Session Coordinator</b>	<b>Dr. Ajay Behera</b>		
<b>Link</b>	<a href="https://meet.google.com/wcu-xhfb-rih">meet.google.com/wcu-xhfb-rih</a>		
2:30 to 2:40 PM	MANU-034	Harikrishnan Ramadas, Sagar Sarkar, Angshuman Chattopadhyay, Ashish Kumar Nath	Effect of morphology and particle size distribution on the reusability of 15-5 Precipitation Hardening Stainless Steel powder in Laser Powder Bed Fusion Process
2:40 to 2:50 PM	MANU-035	Suvam swayam Mohapatra and Seshadev Sahoo	Investigation of heat transfer and solidification during twin roll strip casting

2:50 to 3:00 PM	MANU-036	Ali Tarab Rizvia, Abid Haleema, Shashi Bahlb, Mohd Javaida	Artificial Intelligence (AI) and its applications in today's manufacturing in India: A Review
3:00 to 3:10 PM	MANU-037	Sai Swapnesh Mishra, Kalpanta Mahapatra, K.K. Mahapatra, D. N. Thatoi, S. Tripathy	Advancement in the EDM Process: A critical review
3:10 to 3:20 PM	MANU-038	S.K.Khuntia, B.B.Pani, S.Nayak, S.D.Mohanty, J.Mohapatra	Analysis of effect of processing factors on surface roughness and sintered density of Powder metallurgy composites
3:20 to 3:30 PM	MANU-039	Pragyan Senapati, Harekrushna Sutar, Manas Ranjan Pal	Slurry erosion behaviour of aisi 304 stainless steel under laboratory conditions
3:30 to 3:40 PM	MANU-040	Ashok Kumar Sahoo, Virendra Patel, Anshul Yadav	Augmenting Mechanical Properties of Friction Stir Welded AA1100 by reinforcing SiC/Al <sub>2</sub> O <sub>3</sub> particulates
3:40 to 3:50 PM	MANU-041	Nosheen Fatma, Abid Haleem, Shashi Bahl, Mohd Javaid	Prospects of innovative practices of jewellery designing and production with Additive Manufacturing
3:50 to 4:00 PM	MANU-043	Mohit Kumar Saini, Ashok Kumar Bagha, Sanjay Kumar, Shashi Bahl	Finite Element Analysis to Predict the Vibrational Characteristics of Natural Fiber Reinforced Epoxy Composites
4:00 to 4:10 PM	MANU-045	Debasmita Mishra, Laxminarayan Rout and Alok Satapathy	The effect of voids on physical and mechanical properties of hybrid polyester composites

### TS-14

<b>Session Chair</b>	<b>Dr. B. B. Choudhury</b>		
<b>Session Coordinator</b>	<b>Dr. Sasmeeta Tripathy</b>		
<b>Link</b>	<a href="https://meet.google.com/nke-vebi-apn">meet.google.com/nke-vebi-apn</a>		
2:30 to 2:40 PM	MANU-046	S. Beura, A. P. Chakraverty, D.N. Thatoi, U. K. Mohanty, M. Mohapatra	Failure Modes in GFRP Composites assessed With the aid of SEM Fractographs
2:40 to 2:50 PM	MANU-047	Bhabani Sankar Mahanto, Gaurav Pradhan	Bamboo fiber reinforced bio composites for industrial applications: A review
2:50 to 3:00 PM	MANU-048	A.Sahoo, S.Tripathy	Effect of process parameters on weld quality of Plasma arc welding: A review
3:00 to 3:10 PM	MANU-049	Abhin Tribikram Tripathy and Alok Kumar Samant	Failure Mode and Effect Analysis of Mechanical Hump
3:10 to 3:20 PM	MANU-050	Niyati Raut, Vivek Yakkundi, Akshay Vartak	A numerical technique to analyze the trend of temperature distribution in the Friction Stir Welding Process for Titanium Ti 6Al 4V
3:20 to 3:30 PM	MANU-051	Shubhashree Mohapatra, Hrushikesh Sarangi	Experimental investigation of tool probe shape and rotational speed on weld quality of friction stir welding of aluminium alloy
3:30 to 3:40 PM	MANU-052	Smrutiranjana Biswal, S.Tripathy	Effect of Process variables on Closed Die Hot Forging Process: A Review
3:40 to 3:50 PM	MANU-053	Manas Ranjan Das, Bahaa Eddin Ghrewati	Study on the mechanisms of manufacturing high damping seismic isolator - HDRB
3:50 to 4:00 PM	MANU-054	Rashmi Ray, Sankar Narayan Das, Asutosh Das, Priyadarshi Tapas Swain	Mechanical, Thermal, Moisture Absorption and Biodegradation Behaviour of Date Palm Reinforced PVA/ Starch Hybrid Composites
4:00 to 4:10 PM	MANU-055	K.K. Mahapatra, S. Tripathy, D. N. Thatoi	Multi-objective optimization of EDM process parameters during machining of AISI P-20 tool steel

## TS-15

Session Chair	Dr. Ruby Mishra		
Session Coordinator	Dr. Pragyana Senapati		
Link	<a href="https://meet.google.com/wyd-acqj-aaw">meet.google.com/wyd-acqj-aaw</a>		
2:30 to 2:40 PM	MANU-056	Pallavi Chaudhury, Dr. Sikata Samantaray	A Comparative study of different dielectric medium for sustainable EDM of Non-Conductive material by Electro-Thermal modelling
2:40 to 2:50 PM	MANU-057	Sonam M. Patel, Vandana J. Rao	Effect of Various Forms of Manganese and its Recovery in Pure Magnesium Metal
2:50 to 3:00 PM	MANU-058	S.D. Mohanty, S.S. Mahapatra, R.C. Mohanty, J. Mohapatra, S.K. Khuntia, S.Nayak	Innovative methods of edm electrode manufacturing: a review
3:00 to 3:10 PM	MANU-059	Bibhu Kalyan Panda, Sagar Sarkar , Ashish Kumar Nath	2D thermal model of laser cladding process of Inconel 718
3:10 to 3:20 PM	MANU-060	Dr.Khadarsab A, Ravikumar T R,Mohammed Afzal Nakhuda	Numerical Investigation of Rolling Element Bearings Faults based on Spectrogram
3:20 to 3:30 PM	INE-002	Sunay P. Pai, Rajesh S. Prabhu Gaonkar	Risk assessment using evidential reasoning in plithogenic environment
3:30 to 3:40 PM	INE-003	SSV Prasad Varupala, Gulivindala Anil Kumar, M V A Raju Bahubalendruni	An efficient Geometrical feasibility testing method for Exploded view Generation to perform Assembly Sequence Planning
3:40 to 3:50 PM	INE-004	Shankha Shubhra Goswami, Dhiren Kumar Behera	Implementation of COPRAS and ARAS MCDM Approach for the Proper Selection of Green Cutting Fluid
3:50 to 4:00 PM	INE-005	Saroj kumar, Dayal R Parhi, Abhishek K Kashyap, Manoj K muni, Prasant R Dhal, Debajit Mohapatra	Navigational Control and Path Optimization of Mobile Robot Using Updated Sine-Cosine Algorithm in Obscure Environment
4:00 to 4:10 PM	INE-006	Abhishek Kumar Kashyap, Dayal R. Parhi, Saroj Kumar, Anish Pandey, Manoj Kumar Muni, Prasanta Ranjan Dhal, and Debajit Mohapatra	Safe Navigation of Humanoid Robot in Cluttered Terrain using Ant lion optimizer tuned RA approach
4:10 to 4:20 PM	ME-067	Siraj Sayyed, Randip Kumar Das, Kishore Kulkarni	Experimental Evaluation of Physicochemical and Thermal Properties of Tetra Biodiesel-diesel blends of Jatropha, Karanja, Mahua, and Neem

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