



NITTE
EDUCATION TRUST

N.M.A.M. INSTITUTE OF TECHNOLOGY

(An Autonomous Institution affiliated to Visvesvaraya Technological University, Belagavi)

Nitte – 574 110, Karnataka, India



SME 2020
Nitte, Karnataka

In association with



INDIAN WELDING SOCIETY



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Nitte – 574 110, Karnataka, India

Invited speakers:



Prof. Prasad KDV Yarlagadda OAM

Professor in Smart Systems

Program Leader: Medical Devices

Centre for Biomedical Technologies

School of Mechanical, Medical and Process Engineering

Science and Engineering Faculty

Queensland University of Technology

2, George Street, Brisbane Qld 4001, Australia



Mr. V.V. Kamath

Managing Director

Fronius India Private Limited

Gat no- 312, Nanekarwadi Chakan, Taluka-

Khed

District – Pune 410501, India



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Prof. Chandra Sekher Yerramalli, PhD
Associate Professor
Aerospace Engineering Department
IIT Bombay, Powai, Mumbai 400076

Program Schedule of the conference:



Schedule for SME-2020 Multi-Conference

22nd & 23rd December 2020

Date	Time	Particulars	
Tuesday, 22/12/2020	8:30am – 9:15am	Online Spot Registration	
	9:15am– 10:45am	Inauguration + Keynote Address	Sambhram Auditorium
	10:45am –11:00am	Tea Break	
	11:00 am – 11.45am	Invited Talk by Prof. Prasad KDV Yarlagadda OAM Professor in Smart Systems, Project Director, QUT, Australia	Phalguni Seminar Hall
	11.45am-1:00pm	Session-I Paper Presentation-online (Phalguni Seminar Hall + Metrology Lab) (2 Parallel sessions) - 10 Papers (5 papers / session) Time for each paper (10 min Presentation +5 min discussion) = 15 Min/ paper.	
	01:00 pm– 02:00pm	Lunch Break	
	02:00pm -02:45pm	Guest lecture by Mr. V.V. Kamath Managing Director M/s.Fronius India Private Limited-.Pune	
	02:45pm-03:00pm	Tea Break	
	03:00 pm– 04:00pm	Session-II Paper Presentation (Phalguni Seminar Hall + Metrology Lab) (2 Parallel sessions) - 8 Papers (4 paper / session) Time for each paper (10 min Presentation +5 min discussion)= 15 Min/ paper	



Wednesday, 23/12/2020	9:30 am– 10:15am	Invited Talk by -Prof. Chandra Sekher Yerramalli, Aerospace Engg. Dept, IIT Bombay
	10:15am –11:15am	Session III : Paper Presentation 8 Papers (60 Min) (2 Parallel sessions) – 4 papers /session
	11:15am– 11:30am	Tea Break
	11:30 am– 1:00pm	Session IV : Paper Presentation 10 Papers (90 min) (2 Parallel sessions) – 5 papers/session
	01:00pm -02:00pm	Lunch Break
	02:00pm – 03:00pm	Session V: Paper Presentation – 12 Papers (60 Min) (3 Parallel sessions) - 4 Papers / session
	03:00pm – 03:15pm	Tea Break
	3:15-4:15	Session VI: Paper Presentation – 8 Papers (60 Min) (2 Parallel sessions) – 4 Papers / session



International Conference on “Smart and Sustainable Developments in Materials, Manufacturing and Energy” (SME 2020)

Date: Tuesday, 22nd Dec 2020	
Venue: Phalguni Seminar Hall (SH216)	
Invited Talk I	
Time: 11:15 AM – 12 :00 PM	
Topic name: "Smart and sustainable developments in materials and manufacturing with a focus to COVID-19"	Prof. Prasad KDV Yarlagadda OAM
Invited Talk II	
Time: 2:00 PM – 2:45 PM	
Topic name: “Future of Welding”	Mr. V.V. Kamath
Date: Wednesday, 23rd Dec2020	
Venue: Phalguni Seminar Hall (SH216)	
Invited Talk III	
Time: 9:30 AM – 10:15 AM	
Topic name-"Lightning and damage and how conductive layers or composites can prevent the damage".	Prof. Chandra Sekher Yerramalli,

Date:22nd Dec 2020 Time: 12:00 PM – 1:00 PM		
Session I(a)		
Stream: Smart and Sustainable developments in Materials		
Venue: Phalguni Seminar Hall (SH216)		
Paper ID	Paper Title	Authors
MATPR-D-20-06713	Structure-property correlation of weld metal zone and interface regions of cold metal transfer welded dissimilar Al-Mg-Mn alloys joint	R. Rajeshkumar, V. L. Niranjani, K. Devakumaran and Kumkum Banerjee
MATPR-D20-10808	Effect of In, Zr and Fe Elements Doped Cerium Oxide Nanoprobes: Synthesis, Characterization and their Applications	Sangamesha M.A ,Brunda M., Vidyashree S , Madhukar B S
MATPR-D20-10807	Experimental Investigations into Near-Dry Machining: A Sustainable Approach	Shrikant U. Gunjala , Sudarshan B. Sanap
MATPR-D20-10811	Effect of process parameters on micro hardness, bulk hardness and porosity of LENSTM Deposited SS 316L Alloy	Kartikeya Sarma , V.Srinivas , S. Kanmani Subbu
MATPR-D-20-11674	Dielectric and Thermal Stability Studies On High Density Polyethylene – Chitosan Composites Plasticized With Palm Oil	Meril Shelly, Meril Mathew , Pradyumnan P P., Tania Francis



Session I(b) Stream: Smart and Sustainable developments in Materials Venue: Metrology Lab Hall		
Paper ID	Paper Title	Authors
Pid- 113	Influence of carbon nano tube additions on coating characteristics of Cr ₃ C ₂ -NiCr on ASTM-SA213-T12 substrate	Prakrathi S, Balasubramanya H S and Anil Kumar T
MATPR-D20-10813	Aerodynamic performance comparison of airfoils suggested for small horizontal axis wind turbines	Naveen Prakash Noronha , Munishamaiah Krishna
MATPR-D20-10814	Wear Behaviour of Sintered Bearings using additives in Dry Sliding	Dr P S Gajjal , Dr G S Lathkar
MATPR-D20-10827	Evaluation of wear characteristics of PP/MWCNT nanocomposites	C Poornima , U S Mallik , A G Shivasiddaramaiah , N Pushpalakshmi , B S Puneeth
Pid-8	Use of composite materials and hybrid composites in wind turbine blades	Sri Sai P. Reddy , Rohan S. , Dr. Hanamantraygouda M. B , Dr. B.P Shivakumar
Date: Wednesday, 22nd Dec 2020 Time: 3:00 PM – 4:00 PM		
Session II(a) Stream: Smart and Sustainable developments in Materials Venue: Phalguni (SH216)		
Paper ID	Paper Title	Authors
MATPR-D20-10829	Synthesis and Characterization of Hetero Cyclic Imine and its metal complexes for anticorrosion application	Asha M S, Sangamesha M A , Othbert Pinto , Sandra T O , Ridhu P Shaji
MATPR-D20-10925	Synthesis, characterization and antibacterial study of calcite zincite nanoparticles	Sampath Kumar L, Shantha V., Chandrashekhar Naik, Rajendra Singh. C, Hariharan P.
MATPR-D20-10946	The effect of styrene maleic anhydride compatibilizer on the performances of polycarbonate/acrylonitrile butadiene styrene blends	Kameshwari Devi, S.H and Siddaramaiah
MATPR-D20-10869	Frictional Force During Machining Process - Part 2: Influence of Process Parameters	Lokesha , P. B. Nagaraj , P. Dinesh
Date: Wednesday, 22nd Dec 2020 Time: 3:00 PM – 4:00 PM		
Session II(b) Stream: Smart and Sustainable developments in Materials. Venue: Metrology Lab Hall		
Paper ID	Paper Title	Authors
MATPR-D20-10926	Coconut Coir Fiber Reinforced Polypropylene Composites: Investigation on Fracture Toughness and Mechanical Properties	Santosh Kumar, M S Shamprasad, Y S Varadarajan, Sangamesha M A
MATPR-D-20-11111	Design and Numerical analysis of FSP Tool with FSP Simulation for Magnesium Alloys	Lingaraj Ritti , Thirumaleshwara Bhat



MATPR-D-20-10778	Topographical Responds of Defense Grade 7075 Al/TiO ₂ Composite in Red Sea Environment.	Rajasekaran Saminathan, Yahya Ali Fageehi , Gunasekaran Venugopal
MATPR-D-20-10985	Renewable Energy Integrated Multi-Microgrid Load Frequency Control Using Grey Wolf Optimization Algorithm	Kshetrimayum Millaner Singh , Sadhan Gope
Date:: 23rd Dec2020 Time: 10:15 AM – 11:15 AM		
Session III(a) Stream: Smart and Sustainable developments in Materials Venue: Phalguni Hall (SH216)		
Paper ID	Paper Title	Authors
MATPR-D-20-11211	A Study of Electrical and Optical Characteristics of CZTSe solar cell using Silvaco Atlas	Joseph Mebelsona T. and Elampari K.
MATPR-D-20-10828	Experimental Investigation on Mode-I Fracture Toughness of Carbon-Carbon Composites Fabricated by Preformed Yarn Method	Sunil Kumar B V , Neelakantha V Londhe, Lokesha M, and A.O. Surendranathan
MATPR-D-20-10830	Estimation of Fracture Toughness (KIC) using Charpy Impact Test for Al6061T6 and Al7075T6 Alloys Subjected to Corrosion	Sunil Kumar S, Neelakantha V Londe, Dilip Kumar K, Mohammed Ibrahim Kittur
MATPR-D-20-10809	Characterization and Sliding Wear Behavior of CoMoCrSi+Flyash Composite Cladding Processed by Microwave irradiation	Durga Prasad C , Shashank Lingappa, Sharnappa Joladarasshi, Ramesh M R and Sachin B
Date:: 23rd Dec2020 Time: 10:15 AM – 11:15 AM		
Session III(b) Stream: Smart and Sustainable developments in Energy & Manufacturing Venue: Metrology Lab Hall		
Paper ID	Paper Title	Authors
Pid-8	Use of composite materials and hybrid composites in wind turbine blades	Sri Sai P.Reddy , Rohan S. , Dr. Hanamantraygouda M. B , Dr. B.P Shivakumar
MATPR-D-20-10826	Numerical investigation of heat exchanger with inserted twisted tape inside and helical fins on outside pipe surface.	Ganesh S. Dhumal and Sanjay N. Havaldar
MATPR-D-20-11212	Synthesis, characterization and thermal property of Nickel-Molybdenum mixed metal complex mixture	Aravind Rudrarapu , Gouri Sankhar Brahma , Trilochan Swain and Akash Kumar Sahu
Pid-51	CFD Analysis of Compressible Flow in a C-D Nozzle	Sher Afghan Khan, Omar Mohamed Ibrahim, and Abdul Aabid



Date:: 23rd Dec2020 Time: 11:30 AM – 1:00 PM

Session IV(a)

Stream:: Smart and Sustainable developments in Materials

Venue: Phalguni Hall(SH216)

Paper ID	Paper Title	Authors
MATPR-D-20-11214	Thermal Analysis of Two Wheeler Engine Fins	Dr. B. J. Patil , Vidyasagar Shetty
MATPR-D-20-11215	Pioneering highly insulating materials for the heat transfer enhancement using the flow divider type inserts	Nalavade Sandeep P
MATPR-D-20-11341	Experimental Investigation of Hydrogen-Enrichment Effect on Single Cylinder CRDI Diesel Engine Performance and Emissions by Varying Injection Duration	M R Dahake , D N Malkhede
Pid -125	Effect of Cool Roof Coating on the Discomfort in the Non-conditioned Building of a Hot- Dry Climatic Zone	Mohan Rawat and Ram Narayan Singh
Pid-78	Martensitic Transformation in a $\alpha+\beta$ -Ti Alloy After Cryogenic Treatment and its Influencing to Low Elastic Modulus Biomaterials	Paresh Mandal, Benjamin Daniel, Manu Sam Mathews, Alex Joseph, Colin Siby and Jithin Devasia

Date:: 23rd Dec2020 Time: 11:30 AM – 1:00 PM

Session IV(b)

Stream:: Smart and Sustainable developments in Materials

Venue: Metrology lab Hall

Paper ID	Paper Title	Authors
Pid-61	Effect of Expansion Level on the Flow Development with Sudden Expansion at High Mach numbers	Mohammed Faheem, Ridwan , Rayid Muneer , Mohammed Aneeqe , and Sher Afghan Khan
MATPR-D-20-11367	Microwave cladding for slurry erosion resistance applications: A Review	Bhupinder Singh and Sunny Zafar
MATPR-D-20-11368	Encapsulation of Bioactive agent (Curcumin, Moringa) in electrospun nanofibers – Some Insights into Recent Research Trends	D. Sundhari , N. R. Dhineshababu , S. Sutha , M. E. Raja Saravanan
Pid -09	A Study on Material Removal Rate of Cu-Al-Mn Shape Memory Alloys in Wire ED	Praveen N, Mallik U S, Shivasiddaramaiah A G and Narendra Reddy G N
MATPR-D-20-11493	Solar dye degradation using TiO ₂ nanosheet based nanocomposite floating photocatalyst	Abhinav K Nair, Deepak Roy George, Nibin Jos Baby, Mathews Reji, Sebin Joseph

Date: 23rd Dec2020 Time: 2:00 PM – 3:00 PM

Session V(a)

Stream: Smart and Sustainable developments in Energy & Manufacturing

Venue: Phalguni Hall(SH216)

Paper ID	Paper Title	Authors
MATPR-D-20-11492	Experimental Behaviour of Unreinforced and Reinforced concrete block masonry	Manish S Dharek, S Raghunath , Ashwin C P



	walls under uniaxial compression	
Pid-89	Design and Analysis of 25T Injection Molding Machine	Deepak C. Patil, Nagaraj K. Kelageri , Sanjeev A. Janawade and Mahesh S. Mishrikoti
Pid-90	Synthesis and characterization of cold extruded Al/TiC Metal Matrix Composite produced by stir casting technique	Siddappa P.N. B.P. Shivakumar and Yogesha K.B
MATPR-D-20-11450	Value Stream Mapping - Panacea for lead time reduction in Ferrite Core Industry	Abhilash Pathania, Raj Kumar, Kuldeep Rojhe, Bhaskar Goel, Sorabh Aggarwal, Dalgobind Mahto

Date:: 23rd Dec2020 Time: 2:00 PM – 3:00 PM

Session V(b)

Stream:: Smart and Sustainable developments in Materials

Venue: Metrology Lab Hall (SH216)

Paper ID	Paper Title	Authors
Pid-74	Estimation of Mach numbers in supersonic jets using schlieren images	Mohammed Faheem, Aqib Khan , Rakesh Kumar , Sher Afghan Khan, Waqar Asrar, Mohd Azan Sapardi
MATPR-D-20-11599	Pervious Geopolymer Concrete under Ambient Curing	A.Chithambar Ganesh, PavanVenkat Srikar, SathyaVara Prasad, M. Vinod kumar, M. Manoj Kumar, R.P. Sarath
MATPR-D-20-11600	Study of tensile nature of jute hybrid composite by the variation of S-glass fibers- an outlook from experimental perspective	K C Chaturvedi1 , H C Chittappa2
Pid-68	Comparative study of pebble absorber solar thermal collector (PASTC) with conventional absorber solar thermal collector (CASTC)	Channa Keshava Naik N, K.S Shashi Shekar, M.G Gautham, T.B Prasad.

Date:: 23rd Dec2020 Time: 2:00 PM – 3:00 PM

Session V(c)

Stream:: Smart and Sustainable developments in Materials

Venue: CAD Lab Hall

Paper ID	Paper Title	Authors
Pid-66	Rolling Element Bearing Health Diagnosis - A Comparative Study of Statistical Features	Kumar, H.S. , Upadhyaya, Gururaj , Srinivasa Pai P
Pid-19	3D Finite Element Analysis in dry milling of aluminium 6061 alloy and optimization of process parameters using Box–Behnken design with Grey Relational Analysis	Vikas Marakini and Srinivasa Pai P
Pid-56	Influence of Microjets on Flow Development for Diameter Ratio of 1.6 for Correctly Expanded Nozzles	Mohammed Faheem, Rayid Muneer , Mohammed Avvad , Mohammed Aneeque , Sher Afghan Khana
Pid-65	Impact of Expansion Level on Flow Field with Sudden Expansion at Supersonic Regimes	Mohammed Faheem , Ridwan , Rayid Muneer , Hamza Afser Delvi , and Sher Afghan Khan



Date:: 23rd Dec2020 Time: 3:15 PM – 4:15 PM

Session VI (a)

Stream:: Smart and Sustainable developments in Materials

Venue: Palghuni Hall(SH216)

Paper ID	Paper Title	Authors
MATPR-D-20-11366	Saltwater corrosion behavior of equal channel angular pressed AZ80/91Mg alloys	Ajit M. Hebbale, Gajanan M Naik, Ravindra Badiger, Sadashiv Bellubbi, Sachinkumar and Narendranath S.
Pid-75	Experimental study of midplane jet evolution in multiple jets at Mach 2.0	Mohammed Faheem , Aqib Khan , Rakesh Kumar , Sher Afghan Khan, Waqar Asrar, Mohd Azan Sapardi,
MATPR-D-20-11352	Effect of MWCNT on densification behaviour of MWCNT-FA/Al composites	Udaya Devadiga , Sunil Kumar Shetty Peter Fernandes
MATPR-D-20-11213	ANN based analysis of properties of clay bonded moulding sand mix	P. Venkatesh Murthy , Dr. Peter Fernandes

Date: 23rd Dec2020 Time: 3:15 PM – 4:15 PM

Session VI (b)

Stream:: Smart and Sustainable developments in Materials

Venue: Metrology Lab Hall (SH216)

Paper ID	Paper Title	Authors
Pid- 87	Effect of Mg doping on structural, morphological and optical properties of Mg-doped V2O5 nanostructures	Sandesh Kumar Rai, Rajesh Rai. P and Raghavendra Bairy
Pid-117	Development and characterization of silicon nitride reinforced with Aluminium alloy 2219	Manjunatha C J and Venkata Narayana B
Pid - 121	Hydrolysis of Sphingomyelin Resulting in Ceramide Production and Relative Structural Changes In Supported Raft Bilayers Were Studied Using Fluorescence Microscopy.	Annapoorna Butti and Raju Mudigiri
Pid-33	Numerical analysis of double pipe heat exchanger with twisted tape inserts inside and outside pipe surfaces	Ganesh Dhumal and Sanjay Havaladar11

Date: 23rd Dec2020 Time: 3:15 PM – 4:15 PM

Session VI (c)

Stream:: Smart and Sustainable developments in Materials

Venue: CAD Lab Hall

Paper ID	Paper Title	Authors
Int		All internal Papers



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