

1st International Conference on Frontiers in Engineering Science and Technology (ICFEST 2020)

IOP Conference Series: Materials Science and Engineering
Volume 1065

Mangalore, India
18-19 December 2020

Editors:

**R. Badiger
Manjaiah
M. S. Srinath
K. Satyanarayana**

ISBN: 978-1-7138-4576-8
ISSN: 1757-8981

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 3.0 International Licence.
Licence details: <http://creativecommons.org/licenses/by/3.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2022)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Preface	
Peer review declaration	
Mechanical properties of natural fiber reinforced polylactide composites: A review	1
<i>Santosh Kumar, M S Shamprasad, Y S Varadarajan</i>	
Application of value stream mapping using simulation tool in manufacturing assemble line: A case study	13
<i>B. M. Latha, N V Raghavendra, Jangam Ramesh</i>	
Optimization of process parameters in Electro Chemical Discharge Machining of silica glass through Analysis of Means.....	22
<i>Sadashiv Bellubbi, Maheshwar A Hippuragi, Ravindra Naik, N Sathisha</i>	
Experimental investigation on characterization of microwave welded Al6061-Gr-SiC hybrid metal matrix composites.....	29
<i>Zaheerabbas B Kandagal, V G Akkimardi, A N Sonnad</i>	
A Comparative Analysis of Biodiesel Properties Derived from Meat Stall Wastes through Optimized Parameters	40
<i>R Ravikumar, K Kiran, M Harish Kumar, Gurumoorthy S Hebbar, A S Divakara Shetty</i>	
Experimental Investigation of Air Circulation Using Duct System in a Non-AC Bus Coach.....	51
<i>S J Niranjana, Shivalingappa S Kubsad, Y Nagaraj, S Manjunath, S Shivakumar</i>	
Numerical Investigation of wavy channel using several Nanofluids.....	59
<i>Bharat Naik, Anand K. Hosmani, Shirish M. Kerur, Jagadeesh S. Pattanashetti, Vinayak Ratan, Chandra Bhushan</i>	
Recent Advancement in Electrospun nanofibrous mats with emphasis on their applications	66
<i>V Amith, R Sridhar, Gangadhar Angadi, H. N. Narashima Murthy</i>	
Immobilization of copper sulfide flotation tailings through the use of geopolymers, Tacna – Perú.....	72
<i>C Morales-Aranibar, N Linares-Gutiérrez, L Morales-Aranibar</i>	
Effect of Silicon Content on wear and Hardness of Al-Si Alloys	82
<i>Gururaj Hatti, V H Vishwanath, K R Dinesh</i>	
Machining and forecasting of square profile areas using artificial neural modelling at different slant angles by WEDM	90
<i>I. V. Manoj, S Narendranath</i>	
Experimental analysis of Fracture Toughness of EN9 and EN31 Steel under double layer of electroplating materials with different varied thickness	97
<i>D Kari Basavaraja, C Sowmya, Ravindra Naik</i>	
Productivity enhancement of Evacuated Tubes solar still of different water depth: Thermal modelling and an Experimental analysis.....	116
<i>Sunil More, Joseph Daniel</i>	
Design and Fabrication of Extrusion Machine for Recycling Plastics	133
<i>Sagar Kumar, R Sooraj, M V Vinod Kumar</i>	

Performance Enhancement of CPC Using Graphical Ray Tracing	144
<i>G H Bargale, N K Chougule</i>	
Design and Development of Portable Electrical Resistance Furnace	150
<i>Anand K. Hosamani, Bharat Naik, Shirish M. Kerur, Vinayak Ratan, Chandra Bhushan, L. Girisha, Yash Anvekar, S Shivakumar</i>	
Nanostructured Anti-Glare Coatings for Night Visibility	160
<i>R Madhusudhana, K L Sushma, K Chandra Sekhar, L. Krishnamurthy, R Gopalakrishne Urs, M A Sangamesha</i>	
Synthesis and Characterization of Zirconium Oxide (ZrO_2) Films on AA5052 and Glass substrates.....	166
<i>R Madhusudhana, K C Navyashree, L. Krishnamurthy, R Gopalakrishne Urs</i>	
Synthesis and characterization of yttrium nitrate hexahydrate	171
<i>R Madhusudhana, S Lovesome Benedict, L. Krishnamurthy, R Gopalakrishne Urs, L Vinaykumar</i>	
Physical, chemical and surface morphological characterization of single areca sheath fiber.....	176
<i>P S Suresh, K Dilip Kumar, S Dhanalakshmi, B Basavaraju</i>	
Compressive properties of 3D braided flax fiber textile fabric reinforced PLA composites	185
<i>S Kanakannavar, J Pitchaimani</i>	
Computational Fluid Dynamics Modelling and Experimental Study on Pressure drop through Vertical Packed Clay Composite Pellets	193
<i>C R Hiremath, P V Goggal, S V Hiremath, Punit Hiremath</i>	
Fabrication and Characterization of Aluminum 8011 Alloy and nano ZrO_2 Metal Matrix Composite.....	198
<i>J C Thippeswamy, N Sathisha</i>	
Effect of Fuel Intake Temperature on Performance and Emission of Diesel Engine	207
<i>V S Vijay, Joseph Gonsalvis</i>	
Thermodynamic investigation of a SOFC- Steam turbine hybrid system powered by Synthetic gas from Municipal Solid Waste.....	214
<i>K S Venkitesh, Joseph Daniel, Manavalla Sreekanth</i>	
Mechanical Characterization of Mmt Nano Clay/Epoxy/ Basalt Fiber Composites	226
<i>Susilendra Mutalikdesai, R Vani, Arpan Bhandari, Y Aishwarya Jain</i>	
Effect of Mean Stress on Fatigue Behavior of Glass Fiber-Reinforced with Epoxy Composites	231
<i>C Hemanth Kumar, R. P. Swamy</i>	
Production of biodiesel and experimental investigation on IC engine: A review.....	238
<i>B Hemanth Kumar, H Manjunath</i>	
Inhibition Effects of Banana and Orange Peel Extract on the Corrosion of Bright Steel in Acidic Media.....	244
<i>R Vani, Arpan Bhandari, Y Aishwarya Jain</i>	
A Review on Thermal Properties of Hybrid Polymer Matrix Composites.....	252
<i>Gurushanth B Vaggar, S C Kamate, Rithesh Shetty</i>	
Design and Analysis of Wind Amplifying Rotor Platform for Wind Turbine	259
<i>B. J. Patil</i>	

Comparative Study of Carbide Tools in Turning of High-Chrome White Cast Iron using Hard Turning Methods	267
<i>A. M. Ravi, S. M. Murigendrappa</i>	
Effect of addition of bismuth on the vibration analysis of Mg-Al/Mg ₂ Si composites processed using stir casting technique	275
<i>D E Umesh, D Ramesh Rao, D Shivalingappa</i>	
Transient Heat Transfer Analysis of Dimpled Rod	282
<i>Abdul Rajak Kaldgi, Abdul Rajak Buradi, K C Vishwanath, N. Sreenivasulu Reddy, Rayid Muneer, Mohammed Avvad, A Chandrasekhar, Asif Afzal, C Ahamed Saleel</i>	
Experimental investigation of mechanical properties of Acrylonitrile Butadiene Styrene (ABS) based polymer for Submersible pumps.....	289
<i>Geetanjali S. Guggari, S Shivakumar, R Nikhil, G A Manjunath, Asif Afzal, C. Ahamed Saleel</i>	
Finite Element Simulation of Fracture Toughness of Al6061 Reinforced with Silicon Carbide.....	303
<i>G Hareesha, N Chikkanna, Saleemsab Doddamani</i>	
Enhancement of Fracture toughness for Nano SiC reinforced AA7075 MMC's By Tensile tests and FEM Analysis.....	309
<i>Anilkumar S. Kallimani, N Chikkanna, P Suresha, G Hareesha</i>	
Comparative Analysis of DIP Techniques to Detect Leaf Diseases in Tomato Plant	318
<i>Pushpalatha S. Nikkam, Archana Nandibewoor, Aijaz Qazi, Leena I. Sakri, Vijayendra Nargund, Aishwarya Sajjanar, Saloni Porwal, Sujit Bhosale, Payal Ghorpade</i>	
A Melanoma Skin Cancer Detection Using Machine Learning Technique: Support Vector Machine	324
<i>Praveen Banasode, Minal Patil, Nikhil Ammanagi</i>	
Analysis and Predicting Results of IPL T20 Matches	329
<i>Praveen Banasode, Minal Patil, Supriya Verma</i>	
Novel Dataset Generation for Indian Brinjal Plant Using Image Data Augmentation	337
<i>Balwant Gorad, Sirbi Kotrappa</i>	
Passenger data analysis of Titanic using machine learning approach in the context of chances of surviving the disaster.....	348
<i>Md Arfinul Haque, G Shivaprasad, G Guruprasad</i>	
Performance Investigation of Single-Phase Capacitor Start - Capacitor Run Induction Motor Drive	356
<i>R Antheesh, Subrahmanyam Bhat, I Rajkiran Ballal</i>	
Cloud Data Security Model Using Modified Decoy Technique in Fog Computing for E-Healthcare	362
<i>P. Maragathavalli, S. Atchaya, N. Kaliyaperumal, S. Saranya</i>	
Incorporating LSTM Method on Modified Deep Learning Technique for Sensor Based Human Activity Recognition System.....	370
<i>P. Maragathavalli, R. Vivitha, M. Saranya, Uppu Dinesh</i>	
Experimental Investigations of Load Characteristics of Induction Motor Drive.....	378
<i>Ajithanjaya Kumar, Subrahmanyam Bhat, Rajkiran Ballal</i>	
Comparison between CMOS full adder and PTL full adder.....	388
<i>M Amitha, Deepa</i>	

An implementation of a device to assist the visually Impaired / blind people for easy navigation through bus	395
<i>V. Siddeswara Prasad, R Sagar</i>	
An ensemble classification based approach for breast cancer prediction	410
<i>Vijayalakshmi G V Mahesh, M Mohan Kumar</i>	
Optimization of Nano Capacitive Pressure Sensor for Medical Applications.....	420
<i>Kirankumar B. Balavalad, PraveenKumar B. Balavalad, Somanath Pidashetti</i>	

Author Index