



Vel Tech

Rangarajan Dr. Sagunthala
R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)



NEWS LETTER
January - June 2021



SCHOOL OF MECHANICAL AND CONSTRUCTION

DEPARTMENT OF MECHANICAL ENGINEERING

EDITORIAL

Chief Patron : Col. Prof. Vel. Dr. R. Rangarajan,
Chancellor & Founder President

Patron : Dr. S.Salivahanan,
Vice Chancellor

Editors : Dr. N. Lenin,
Dr. P. Anand,
Mr. D. Surrva Prakash.

Editorial Committee: Dr. Sumathy Muniyandhu Prof.,
Dr. Arun Prasad. M, Asst., Prof.,
T Seetharamaiah 2nd year, Mech,
P Avinash 2nd year, Mech.

CONTENTS

- ➔ RESEARCH FUNDS RECEIVED
- ➔ Ph.D AWARDED
- ➔ FACULTY PATENT DETAILS
- ➔ FACULTY & STUDENT PUBLICATIONS
- ➔ CONSULTANCY BY FACULTY
- ➔ STUDENT PLACEMENT DETAILS

Research Funds Received



In 2020-21, the SERB-TARE granted 18.3 Lakhs to Dr. Yuvaraj N for his project titled 'Scale effect approach to evaluate the erosion mechanism and performance features in micro abrasive water jet machining process: A study of new approach based on process'. The project aims to study the new approach based on the process to evaluate the erosion mechanism and performance features in micro abrasive water jet machining process.

In 2020-21, the TNSCST granted 2 Lakhs to Dr. E Balasubramanian and Dr Kanagachidambaresan for their project titled 'Minimizing the post harvesting loss in ware houses through examining rice kernel/paddy quality using infrared measurements, image processing algorithms and IoT platform'. The project aims to minimize the post harvesting loss in warehouses by examining rice kernel/paddy quality using infrared measurements, image processing algorithms and IoT platform.



In 2020-21, the SERB-TARE granted 18.3 Lakhs to Dr. Prabhukumar S for his project titled 'Additive Manufacturing of Next Generation Alloys'. The project aims to study the additive manufacturing process for the development of next generation alloys.

In 2020-21, the DRDO-2 granted 28 Lakhs to Dr. E Balasubramanian and Mr Prasanna Ram for their project titled 'Development of 3D printed flexible patch antennas for enhancement of communication range in UAV'. The project aims to develop 3D printed flexible patch antennas to enhance the communication range in UAVs.



Ph.D. Awarded

1.Mr. P. Sathyaseelan successfully completed Ph.D public viva-voce oral examination on 9th February 2021 titled: “Mechanical and Thermal Characterization of Areca/Kenaf Fiber Reinforced Hybrid Epoxy Composite” under the supervision of Dr. S. Prabhukumar.

2.Mr. Sagar N. V. S. S successfully completed Ph.D public viva-voce oral examination on 22nd April 2021 titled: “Design of monocoque Quadcopter Structure through integration of Topology Optimization and Additive Manufacturing” under the supervision of Dr. E. Balasubramanium.

3.Mr. Madhu. B successfully completed Ph.D public viva-voce oral examination on 28th April 2021 titled: “Experimental approach on improving the yield of fresh water in solar stills” under the supervision of Dr. E. Balasubramanium.

4.Mr.Mesfin Sisay Mengesha, full time candidate from Ethiopia completed Ph.D public viva-voce oral examination on 23rd April 2021 titled: “Experimental Investigations on Surface Roughness and Fatigue Strength Characteristics of Selective Inhibition Sintered Polyamide” under the supervision of Dr. E. Balasubramanium.

5.Mr. P. L. Rupesh successfully completed Ph.D public viva-voce oral examination on 29th April 2021 titled: “Isotherm Identification On The Surface Of Gas Turbine Engine Hot Components Using Tempearture Indicating Paint Through Image Processing Algorithm” under the supervision of Dr. Arun Prakash Jothi.

Faculty Patent Details



Dr. E. Balasubramanian as the Principal Investigator Received the funded project “Minimizing the post harvesting loss in ware houses through examining rice kernel/paddy quality using infrared measurements, image” from TNSCST 2021 (Fund : Rs. 2 Lakhs)

Dr. E. Balasubramanian as the Principal Investigator Received the funded project “Development of 3D printed flexible patch antennas for enhancement of communication range in UAV” from DRDO-2 2021 (Fund : Rs. 28.026 Lakhs)

A patent application was filed titled 'Intra Layered Hybrid Fiber Reinforced Composites for Replacement of Automotive Components' with application number 202041053113. The patent has been published.

Faculty & Student Publications

The Faculty Members along with Students Published around 94 Papers in Reputed Journals which are indexed in Scopus. The few numbers have been represented below:

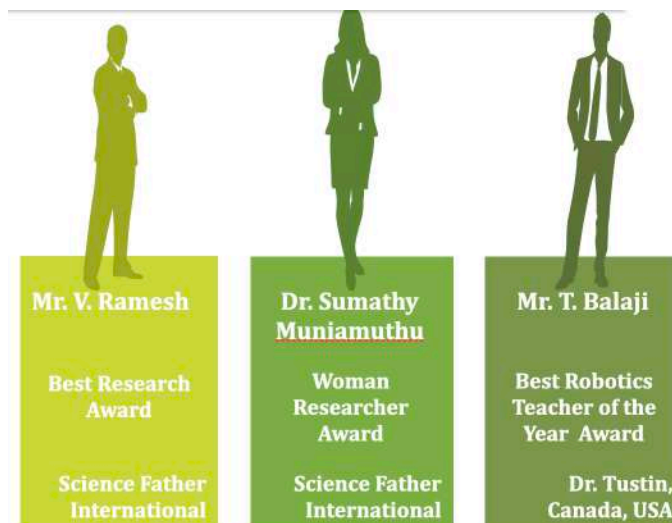
1. Thiruvengadam, Veeraswamy, and Ankur V. Bansod. "Green Synthesis of Silver Nanoparticles Using Melia Azedarach and its Characterization, Corrosion and Antibacterial Properties." *Biointerface Res. Appl. Chem* 11 (2021): 8577-8586.
2. Jadhav, Sahadev M., M. Arulprakasajothi, N. Beemkumar, and K. Elangovan. "Experimental analysis on diffusion absorption refrigeration cycle with the magnetic field." *International Journal of Ambient Energy* (2021): 1-5.
3. Dharmalingam, G., Sellamuthu Prabhukumar, and M. Arun Prasad. "Synthesis and Characterization of 17 Cr Ferritic ODS Steel Developed Through Vacuum Hot Pressing." In *Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering*, pp. 285-294. Springer, Singapore, 2021.
4. Ravichandra Ganesh, P., K. Hemachandra Reddy, J. M. Babu, and M. Sarath Chandra. "Experimental Investigation of Performance, Emission and Combustion Characteristics of a Di-diesel Engine Fuelled with Aqueous Cerium Oxide and Aqueous Aluminium Oxide Nanoparticle Additives." In *Recent Trends in Mechanical Engineering*, pp. 85-96. Springer, Singapore, 2021.
5. Balaji, K., and N. Yuvaraj. "Influence of Different Abrasives Mixtures on Abrasive Water Jet Drilling of Die Steel." In *Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering*, pp. 511-519. Springer, Singapore, 2021.
6. Mahalingam, Sivakumar, Balaji Kuppusamy, and Yuvaraj Natarajan. "Multi-objective Soft Computing Approaches to Evaluate the Performance of Abrasive Water Jet drilling Parameters on Die Steel." *Arabian Journal for Science and Engineering* 46, no. 8 (2021): 7893-7907.
7. Balasubramanian, E., Yogesh Kumar, Nishant Kumar Raj, S. Smruthi, and P. Vikram. "CFD Analysis on Extrusion of Slurry in Direct Ink Writing." In *Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering*, pp. 61-72. Springer, Singapore, 2021.
8. Yang, Lung-Jieh, Reshmi Waikhom, Wei-Chen Wang, Vivek Jabaraj Joseph, Balasubramanian Esakki, Neethish Kumar Unnam, Xiu-Han Li, and Chi-Yuan Lee. "Check-valve design in enhancing aerodynamic performance of flapping wings." *Applied Sciences* 11, no. 8 (2021): 3416.
9. Vepa, K. S., N. V. S. S. Sagar, Balasubramanian Esakki, and Chandrasekhar Udayagiri. "Numerical Modeling and Analysis of a Multi-rotor UAS." In *Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering*, pp. 171-179. Springer, Singapore, 2021.

Consultancy by Faculty



In 2020-21, Dr. Harisivasri Phanindra K undertook three consultancy projects for Varaanga Engineers Pvt. Ltd., Hyderabad. These projects included Safety Audit and On-Site Emergency Plan (OSEP) for Kellogg's India Private Limited, Sri City, Andhra Pradesh, Safety Audit, OSEP, and Hazard and Risk Assessment Report (HARA) for M/S Heptachem & Pharma (India) Private Limited, Adoni, Andhra Pradesh and Safety Audit and OSEP for M/S Hatsun Agro Limited, Madanapalle, Andhra Pradesh. The total revenue generated was 1 Lakhs.

Faculty Awards



Students Placements Details

During the academic year 2020-21, out of 328 eligible students 195 students placed with a placement percentage of 59.45%. In that total number of students placed in core companies are 72. The highest salary package for the academic year 2020-21 is 10 Lakhs per annum. Total number of students placed above 3 Lakhs per annum salary package is 49 students. Number of core companies visited during the academic year 2019-20 is 19 companies. The list of core companies visited are shown below,

Name of the Core Companies	
Ola Electric Mobility	Tata Motors (Amcat)
Kone Elevators	Daebu Automotive
Titan	Delphi Tvs
Agnikul	Donyati
Apollo Tyres Ltd Drive	Torrent Gas
Hyundai Motor Limited	Torrent Power
SI Lumax	Rico Auto Components
Aztec Auto Limited	Jinsung Engineering Pvt.Ltd

