Anna University, Madras Institute of Technology campus

Department of Production Technology

Monthly report - February 2024

Research Activities

- > Dr. A. Siddharthan submitted a proposal entitled "Realization of chalcogenide glasses for use in common dual band IR optics for both MWIR and LWIR on the same or different imaging sensors" to ISRO Respond basket for Rs.34,57,760/-
- > Dr. G.B. Bhaskar submitted a proposal entitled "Through thickness measurement of non-uniform residual stresses in metallic components with sufficient resolution for aerospace applications" to ISRO Respond basket for Rs.23,88,594/-
- > Dr. G.B. Bhaskar submitted a proposal entitled "Theoretical and experimental validation of compression after impact strength of CFRP sandwich construction, 2D/3D composite under Low Velocity impact" to ISRO Respond basket for Rs.42,75,260/-
- Dr. P. Ganesh submitted a proposal entitled "Strengthening of Aluminium Alloys by Severe Plastic Deformation for Spacecraft Applications" to ISRO Respond basket for Rs.27,17,840/-
- ▶ Dr. C. Nanda Kumar attended and presented a paper on "Estimation of Optimum Machining Parameters and Surface Characterization of Wire EDM of AA7075 / Zr(p) and AA 7075 / Si(p) Metal Matrix Composites through Multi-objective optimisation", in 30th International Multidisciplinary Conference on Arts, Science, Management and Engineering and Technology, 24th February, 2024 at BITS-Pilani (Dubai Campus), Dubai.
- Dr. S. Vijayakumar and Dr. S. Sathish submitted a proposal entitled "Self-lubricating ceramic materials for spacecraft application RES-URSC-2023-005" to ISRO Respond basket for Rs.25,97,950/-
- > Dr. P. Karthikeyan submitted a proposal entitled "Spacecraft Pose Estimation using a Deep Teacher-Student Architecture" to ISRO Respond basket for Rs.24,90,000/- along with Dr. M. Hemalatha, Assistant Professor, Department of Information Technology, MIT Campus, Anna University.
- > Dr. V. Mugendiran and Dr. P. Karthikeyan submitted a proposal entitled "Indigenous Development of Epoxy/Carbon Fiber/Carbon Nano Tube based Ternary Nano Composite Filament for Composite 3D printing for Satellite Application" to ISRO Respond basket for Rs.47,12,760/-
- > Dr. V. Mugendiran published a paper titled "Development and validation of a low-cost UV curing system for Direct Ink Write 3D printers" in Part E: Journal of Process Mechanical Engineering (online first). The co-author of the paper is Mr. A. Riyaz Ahmed.

- Dr. V. Mugendiran attended and presented a paper on "A review on Additive Manufacturing in Bio-medical field", in 30th International Multidisciplinary Conference on Arts, Science, Management and Engineering and Technology, 24th February, 2024 at BITS-Pilani (Dubai Campus). Dubai.
- Dr. G. Kumaresan presented a paper titled "Experimental Investigation of Natural Fiber Reinforced Epoxy Based Composites for Automotive Application" in the Twoday National Conference on Advances in Polymer Composites (APC 2024) organised by Department of Rubber and Plastic Technology, MIT Campus, Anna University
- Parthasarathi Roy, K. Jaithra and T. Mithuna under the supervision of Dr. E. Pavithra presented a paper titled "Design and Fabrication of Jal-Bot with Rocker Bogie Mechanism and Gyroscopic Principles" at National Conference on Emerging Trends in Engineering and Technology on 16.02.2024 organised by NIT Puducherry.
- R. Aasthigan, Mohamed Adnan Ahsan and M.S.Mohamed Mohudoom under the supervision of Dr. C. Arun Prakash presented a paper titled "Design and Trajectory Evaluation of Low Cost Quadruped Robot" at National Conference on Emerging Trends in Engineering and Technology on 16.02.2024 organised by NIT Puducherry.

Academic Activities

- The Centre for Robotics along with Department of Production Technology organised a two week internship on Robotics and Automation from 12.02.2024 to 23.02.2024. Dr. S. Vijayakumar, Dr. N. Srirangarajalu, Dr. P. Karthikeyan, Dr. V. Mugendiran, Dr. C. Arun Prakash, Dr. S. Sathish, Mr. R. Mathiyazhagan, Mr. A. Visagan, Mr. N. Arunagiri, Mrs. U. Vishnuja and Mr. Mohamed Shazuli delivered lectures and handled laboratory exercises.
- ▶ Dr. C. Nanda Kumar attended a five day online FDP on "Applications of Artificial Intelligence Techniques in Mechanical Engineering Systems" from 5th February 2024 to 9th February 2024 organized by Karunya Institute of Technology and Sciences.
- Dr. S. Vijayakumar and Dr. V. Mugendiran organized a One week Faculty Empowerment Programme on ""Additive Manufacturing"" from 05.02.2024 to 10.02.2024. 40 participants from all over Tamil Nadu participated in the programme.
- Dr. C. Nanda Kumar, Mr. A. Visagan and Mr. Mohamed Shazuli participated in Six Days Physical Mode Faculty Empowerment Programme on CME339- Additive Manufacturing 5th to 10th February, 2024 at Department of Production Technology, MIT campus, Anna University.
- ▶ **Dr. P. Karthikeyan** attended a 2 weeks "Online Faculty Development Programme on Entrepreneurship Development (Machine Learning)" conducted by AU-CFPD and sponsored by DST from 01.02.2024 to 14.02.2024.
- > **Dr. C. Arun Prakash** organised a training program on "Industrial Automation Using PLC" on 05.02.2024. Students and technicians of strength 20 participated in this program.

Departmental Activities

- MoU was signed on 29.02.2024 between Anna University and Granito Brushes Pvt. Ltd. For the transfer of technology "Spirograph Based Metallographic Polishing Methods for Stone Polishing"
- MoU was signed on 29.02.2024 between Anna University and Microbiology Laboratory Research Services Pvt. Ltd. for the transfer of technology "Antibiogramoscope Device" an outcome of UGC-UPE project.
- ▶ Dr. S. Vijayakumar and Dr. S. Sathish were involved in the following RIPE conference works: Prepared and submitted the VC note for reduction of registration fees for UG/PG students; Prepared and submitted the VC note for the association of IIPE and IEI; Web page updataion and communication with website designer; Mail communication to participants; Communication with the Journal for publication; Preparation of A3 One page brochure design; Follow up of the GST; Preparation of Two page format; Purchase of Bag; Printing communication for the Book Proceeding and A3 One page brochure; Preparation of Funding proposal to CSIR.
- > Dr. C. Arun Prakash organised an alumni lecture on the topic "What Industry Demands from Mechanical Engineers" on 23.02.2024. Mr. Mohamed Riyaz, Managing director, MRG Engineering delivered the lecture.
- > Mr. R. Mathiyazhagan initiated purchase process for electrical drives and actuators lab (stepper motor, servomotor, PWM generator) worth of Rs. 1.5 lakh along with Dr.P. Karthikeyan and Dr. C. Arun Prakash.
- > Mr. R. Mathiyazhagan initiated purchase process for electrical drives and actuators lab(PMDC, BLDC with driver and systems) worth of Rs. 7.5 lakh along with Dr.P. Karthikeyan and Dr. C. Arun Prakash.
- > Mr. R. Mathiyazhagan initiated purchase process for service of CMM worth of Rs. 1.5 lakhs along with Dr. S. Sathish.
- > Mr. R. Mathiyazhagan is engaged in measuring surface topography parameter using 3D-non contact optical profilometer (measurement made on 6 laser etched specimen for SVCE College Prof.Dr.Ramesh).
- ➤ Mr. A. Visagan accompanied students of 2/8 B.E Production Engineering students on industrial visit to Schwing Stetter on 14/02/2024.
- > Mr. A. Visagan purchased Ultrasonic bath from M/s Sri Hari Scientific for Nano Lab.
- > Mr. K. Tamilarasan is following up with the vendor for the digitalization of department library
- ➤ Mr. K. Tamilarasan accompanied students for Kart Competetion at Coimbatore from 26.02.2024 to 29.02.2024.
- > Mr. K. Muthukumaran supervised the following maintenance works at Material Testing laboratory: Change of hydraulic oil on Hydraulic machine (30 T); Removal of UTM & Rolling Machine Motors for rewinding.
- > The team MITONAUR MOTORSPORTS comprising of the following students won fifth position in Endurance Test Men and first position in Endurance Test Women in Karting Championship at Coimbatore.

Mohamed Adnan Ehsan, Sanjai Srinivaas SM, Arvind Yogesh S, Sanjay Vignesh B, Manoj Kumar PR, Agastheeswar B, Aasthigan R, Akash S, Gokul K, Aadhavan Subbulakshmi Manickam, Tharun R, Mithuna T, Sudarshan CG, Akshy Naveen PN (4th Year Mechanical Engineering), Nithishkumar K, Surya R (4th Year Production Engineering), Gokulan N, Sam Aakash A, Sharan GS, Vigneswaran S, Hariesh B, Ilavarasi P, Lakshmi Sree Harini S, Giri Prakash S (3rd Year Mechanical Engineering), Dafna MA, Prashannaa SR, Jeganath YP, Deenadhayalan P, Abishek S, Bharath Raj R (3rd Year Production Engineering), Meyvigneshwar U(2nd Year Robotics and Automation), Prahal A Bharath, Sanjay Vignesh, Bhuvanesh PS and Harish M (2nd Year Production Engineering).

- Aswin Kumar. S, Madhumitha. P and Gokulan. N(3rd year Mechanical Engineering) won second prize in Best Presentation category in SAEISS Bicycle Design Challenge 2024 organized by SAE India on 24.02.2024 and 25.02.2024.
- Nitheesh Kumar. G, Lokesh C, Pradeep Kumar. A (3rd Year Mechanical Engineering) and Jyothirmai Divya P (3rd Year Production Engineering) won third prize in Overall Performance category in SAEISS Bicycle Design Challenge 2024 organized by SAE India on 24.02.2024 and 25.02.2024.

Other Activities

- > Dr. G. B. Bhaskar attended Ph.D oral board recommendation DC meeting at IIITDM on 20.02.2024.
- > Dr. G. B. Bhaskar attended BOS meeting at JNN Institute of Engineering on 21.02.2024.
- > Dr. G. B. Bhaskar attended Comprehensive DC meeting at SRM University.
- Dr. G. B. Bhaskar delivered Guest Lecture titled "Composite Materials for Ballistic Applications" at Thiruvalluvar College of Engineering and Technology on 23.02.2024
- Dr. C. Nanda Kumar attended the purchase committee meeting for purchasing of Air Mass Flow Meter with accessories for Department of Automobile Engineering, MIT Campus, Anna University at CSRC Auditorium, Kalanjiyam Buiding, CEG Campus on 20.02.2024.
- Dr. S. Vijayakumar, Dr. G. Kumaresan, Dr. E. Pavithra, Dr. C. Arun Prakash and Dr. S. Sathish completed the examinations of 8-module MOOC course by National Institute for Technical Teachers Training (NITTT).
- ➤ Dr. E. Pavithra completed her case-based assessment presentation about a company "Verloop" as a part of assessment of two Weeks Faculty Development Program on "Innovation & Entrepreneurship".
- Dr. E. Pavithra and Dr. C. Arun Prakash attended a discussion on Funding Opportunities for the faculty members through DAAD schemes with Dr. Katja Lasch, Regional Director, DAAD India on 20.02.2024 at Academic Council Hall, CEG Campus, Anna University.
- > Dr. E. Pavithra and Dr. C. Arun Prakash attended a session on Opportunities for research or to teach in the United States through the fully funded Fulbright-Nehru,

Fulbright-Kalam and other Fulbright Fellowships" by Maya Sundararajan, United States-India Educational Foundation (USIEF), Chennai on 22.02.2024 at CEG Campus, Anna University.

- Mr. M. Manoj assisted Dr. S. Vijayakumar (CS), Dr. V. Mugendiran (ACS) and Dr.
 G. Kumaresan (ACS) in conduct of final phase of UG semester examinations.
- > Mr. K. Muthukumaran assisted department PG CS Dr. C. Nanda Kumar in PG semester examinations.
- ▶ Mr. K. Muthukumaran assisted department Time Table in-charge in preparation of 2nd and 3rd year UG students bridge course time table for even semester January 2024 May 2024 and 2nd semester UG students time table for even semester January 2024 May 202.

[Events of February 2024, reported in March 2024]

July MAINER