



INGENIEUR

Mechanical Engineering

THE WORLD
UNIVERSITY
RANKINGS



SDG6-Rank 101-200
Clean water & sanitation

SDG 7-Rank 401-600
Affordable & Clean Energy

SDG12 - Rank 201-300
Responsible Consumption & Production

SDG17-1000+
Partnership for Goals

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DEPARTMENT OF MECHANICAL ENGINEERING

HINDUSTAN INSTITUTE OF TECHNOLOGY AND SCIENCE, CHENNAI

STUDENT'S ACHIEVEMENT

ISSUE: JANUARY 2024

SAE Engineering Design Competition

Students of Mechanical Engineering Chinthan, Pallavi, Madhubalan, Mani Skanda, Gangi Reddy have participated in National level Competition held in SRM University on 4.11.23 and 5.11.23 in ENGINEERING DESIGN and Won second PRIZE worth Rs 15000/-



Inter-Departmental Upcycled Christmas Tree Competition

Students of Mechanical Engineering Santhosh Rajan.T, D.Lakshmi Narayana, P.Madhusudhan, B.Yeshwanth have won Second Prize in the Inter-Departmental Upcycled Christmas Tree Making Contest held in MGR hall, HITS on 19.12.2023 for O'Christmas Tree Function.



HINDUSTAN
INSTITUTE OF TECHNOLOGY & SCIENCE
(DEEMED TO BE UNIVERSITY)



FACULTY ACHIEVEMENTS

Gold medal in NPTEL Course

Dr. G. Ravikumar Solomon, Professor of our department has completed 3 NPTEL courses namely 'Applied Thermodynamics for Engineers', 'Applied Thermodynamics' and Engineering Thermodynamics also got Two gold medal and one silver medal for the same.



NPTEL Certification

Mr. A. Sivasankar, Assistant Professor of our department has successfully completed a NPTEL course on 'FUNDAMENTALS OF MANUFACTURING PROCESSES' with 70% score on 3.11.2023.

Faculty Development Program

Dr. M. Rajesh has attended 5 days Faculty Development Program (FDP) On "Driving Industrial Excellence With Modern Mechanical Engineering Innovation" In Saveetha Engineering College, Chennai.



PUBLICATIONS

Springer Nature Journal Publication

Dr.A.John Presin Kumar has published a journal paper titled “Experimental investigations of Mechanical and Dynamic mechanical analysis of Bio-synthesized CuO/Ramie fiber-based hybrid biocomposite” in Springer Nature Journal with an Impact factor of 5.2.

Fibers and Polymers
<https://doi.org/10.1007/s12221-023-00432-0>

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REGULAR ARTICLE



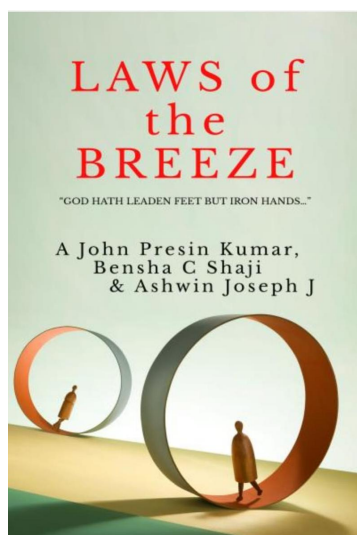
Experimental Investigations of Mechanical and Dynamic Mechanical Analysis of Bio-synthesized CuO/Ramie Fiber-Based Hybrid Biocomposite

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Abstract

The utilization of biosynthesis in the production of copper oxide nanoparticles from ‘Urtica Dioica’ (UD) leaves is gaining increasing global popularity due to its sustainable, efficient, and cost-effective nature. In this study, copper nitrate served as the precursor for obtaining the copper oxide (CuO) nanoparticles. The focus of the research was on the development of bio-epoxy and a hybrid bio-epoxy/Ramie fiber-based laminate with the incorporation of copper oxide nanoparticles. To create the bio-epoxy-based organic fiber materials, the hand-layup molding process was adapted, with different quantities of nanoCuO particles (ranging from 0 to 7.5 wt%) being added. The study comprehensively examined the mechanical, physical, and thermal effects of incorporating fibers of a uniform 30 mm size into the green epoxy laminate. The characterization of the produced CuO nanoparticles was conducted through various analytical techniques, including UV spectroscopy (UVS), X-ray diffraction (XRD), Fourier transform infrared spectroscopy (FTIR), and transmission electron microscopy (TEM). Notably, the absorption peaks at 234 and 362 nm were attributed to the inter-band transitions of the core electrons within the copper metal present in CuO nanoparticles. Furthermore, the XRD pattern indicated an average crystallite size of the syn-



Book Publication

Dr.A.John Presin Kumar has published a Book on Literature/Fiction titled “LAWS of the BREEZE” in Notion Press Publications with ISSN No: 9798892331586.

SILICON Journal Publication

Dr.A.John Presin Kumar has published a journal paper titled “Investigations of Flame Retardancy, Mechanical and Thermal Properties of Woven Hemp/PP Hybrid Composite for Insulating Material Reinforced with Synthetic Silicon and Zinc Oxides” in SILICON Journal with an Impact factor of 3.2.

INDUSTRIAL INTERACTION

- Dr.P.Vijayabalan, Head of the Mechanical Engineering Department has visited CRP (INDIA) Pvt. Ltd.Chennai on 15.11.2023 and met Mr. K.Vasudevan, General Manager for a possible arrangement of Industrial visit for our students.
- Dr.P.Vijayabalan, Professor and HOD visited Endurance Technology Ltd on 17.11.2023 where he met Mr.S. Rajesh, Manager - HR & Admin.
- Dr.A.Krishnakumari, Professor has visited Avant-Garde Engineers and PVT Ltd and met Mr. Perumal in the Department of Thermal design for arrangement of Internship for our students.

OTHER ACTIVITIES

- Dr.M.Rajesh, Assistant Professor has met Dr.L.Poovazhagan, Associate Professor, SSN College of Engineering, Chennai in a DC meeting on 10.11.2023.
- Dr.A.John Presin Kumar, Associate Professor has met Mr.R.Balaji, CEO, Noprotron India Pvt Ltd., Chennai for Research project discussion on 6.11.2023
- Dr.M.Rajesh, Assistant Professor (SG) has met Dr G Selvakumar, Associate Professor, Dept of Mechanical Engineering, SSN College of Engineering, Chennai during a Research meeting.
- Dr.P.Vijayabalan, Head of Mechanical Engineering Department has conducted Third DC cum Synopsis meeting for the candidate S.Padmanaba Sundar under the External DC member's presence Dr.M.Senthil Kumar, Professor, Anna University, MIT, Chennai on 20.12.23.
- Mechanical Engineering Final Year student Kumaraswamy attended Internship Interview in MS Global India Automotive Private Ltd on 20.12.23.
- Our final semester mechanical students K.C. Madhubalan and Sri Vasant are placed in Boeing in December 2023 with package of 7.5 lakhs per annum.

Editors



Dr. Prem Shankar Pandey,
Assistant Professor (SG)
Technical Editor



Dr. A. John Presin Kumar
Associate Professor
Department of Mechanical Engineering
Department Editorial coordinator

Student editors



Mr. K.C. Madhubalan
8th semester
B.Tech Mechanical Engineering



Mr. Ch. Gangi Reddy
8th semester
B.Tech Mechanical Engineering