

Newsletter for August 2026
Department of Mechanical Engineering
Dayananda Sagar University
Bengaluru-562112



Dr. Vinay M S

Industrial Visit- BEML Ltd.

The Department of Mechanical Engineering, Dayananda Sagar University, organized an industrial visit to BEML Limited, Kolar Gold Fields (KGF), on 01 August 2026, with 19 students and 6 faculty/staff members, coordinated by Dr. Vinay M S. Students gained practical exposure to plate fabrication, CNC machining, gear manufacturing, heat treatment, hydraulic systems, and heavy-equipment assembly. They also observed modern manufacturing practices, precision metrology, quality control, and industrial safety procedures. The visit effectively connected classroom knowledge with real-world heavy-engineering applications and enhanced students' understanding of industrial workflows and manufacturing technologies.





Dr. K. Sudha Deepthi

ASME–DSU Student Chapter Inauguration and Brain Bolt – The Engineers Sprint 2026

The Department of Mechanical Engineering, School of Engineering, Dayananda Sagar University, in association with ASME, successfully hosted the ASME Brain Bolt – Engineers Sprint 2026 Regional Round (South India) Makeathon on 8 August 2026 at DSU Harohalli Campus.

The event witnessed participation from around 350 students from across India and provided a platform for showcasing engineering innovation, creativity, teamwork, and problem-solving skills. The occasion also marked the formal inauguration of the ASME–DSU Student Chapter by Mr. Madhukar Sharma, President, ASME India.

Dr. K. Sudha Deepthi, Manager–Bosch Rexroth CoE and Assistant Professor, Department of Mechanical Engineering, initiated the ASME–DSU Student Chapter and serves as its Faculty Advisor. She was also nominated as Secretary and Member-at-Large of the ASME Karnataka Section Leadership Team and to the ASME SSDM–IMECE Leadership Team for 2026–2028.

The initiative strengthens DSU's engagement with professional bodies while promoting technical exposure, experiential learning, innovation, professional networking, and student leadership.



Dr. Rajeev Kumar Gupta, Assistant Professor, Department of Mechanical Engineering published a Q2 journal entitled as “Directional Surface Roughness Parameters as Predictors of Polymer Wear Debris Size Under Dry and Lubricated Conditions: An Experimental and Machine Learning Approach” in Springer Nature’s Journal of Bio- and Tribo-Corrosion. The study combines experimental tribology and machine learning to predict polymer wear-debris size from directional roughness under dry and lubricated conditions, supporting surface design.

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Directional Surface Roughness Parameters as Predictors of Polymer Wear Debris Size Under Dry and Lubricated Conditions: An Experimental and Machine Learning Approach

Published: 22 August 2026

Volume 12, article number 151 (2026) [Cite this article](#)

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Journal of Bio- and Tribo-Corrosion

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[Rajeev Kumar Gupta](#), [G. S. Divya](#), [Rayappa Shrinivas Mahale](#), [S. Chethan](#), [Lawrence J. fernandes](#), [Manil Raj](#), [A. N. Mohan Das](#), [K. S. Shivaprakash](#), [Batluri Tilak Chandra](#), [Annapoorna T L](#) & [Y. P. Ravitej](#) 

Access this article



Dr. Mridusmita Roy Choudhury

Dr. Mridusmita Roy Choudhury, Assistant Professor, Department of Mechanical Engineering has published a research paper in *Discover Materials*, a Q1 journal. The paper, titled “Mechanical and Thermal Performance of Epoxy Nanocomposites Reinforced with Teak-Sawdust-Derived Carbon Nanospheres,” was published online on 24 August 2026. The study explores a sustainable approach to enhancing the mechanical and thermal properties of epoxy nanocomposites using carbon nanospheres derived from teak sawdust. This publication reflects her contribution to advanced and sustainable composite-material research.

Discover Materials

<https://doi.org/10.1007/s43939-026-00927-6>

Article in Press

Mechanical and thermal performance of epoxy nanocomposites reinforced with teak-sawdust-derived carbon nanospheres

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Cite this article as: Murari A., Choudhury M.R., Anilchandra A.R. *et al.* Mechanical and thermal performance

Anvitha Murari, Mridusmita Roy Choudhury, A. R. Anilchandra & Gurumurthy Hegde

We are providing an unedited version of this manuscript to give early access to its findings. Before final publication, the manuscript will undergo further editing. Please note there may be errors present which affect the content, and all legal disclaimers apply.

Strengthening Research Collaboration: Visit by CSIR–CGCRI Senior Scientist

On 20 August 2026, Dr. Barnasree Chanda, Senior Scientist, Energy Materials & Devices Division, CSIR–Central Glass & Ceramic Research Institute (CSIR–CGCRI), Kolkata, and

Assistant Professor, Faculty of Engineering Sciences, **Academy of Scientific and Innovative Research (AcSIR)**, visited the **Department of Mechanical Engineering**.

During her visit, Dr. Chanda interacted with the faculty members and discussed potential avenues for **research and academic collaboration**. The interaction opened up promising opportunities for collaborative research, joint publications, research projects, knowledge exchange, and interdisciplinary initiatives between the Department and **CSIR-CGCRI/AcSIR**. The visit represents an encouraging step towards strengthening the Department's research network and establishing meaningful collaborations with leading national research institutions.





Dr. Rahul Kumar, Associate Professor, Department of Mechanical Engineering, has published a SCIE-indexed 'Q2-ranked' Journal Article titled "A Review on Machine Learning and Digital Twin Enabled Advancements in Biofiller/Fibre-Based Polymer Composites for Sustainable Engineering Applications" in the Journal '*CMES-Computer Modeling in Engineering & Sciences*', a Tech Science Press Publication. This achievement reflects the faculty member's commitment to high-quality research and continuous contribution to the university research ecosystem.

Computer Modeling in
Engineering & Sciences



<https://doi.org/10.32804/cmcs.2026.088198>

Published Online: 10 August 2026



REVIEW

A Review on Machine Learning and Digital Twin Enabled Advancements in Biofiller/Fibre-Based Polymer Composites for Sustainable Engineering Applications

Rahul Kumar¹, Faladrum Sharma² and Pradeep Kumar Karsh^{3,*}

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ABSTRACT: The increasing environmental concerns after the United Nations' push towards sustainable development goals (SDGs) and depletion of non-renewable resources have accelerated the global pursuit of sustainable materials. Within this framework, bio-based polymer composites have gained considerable attention for their ability to balance mechanical performance, cost-effectiveness, and environmental responsibility. Biofibres/fillers-based polymer composites reinforced with natural fibres like jute, bamboo, coconut coir, pineapple leaf fibre (PALF), and flax offer an attractive combination of mechanical performance, cost-effectiveness, and environmental sustainability. Moreover, additive manufacturing (3D printing), coupled with machine learning, digital twins, and data-driven material design, is transforming the development and optimization of natural fibre-reinforced polymer composites for advanced, sustainable engineering applications and enabled the realization of the material, structure and function paradigm for composite design. This review highlights major developments in bio-based composites through the perspective of integrated modelling strategy and material-design-function philosophy. It also outlines how machine learning and digital twin-based models accelerated the material discovery, prediction, optimization, and sustainability assessment. Using machine learning techniques, prediction of properties, optimization of processes, and detection of defects can be performed in a much faster way. Digital twins provide a virtual representation of components, enabling real-time monitoring, predictive maintenance, virtual testing, and full lifecycle analysis. Moreover, the purpose of this review is to organize the latest progress, highlight the main research gaps, and propose the next steps towards smart, eco-friendly, and Industry 4.0/5.0, compliant composite materials. Also, the integration of life cycle assessment data into digital twin platforms could enable continuous environmental performance assessment throughout the product lifecycle.

KEYWORDS: Natural fibres; machine learning; digital twin; SDGs; additive manufacturing; sustainability



Dr. Shashwath Patil
Assistant Professor

Delivered a technical talk on “Waste to Wealth: Additive Manufacturing for Sustainable Product Development” on 08 August 2026 at 7:00 PM, as part of the IEI Technical Webinar organized by the Institution of Engineers (India), Kalaburagi Local Centre, under the aegis of the Mechanical Engineering Division. The session focused on the role of additive manufacturing in sustainable product development through waste valorization, resource efficiency, and value-added engineering solutions.



Date:
08.08.2026
Time:
19.00 hrs



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IEI Technical Webinar

on

WASTE TO WEALTH: ADDITIVE MANUFACTURING FOR SUSTAINABLE PRODUCT DEVELOPMENT

Organised by

The Institution of Engineers (India), Kalaburagi Local Centre

Under the aegis of

Mechanical Engineering Division

Panelist



Dr. Shashwath Patil

Assistant Professor
Dept. of Mechanical Engineering
Dayananda Sagar University, Bengaluru

Moderator



Dr. Sharan Shegedar

Professor, Department of Mechanical
Engineering, Faculty of Engineering and
Technology, Shri Basava University,
Kalaburagi, Karnataka

Registration is a must for attending the Webinar and for free registration, you are requested to register by using following link or following code

https://zoom.us/webinar/register/WN_s3CpDy3FSeK_ZJ_rZhAskA



The participants who opt for 'e-Certificate of Participation', need to register themselves first using the registration following link or code and thereafter make a nominal payment of INR 300/- + GST @ 18% using the payment gateway available against this code (active till midnight of 09.08.2026):

<https://shorturl.at/10eem>



E-Certificate will be sent by email after 5 working days along with the tax invoice

For any assistance, please email to:
kalaburagile@ieindia.org

This is an approved CPD programme of
The Institution of Engineers (India)

Live streaming of the event can be viewed on

<https://www.youtube.com/channel/UCb-dnZOchQvBRd0xpsDYwsA>



Dr. Velugula Ravi

Dr. Velugula Ravi, Assistant Professor, Dayananda Sagar University, Bengaluru, delivered a lecture during an AICTE-sponsored ATAL FDP on AI/ML applications in Battery Management Systems, covering SOC, SOH and RUL estimation using deep learning, along with practical case studies from his research.



CHRIST (Deemed to be University)
SCHOOL OF ENGINEERING AND TECHNOLOGY
Department of Mechanical and Automobile Engineering
Bangalore Kengeri Campus.

AICTE-sponsored Six-day ATAL offline FDP

on
Next-Generation Electric and Hydrogen Vehicles:
Battery Technology, Smart Charging,
AI Integration, and Sustainable Mobility Solutions

From 17th August 2026 to 22nd August 2026

Date: 20-8-2026, 02:00 PM to 04:30 PM

RESOURCE PERSON
Dr. Velugula Ravi
Assistant professor
Dayananda Sagar University
Bengaluru.



- Electric Vehicles
- H₂ Hydrogen Mobility
- Battery Technology
- AI Integration
- Sustainable Solutions



Invited Talk on “Time Value of Money: The Foundation of Engineering Economic Decisions”

The Department of Mechanical Engineering, under the MATMA-SCI Club, organised an invited session on 22 August 2026 at A-221, SOE Block. The programme focused on the importance of the time value of money in engineering and professional decision-making. Dr. Muthuu Gopala Krishna, Financial Education Trainer, led the expert session. Participants explored practical financial concepts including cost evaluation, risk and return, investment choices, risk management, financial growth and value creation. The discussion highlighted how engineers can combine technical judgement with economic thinking when evaluating projects, technologies and investments.

DAYANANDA SAGAR UNIVERSITY NAAC A+ GRADE SCHOOL OF ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

UNDER THE CLUB

MATMA-SCI CLUB

INVITED TALK ON

**TIME VALUE OF MONEY:
THE FOUNDATION OF
ENGINEERING
ECONOMIC
DECISIONS**

EXPERT SESSION BY

DR. MUTHU GOPALA KRISHNA
FINANCIAL EDUCATION TRAINER
GOVERNMENT OF INDIA SPONSORED

CHAIRPERSON: DR. SARAVANA BAVAN D. PROFESSOR & CHAIRPERSON, DEPARTMENT OF MECHANICAL ENGINEERING

CONVENER: PROF. KARTHIK S. B. ASSISTANT PROFESSOR, DEPARTMENT OF MECHANICAL ENGINEERING

CO-CONVENER: DR. VINAY M. S. ASSISTANT PROFESSOR, DEPARTMENT OF MECHANICAL ENGINEERING

DATE: 22 AUGUST 2026, FRIDAY

TIME: 2:00 PM

VENUE: A-221, SOE BLOCK

AWARE TODAY | PLAN WISELY | INVEST SMARTLY | BUILD TOMORROW



CAMPUS PLACEMENT INTERVIEW - NASH INDIA

The Department of Mechanical Engineering, in collaboration with the Placement Department and NASH India, successfully conducted a campus placement interview on 28 August 2026. The programme provided eligible students opportunities for industry interaction, professional exposure, and recruitment through presentations and interviews.

