



Sri Venkateswara
College of
Engineering

Department of Mechanical Engineering

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IGNITION NEWSLETTER

**Issue
10**

Inside this Issue

DISCOVERY DIGEST | FACULTY EXCELLENCIES | STUDENTS
ACCOLADES | PLACEMENTS | INDUSTRIAL VISIT | EVENTS

About the Department

The department of Mechanical Engineering started its successful journey in 1985 and has been accredited by the NBA since 1998. It is recognized as a research center approved by Anna University, as well. The UG/PG courses offered by the department cover the thrust areas such as Thermal, Design, Manufacturing and Industrial Engineering and is supplemented by well – equipped laboratories, reputed research supervisors and dedicated faculty members. The department has the privilege of housing research cells – namely the Fibre Reinforced Composite (FRP) Cell, Engine Testing and Bio – Fuel Research cell, Tribology research cell, Welding research cell which are used extensively for research and consultancy projects. The department has completed sponsored research projects for a worth of more than 1.5 crore and consultancy projects for more than 75 lakhs. The department has established a center of excellence in Additive Manufacturing and Computer Integrated Manufacturing, which houses the facilities such as Digital Manufacturing, Robotics and HMI based Automation and 3D printers. The department has published more than 150 papers in peer reviewed journals during the last 4 years.

The following programs are offered by the department

1. B.E. Mechanical Engineering
2. B.E. Mechanical and Automation Engineering
3. M.E. Industrial Automation and Robotics

Vision

To be a leader in Higher Technical Education and Research by providing the state of the art facilities to transform the learners into global contributors and achievers.

Mission

1. To be renowned for offering Programs in the field of Mechanical Engineering that imparts competent technical knowledge along with skill, research & innovation, leadership and life skills needed for the students to contribute and achieve at global level.
2. To provide quality education encompassing recent technological developments by continuously upgrading the academic infrastructure thereby enhancing the technical knowledge of students, teachers and supporting staff which facilitates technical assistance to industrial and societal needs.
3. To offer need based training to the students in tools relevant to mechanical engineering.
4. To continuously upgrade the research facility and provide a conducive environment leading to continuous learning, development and transfer of knowledge.
5. To inculcate in students minds about Professional ethics, Human Values and Environmental issues in Engineering.

DISCOVERY DIGEST

"Navigating the Frontiers"

Renewable energy is a hot topic these days, and a new study has found that building-mounted INVELOX wind turbines could be a promising source of clean energy. The study, titled "**Experimental and Numerical Analysis of Building-Mounted INVELOX Wind Turbines**," was conducted by a N. Aravindhan, M. P. Natarajan, **S. Ponnuel**, P. K. Devan, Bibin Chidambaranathan, R. Ashok Kumar, K. Rajesh who tested a prototype turbine on the roof of a building.

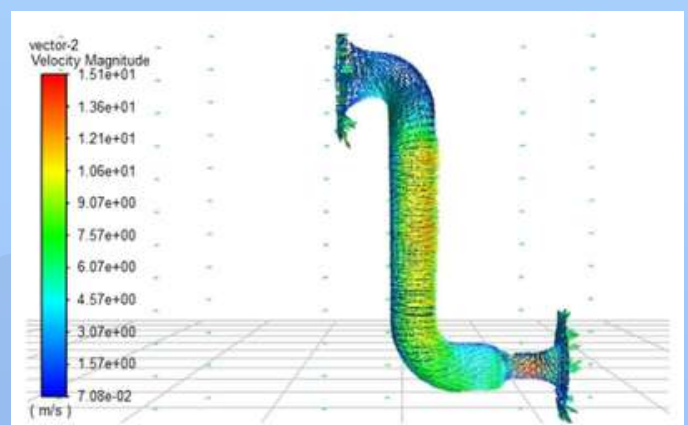


Dr. S. Ponnuel
ASP/Mech, SVCE

The researchers found that the INVELOX turbine was able to generate power even at **low wind speeds**, and that its performance was not significantly affected by changes in wind direction. They also used computer simulations to model the flow of air around the turbine and found that certain design changes could significantly improve its efficiency.

The potential for building-mounted wind turbines is significant, as they could provide a source of renewable energy without taking up valuable land space. The researchers note that further research is needed to optimize the design of these turbines and improve their performance, but the results of this study are promising.

If building-mounted wind turbines become more widely adopted, they could help to reduce our reliance on fossil fuels and move us closer to a more **sustainable future**.



Source: Iranian Journal of Science and Technology, Transactions of Mechanical Engineering. Springer Publication.
<https://doi.org/10.1007/s40997-023-00713-2>

FACULTY EXCELLENCIES

"A Glimpse of Remarkable Achievements"

Acknowledging faculty accomplishments, where passion, knowledge, and commitment converge for exceptional educational journeys.

Dr. S. Ponnuvel, in a lecture talk on **3rd October, 2023**, enlightened the Mechanical Department Staff with insights into Course Outcome and Program Outcome mapping. His expertise, enriched by an NPTEL course "**Accreditation & Outcome based education**" taken during the semester, added depth to the course.



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INTEGRATING MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE WITH CNC MACHINING: A REVIEW

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ABSTRACT:
Computer numerical control (CNC) machining is a crucial manufacturing process across industries like automotive, aerospace, and medical. With the advancement of technologies like machine learning (ML) and artificial intelligence (AI), new opportunities have emerged to enhance the capabilities of CNC machining. This paper reviews the applications of ML and AI techniques in CNC machining operations. The review is organized into categories based on the applications: reducing machine downtime, optimization of machining, tool wear prediction, cutting force modeling, machine maintenance, process monitoring, surface quality prediction, and energy consumption forecasting. The review highlights the potential of ML and AI in improving accuracy, efficiency, and reliability of CNC machining processes. However, challenges remain in aspects like data security and robust integration of virtual and physical systems. Directions for future research are recommended, including development of virtual machining.

Recent Trends in Multidisciplinary Research (Vol-8) Page 216

Mr. A. Ranjith Raj and **Mr. A. Kumaraswamy**, faculty members of the Mechanical Engineering Department, published a book chapter, titled "**INTEGRATING MACHINE LEARNING AND ARTIFICIAL INTELLIGENCE WITH CNC MACHINING: A REVIEW**," in the "**RECENT TRENDS IN MULTIDISCIPLINARY RESEARCH VOLUME - 8**" by **RED'SHINE PUBLICATIONS**, Stockholm, Sweden. This article showcases their expertise and contribution to the multidisciplinary research.

FACULTY EXCELLENCIES

"A Glimpse of Remarkable Achievements"

Empowering our team: **Mr. A. Baskaran, Mr. V. Seenu, Mr. E. Raman, and Mr. K. Dinesh Kumar** attended a **Skill Development Training in CAD** at **IIT Madras** from **1st to 2nd October, 2023**. The Registration and other expenses were sponsored by the department of Mechanical Engineering.



FACULTY EXCELLENCIES

"A Glimpse of Remarkable Achievements"



Enhancing expertise: **Dr. A. Saravanan** and **Dr. S. Muniraj** dedicated a week to sharpen their skills in **Autodesk AutoCAD** by attending the **5-day Faculty Development Program** at **Sri Kanyaka Parameswari Arts & Science College for Women, Chennai**, from **16th to 20th October, 2023** organized by **ICT Academy** Chennai. This FDP provided them with valuable insights and hands-on experience.



Mr. M Arul Kumar attended 5 Days Faculty development program on the topic **Bio-based and Bio-inspired Materials - Cornerstones for a Sustainable Future** which was organized by MHRD Scheme - Global Initiative on Academic Network (**GIAN**) from **17th to 21th October, 2023**, through online platform.

STUDENTS ACCOLADES

"Diverse Talents, One Campus Spirit"

In the journey of education, students' achievements illuminate the path to excellence. We proudly acknowledge their recent accomplishments

Congratulations to **Ahamed Mohideen Maluk** from **III Year**, Department of Mechanical Engineering for achieving victory in the **Anna University Table Tennis Tournament 2023**



Congratulations to **Anirudh R** from **I Year**, Department of Mechanical Engineering for achieving **Special Mention** place in the **Short Film Making** in the event **CHANDRAYAAN UTSAV** organized by SVCE Science Club on **16th October, 2023**.

STUDENTS ACCOLADES

"Diverse Talents, One Campus Spirit"

Congratulations to **Rohit Ram**, a second-year student in Mechanical and Automation, for his remarkable achievement at the **Model United Nations Conference** organized by **Women's Christian College** on **6th and 7th October, 2023**. Rohit's exceptional performance representing China in the OPEC committee earned him the **High Commendation Award** and a well-deserved **cash prize of Rs. 2500**.



Heartiest congratulations to **Melvin Rosoai A**, (IV Year), for securing the runner-up position in the Music Band competition at **COMMERZIUM'23**. Organized by the **Department of Commerce at SRM Institute of Science and Technology, Ramapuram**, on **14th October, 2023**,

STUDENTS ACCOLADES

"Diverse Talents, One Campus Spirit"

Kudos to **Kishore B, Adithya N Kumar, Aakash Nagappan, Pratul V S, Chealoka A, Sanjay R,** and **Dakxin Shaswath Haran Y,** all second-year students in **Mechanical and Automation.** Their active participation in the workshop **"A Deep Dive Into: Fundamentals of IoT"** hosted by the **Department of Computer Science Engineering at Saveetha Engineering College** on **28th October, 2023,** reflects their eagerness to delve into cutting-edge technologies. This initiative showcases their commitment to staying at the forefront of interdisciplinary learning.



STUDENTS ACCOLADES

"Diverse Talents, One Campus Spirit"

A big congratulations to the dynamic team **"AeroQuesters"** for their outstanding performance in the Internal Hackathon at **Sri Venkateswara College of Engineering** on **23rd and 24th September, 2023**. A Team of **III Year Mechanical Engineering** led by team leader **A. Krithikraj**, along with members **K. Lakshmanan, S.B. Charan,** and **S. Devaraj**, have not only participated but have been nominated for the **Smart India Hackathon 2023**. This recognition highlights their exceptional skills and innovative spirit.



Hats off to **VK Harish Raahul**, a second-year student in Mechanical and Automation, for his outstanding contribution to the **Ball Badminton team** of our college. In the **Anna University Zonal Tournaments 2023**, Harish's skill and dedication played a pivotal role, leading the team to a well-deserved **Third place** in the overall

competition for ball badminton. His sportsmanship and commitment shine bright in the realm of athletic achievements.



STUDENTS ACCOLADES

"Diverse Talents, One Campus Spirit"

Congratulations to **N. Rohith Krishna**, **S. Adithya**, and **R. Udhaya Kumar** Student of **III Year** mechanical engineering, for their remarkable participation in the **National-Level Technical Symposium, UPAGRAHA'23**, organized by the **Department of Electronics and Communication Engineering** at **Sri Venkateswara College of Engineering**. They were awarded Certificates of Participation for presenting their paper on the **"Manufacturing of Cervical Collar Using FDM 3D Printing."** Their valuable contribution to this event on **11th and 12th October, 2023**, showcases their commitment to technical excellence.



PLACEMENTS

"Opening Doors to Career Opportunities"

Congratulations!



Justin Kiran Kumar S
(2127201001027)



Kirran Goutam J B
(2127201001032)

Congratulations to **Justin Kiran Kumar S** (2127201001027) and **Kirran Goutam J B** (2127201001032) for receiving job offers on **5th October, 2023**, as **Graduate Engineer Trainees** at **M/s. Daimler India Commercial Vehicles Pvt Ltd** upon the successful completion of their internship from 3rd July to 1st September, 2023.

PLACEMENTS

"Opening Doors to Career Opportunities"

Congratulations!



RAMESH ARAVIND J M
(2127201001055)

Congratulations to **RAMESH ARAVIND J M** (2127201001055) for receiving a job offers from **M/S McDermott**, Chennai. as **ASSOCIATE SUBCONTRACT SPECIALIST** on **25th October, 2023.**



Vinish U. Krishnan
(2127201001080)



J Sachithanathan
(2127201001060)

Congratulations to **Mr. Vinish U. Krishnan** and **Mr. Sachithanathan** for securing **internship** at **M/S Flender** in Chettipedu, Kuthambakkam, Tamil Nadu.

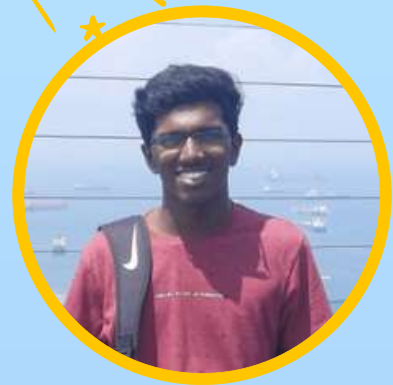
PLACEMENTS

"Opening Doors to Career Opportunities"

Congratulations!



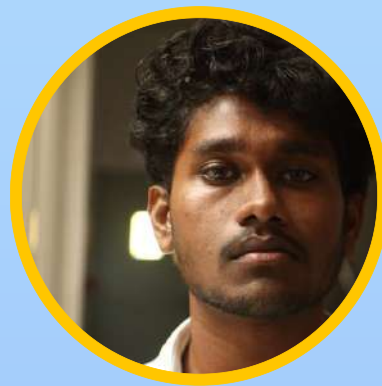
Bharath Pughazhendhi
(2127201001010)



Chidambarathanu L
(2127201001013)



Kaushigarajan U.K
(2127201001029)



Melvin Rosoaario A
(2127201001041)

Congratulations to our final year students **Bharath Pughazhendhi, Chidambarathanu L, Kaushigarajan U.K,** and **Melvin Rosoaario A,** who have been placed in **M/S JGC India EPC Pvt Ltd.** on **30th October, 2023** as **Associate Engineers in the Mechanical and Piping departments.**

INDUSTRIAL VISIT

“Factory Chronicles: Where Learning Takes Shape”

On **25th October, 2023**, Third year B-Section students from the Department of Mechanical Engineering, accompanied by faculty **Dr. S. Ponnuvel** and **Dr. S. Ilaiyavel**, embarked on an insightful industrial visit to **Indwel Pvt Ltd, Sriperumbudur, Chennai**. The visit aimed to provide students with the various heat treatment process applicable to the mechanical components based on the application.



Students from III Year belonging to Mechanical Engineering department during their visit to Indwel Pvt Ltd, Sriperumbudur, Chennai.

EVENT ORGANIZED

Guest Lecture Organized

On October 12, 2023, Department of mechanical Engineering organized a guest lecture entitled "**Clean Hydrogen Production and Fuel Cell Technologies**" which was delivered by **Dr. T. Maiyalagan, Research Associate Professor, SRM University**. He highlighted the critical role of energy and the urgent need to shift from fossil fuels to alternatives. Hydrogen, a cleaner and efficient fuel, emerged as a beacon of hope. The lecture explored fuel cell technologies, offering promising paths to a sustainable energy future



EVENT ORGANIZED

Guest Lecture Organized

On October 12, 2023, Department of mechanical Engineering organized a guest lecture entitled "**Career Guidance-Alumni Talk**" which was delivered by **Dr. S. N Vijayakumar, Chief General Manager, Indian Oil**. Mr. Vijayakumar stressed key skills for mechanical engineers, including problem-solving, teamwork, and adaptability. He discussed future challenges like sustainability and opportunities in Industry 4.0, emphasizing skills in AI, IoT, and data analytics.



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Mechanical Engineering



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Assistant Professor
Mechanical Engineering



Mr. A. Ranjith Raj
Assistant Professor
Mechanical Engineering

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Mechanical Engineering



Mr. Raviram R
IV Year
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Mechanical Engineering



Mr. Mithun Aravind O
III Year
Mechanical Engineering



Mr. G Bharath Kumar
II Year
Mechanical Engineering



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II Year - Mechanical and
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Mr. M Sanjay
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Mechanical Engineering



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Automation Engineering