



Sri Venkateswara
College of
Engineering

Department of Mechanical Engineering

FEBRUARY 2024

IGNITION NEWSLETTER

ISSUE 02

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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"

CIRCULAR ECONOMY *Bio Composite using Agricultural waste*

- By Dr. C Senthamaraikannan



"Millions of tons of sugarcane waste, also known as bagasse, is produced every year. And India grows the second-most sugarcane of any country in the world. Yash Pakka's brand Chuk is creating tableware out of the waste that is usually burned for fuel."

Chuk tableware is made from 100% compostable and biodegradable sugarcane

fiber. By utilizing sugarcane waste that would otherwise be discarded or burned, Chuk contributes to reducing environmental pollution. It promotes a circular economy, where waste materials are repurposed into valuable products. Chuk products are microwave-safe, allowing convenient reheating of food. Despite their lightweight design, Chuk tableware maintains a sturdy structure, preventing food spillage. Chuk tableware is free from harmful toxins, ensuring safe use for consumers.

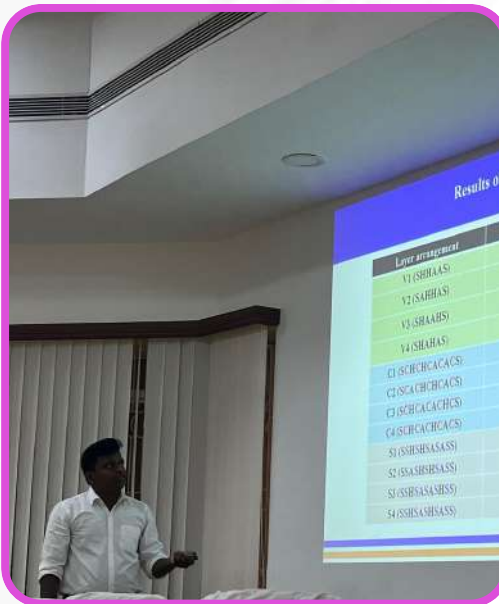
Chuk's tableware products decompose within just 60 days, making them an environmentally responsible alternative to single-use plastics that take centuries to break down.



FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"

Conference Proceeding: Dr. C. Senthamarikannan, Venkat Kowsik K, and Raviram R presented a research paper titled "Study on sustainable use of Recycled agricultural waste into useful industrial product and its Static and Dynamic Properties" at the International Conference on Sustainable Materials for Engineering Applications (ICSMEA 2024) held at Indian Institute of Technology Madras, India from 1st Feb to 3rd Feb, 2024.



Training Program: Dr. S. Ponnuvel and Mr. K. Ram Prasad attended an Internal Auditor Training program on 7th and 8th February, 2024, focusing on ISO 21001:2018 Implementation.



FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"

Training Program: Mr. K. Ram Prasad and Mr. M. Nishal participated in a Two-Day Training Programme for "**Mentors of Standards Clubs**" on 15th and 16th February, 2024, organized by the Bureau of Indian Standards in Chennai.



MoU Initiation: Dr. S. Ramesh Babu and Dr. R. Ramesh visited ZF Rane on 9th February, 2024, to explore potential industrial collaboration opportunities.



FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"

FDP Attended: Dr. S. Saravanan, Dr. R. Ramesh, Dr. M. Gajendiran, Mr. M. Balakumar, Mr. J. Sivaramapandiyan, and Mr. Kaliyanasunder R participated in the ATAL SPONSORED NATIONAL level Faculty Development Program titled "SUSTAINABILITY THROUGH GREEN VEHICLES POWERED BY CNG, HYDROGEN AND ELECTRIC ENERGY" from February 12th to 17th February, 2024.

◆ **Mr. M. Balakumar**



◆ **Mr. J. Sivaramapandiyan**



◆ **Dr. R. Ramesh**



FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"



Mr. R. Kaliyanasunder R



Dr. S. Saravanan



Dr. M. Gajendiran

FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"

Training Program: Mr. Arulkumar M participated in and successfully completed the **NEP 2020 Orientation & Sensitization** Programme as part of the **Malaviya Mission Teacher Training Programme (MM-TTP)** by the **University Grants Commission (UGC)**. The program was organized by UGC-Malaviya Mission Teacher Training Centre, National Institute of Educational Planning and Administration, New Delhi, from **January 3rd to 12th January, 2024**.



Paper Presentation: Mr. M Arulkumar and Mr. M Yuvaraj from final year, Mechanical presented a paper titled



"Predictive Modelling Of Wear and Friction in Surface Textured TiAlN coated Ti6Al4V Alloy Using Artificial Neural Networks" at the SERB-DST sponsored 1st International Conference on **Advanced Materials Manufacturing & Structures (ICAMMS-24)**. The conference was held at **Rajalakshmi Institute of Technology, Chennai, India on 22nd and 23rd February, 2024**.

FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"

Paper Presentation: Dr. S Muniraj and Mr. A Kumaraswamy presented a paper titled "Prediction of improved Surface Quality by Optimized Influential Milling Process Parameters with Different Cutters on Magnesium Alloy" at the SERB–DST sponsored 1st International Conference on **Advanced Materials Manufacturing & Structures (ICAMMS–24)**. The conference was held at **Rajalakshmi Institute of Technology, Chennai, India** on **22nd and 23rd February, 2024**.



FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"

Congratulation to **Dr. S Gopinath** for successfully participating and completing multiple quizzes by **MyGov** and **MoSPI**. Additionally Dr. Gopinath participated in the **STATISTICAL BRILLIANCE BATTLE: KNOW YOUR STATS QUIZ, QUIZ ON QUALITY AND STANDARDS 2.0** organized by the **Bureau of Indian Standards**, and Quiz on India's Democracy.



FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"



Dr. Senthilvelan V, Dr. Rameshbabu S, and Mr. Hari Prasad Sridhar presented a paper titled "Structural and Tribological Characterization of Wire Arc Additive Manufactured Magnesium Grade" at the "International Conference on Advancements in Materials, Design, and Manufacturing for Sustainable Development." The conference was organized by the Department of Production Engineering, PSG College of Technology, Coimbatore, on 23rd and 24th February, 2024.



PSG COLLEGE OF TECHNOLOGY, COIMBATORE - 641 004

DEPARTMENT OF PRODUCTION ENGINEERING

International Conference on Advancements in Materials, Design and Manufacturing for Sustainable Development - ICAMDMS 2024



Certificate of Participation

This is to certify that

Hari Prasad Sridhar

of

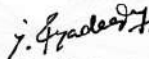
Sri Venkateswara College of Engineering, Sriperumbudur

had presented a paper titled

Structural and Tribological Characterization of Wire Arc Additive Manufactured Magnesium Grade AZ31

authored by **Senthilvelan V, Rameshbabu S and Hari Prasad Sridhar** in the "International Conference on Advancements in Materials, Design and Manufacturing for Sustainable Development", organized by the Department of Production Engineering on 23 & 24 February 2024.


Organizing Secretary
ICAMDMS-2024


Organizing Secretary
ICAMDMS-2024


Organizing Secretary
ICAMDMS-2024


Convener
ICAMDMS-2024



Review Article

Exo skeleton pertinence and control techniques: A state-of-the-art review

Prashanna Rangan R and Ramesh Babu S

Abstract

Exo-Skeleton is a wearable robotic device which was emerged in later 1960s that has a multitude of applications ranging from weightlifting to wearer's stability improvement. This paper makes a novel approach in reviewing the various exo-skeleton models that are available at the present. The idea of this paper is to study and compare the models in terms of medical applicability like gait rehabilitation, physiotherapy, human strength augmentation, various control strategies of exo-skeleton, ergonomic study, and need for exo-skeleton system for enhancing the life of humans. Since exo-skeletons are wearable devices, it requires precise controlling of the actuators and repeatability, and accuracy plays a vital role. The paper elucidated with a detailed analysis, reviewed and summarized the core essence of 300 research papers and patents in the field of exo-skeleton with the aforesaid aspects of application and drive system with their control methodologies from 2007 to 2022 and shown a trend with year-wise data from which it is clear that the future of industrial work will become a collaborative activity involving the exo-skeleton system with human labours. Human – robot interaction is vital and must for enabling an integration which can be achieved with the amelioration in the control and actuation techniques for precise control. With the furtherance in the technology the exo-skeletons can be purpose built that can be of rigid or flexible structures with active, passive, or quasi-passive controls based on the user needs. Joint handed operation of Exo-skeleton with the alternative treatment methodologies will yield a plethora of benefits in the near future in comparison with the present conventional treatment modes that could result in reduction of surgeries.

Institution of
**MECHANICAL
ENGINEERS**



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Dr. S Ramesh Babu, along with PG student Mr. Prashanna Rangan, published a paper titled "Exoskeleton Pertinence and Control Techniques: A State-of-the-Art Review" in Proc IMechE Part C: Journal of Mechanical Engineering Science, published by Sage Publications.

STUDENTS ACCOLADES

"Diverse Talents, One Campus Spirit"

Congratulations to **Havinesh Kumar M** for securing the **3rd prize** in the **Project Expo** event held on **23rd February, 2024**. The Department of Mechanical and Mechatronics Engineering hosted **"TRIDENT'24,"** a National Level Technical Symposium where the event took place.



Congratulations to **Manikandan J, Mohammed Aashi, and Arunkumar S** for representing our college as part of the team in the **PALS innoWAH! Pre-Finals** event held at **Jerusalem College of Engineering, Chennai, on 23rd February, 2024**. Your participation is commendable, and we wish you the best for the finals!



EVENTS

"Recapping the Buzzworthy Happenings"

Guest Lecture: On **1st February, 2024**, the **Society of Mechanical Engineers** hosted a guest lecture titled "**Advanced Mobility & Emerging Automotive Tech Solutions.**" **Mr. N. Suresh Kumar, Assistant Chief Engineer at TAFE.** The event took place at **Video Hall** from **10:30 AM to 12:00 PM.**



Guest Lecture: The **Society of Mechanical Engineers** hosted a guest lecture on "**Dynamics and Innovations in the Automobile Industry.**" **Ms. Akshaya Janakiraman, Scrum Master & Project Quality at Danfoss Industries Pvt Ltd,** shared insights. The event took place on **7th February, 2024**, from **10:30 AM to 12:00 PM** at the **Video Hall.**



EVENTS

“Recapping the Buzzworthy Happenings”

- **Meeting:** On **12th February, 2024**, Principal **Dr. S. Ganesh Vaidyanathan Subramanian**, Dean IQAC, and Nodal Officer **Dr. S. Gopinath**, along with SVCE Standards Club coordinator **Mr. Ram Prasad K** and esteemed alumnus **Shri. Gowtham B J**, Scientist D, Joint director CNBO, held a meeting with **Shri. Pramod Kumar Tiwari**, Director General, Bureau of Indian Standards in Chennai. Discussions focused on initiatives for academic standards with institutes that have signed MoUs.



- **Dr.K.Bhaskar**, HOD of Automobile Engineering & Professor, Rajalakshmi Engineering College **audited the academic activities** pertaining to **AY2022-23** in the Department of mechanical engineering as a part of **EAAA audit**.



EVENTS

"Recapping the Buzzworthy Happenings"

- **Ph.D. Viva Voce:** Dr. S Saravanan's research scholar **Mr. N Krishnamoorthy** (Reg. No:- 17142997295) defended his research titled "**Experimental And Theoretical Analysis For Optimization Of Anti-Oxidants And Injection Timing For Multiple Responses Of A Stationary CI Engine Fuelled With Algae Biodiesel Blend**" was successfully conducted on **19th February, 2024** at 10:00 am in the QMC Hall, Department of Mechanical Engineering.



Guest Lecture: The **Society of Mechanical Engineers** hosted a guest lecture on "Industry 4.0 and 5.0." Mr. Abdul Rahman, Project manager at **Global centre for Industrial Automation and Robotics.**, shared insights. The event took place on **20th February, 2024**, from 10:30 AM to 12:00 PM at the Video Hall.



EVENTS

“Recapping the Buzzworthy Happenings”

- The Industry Institute Interaction meeting with executives from **Samsung Electronics** was held on **23rd February, 2024**, at **GD Hall 4, Placement Office**. Attendees included **Mr. S. Muraleedharan**, Chief Placement Officer, along with **Dr. S. Ramesh Babu**, **Dr. M. Mohandass**, **Dr. A. Saravanan**, **Mr. Gulshan Kumar Saini**, Senior Director II of the Smart Facility Group, **Mr. L. Gopinath**, Deputy General Manager of the Smart Facility Group, and **Mr. S. Ramesh**, Deputy General Manager – HR Management.



EVENTS

“Recapping the Buzzworthy Happenings”

- The Industry Institute Interaction meeting with executives of M/s. **HL Mando** was held on **28th February, 2024**, at **HL Mando Office**, Irungattukottai, Sriperumbudur. Attendees included **Dr. S. Ganesh Vaidyanathan** (Principal), **Dr. K R. Santha** (Vice Principal), **Dr. S. Muraleedharan** (Chief Placement Officer), **Dr. R. Ramesh** (Dean - Academics), **Dr. K. S. Badrinathan** (Dean - Educational Development), **Dr. J. Venkatesan** (HoD/ Auto), **Dr. G. A. Sathish Kumar** (HoD/ ECE), **Dr. S. Ramesh Babu** (HoD/ Mech), **Dr. M. Mohandass** (Assistant HoD/Mech).



EVENTS - FACULTY DEVELOPMENT PROGRAM

DEPARTMENT OF MECHANICAL ENGINEERING organised an **ATAL SPONSORED NATIONAL** level Faculty Development Program titled "**SUSTAINABILITY THROUGH GREEN VEHICLES POWERED BY CNG, HYDROGEN AND ELECTRIC ENERGY**" from **12th February to 17th February , 2024**. The program, coordinated by **Dr. SARAVANAN S**, featured an inauguration with **Dr. A.S. RAMADHAS, Director of the Global Automotive Research Centre (GARC), ORAGADAM**, as the chief guest. 36 participants were attended the FDP.



FACULTY DEVELOPMENT PROGRAM

Resource Persons

Throughout the FDP, participants had the privilege of learning from esteemed industry experts and academics, including:

1. **Dr. A.S. RAMADHAS** - Director, Global Automotive Research Centre (GARC)
2. **Mr. I. Meenakshi Sundaram** - Chief Technology Officer, M/s Amalagamations Components Division
3. **Mr. S. Bharathan** - Lead Engineer, Thermal Systems, Automotive Division, M/S Mahindra and Mahindra Ltd
4. **Mr. B. Prakash** - Principal Member (R & D), NVH, M/s TAFE Ltd
5. **Dr. S.V. Srinivasan** - Senior Principal Scientist, CSIR-Central Leather Research Institute, Chennai
6. **Dr. C. Rameshkumar** - Professor of Mechanical Engineering, VIT, Vellore
7. **Mr. Suresh Bagavathy** - General Manager, Reliance Industries Limited-Reliance New Mobility
8. **Mr. G. Senthil Kumar** - Deputy General Manager – Engine Development, Ashok Leyland - Technical Centre
9. **Mr. R. Senthil Kumar** - Assistant Director, National Power Training Institute, Bangalore
10. **Dr. C. Prathap** - Professor of Aerospace Engineering, Indian Institute of Space Science and Technology, Trivandrum
11. **Dr. P. Raghu** - Associate Professor of Mechanical Engineering, SVCE
12. **Dr. S. Arumugam** - Assistant Professor, Mechanical Engineering, SVCE



GO KART DESIGN CHALLENGE

Our college team, **Initial-D**, showcased their skills at the **Go-Kart Design Challenge 2024** held at **Kari Motor Speed Track, Coimbatore**, Tamil Nadu, from **15th to 19th February, 2024**. Accompanied by our faculty in charge, **Mr. J. Sivaramapandian**, the team embarked on the challenge of designing and fabricating a Go-Kart vehicle from scratch to compete against other participants. With a total of **24 Mechanical Engineering students**, our team demonstrated resilience and innovation. Out of 77 registered teams, we have proudly secured the **22nd place** among the participating teams.

1. **Hari Prasad S** - III Year [**Captain**]
2. **Aditiya N E** - III Year [**Vice-Captain, Driver**]
3. **Abishek J** - III Year
4. **Adnan Khader M** - III Year
5. **Ahamed Mohideen Maluk** - III Year
6. **Dilip Kumar R** - III Year
7. **Gurunathraj E** - III Year
8. **Hari Kiran M G** - III Year
9. **Harish Ramanathan B** - III Year
10. **Indrakanth N R** - III Year
11. **Janardhanan V** - III Year
12. **Karthi B** - III Year
13. **Kirthick K** - III Year
14. **Logaranjan G** - III Year
15. **Harish Ragavendra** - II Year
16. **Gowrish** - II Year
17. **Jensen Silva** - II Year
18. **Sai Santosh** - II Year
19. **Srivarthini** - II Year
20. **Sri Vishnu** - II Year
21. **Mukesh Maran** - II Year
22. **Senthil Velan** - II Year
23. **Sanjiv Raaj** - II Year
24. **Bharath Kumar** - II Year



PLACEMENTS

"Opening Doors to Career Opportunities"



Manikandan R
(2127201001306)



Parthasarathy B
(2127201001048)

Congratulations to **Mr.R.Manikandan** and **Mr.B.Parthasarathy** for securing positions as **Graduate Engineer Trainees** (EMS - Engineering Management System) at M/s. **Southern Petrochemical Industries Corporation Ltd., (SPIC)**. on 8th Feb, 2024. We wish you success in your new roles!



Joseph C Joy
(2127201001026)

Congratulations to **Mr. Joseph C Joy** for securing positions as **Graduate Engineer Trainees** at M/s. **TAFE Ltd.**, on 8th Feb, 2024. We wish you success in your new roles!

Congratulations to **Mr. Darshan Arunachala J** for securing positions as **Graduate Engineer Trainees** at M/s. **IMC Limited**,. on 28th Feb, 2024.



Darshan Arunachala J
(21272010010)

PLACEMENTS

"Opening Doors to Career Opportunities"

Congratulations to **Anton Jerome A, Aditya Rajarathnam, Aneesh Varman S, Monish V, Pradep Sreenivasan R, Dillirajan K, and Mohammed Aashiq A**, our seven final year students, for their placements in **M/s. Tube Investments of India** as **Project engineer** on **February 29, 2024**. Your hard work and dedication have paid off, and we wish you all the best for your future endeavors!



Anton Jerome A
(2127201001006)



Aditya Rajarathnam
(2127201001003)



Monish V
(2127201001044)



DILLIRAJAN K
(21272010010)



**Pradep
Sreenivasan R**
(2127201001051)



Aneesh Varman S
(2127201001005)



**Mohammed
Aashiq A**
(2127201001308)

ALUMNI WRITE-UP

"Stories of Success, Growth, and Impact"

Opting for Sri Venkateswara College of Engineering for a bachelor's in mechanical engineering proved to be one of my best decisions. As an autonomous institute, SVCE's student-centric curriculum offered the flexibility to explore interdisciplinary courses and adjust movable courses each semester, allowing me to focus on a single academic project in my final semester. The dedicated faculty in the Mechanical Engineering department made my undergraduate studies enriching, fostering exploration and providing practical knowledge through well-equipped labs and machine shop facilities.



**Sinaendhran
Pujali Elilarasan
Alumni 2018-22**

SVCE not only provides campus placement opportunities but also supports students pursuing higher studies, offering recommendation letters and guidance. Choosing to pursue my master's, I received invaluable support from faculty, leading to admission at the prestigious University of Michigan, Ann Arbor.

Beyond academics, SVCE's campus boasts essential facilities, including extensive libraries, well equipped labs, classrooms, and an on-site Indian Bank branch. I express gratitude to the Principal, Head of the Department, Faculty Advisor, and other faculty members for a remarkable undergraduate experience, proudly identifying as an SVCE alumni.

Sinaendhran Pujali Elilarasan
Graduate Student Master's of
Science in Engineering
Aerospace Engineering University
of Michigan, Ann Arbor

EDITORIAL TEAM



Dr. S. RAMESH BABU
Professor & Head
Mechanical Engineering



Dr. S. MUNIRAJ
Assistant Professor
Mechanical Engineering



Mr. A. Ranjith Raj
Assistant Professor
Mechanical Engineering

STUDENT EDITORIAL TEAM



Mr. Lohesh M V
IV Year
Mechanical Engineering



Mr. Raviram R
IV Year
Mechanical Engineering



Mr. Kiran Kumar D P
III Year
Mechanical Engineering



Mr. Mithun Aravind O
III Year
Mechanical Engineering



Mr. G Bharath Kumar
II Year
Mechanical Engineering



Mr. Bharath Vigneshwar R
II Year - Mechanical and
Automation Engineering



Mr. M Sanjay
I Year
Mechanical Engineering



Mr. Lithesh C
I Year - Mechanical and
Automation Engineering