



Sri Venkateswara
College of
Engineering

Department of Mechanical Engineering

July 2024

IGNITION

Newsletter

Issue 07

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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.

EDITORIAL DIGEST

“Navigating the Frontiers”

AI Tools for Research

- **ChatGPT, Google Gemini:** A conversational AI model that can assist in generating ideas, answering questions, and summarizing research topics.
- **Consensus:** An AI-powered search engine that provides answers to specific questions based on the consensus from scientific literature, making it easier to find relevant information quickly.
- **Research Rabbit:** A tool that helps organize academic papers into collections, visualize research networks, and discover new relevant papers based on user interests.
- **Danswer:** An AI tool designed to provide direct answers to research questions, enhancing the efficiency of information retrieval.
- **Heuristica:** A concept mapping tool that helps users research, learn, and create using AI, facilitating the organization of complex information.
- **Scite.ai:** A research tool that uses AI to analyze scientific papers and show how many times a paper has been cited positively, negatively, or neutrally, helping researchers assess the impact of studies.



A Ranjith Raj
AP/MECH

FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"



Resource Person for workshop: The Institution Innovation Council (IIC) of SVCE, Sriperumbudur, organized a mentoring session on "**Lean Startup & Minimum Viable Product/Business**" on **July 20, 2024**. **Mr. M. Nishal and Mr. K. Ramprasad**, led the sessions on Lean Startups and Minimum Viable Product/Business, respectively. The event aimed to foster entrepreneurial skills and was well-attended by faculty and students.

FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"



Paper Publication: Congratulations to **Dr. S. Natrajan**, along with Dr. S. Raja (2017 M.E. ICE graduate) and **Prof. K. Pitchandi**, for jointly publishing a research article titled "**Sb-loaded MnOx/TiO₂/CNTs Catalysts for Selective Catalytic Reduction of NO_x: Insight to the SO₂ and H₂O Tolerance**" in the Aircraft Engineering and Aerospace Technology Journal.

The article, published on **July 9, 2024**, in Volume 96, Issue 5, pages 747-755, is indexed in the Web of Science (Anna University Annexure-I List, **impact factor: 1.2**) and Emerald Publishers.

DOI: <https://doi.org/10.1108/AEAT-11-2023-0299>

FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"



Paper Publication: Congratulations to **Dr. A. Saravanan** for publishing his research article titled **"A Combinatorial Optimization Approach for Geometric Tolerance Design Considering Various Taxonomies"** in the *Engineering Optimization* journal by Taylor and Francis. This journal is indexed in WoS/SCI and the AU annexure Journal list.



Taylor & Francis Online

Engineering Optimization >
Latest Articles

38	0	0
Views	CrossRef citations to date	Altmetric

Research Article

A combinatorial optimization approach for geometric tolerance design considering various taxonomies

G. Mahesh & A. Saravanan

Received 21 Jul 2023, Accepted 07 Jun 2024, Published online: 23 Jul 2024

Cite this article
<https://doi.org/10.1080/0305215X.2024.2367601>

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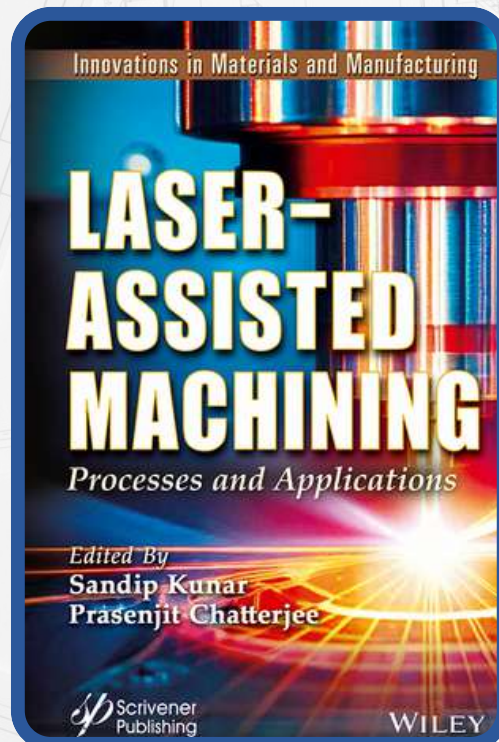
Full Article Showing

FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"



Bookchapter Publication: Mr. A. Ranjith Raj, Dr. C. Senthamarai Kannan, and Mr. J. Sivaramapandian have published a book chapter titled "**Chapter 4: Optimization of Laser Cutting Parameters Using the Taguchi Approach**" Page No. 41 in the book "**Laser-Assisted Machining: Processes and Applications.**" On behalf of the Mechanical Engineering Department, we extend our hearty congratulations to the authors for this significant achievement.



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FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"



Dr. P. Raghu demonstrated commendable engagement in professional development and research activities. He successfully completed a five-day **Faculty Development Program on "Effective Proposal Writing for Extramural Funding & Patentability of Ideas and Design,"** organized by the IQAC, Department of Research & Consultancy, and IPR Cell from **2nd to**

6th July 2024. Additionally, He presented a manuscript titled **"Effect of Nozzle Hole Number on Dual Fuel Mode Operation with Biodiesel Blends Using Surface Response Methodology"** at the **4th International Conference on Waste, Energy and Environment (ICWEE-2024),** held from **3rd to 5th July 2024.** This conference was organized by the Centre for Waste Management at Sathyabama Institute of Science and Technology, Chennai.



FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"



Workshop attended: Congratulations to Mr. Balakumar M for successfully participating in two significant programs. He completed the 6-Day Online Faculty Development Program on "Innovative Horizons in Additive Manufacturing Research" organized by the Department of Mechanical

Engineering, PPG Institute of Technology, Coimbatore, from 15th to 20th July 2024. Additionally, he took part in the Mentoring Session on "How to Plan for Startup, Legal and Ethical Steps," organized by the Institution Innovation Council (IC201810371 - IIC SVCE Sriperumbudur) on 8th July 2024.



FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"

Certification of appreciation:

The Management of Sri Venkateswara College of Engineering, Pennalur, Sriperumbudur, has awarded a Certificate of Appreciation to **Dr. R. Ramesh, Dr. K. Pitchandi, and Dr. S. Ramesh Babu** for their outstanding contributions to research publications. Their impressive H-index scores of **15, 13, and 9, respectively**, highlight their significant impact and commitment to advancing knowledge in their fields. Congratulations on this well-deserved recognition!

The image displays three certificates of appreciation from Sri Venkateswara College of Engineering (SVCE), Pennalur, Sriperumbudur, Tamil Nadu. Each certificate is issued by the management of the college and is addressed to a faculty member for their contributions to research publications. The certificates are arranged vertically, each featuring the SVCE logo, the college's name, and the recipient's details. The first certificate is for Dr. R. Ramesh, a Professor in Mechanical Engineering, with an H-index of 15. The second is for Dr. K. Pitchandi, also a Professor in Mechanical Engineering, with an H-index of 13. The third is for Dr. S. Ramesh Babu, a Professor in Mechanical Engineering, with an H-index of 9. Each certificate includes a circular portrait of the recipient. The certificates are framed with a blue border and set against a background of technical drawings and logos.

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Pennalur, Sriperumbudur, Tamil Nadu | www.svce.ac.in

CERTIFICATE OF APPRECIATION

The Management of Sri Venkateswara College of Engineering, Pennalur, Sriperumbudur, would like to

Congratulate Dr./Mr./Ms./Prof. R. Ramesh Designation Professor

working in the Department of Mechanical Engg. for his/her contribution

Publication / Book-Chapter / Patent-Titled h-index : 15

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CERTIFICATE OF APPRECIATION

The Management of Sri Venkateswara College of Engineering, Pennalur, Sriperumbudur, would like to

Congratulate Dr./Mr./Ms./Prof. K. Pitchandi Designation Professor

working in the Department of Mechanical Engg. for his/her contribution

Publication / Book-Chapter / Patent-Titled h-index : 13

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CERTIFICATE OF APPRECIATION

The Management of Sri Venkateswara College of Engineering, Pennalur, Sriperumbudur, would like to

Congratulate Dr./Mr./Ms./Prof. S. Ramesh Babu Designation Professor

working in the Department of Mechanical Engineering for his/her contribution

Publication / Book-Chapter / Patent-Titled h-index : 9

DEAN (RESEARCH)

FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"



Online course completion:

Congratulations to **Mr. A. Saravanan**, for successfully completing the one-month online FDP on **Industrial Automation** organized by **SkillDzire** in collaboration with AICTE.



CERTIFICATE OF COMPLETION

This is to certify that Mr./Ms

A.Saravanan

Designation: **Assistant Professor**

Institution: **Sri Venkateswara College of Engineering**

has Successfully Completed the online FDP on

Industrial Automation

Organized by **SkillDzire** in collaboration with **AICTE**

Duration: 1 Month

Certificate ID:
SDFDP-11189

Issued On
02-July-2024



Approved By AICTE



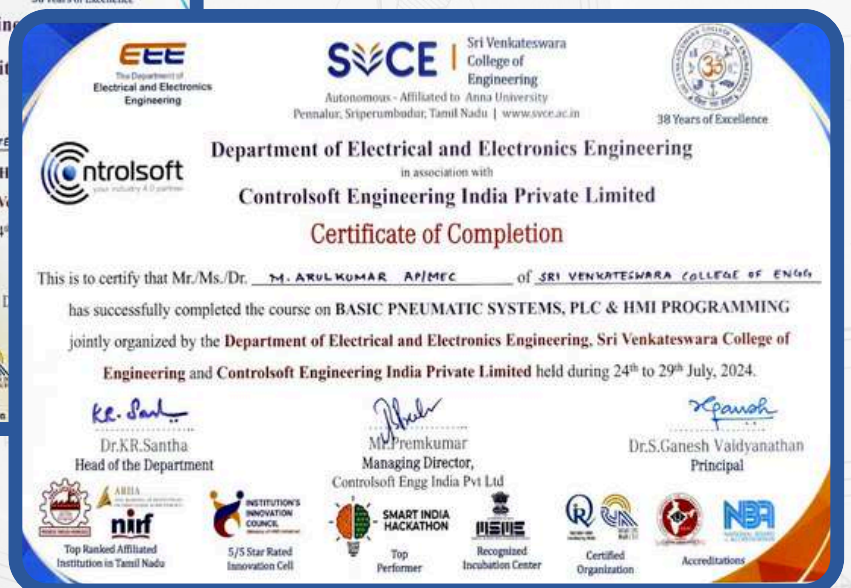
Authorized Signature

FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"



FDP Attended: Congratulations to Dr. V Sridharan and Mr. M Arul Kumar for successfully completing the course on "**Basic Pneumatic Systems, PLC & HMI Programming.**" The course was jointly organized by the Department of Electrical and Electronics Engineering and Controlsoft Engineering India Private Limited from 24th to 29th July 2024.



FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"

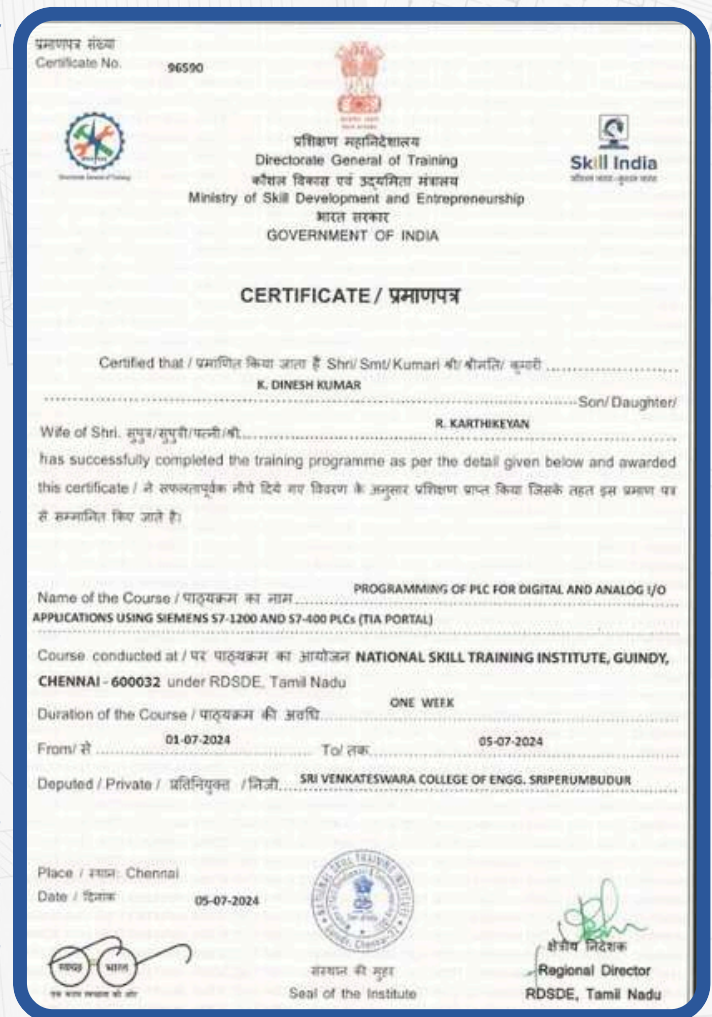
Workshop Attended: Mr. J. Baskaran, Mr. A. Sampath, Mr. K. Sakthivel, Mr. K. Gogulan, and Mr. N. Senthil Kumar, non-teaching staff members of our department, successfully attended a one-week workshop on "Calibration of Dimension Measuring Instruments" from 1st to 5th July 2024. This workshop was conducted at the National Skill Training Institute, Guindy, Chennai, under the Regional Directorate of Skill Development and Entrepreneurship (RDSDE), Tamil Nadu, and was organized by the Ministry of Skill Development and Entrepreneurship, Government of India.



FACULTY ACHIEVEMENT

"A Glimpse of Remarkable Achievements"

Workshop Attended: Mr. V. Seenu, Mr. E. Raman, Mr. S. Sudhershan, Mr. M. Vijay, and Mr. K. Dinesh Kumar, non-teaching staff members of our department, attended a one-week workshop on "Programming of PLC for Digital and Analog I/O Applications using Siemens S7-1200 & S7-400 PLCs (TIA Portal)" from 1st to 5th July 2024. The workshop was conducted at the National Skill Training Institute, Guindy, Chennai, under the Regional Directorate of Skill Development and Entrepreneurship (RDSDE), Tamil Nadu, and was organized by the Ministry of Skill Development and Entrepreneurship, Government of India.



STUDENTS ACCOLADES

"Diverse Talents, One Campus Spirit"



Internship attended: Mr. Pratul V.S
(Reg No: 2127221002028) of Sri Venkateswara College of Engineering, Sriperumbudur, successfully completed an internship in **Howden Air and Gas India Pvt. Ltd.** from **24th June 2024 to 5th July 2024**. We are pleased to acknowledge his dedication and hard work during this period.

Internship attended:
Congratulations to **Mr. Srivatsan S**, BE-III Year student of Sri Venkateswara College of Engineering, for completing his inplant training at **Sundaram Industries Pvt. Ltd.** from **June 24, 2024, to July 5, 2024**. We wish him all the best in his future endeavors.



TRAINING PROGRAM

“Recapping the Buzzworthy Happenings”

Training Course on VMC Programming and Operations

A specialized training course on **VMC Programming and Operations** was successfully conducted from **July 3rd to July 9th, 2024**. The course was designed to enhance proficiency in CNC programming and machine operation, providing participants with both theoretical knowledge and hands-on experience.

Key Highlights:

Day 1: The program kicked off with an introduction to SEENC Mill software, focusing on basic coding, including G-code and M-code. Participants engaged in practical coding exercises, building foundational skills and troubleshooting common errors.



Day 2: Participants explored CNC machine fundamentals, with a focus on VMC setup, operation, and safety protocols. Detailed discussions on machine controls and datum setting were also held.

TRAINING PROGRAM

“Recapping the Buzzworthy Happenings”

Training Course on VMC Programming and Operations

Day 3: The VMC training session, led by Mr. Surya from the Western Thomson (India) Limited, offered in-depth insights into VMC operations. The day included interactive case studies and a Q&A session, enhancing participants' understanding of practical applications.



Day 4: Hands-on practice resumed with the VMC and Denford mill trainer kit, allowing participants to apply their theoretical knowledge. Practical exercises in machining were conducted, followed by an evaluation of the participants' proficiency.

Day 5: The final day emphasized CNC programming, particularly the auto-generation of machining codes. The training concluded with further practical exercises, an MCQ test, and a valedictory function celebrating the participants' successful completion of the course.



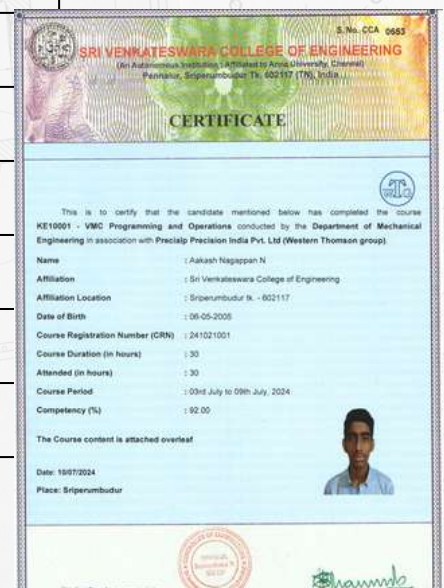
TRAINING PROGRAM

“Recapping the Buzzworthy Happenings”

Training Course on VMC Programming and Operations

The course was coordinated by **Dr. S. Ponnuel**, **Dr. V. Sridharan**, and **Mr. M. Maheswaran**, who provided invaluable guidance and support throughout the program. **Mr. N. Subash**, Instructor at CAM Lab, and **Mr. J. Baskar**, Instructor at CAD Lab, also played crucial roles as supporting staff. Their combined contributions ensured a well-organized and effective learning experience, equipping participants with the necessary skills to excel in their fields.

S.No	Name	Register Number	Branch
1	Sudharsan V	2127221001038	ME
2	Aakash Nagappan N	2127221002001	MN
3	Adithya N Kumar	2127221002002	MN
4	K Aravinda Krishnan	2127221002005	MN
5	Harish Raahul MK	2127221002016	MN
6	Kishore B	2127221002020	MN
7	R. Rohith Ram	2127221002030	MN
8	Sanjay R	2127221002031	MN
9	Lokesh P	2127221002023	MN



EVENTS

“Recapping the Buzzworthy Happenings”

On July 11, 2024, Sri Venkateswara College of Engineering (SVCE) signed a Memorandum of Understanding (MoU) with **Delphi-TVS Technologies Limited**, a leading automotive component manufacturer in India. This three-year agreement aims to foster collaboration between academia and industry, focusing on education, research, and practical training in the automotive sector.

Key Members Involved:

- From Delphi-TVS Technologies Limited:
 - **Mr. S. Ravichandran:** Executive Vice President
 - **K. Balaji:** Vice President - People and Culture
- From Sri Venkateswara College of Engineering:
 - **Dr. S. Ganesh Vaidyanathan:** Principal
 - **Dr. J. Venkatesan:** Head, Department of Automobile Engineering
 - **Dr. S. Ramesh Babu:** Head, Department of Mechanical Engineering

This collaboration is set to enhance the educational and research opportunities at SVCE, providing valuable industry exposure and practical experience to students and faculty alike.



GUEST LECTURE EVENTS

"Recapping the Buzzworthy Happenings"

Guest Lecture on Neuroscience and Sport:

On **July 31, 2024**, the Departments of Mechanical Engineering and Electronics and Communication Engineering hosted a guest lecture titled "**Doctor, When Can I Go Back to Play?**" **Dr. Murali Murugavel**, an SVCE Mechanical alumnus from the 1995-1999 batch and a Neuroscience Researcher, delivered the talk in the library seminar hall at 10:00 AM. The session explored the intersection of neuroscience, sports, computing, and applied quantum physics.

The event saw participation from third-year students nominated by the alumni coordinators from IT, CSE, Biotech, EEE, and Mechanical departments. Dr. Murugavel, with a Ph.D. from Worcester Polytechnic Institute and experience at the Princeton Neuroscience Institute, shared his insights on MR imaging, neuroscience, and statistics, particularly focusing on concussions.



EVENTS

“Recapping the Buzzworthy Happenings”

Pre-Confirmation Seminar for PhD Scholar:

On July 29, 2024, the pre-confirmation seminar for **Mr. L. Tamizhselvan**, a PhD scholar (Registration No: **22132991132/PhD./AR9**), was held in the CAD lab. The seminar was an essential step in the confirmation process of his doctoral research.



EVENTS

“Recapping the Buzzworthy Happenings”

Patent Talk on Innovative Device:

On **July 30, 2024**, a patent talk was organized across three venues to share innovative ideas and motivate young faculty members. The event took place from 3:40 PM to 4:15 PM on the Mechanical Engineering II floor.

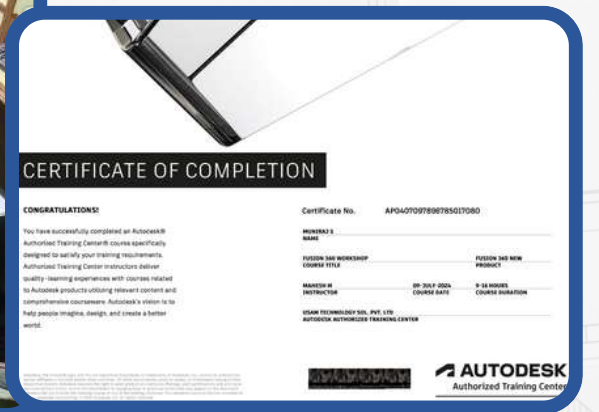
Dr. Prem Ananth, Mr. J. Sivarampandian, and Mr. A. Ranjith Raj presented their work on a "Hand Operated Adjustable Semi-Automatic Brooming and Mopping Device." The talk was coordinated by Dr. M. Mohandass.



FUSION 360 TRAINING EVENTS

“Recapping the Buzzworthy Happenings”

Fusion 360 Workshop: M/s USAM Technologies recently conducted a two-day training session on **Fusion 360** basics for faculty members on **July 8th and 9th, 2024**, at the CAD lab, Department of Mechanical Engineering. The primary objective was to train faculty members in the newly developing software **Autodesk Fusion 360**, equipping them with essential 3D modeling concepts and proficiency in the software. This training is crucial for advancing into 3D printing and enhancing the technical capabilities of the faculty. The event saw active participation and was a significant step towards integrating advanced software skills into the curriculum.



FACULTY RESEARCH DAY-EVENTS

“Recapping the Buzzworthy Happenings”

The Faculty Research Day 2024 event was held on **July 5, 2024** (Friday), at 9:30 AM. Research scholars from the Mechanical Engineering department presented their research at the CAD/CAM laboratory. The winners were:

- First Prize: **G. Kirubakaran**
- Second Prize: **S. Sivasankar**
- Third Prize: **Deepak Lawrance**



FACULTY RESEARCH DAY- EVENTS

“Recapping the Buzzworthy Happenings”

List of Other Presenters:

S.No	Name of the Scholar	Research Title	Name of the Supervisor
1	V. Senthil Velan PT(I)	<i>Fatigue Performance of Wire Arc Additive Manufactured Aluminum alloy 5356</i>	<i>Dr. S. Ramesh Babu</i>
2	Maheswaran M. PT(I)	<i>Design and development of portable electric cycle</i>	<i>Dr. K. Pitchandi</i>
3	Deepak Lawrance SVCE-RF	<i>Microstructure and mechanical properties of wire and arc additive manufactured (WAAM) nickel alloys using CMT process</i>	<i>Dr. M. Mohandass</i>
4	S. Thamizh Selvan PT(E)	<i>Study the Mechanical Properties of 3D Printed Natural Fiber of Flax and Kenaf in Polymer Composite Filament using FDM</i>	<i>Dr. M. Mohandass</i>
5	D. Nithyanand PT(E)	<i>Studies on the weldability, mechanical properties and microstructural characterization of CMT welding of Nickel base alloy</i>	<i>Dr. M. Mohandass</i>
6	Venkatesan S SVCE-RF	<i>Optimizing on biofuel in dual fuel mode operation by using MRSN technique</i>	<i>Dr. P. Raghu</i>
7	R. Senthilkumar PT(E)	<i>Investigation of mechanical properties of Abelmoschus Esculentus fiber composite</i>	<i>Dr. S. Ponnuvel</i>
8	S. Sivasankar PT(E)	<i>Enhancement of heat transfer rate in copper duct with different geometrical structures</i>	<i>Dr. M. Prem Ananth</i>

FACULTY RESEARCH DAY-EVENTS

“Recapping the Buzzworthy Happenings”

S.No	Name of the Scholar	Research Title	Name of the Supervisor
9	M. Arulkumar PT(I)	<i>Enhanced Tribological Performance of TiAlN-Coated Laser Textured Ti6Al4V Alloy Surfaces: A Comparative Study</i>	Dr. M. Prem Ananth
10	J. Sivaramapandian PT(I)	<i>Investigation of tribological behavior of AZ91D magnesium alloy using laser texturing and high velocity oxygen fuel coating</i>	Dr. M. Prem Ananth
11	G. Kirubakaran PT(I)	<i>Studies on mechanical behavior and characterization of bio composite made up of jackfruit seed husk cellulose and pineapple fiber</i>	Dr. C. Senthamarai Kannan
12	Sarath Kumar S K PT(E)	<i>Vibration characteristics of composite materials</i>	Dr. C. Senthamarai Kannan
13	A. Kumaraswamy PT(E) - JNTU	<i>Evaluation of a Four-Stroke Single Cylinder Direct Injection Diesel Engine Operated on Dual Fuel Mode with Alternate Fuels</i>	Dr. B. Durga Prasad (JNTU)
14	Tamizh Selvan L S PT(E)	<i>Investigation of heat exchanger integrated with the Nano material PCM</i>	Dr. V. Sridharan
15	M. Nishal PT(E) – NIT-Patna	<i>Identifying circular economy barriers and correlation among barriers</i>	Dr. Sonu Rajak (NIT-Patna)
16	K. Ram Prasad PT(E) – TCE-Madurai	<i>Developing Sustainable Framework for Optimizing replenishment strategy of Perishable Foods at Retailer</i>	Dr. P.L. Palaniappan (TCE-Madurai)

ALUMNI REUNION

"Opening Doors to Career Opportunities"

On **July 27, 2024**, alumni from the 1995-99 batch visited our campus at 9:30 AM. The visit included a tour of our department's laboratory facilities. **Dr. S. Ilaiyavel** coordinated the visit.



EDITORIAL TEAM



Dr. S. RAMESH BABU
Professor & Head
Mechanical Engineering



Dr. M. Mohandass
Associate Professor
Mechanical Engineering



Dr. S. MUNIRAJ
Assistant Professor
Mechanical Engineering



Mr. A. Ranjith Raj
Assistant Professor
Mechanical Engineering

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IV Year
Mechanical Engineering



Mr. Mithun Aravind O
IV Year
Mechanical Engineering



Mr. G Bharath Kumar
III Year
Mechanical Engineering



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



Mr. M Sanjay
II Year
Mechanical Engineering



Mr. Lithesh C
II Year - Mechanical and
Automation Engineering