SR UNIVERSITY

# MECHANIKA

## News Letter

VOLUME 02 | JUNE - DECEMBER 2024

### Department of Mechanical Engineering

Academic Collaborations

SIEMENS | R&D ENGINEERING An MMT Company | LSC Logistics Skill Council | CYIENT | MTO VENTURES

# ABOUT SRU

## Vision

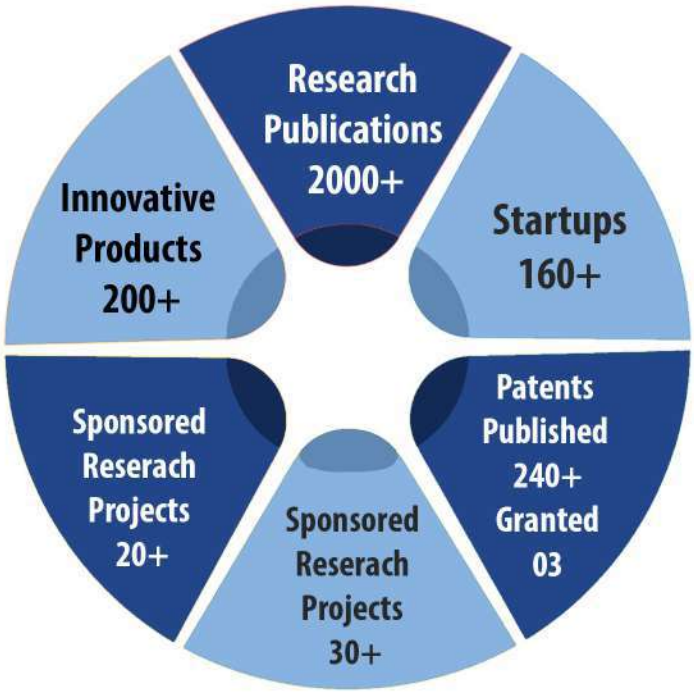
*To accelerate the pace of transformation and advancement of the regional innovation ecosystem through academic excellence, industry relevance, and social responsibility.*

## Innovative Experiences for Next Generation Change Makers

*SR University has been built on the strong foundation set by SR Engineering College over the past 22 years. The college has provided innovative entrepreneurial learning ecosystem in Telangana, facilitating students to think out of the box and come up with creative solutions to modern day challenges. The core values that are common to each program offered at our University are as follows:*

- Innovation, Creativity & Entrepreneurship
- Industry Relevance
- Interdisciplinary learning
- Information Technology

***outstanding contribution from faculty and students include patents, research publications, sponsored projects and research programs***




SR Educational Academy
TELANGANA • ANDHRA PRADESH • KARNATAKA

**5 Decades of Educational Leadership**

*Governs 185 Educational Institutions in South India with 1 Lac students and 5 Lac Alumni.*

*Founded in 1974, S R Educational Academy is close to a half-a-century of experience in the field of Education*

*The Academy established* ***Sri Rajeshwara Educational Society*** *in 1991.*

SR UNIVERSITY

SR International Institute of Technology

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SR digi SCHOOL
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SR Junior College

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SR PRIME SCHOOL
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## Centers of Excellence

sru

- Center for Experiential Learning
- Technical Centers
- Innovation, Creativity & Entrepreneurship
- Research & Development

- Center for Materials & Manufacturing
- Center for AI & Deep Learning
- Center for Embedded & IoT Systems
- Center for Construction Materials and Methods
- Center for Emerging Energy Technologies
- Center for Creative Cognition
- Nest for Entrepreneurship in Science & Technology
- Collaboratory for Social Innovation
- Center for Design
- R& D Cell
- Industry- Institute Partnership Cell

**Dr. L. M. I. Leo Joseph**

Dean, School of Engineering

**Dr. Pankaj Kumar**

Professor & Head of Department

## Dean Message

It is with immense pride that I share the remarkable progress of the Department of Mechanical Engineering at SR University. Over the past six months, the department has achieved significant milestones in research, academic excellence, and industry collaborations.

With a strong focus on cutting-edge technologies such as renewable energy, power electronics, smart grids, and embedded systems, our faculty and scholars have contributed impactful research through high-impact journal publications, industry-funded projects, and collaborative initiatives.

Students have actively participated in workshops, hackathons, and industrial visits, gaining invaluable hands-on experience that complements their academic learning. Our collaborations with leading companies, including our recent MoUs, have further strengthened industry connections, enhancing career opportunities for students.

As the department continues to grow, I encourage students and faculty to push the boundaries of innovation, strive for excellence, and work towards creating a sustainable future.

## HOD'S Message

It is a proud moment to present the Mechanical Engineering Department Newsletter, showcasing the achievements of our faculty, students, and researchers. Our department continues to lead in innovation, academic excellence, and technological advancements.

Collaborations with industry leaders like Cyient Industries provide students hands-on experience in Smart Manufacturing, Robotics, Mechatronics, and Renewable Energy. These partnerships bridge academia and industry, ensuring practical expertise in emerging technologies.

We remain committed to the UN's Sustainable Development Goals, contributing to climate action and clean energy. With AI, IoT, and Industry 4.0 shaping the future, our students are developing future-ready skills.

Congratulations to the department on its continued success. I look forward to more achievements ahead!

# MoU Signed for Research & Industry Collaboration

Collaboration Agreement by and between SR University, Warangal, India & NIES Training Center made and entered on this day of 03-07-2024. A period of 3 years.**Professional training of students, scientific, academic and administrative staff:**

- Corporate training by SRU faculty;
- On-demand project development by the Company;
- Joint workshops/webinars/panel discussions/round table;
- Naming rights/instituting awards in corporate/industry names;
- Exchange of information, teaching materials, and publications.
- Implementation of mutual cultural programs and/or short-term academic programs

# Industrial Visits for Practical Exposure





First-year SRU-Mechanical Engineering students had an enriching industrial visit to **Rampur** on 25th September, 2024 where they explored the world of polymers and plastics at Redeem Industry and Divya Polymers. They also gained insights into granite processing at Adhithya Sai Granite and witnessed the manufacturing of iron roof sheets at Mayur Steels. A big thanks to our coordinators, Sandeep Gupta and Dr. SUBODH KUMAR, for making this experience possible. Special thanks to Arun kumar Pasuladi, CEO of Redeem Industry who engage the students throughout the visit.

ME-III Year students has recent industrial visit to the Singareni Thermal Power Plant (STPP) on 9th September, 2024. More than 30 students from the Department of Mechanical Engineering, SRU, participated in this insightful visit, which was organized as part of our ongoing efforts to connect academic learning with real-world industrial practices. The visit was accompanied by Dr. Pulla Sammaiah and **Dr. Subba Rao** Medabalimi.

At the **Singareni Thermal Power Plant**, our students were exposed to the state-of-the-art technologies and operations behind efficient power generation. They had the chance to interact with seasoned engineers and observe key processes, including turbine operations and environmental management measures. The visit served as a valuable practical extension to the theoretical knowledge gained in the classroom.



We were excited to have 50 enthusiastic 2nd-year SRU-Mechanical Engineering students from SR University visit the Centre of Excellence in Digital Manufacturing and Automation (CoE DMA), NITW on 3rd September, 2024. This visit is accompanied by Mr. Santhosh Kumar and Mr. ASHOK GADDAM. Our students explored all 13 advanced labs and even had the opportunity to gain hands-on experience with cutting-edge machinery and software. Their curiosity and passion for learning were truly inspiring!

We're proud of our students' strong interest in digital manufacturing and automation and look forward to seeing them excel in these fields.



Our IV/I SRU-Mechanical Engineering students had an incredible experience visiting the HeavyWaterPlant, Manuguru on 13th September, 2024.
The visit was coordinated by Dr. Pankaj Kumar and Mr. Rohan Ande (Ph.D.), offering students valuable insights into advancedindustrialprocesses.
Mechanical Engineering Industrial Visit HeavyWaterPlantSRUEngineeringExperience

The Department of SRU-Mechanical Engineering has organized an industrial visit to Singareni, Thermal Power Plant for our III B. Tech Mechanical students on September 9th, 2024. This visit will provide students with invaluable industry exposure and insights into advanced technologies. The visit is being coordinated by our faculty members, Dr. Pulla Sammaiah and Dr. Subba Rao Medabalimi


# Students Achievements

## Students Awarded:

A proud moment for the Department of Mechanical Engineering, SR University, as **Sai Krishna Suluguri** and **Mateti Shiva**, IV Year SRU-Mechanical Engineering students, have been honored with the hashtag **Topperhashtag Award** by our esteemed Vice-Chancellor.

Your hard work and dedication have truly paid off. Keep shining and inspiring others with your excellence!

The Department of Mechanical Engineering, SR University, proudly congratulates **Mandapelli Saiteja** and **Jashwanth Bollikonada**, III Year Mechanical Engineering students, for being honored with the Topper Award by our esteemed Vice-Chancellor.

The Department of Mechanical Engineering, SR University, proudly congratulates **Shanigarapu Revanth** and **Challa Rachith**, II Year SRU-Mechanical Engineering students, for receiving the hashtag **Topperhashtag Award** from our esteemed Vice-Chancellor.

The Department of Mechanical Engineering, SR University, proudly congratulates **Sai Koushik Maram** and **Adepu Anish Krishna**, I Year SRU-Mechanical Engineering students, for being honored with the Topper Award by our esteemed Vice-Chancellor.

Congratulations to **Saikiran Mamidi** and **Prudvi Giruka** for achieving gold and silver medals in Mechanical Engineering (B. Tech) from SR University! Well-deserved recognition for your hard work and dedication.



Huge congratulations to Adepu Umesh chandra for being the batch topper and receiving a special award from Head of the department (**Dr. Pankaj Kumar**), Associate Dean school of engineering (**Dr. Leo Joseph**) and honorable VC (**Deepak Garg**), SR University. Keep up the fantastic work

# Publication Sprint by Ph.D. Scholars:

Today, Scholars of our department participated in a highly productive publication sprint. Throughout the event, supervisors actively engaged with the scholars, offering guidance and staying updated on their researchprogress. This collaborative effort not only strengthened the relationship but also accelerated the development of cutting-edge research in our department. Congratulations to all the scholars for their hard work and dedication! We are proud of your achievements and look forward to seeing your impactful contributions to the field of mechanical engineering.


# Faculty Achievements

**Dr. Subodh Kumar, Sandeep Gupta, Dr. Pulla Sammaiah**, and **Dr. Pankaj Kumar** from the Department of Mechanical Engineering at **SR University** for winning the Amazing and Engaging Mentor Award 2023-24! Your mentorship inspires and guides us all.

**Dr. Pulla Sammaiah** from the Department of Mechanical Engineering at SR University for winning the Game-changer and Innovator of the Year Award in Grant Funding 2023-2024! Your innovation and critical thinking have secured funding from DRDO, making our department renowned across India. We are proud of you!

The Department of Mechanical Engineering Faculty achievement of **Dr. Vutukuru Mahesh**, who has been honored with the Awesome and Passionate Teacher Award 2023-24 at **SR University!** Your dedication and passion for teaching continue to inspire us all. Thank you for your commitment to excellence in education!

Congratulations to **Dr. Pankaj Kumar** from the Department of Mechanical Engineering at **SR University** for winning the Award for Best Writer (Academic Books) 2023-24! Your writings have inspired students and researchers worldwide. We are proud of you!

Congratulations to Mr. Ch. Naveen, Lab Technician at **SR University**, for being awarded "Passionate and Outstanding Employee with Maximum Output". Your dedication and hard work are truly inspiring.

# Expert Talk:

The Department of Mechanical Engineering, SR University, is excited to host an expert talk for III-year SRU-Mechanical Engineering students on:
Topic: **An Overview on Composite Materials**
Speaker: Dr. G. Raghavendra, Assistant Professor, NIT Warangal
Date: 30-01-2025
Time: 11:00 AM
Venue: SRiX Maker Zone
Organizer: **Mr. Ashok Gaddam**, Assistant Professor
This session will provide valuable insights into composite materials, their applications, and advancements in the field. A great opportunity for students to gain industry-oriented knowledge from an esteemed expert!


The Department of Mechanical Engineering, SR University, successfully hosted two insightful sessions with **Dr. Satish Kumar**, Professor at the Department of Mechanical Engineering, National Institute of Technology Jamshedpur.

Title: **Fluid Mechanics and Viscosity**
Audience: UG Students
Time: 9:00 AM
Venue: Mechanical Seminar Hall
Faculty Coordinator: **Dr. Pankaj Kumar**, Head of SRU-Mechanical Engineering, SR University.


Department thrilled to have concluded an insightful expert talk on "An Overview of Smart Manufacturing" by Prof. Velagapudi Vasu, NITWarangal on 01 October 2024. The session, organized by Mr. Santhosh Kumar from the Department of Mechanical Engineering, SR University, was specifically designed for our II-year Mechanical Engineering students as part of their Smart Manufacturing course.

Highlights from the ExpertTalk:

Understanding the integration of IoT, AI, and robotics in modernmanufacturing. The role of data analytics and cyber-physical systems in driving efficiency. Insight into the future trends shaping the industry and career opportunities ahead.

A big thank you to Dr. Vasu for sharing his expertise and guiding our students on this exciting journey into SmartManufacturing!



Gain valuable insights into how orthographic and isometric views are applied in the design and production of industrialproducts. This is a fantasticopportunity for students and professionals to deepen their understanding of these essential engineeringconcepts.


Join us for an insightful session on the Applications of Orthographic and IsometricViews in Industrial Products!

Venue: Mechanical Seminar Hall, SR University

Organizer: Dr. Subodh Kumar, Associate Professor, SRU-Mechanical Engineering, SR University

Speaker: Dr. Rakesh Kumar, Research Associate, Dept. of Mechanical Engineering, IIT Dhanbad

Date: 12th November 2024

Time: 2:00 PM - 3:00 PM

Gain valuable insights into how orthographic and isometric views are applied in the design and production of industrialproducts. This is a fantasticopportunity for students and professionals to deepen their understanding of these essential engineeringconcepts.



Guest Lecture on Additive Manufacturing Discover the future of manufacturing with our guest lecture on Additive Manufacturing. Gain insights into cutting-edgetechniques revolutionizing Product Design and production processes!

Guest Speaker: **Dr. Manjaiah M**, Professor, Department of Mechanical Engineering, NITWarangal

Organizer: **Dr. M. Subba Rao**, Assistant Professor, Dept. of Mechanical Engineering,



IndustryExpertTalk on the Importance of Biodegradable Bags for Environmental Protection. Discover how sustainable materials can help protect our planet!

Expert Speaker: **Arun kumar Pasuladi**, Founder and CEO, RedeemIndustry, RampurIndustrial Area.

Organizer: **Dr. M. Subba Rao**, Assistant Professor, Dept. of Mechanical Engineering, SRUniversity

# Activity / Events

## Orientation Program conducted

# Workshop Organized

The success of our recent **workshop** on "Next-Generation Materials: **Pioneering Innovations** and **Technologies**" held on 10th - 11th September, 2024 at **SR University**. It was a fantastic opportunity to explore **cuttingedge** research and developments in **materials science!**

Check out these **highlights** from the event! Thank you to all the participants, speakers, and organizers for making this workshop a remarkable success. Looking forward to more **collaborative endeavors in the future!**

Special thanks to convenor of the workshop **Dr. Pulla Sammaiah**, Professor & Director, **CMM.**

We are excited to share the successful completion of a one-day hands-on **workshop** on Non-Destructive Testing (**NDT**) Equipment, organized by the Department of Mechanical Engineering at **SR University**, Warangal.

Expert speakers **Dr. Pankaj Kumar** and **Dr. Subba Rao Medabalimi**. Participants gained **valuable practical experience** in using **advanced** NDT equipment, enhancing their **understanding** of **inspection techniques** critical for quality control and safety in engineering.


We are proud to announce that **M. Adhi Sheshu** and **Elishala Varun** received an appreciation certificate from our esteemed VC Sir for their active role in conducting CAD/CAM Club activities this semester. Under the guidance of **Dr. Praveena Devi**, they have demonstrated exceptional commitment and leadership, making a positive impact on the learning experience for their peers.

The Department of Mechanical Engineering at SR University successfully organized an engaging Design Hackathon, conducted by the CAD/CAM Club. This event fostered innovation, creativity, and teamwork among participants, pushing the boundaries of design and engineering.
A special thanks to Dr. Praveena Devi for her exceptional efforts in organizing this event and to our talented student coordinators, Elishala Varun and Mogurampally Adhisheshu, for their outstanding leadership and dedication.

CAD/CAM Club, Department of Mechanical Engineering Organizing a Design Hackathon on November 22nd in Room 2211. This is a golden opportunity to showcase your design skills, collaborate with peers, and compete for exciting prizes!
Meet the Coordinators:
Faculty Coordinator: Dr. Praveena Devi Student Coordinators: M. Adhi Sheshu & Elishala Varun
Whether you're passionate about CAD/CAM, engineering, or simply love creating innovative designs, this event is perfect for you. Don't miss out on a day filled with creativity, innovation, and fun!

Date: November 22nd, 2024 Venue: Room 2211



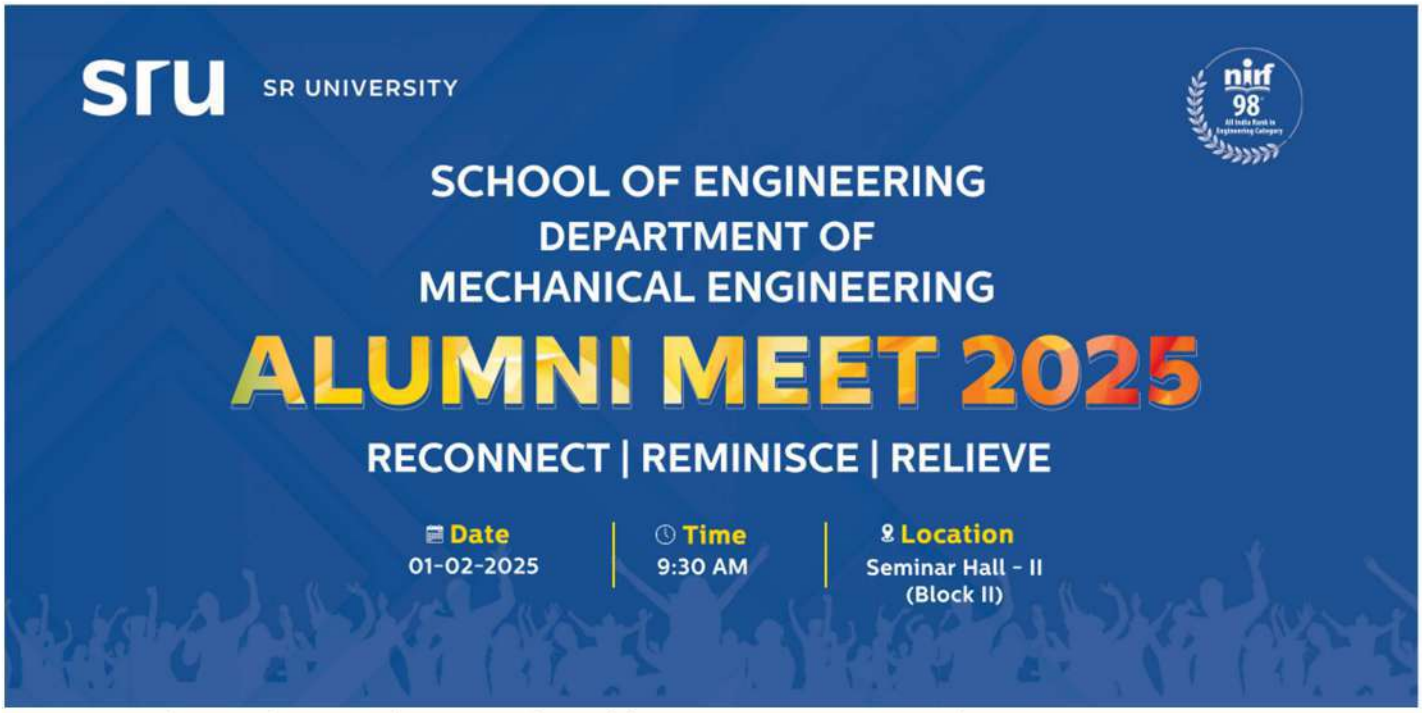

Join Our Workshop on "Computer Numerical Control (CNC) Programming"
Dates: 8-10 November, 2024
Location: Mechanical Seminar Hall [2205]
Gain hands-on experience in CNCprogramming with a deep dive into both CNCTurning and CNCMilling! This workshop is ideal for those looking to master precise CNCcodes through practical sessions, guided theory, and structured exercises. We'll cover essential skills to create, modify, and execute CNC programs for turning and milling operations, including:
Introduction to CNCMachines: Explore types, structures, and key functions of CNC machines.

- CNC Programming Basics: Learn the components and differences in CNC Turning vs. Milling.
- Turning Operations: Program turning processes like facing, grooving, tapering, and threading.
- Milling Operations: Build milling programs for facing, drilling, slotting, and more.
- Advanced Techniques: Dive into complex shapes, advanced codes, and efficient path planning.

With dedicated materials, expert guidance, and direct machine practice, this workshop equips you with the skills to confidently program CNC machines. Don't miss this opportunity to build a solid foundation in CNC programming!
We are pleased to announce the successful completion of the Undergraduate Research in Mechanical Engineering (UGRME) Awareness Program held on 06-09-2024 at Room 2252.
A big thank you to our esteemed speakers: **Dr. Vutukuru Mahesh** for an insightful session on Systematic Literature Review and **Dr. Pulla Sammaiah** for sharing valuable knowledge on Patent Writing Skills
We appreciate all the participants for making it a great success!

# Alumni

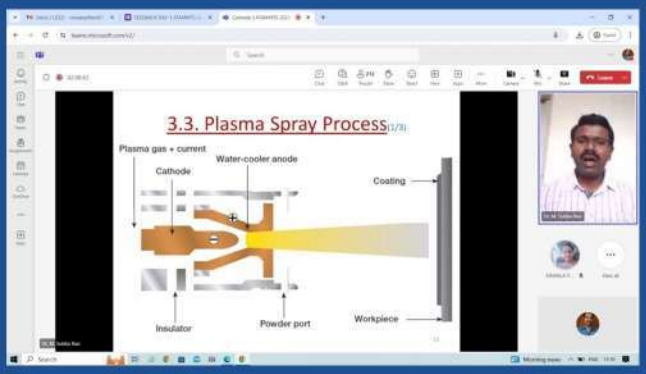
## Alumni Meet 01-02-2025:

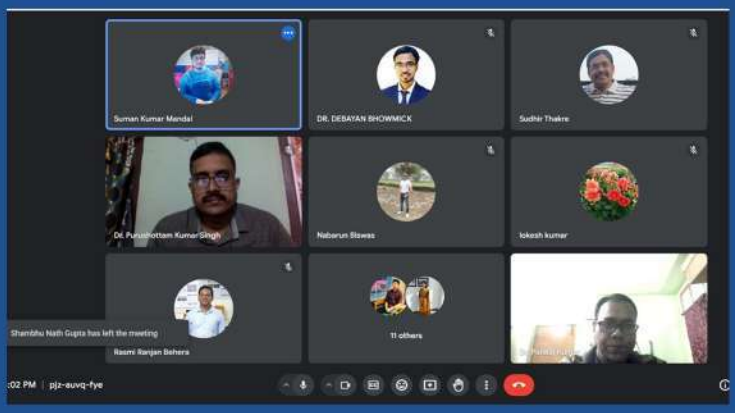



The Alumni Meet is a special gathering of former students, organized to reconnect, network, and share their experiences. The Dean of the School of Engineering **Dr. Leo Joseph**, highlighted the ongoing development activities and emphasized the importance of alumni suggestions in shaping the institution's future. The Head of the Mechanical Engineering Department **Dr. Pankaz** expressed his joy at the presence of alumni and acknowledged their achievements, noting that many have secured prestigious positions both in India and abroad. The Assistant Dean (Alumni) **Mr. P. Satish Kumar** warmly welcomed the attendees and presented the alumni report. He stated that the meet serves as a platform for alumni to reminisce about their time at the institution, engage with faculty and current students, and contribute to the growth of their alma mater. The event featured alumni speeches, cultural programs, networking sessions, and discussions on career opportunities and institutional development, fostering a strong bond between the past and present members of the institution.



**Dr. Subba Rao Medabalimi**, Assistant Professor, Department of Mechanical Engineering, SR University, shared invaluable insights during his guest lecture at Lakireddy Bali Reddy College of Engineering(Autonomous). He delved into ' EmergingTrends and Innovations in Tribology' as part of a FacultyDevelopment Program on AI/ML Tools for Advanced Materials, Manufacturing, and Thermal Systems from June 24th to June 28th, 2024.




We are proud to share that **Dr. Pankaj Kumar** from SR University recently delivered a guest lecture at the Department of Production Engineering, National Institute of Technology Agartala. His insights and expertise greatly contributed to the learning experience of the students. Kudos to Dr. Pankaj for representing SR University and sharing knowledge beyond our campus!

**Dr. Pulla Sammaiah,** Professor at department of mechanical engineering, SR University for delivering an insightful expert talk on the critical role of industrial research in today's academic and commercial landscape at Trinity College of Engineering and Technology, Pedda Pally.


On 21st August 2024, the Department of Mechanical Engineering at SR University organized an engaging guest lecture on HVAC Design and Operations, conducted by the knowledgeable Team ISHRAE. Fifty selected students from the II and III years had the opportunity to attend and gain valuable insights! Mechanical Engineering HVAC Design Guest Lecture SRUniversity Team ISHRAE

# Patent Granted

**Congratulations**
Patent Granted

**Dr. Pankaj Kumar**
**Professor and Head, Dept. of Mech. Engg.**

Department of Mechanical Engineering congratulations to **Dr. Pankaj Kumar**, Professor and Head of the Department, **Dr. Manowar Hussain**, the first inventor on the granting of his patent titled: "**Improved Bio-Medical Implants Using Titanium Alloy-Based Metal Matrix Composite**". This remarkable innovation showcases cutting-edge advancements in biomedical engineering, paving the way for improved healthcare solutions.

पेटेंट कार्यालय भारत सरकार | The Patent Office, Government Of India
पेटेंट प्रमाण पत्र | Patent Certificate

पेटेंट सं. / Patent No. 506074
आवेदन सं. / Application No. 201941012759
फाइल करने की तारीख / Date of Filing 29/03/2019
पेटेंटी / Patentee S R ENGINEERING COLLEGE
आविष्कारकों का नाम /Name of Inventor(s) 1.Dr. MANOWAR HUSSAIN 2.Dr. PANKAJ KUMAR

It is hereby certified that a patent has been granted to the patentee for an invention entitled IMPROVED BIOMEDICAL IMPLANTS USING TITANIUM ALLOY BASED METAL MATRIX COMPOSITE as disclosed in the above mentioned application for the term of 20 years from the 29th day of March 2019 in accordance with the provisions of the Patents Act,1970.

Date of Grant : 11/12/2024
Dr. Hans
Controller of Patents

A proud moment for the Department of Mechanical Engineering as we extend our heartfelt congratulations to **Dr. Pankaj Kumar**, Head of the Department, and **Dr. Manowar Hussain**, the first inventor, on the granting of their patent titled: "Improved Bio-Medical Implants Using Titanium Alloy-Based Metal Matrix Composite.

# Patent Published

The Department of Mechanical Engineering, SR University, proudly congratulates **Dr. Pankaj Kumar**, Head of Mechanical Engineering, on the publication of his patent titled: "System and Method for Data Visualization of Cylindrical Objects."

**Congratulations**
Patent Published

**Dr. Pankaj Kumar**
**Professor and Head, Dept. of Mech. Engg.**

Department of **Mechanical Engineering**, SR University, proudly congratulates Dr. Pankaj Kumar, Head of Mechanical Engineering, on the publication of his patent titled: "**System and Method for Data Visualization of Cylindrical Objects.**"

This innovative work highlights cutting-edge advancements in data visualization, offering impactful solutions for analyzing cylindrical objects across various applications.

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :06/01/2025

(21) Application No.202541001041 A
(43) Publication Date : 17/01/2025

(54) Title of the invention : SYSTEM AND METHOD FOR DATA VISUALIZATION OF CYLINDRICAL OBJECTS

| | |
|---|---|
| (51) International classification | :G06T0011200000, G06T0011400000, G06F0003045000, G01N0021952000, H04L0009300000 |
| (86) International Application No<br>Filing Date | :NA<br>:NA |
| (87) International Publication No | : NA |
| (61) Patent of Addition to Application Number<br>Filing Date | :NA<br>:NA |
| (62) Divisional to Application Number<br>Filing Date | :NA<br>:NA |

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**Name of Applicant : NA**
**Address of Applicant : NA**
(72)**Name of Inventor :**
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**2)Dr. Vikash Kumar Singh Chauhan**
Address of Applicant :Satyendra Prasad Singh, Ward 32, Lalchand Nagar, Aurangabad, Bihar 824101 India Aurangabad ———— ————

(57) Abstract :
SYSTEM AND METHOD FOR DATA VISUALIZATION OF CYLINDRICAL OBJECTS ABSTRACT A method (300) for data visualization of cylindrical objects, the method (300) is characterized by steps of: determining a first x-coordinate (x') and a first y-coordinate (y') to obtain an x-axis data point and a y-axis data point, determining a second x-coordinate (x'') and a second y-coordinate (y'') to obtain an x-axis cylindrical object profile and a y-axis cylindrical object profile, determining a third x-coordinate (xp'') and a third y-coordinate (yp'') to obtain an x-axis circumference data point and a y-axis circumference data point, plotting the first x-coordinate (x') and the first y-coordinate (y'), the second x-coordinate (x'') and the second y-coordinate (y''), and the third x-coordinate (xp'') and the third y-coordinate (yp'') on the Cartesian plane to visualize sets of heat transfer data passing through the cylindrical objects. The method (300) visualizes the heat transfer data and geometric representation of the cylindrical objects into a unified graph. Claims: 10, Figures: 6 Figure 1A is selected.

No. of Pages : 30 No. of Claims : 10

# Research & Innovation

## Research Papers Published

Excited to share the publication of the research paper titled "Advancements in Carbon Fiber Reinforced Liquid Silicone Rubber: A Scientometric Analysis" in the prestigious Journal of The Institution of Engineers (India): Series C, a Scopus-indexed **Springer(Q3)** journal, Impact Score 1.47.


**Mrs. Uppula Ramya Reddy** on the successful publication of her research paper titled "Innovative filler strategies for high-performance LSR in electrical and industrial applications: A review" in the esteemed Q1 ESCI-indexed journal, Results in Engineering, with an impressive impact factor of 6!

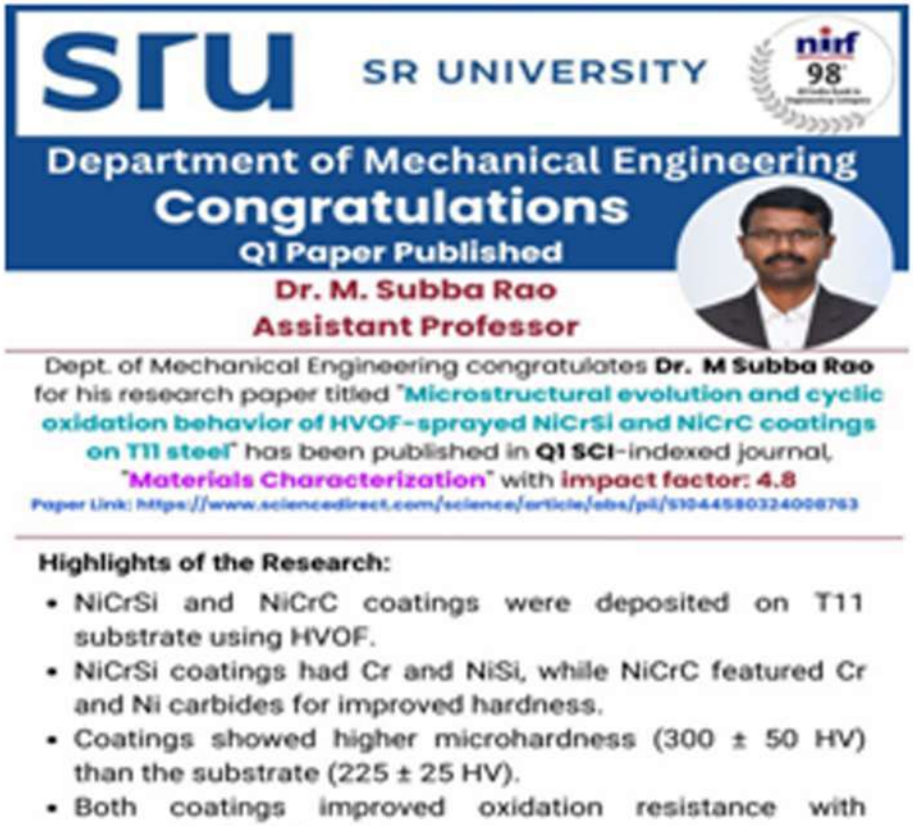
**Dr. Kumar Sourav** for his outstandingachievement in publishing his research paper, "Dynamic Coupling of Wing Mechanics and Aerodynamics in Dipteran-Inspired Flapping Wing Systems," in the esteemed Q1 SCI-indexed journal, Physics of Fluids (Impact Factor: 4.1). Your work continues to inspire excellence and innovation in our field!


The Department of Mechanical Engineering, SR University proudly congratulates **Mr. Vadepalli Pradeep** on the publication of his research paper titled "Investigation on mechanical properties and wear behavior of basalt fiber and SiO2 nanofillers reinforced composites" in the esteemed Q1 SCI-indexed journal, "Results in Engineering," with an impressive impact factor of 6, under the guidance of Dr. Pankaj Kumar Kumar, Head of the Department, Mechanical Engineering.

Department of Mechanical Engineering congratulates **Dr. Subba Rao Medabalimi** for his publication of research article in the InternationalJournal of RefractoryMetals and HardMaterials (SCIE Q1) (Volume 127, February 2025)

Title: Studies on High Temperature ErosionBehavior of HVOF-Sprayed ($Cr_3C_2$-NiCr)Si and WC-Co/NiCrAlY CompositeCoatings

Full article available for download until December 2024!




**Dr. Subba Rao Medabalimi** latest ResearchAchievement! His paper, titled "Microstructural Evolution and Cyclic Oxidation Behavior of HVOF-Sprayed NiCrSi and NiCrC Coatings on T11 Steel," has been published in the Q1 SCIindexed journal MaterialsCharacterization with an impact factor of 4.8.

**Dr. Himanshu Bisaria** for his research paper titled "Thermo-mechanical and Viscoelastic Behavior of Microwave-Processed Sisal and Banana Hybrid Composite Laminates," published in the prestigious SCIE-indexed Journal of MaterialsScience (Impact Factor: 3.5). This achievement reflects Dr. Bisaria's commitment to advancing knowledge in material science.

# Books Chapter Published:


Department of Mechanical Engineering is excited to announce that **Dr. Dr. Pankaj Kumar** published a book chapter entitled "CO2 Corrosion in 304L Stainless Steel Pipes Under High Temperatures and Elevated CO2 Partial Pressures".

This study delves into the corrosion behavior of 304L stainless steel pipes in CO2-rich environments, utilizing advanced simulation techniques with COMSOL Multiphysics. The research identifies critical factors such as operating temperature, reference temperature, electrolyte potential, and CO2 partial pressure that influence corrosion rates. It also proposes practical mitigation strategies, including using more resistant materials like duplex stainless steel and applying protective coatings on pipe surfaces to combat CO2 corrosion.

**Dr. Subba Rao Medabalimi** for his remarkable contribution to a book chapter titled:

"Investigating Microstructural Aspects of Cr$_3$C$_2$–NiCr Laser Cladding for Erosion-Resistant T91 Steel."

This chapter is published in the esteemed book:

"Smart Materials and Manufacturing Technologies for Sustainable Development."

Authored by Dr. Ajit M Hebbale, A. Praveen Kumar, Dr. Subba Rao M, and Ravindra I. Badiger, the research provides significant insights into advanced microstructural innovations aimed at sustainable and erosion-resistant material development.

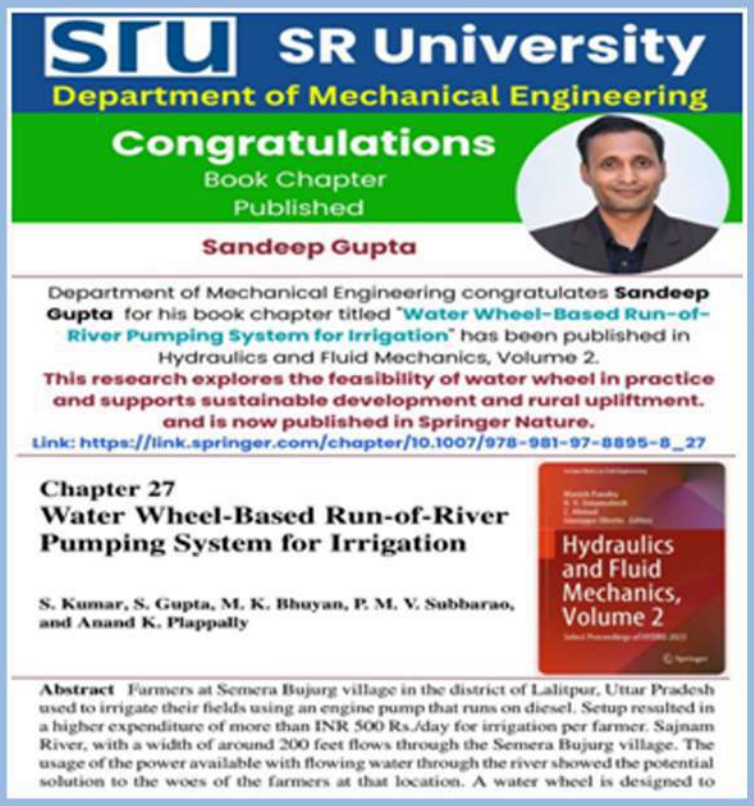

Department of Mechanical Engineering happy to share that Dr. Dr. Subba Rao Medabalimi, published a book chapter research titled "Development of a Common Formula for Turning Radius in Two-Wheel and Four-Wheel Steering Systems".

This study investigates the turning radius for both two-wheel and four-wheel steering systems, addressing challenges in vehicle maneuverability, especially in tight spaces and low-speed scenarios. By developing a unified formula, this research provides valuable insights into optimizing vehicle performance and stability for various vehicles, including Maruti ALTO 800, BMW G16 M8, Range Rover LWB, FORD F550, and Mahindra Bolero.

Department of Mechanical Engineering happy to share that our Ph.D. scholar, **Salman Basha Sheik** , has successfully published his research work titled "A Study on Thermophysical and Dielectric Characteristics of Nanofluids" in Smart Innovation, Systems and Technologies.

This study explores the thermophysical and dielectric properties of nanofluids, contributing valuable insights to this evolving field.

Congratulations to Salman Basha Sheik on this well-deserved accomplishment! A special thanks to Dr. Praveena Devi and Kiran




The Department of Mechanical Engineering, SR University, proudly congratulates Sandeep Gupta for his remarkable contribution to the book chapter:

Chapter Title: Water Wheel-Based Run-of-River **Pumping System for Irrigation**

Book Title: **Hydraulics and Fluid Mechanics, Volume 2**

## Parent Teachers Meet

Parent Teachers Meet conducted on 05th October, 2024.


We're excited to remind you that the Parent-Teacher Meeting conducted on, October 5th, 2024, at SRU-Mechanical Engineering, SR University. As part of the event, you are welcome to attend a workshop on " Positive Parenting for Higher Education Student s", led by **Mr. Muralidhar D** , an ex-Indian Air Force officer, counseling psychologist, coach, and trainer. The workshop will take place from 10:00 AM to 11:15 AM at the SRIX Auditorium.

# Project Expo



Congratulations to all the participants of the Project Expo organized by the Department of Mechanical Engineering at SR University! Your innovative ideas and **dedication** were truly **inspiring.**
First Prize Winners:
**Syed Yaseen Adnan Ali** & Meer Danish Ali Hashmi
Project Title: Body Fore Stock

Second Prize Winners:
**Modem Sathwik, Chiranjeevi Rithvik, SAI KRISHNA SULUGURI, Thota Karthik**
Project Title: **Assessment** and **Optimization** of **Low-Cost**
**Ceramic Membrane** for **Drinking WaterTreatment**
A special thank you to **Dr. Praveena Devi** for organizing this **fantastic** event and providing **a platform** for **students** to **showcase** their **creativity and** technical skills.

# Placements

## Congratulations to

Placed at

BLUE STAR

Package

**6.3 LPA**

**Md Afaan Mudabbir**
2305A31L36

We are thrilled to share that **Md afaan Mudabbir**, a student of the Department of Mechanical Engineering, SR University, has been successfully placed at Blue Star with an impressive package of 6.3 LPA!

**Vishal Ambedkar Jannu**
(2205A31L08)

**Padakanti Rakesh**
(2205A31L28)

**Mula Varshith**
(2205A31L18)

**Ankam Abhilash**
(2205A31L41)

**O. Raj kumar**
(2105A31006)

Mechanical students have successfully secured placements, with packages of **₹6.3 LPA** at **Blue Star** and **₹4.5 LPA** at **K12 Technology Services**. Additionally, several students have been placed in top companies such as Ronch Polymers, Sakthi Auto Components, and Rane Madras Corporation Ltd., with nearly 30 placements achieved before the end of December 2024

## Workshop Attended by Faculty:

**Dr. Subba Rao Medabalimi** recently participated in a SPARC-sponsored, one-week international workshop on "MaterialCharacterization, Modelling, and Simulation of AdditiveManufacturing," held from 14-18 October 2024.

SPARC POLYTECHNIQUE MONTRÉAL UNB

NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL

CERTIFICATE

This is to certify that Mr./Miss./ Dr. SUBBA RAO MEDABALIMI

from S.R. University, Warangal

has actively participated in the **SPARC** sponsored one week workshop on

**"MATERIAL CHARACTERIZATION, MODELLING AND SIMULATION OF ADDITIVE MANUFACTURING"**

organized by Department of Mechanical Engineering, NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL

from 14th to 18th October, 2024.

Prof. M. Manjaiah Coordinator Dept. of Mechanical Engineering

Prof. B. Kishore Babu Co-coordinator Dept. of Metallurgical & Materials Engineering

Prof. Y. Ravi Kumar Head & Professor Dept. of Mechanical Engineering

Prof. Bidyadhar Subudhi Director NIT Warangal