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**St. JOSEPH'S COLLEGE OF ENGINEERING**  
 (An Autonomous Institution)  
 St. JOSEPH'S GROUP OF INSTITUTIONS  
 OMR, CHENNAI - 119



# DEPARTMENT OF MECHANICAL ENGINEERING



## JANUARY 2026



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# OUR COLLEGE VISION AND MISSION



## VISION

To become a world class Educational center of the Nation for Engineering, Technology, Computer Applications and Management with moral and professional standards to serve the community at large.

## MISSION

To achieve academic excellence in Engineering, Technology, Computer Application and Management Education.

To inculcate high moral and professional standards among our students. To develop the overall personality of our students.

To promote Industry Institute Interaction through more number of collaborative programs with Industries, Research and Development centers.

To venture for sustained placement for our students through campus interviews.





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# DEPARTMENT OF MECHANICAL ENGINEERING



## VISION

To become a center of excellence in Mechanical Engineering, producing competent engineers, who are innovative, entrepreneurial and skilled to meet the global challenges.

## MISSION

**Excellence:** To offer state-of-art education in Mechanical Engineering, by providing opportunity to students to enhance their knowledge base and develop core specific skills.

**Research:** Build a research capability that is recognized nationally and internationally as a leading source of technological innovation and explore core research.

**Professional Integrity:** To create opportunities and train students to build leadership qualities blended with entrepreneurial mindset and lead an ethical and environmentally responsible career.



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## PROGRAMME EDUCATIONAL OBJECTIVES

Engineering graduates will be able to:

PEO1: Profession – Practice manufacturing engineering in a broad range of industries both core engineering and non-engineering fields such as medicine, space, law or business.

PEO2: Continuing Education – Pursue advanced education, research and development, and other creative and innovative efforts in science, engineering, and technology, as well as other professional careers.

PEO3: Technophile – Conduct them in a responsible, professional, and ethical manner and attain professional maturity with deep understanding of the impact of the technological solutions in a societal and global context and a need for sustainable development.

PEO4: Service – Participate as leaders in their fields of expertise and in activities that support service and economic development nationally and throughout the world.

## PROGRAMME OUTCOMES

Engineering graduates will be able to:

Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. Design/development of solutions: Design solution for complex engineering problems and design systems components or process that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.



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**Conduct investigations of complex problems:** Use research- based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**Environmental and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of, and need for sustainable development.

**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**Life-Long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## PROGRAMME SPECIFIC OUTCOMES

**PSO 1:** The students graduating in Manufacturing Engineering will have profound foundation in mathematical, scientific and engineering domains necessary to achieve professional and productive excellence in technical and non-technical problem solving and analyzing engineering problems.

**PSO 2:** The students graduating in Manufacturing Engineering will have the ability to synthesize the engineering data and apply scientific principles for applications involving manufacturing engineering using high end CAD/CAM/CAE computational packages such as CATIA, ANSYS and MATLAB.

**PSO 3:** The students graduating in Manufacturing Engineering will have the ability to pursue advanced careers and discharge his/her duties entrusted with high degree of commitment to address professional and ethical responsibilities, including a respect for diversity and provide cost effective engineering solutions.



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# Faculty Achievements

- Dr. Vaddi Seshagiri Rao, Professor, Department of Mechanical Engineering, has published a patent titled "AI-Integrated VLSI System for Intelligent and Adaptive Smart City Energy Management" (Application No. 202541130191 A).
- Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering has presented a paper entitled "Influence of Aerosil-200 Nanofiller on the Flexural and Compressive Behavior of Glass Fiber Reinforced Epoxy Composites", International conference Sustainable Technologies and Advances in Automation, Aerospace and Robotics (STAAAR-2025) on December 17th & 18th 2025 at VIT Bhopal University, Madhya Pradesh, India.
- Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering has presented a paper entitled "Thermal Enhancement of Stir-Casted Al6061-Cu Metal Matrix Composite Fins: Experimental Evaluation Under Forced Convection", International conference Sustainable Technologies and Advances in Automation, Aerospace and Robotics (STAAAR-2025) on December 17th & 18th 2025 at VIT Bhopal University, Madhya Pradesh, India.
- Mr. K. Gnanasekaran & Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering has presented a paper entitled "Investigation of microstructural and mechanical behavior on cryogenically treated Aluminium 7075 alloy", International conference Sustainable Technologies and Advances in Automation, Aerospace and Robotics (STAAAR-2025) on December 17th & 18th 2025 at VIT Bhopal University, Madhya Pradesh, India.

# Faculty Achievements

- Mr. Pravinkumar K, Assistant Professor; Mr. N. Sathishkumar, Assistant Professor; UG students Mr. R. Gokul and Mr. G. H. Rhodicson; and Dr. R. Sathish & Dr. V. S. Rao have published a research article titled "Development and analysis of hybrid composite helmets using glass fiber and hair fiber" in the International Journal of Vehicle Structures & Systems, Vol. 17, No. 5, pp. 814–819 (2025). The journal is Scopus-indexed with an estimated impact factor of ~0.48.
- Mr. Pravinkumar K, Assistant Professor, Department of Mechanical Engineering, along with collaborators, has published a research article titled "Solvent-free selective hydrogenation of D-glucose to D-sorbitol using different metal-supported on mesoporous titanium dioxide catalysts" in the journal Chemical Physics Impact. The journal is a Scopus-indexed Q2 journal with an impact factor of 4.3.
- Mr. N. Sathishkumar, Assistant Professor from the Department of Mechanical Engineering received an NPTEL–SWAYAM Certificate of Appreciation as a "Top Performing Mentor" for the course "Rapid Manufacturing" (Jul–Dec 2025). With 20 enrolments and 15 participants appearing.
- Mr. N. Sathishkumar, Assistant Professor, Department of Mechanical Engineering, acted as a reviewer for the manuscript submitted to "Polymer-Plastics Technology and Materials" Journal. (Anna University Annexure I, SCI & Scopus indexed Q2 Journal with Impact Factor 3.0)

# Faculty Achievements

- Mr. N. Sathishkumar, Assistant Professor, Department of Mechanical Engineering, acted as a reviewer for the manuscript submitted to "Engineering Research Express" Journal. (ESCI & Scopus indexed Q2 Journal with Impact Factor 1.6).
- Mr. T. Balasubramanian, Assistant Professor, Department of Mechanical Engineering have successfully completed the AICTE-sponsored 6 Months QIP – PG Certification Program on "Robotics," conducted at the Indian Institute of Technology (IIT), Palakkad.
- Mr. M. Subramanian Assistant Professor, Department of Mechanical Engineering have successfully completed the AICTE-sponsored 6 Months QIP – PG Certification Program on "Machine Learning" Conducted at Indian institute of Information Technology (IIIT), Surat.
- Dr. M. Ganesh and Mr. K. Muninathan , Assistant Professors, Department of Mechanical Engineering have successfully completed the AICTE-sponsored 6 Months QIP – PG Certification Program on "AI & Robotics" conducted at National Institute of Technology (NIT), Karaikal.
- Mr. KMB. Karthikeyan & Mr. R. Elakkiyadasan, Assistant Professors, Department of Mechanical Engineering have successfully completed the AICTE-sponsored 6 Months QIP – PG Certification Program on "Advanced Aerospace Material Development, Characterization and Testing" at Indian Institute of Technology (IIT) Bhilai, Chattisgarh.



# Faculty Achievements

- Mr. Ruskin Bruce, Assistant Professor, Department of Mechanical Engineering, has been certified as a charter member of an officially chartered toastmasters club.
- Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering Published an article titled "Development of Ecofriendly Automobile Brake Liner using Different Grades Sizes of Pulverized Cow Hooves Powder" in Scopus Indexed Q4 Journal "International Journal of Vehicle Structures & Systems (IJVSS)," on 10th January 2026.
- Mr. T. Balasubramanian, Assistant Professor from the Department of Mechanical Engineering has Design Patent Grant on the title " IOT- Powered Device for Dynamic Business Model Analysis and Tracking " Design no: 463388-001 Date of submission 24/06/2025 Date of grant 09/01/2026.
- Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering has published a Scopus Indexed Book Chapter entitled "Strategic Transformation and Sustainability in CASE Mobility: Redefining Business Models and Value Chains for the Electric and Autonomous Future", IGI Global Scientific Publishing on 17th January 2026.
- Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering has published a paper entitled "Drone-Based AI Solutions for Livestock Tracking and Behavioral Monitoring in Extensive Pasture Systems", IEEE Xplore Scopus Indexed Conference on 23rd January 2026.



# Faculty Achievements

- Dr. R. Sathish, Professor from the Department of Mechanical Engineering has published a paper entitled " Optimization of Polypropylene granules and the fine aggregates for mechanical strength in nanomaterial based concrete", Interaction 247,7(2026).
- Mr.K. Gnanasekaran ,Assistant Professor from the department of mechanical engineering published a research article titled in Experimental investigation of corrosion behaviour in Al alloy reinforced with SiC functionally graded composite in EPJ Web of Conferences 345, 01055 (2026).
- Mr.K. Gnanasekaran ,Assistant Professor from the department of mechanical engineering published a book chapter titled in GFRP Parabolic Trough Solar Concentrator Performance Analysis with Al<sub>2</sub>O<sub>3</sub> Nanofluid in lecture notes in mechanical engineering.
- Mr. A. Ruskin Bruce, Assistant Professor from the Department of Mechanical Engineering has completed a two days hands-on workshop on Design the Thinking by Fintech Design Center - Siruseri, Chennai. on 21 & 22 January 2026.
- Mr.K. Gnanasekaran ,Assistant Professor from the department of mechanical engineering published a research article titled in Performance Evaluation of Rice Bran Oil—Waste Cooking Oil Binary Blend-Based Biodiesel With Normal Diesel in CI Engine in Engineering reports wiley publications Q2 Journal.
- Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering Published an article titled "Design, Fabrication and Performance Evaluation of a 3D-Printed Microgripper based on Compliant Mechanisms for Precision Manipulation" in Scopus Indexed Q3 Journal "Journal of Micro and Bio Robotics," on 26th January 2026.

# Industrial Interaction

- On 27.01.26, an industry-academia interaction was held at Robonetics Automation Solutions, Singaperumal Kovil, Kanchipuram, aimed at bridging academia and industry for mechanical engineering excellence. Robonetics, a pioneer in robotics and automation for manufacturing, specializes in AI-driven autonomous mobile robots (AMRs), collaborative robots (cobots), and vision-guided systems for automotive and logistics applications. Dr. Vijayanand J. and Mr. Gnansekar K. visited the organization and engaged in detailed discussions focusing on student-centric benefits, including collaborative training programs to enhance practical skills, internship opportunities for hands-on industry exposure, and strategic placement drives to support career development and future readiness of mechanical engineering students.



# Alumni Achievement

- Mr. Gokul R, (2021-2025 Batch) Mechanical Engineering at St. Joseph's College of Engineering, fabricated a prototype model for Jaggery powder production unit for farmers. This automated jaggery production unit integrates advanced mechanization conveyor belt, heating pan, boiling pan with extruders, cooling pan and grinding units which has been developed to modernize from traditional jaggery manufacturing to reduce manual labour. This system automates the entire process from conveyor-based sugarcane feeding to packing of jaggery powder. The advantages of this machine are reduces labour fatigue, shortens processing time and increased production rate.



# Alumni Achievement



- The cost of the machine is around ₹10 lakhs. The Hon'ble Deputy Chief Minister, Thiru Udhayanidhi Stalin, felicitated Mr. Gokul and Mentor Mr. Pravinkumar K, at Valluvar Kottam, Chennai, for being the top team in Niral Thiruvizha 2.0. Thiru Udhayanidhi Stalin told that these models are to be incubated with start-up incubation with iTNT to make the real time product for farmers. They were also invited to "Umagine TN 2026" at the Chennai Trade Centre to showcase their product to investors, with a sponsored stall provided for the two-day event held on 8-9 January 2026. They achieved a major milestone by successfully onboarding to the iTNT Hub during the Umagine TN 2026 event, under the facilitation of PTR Palanivel Thiaga Rajan, Hon'ble Minister for Information Technology and Digital Services, Government of Tamil Nadu.

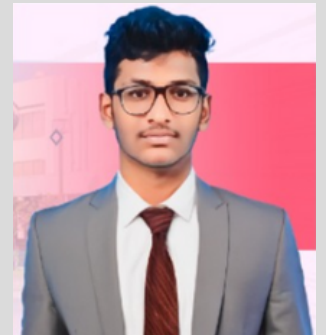
# Alumni Interactions

- On 24/01/2026, Department of Mechanical Engineering organized mock interview for our second year students, three alumni Avinash. TR (2017-2021), Dhanushadhithyan.J (UG 2017-21, PG 2021-23), Madhan Balachandran (2017-21). Conducted mock interview and gave their valuable feedbacks on how to present resume and how to prepare for the interview.



# Internship Awareness Program

- On 23/01/2026, Department of Mechanical Engineering, organized a awareness lecture on how to apply for internship and he shared his international internship experience at the Mitsubishi Fuso Kawasaki Plant, Japan. The session highlights global industrial exposure, internship preparation, work culture abroad and key learnings to inspire and guide juniors aspiring for international opportunities.



# Parents Mentor Meeting

- On 21/01/2026, First year Parents and Mentors meet was organized and all the parents came to out college and mentors explained the students strength and what college has planned to shape their wards for future placements and current trends.



# BAJA SAE INDIA 2026 HYDROGEN EDITION



As a part of SAE student Chapter Activity our college is participating in an All terrain vehicle (ATV) building competition, The Aurelian Racing Team comprising Final, Third and Second year Mechanical, Electrical & Mechatronics students participating in the SAE h-BAJA Main event 2026 held at NATRAX, Pithampur, Madhya Pradesh from 4th to 14th January 2026, Organized by BAJA SAE INDIA. The team has brought accolades as follows.

- Overall - Tamil Nadu (TN) 2nd position & All India Rank (AIR) 6th position
- Endurance - (AIR- 5, TN-1)
- Design presentation (AIR -4. TN -1)
- Suspension & Traction (S&T) (AIR - 3 , TN -1)





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# BAJA SAE INDIA 2026 HYDROGEN EDITION



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# BAJA SAE INDIA 2026 ELECTRICAL EDITION



As a part of SAE student Chapter Activity our college is participating in an All terrain vehicle (ATV) building competition, the Inferno Racing Team comprising Final, Third and Second year Mechanical, Electrical & Mechatronics students participating in the SAE E-BAJA Main event 2026 held at NATRIP, Pithampur, Madhya Pradesh from 4th to 14th January 2026, Organized by BAJA SAE INDIA. The team has ranked Overall - All India Rank (AIR) 18th position and Tamil Nadu (TN) 3rd position,



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# DESIGN CHALLENGE COMPETITION – IEI STUDENTS CHAPTER

Our Mechanical Department IEI Student Chapter conducted, The Design Challenge Event won 29 January in CAD lab.

Participants were shortlisted based on their performance in a 10-day Design Challenge conducted during the December activity month. A total of 109 students from 9 colleges under the IEI Kanchipuram Local Centre were initially considered, out of which 51 students qualified and participated in the final event.

During the competition, participants were required to complete a given practical design component within 90 minutes. Evaluation was carried out based on predefined scoring criteria, and the winners were selected according to the final scores.



# DESIGN CHALLENGE COMPETITION – ISEI STUDENTS CHAPTER

Prize Winners:

First Prize: KCG College of Technology

Second Prize: Saveetha Engineering College

Third Prize (Shared): St. Joseph's College of Engineering and Sri Sairam Engineering College

Awards & Recognition:

The winners were awarded certificates along with cash prizes.

All participants received participation certificates in recognition of their efforts.



# NGO Visit

On 24/01/2026, III A students conducted an NGO visit to New Hope and New Life Children Home, fostering social responsibility and compassion.



# NGO Visit

On 29/01/2026, III Mech C students visited Vishranthi Old Age Home. The interaction emphasized care, respect, and social awareness.



# NGO Visit

On 24/01/2026, III B students visited Amma Appa Old Age Home. The interaction highlighted care, respect, and community service.



# Student Intern

Our Second Year Mechatronics student Mr. R. Suwethan has got a paid internship of Rs 15,000/month in UCAL Fuel System Ltd for one month



Our third year Mechanical Engineering students got internship at Hitachi, West Bengal plant for one month.

## TATA HITACHI



**Ahamed Aathief T**



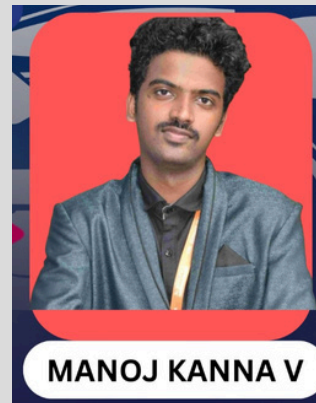
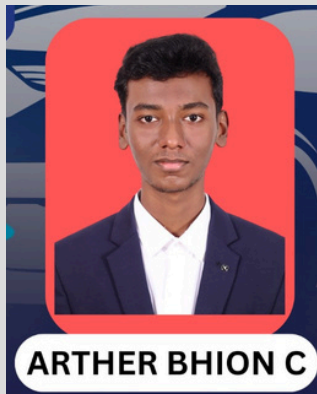
**Binol Breejo B**



**Ajin N.P**

# Student Intern

Our Final Year Mechanical Engineering students Arther Bhion. C and Manoj Kanna. V have got an internship in Stellantis. During the internship they will get stipend of Rs.20,000/- per month. We congratulate them and we wish them, All the Very Best for thier future endeavors.



# Student Placements

- Our Final Year Mechanical student Mr. S. Sundara Mari Rajan has got placed in Thermax Limited as Graduate Apprentiship Training (GAT) with a CTC of Rs. 5 LPA.





# Newsletter Editorial Team

**Mr. Balasubramanian T**  
M.E. , (Ph.D) , Assistant professor

**Mr. Pravinkumar Kamatchi**  
M.E. , (Ph.D) , Assistant professor

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**Mr. Roshan Santhosh**  
Mech IV-C

**Mr. Nandha Kumar M M**  
Mech III-B

