

# ALMANAC

## MECHANICAL ENGINEERING DEPARTMENT – NEWS LETTER

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### FROM THE EDITOR'S DESK

Warm greetings! I take immense pleasure and privilege to pen a few words for our college Newsletter. A recap of all the activities and programmes that were conducted during the academic year 2018-2019 is presented in this edition. Eminent speakers from industries, premier institutions and professional academies were invited to share their valuable experience and knowledge with our anxious students. With razor sharp perfection, all these activities were unitedly conducted by a team of energetic, enthusiastic faculty of our department. We are highly indebted to the invaluable assistance and support extended by the Management, Principal, department staff, office staff and other for all our entire endeavors.



HOD/MECH

Department of Mechanical Engineering  
Hindusthan College of Engineering and  
Technology  
Valley Campus, Pollachi Highway  
Coimbatore-32



### **DEPARTMENT VISION**

To provide quality technical education in Mechanical Engineering and build holistic professionals who can excel in the engineering establishments and serve for the country with ethical values.

### **DEPARTMENT MISSION**

M1: To prepare graduates with good technical skills and knowledge.

M2: To prepare graduates with life-long learning skills to meet the requirements in the higher education and in society.

M3: To prepare graduates as a successful entrepreneur with employment skills, ethics and human values.

### **PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)**

PEO1: Graduates able to apply technical expertise and skills to face the Industrial challenges.

PEO2: Graduates able to design create and innovate economically, environment-friendly and technically feasible products with social acceptance.

PEO3: Graduates able to exhibit professionalism in their profession with good communication, ethics and entrepreneurship skills to meet the social challenges.

### **PROGRAM SPECIFIC OUTCOMES (PSOs)**

PSO 1: To design, analyze and apply knowledge in complex engineering problems with time effective software solutions.

PSO 2: To understand the relevance of engineering practices with society and environment and become an ethical team oriented effectively communicating individual with managerial skills and sustained learning ability.

## **PROGRAM OUTCOMES (POs)**

### **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 solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**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.

**Environment 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.

## FACULTY ACHIEVEMENTS & ACTIVITIES

| S.No | Nature of activity   | Participant         | Duration                  |
|------|--|---------------------|---------------------------|
| 1    | Coimbatore division Leadership award by SAE INDIA Southern section   | Dr.K.Siva           | 3/24/2019                 |
| 2    | Appreciation Award for SAUR URJA VEHICLE CHALLENGE Event Hosted  | Dr.K.Siva           | 3/7/2019                  |
| 3    | Recognized as a visiting faculty to Satbayev University, Almaty Republic of Kazakhstan for handling classes to Master Degree students on the field of 'Renewable Energy and Heat Pump Systems' during 19.12.2018 to 26.12.2019.                      | Dr.M.Mohanraj       | 19.12.2018 to 26.12.2019. |
| 4    | Successfully completed the DST funded collaborative project with NIT Calicut   | Dr.M.Mohanraj       | 5/10/2019                 |
| 5    | Guest editor for the special issue on 'Environment Friendly Refrigerants' in Journal of Process Mechanical Engineering published by SAGE publishers. (Paper review process completed and published online) awaiting volume and issue no. allocation. | Dr.M.Mohanraj       | 2018 onwards              |
| 6    | Head of Mechanical department was sponsored to attend 'SAE world congress X (WCX)' at Detroit, USA by SAEISS.  | Dr K.Siva           | 20/04/2019                |
| 7    | Mechanical Department is honoured with SAEISS Coimbatore division Appreciation award from SAE International President Paul Mascarenas at Chennai.  | Dr.Y.Rasmatth<br>ew | 24/6/2019                 |

## STUDENT ACHIEVEMENTS & ACTIVITIES

| Event   |
|---|
| SAE EFFICYCLE 2018-Won Second prize in acceleration and secured 5 <sup>th</sup> rank all over India with a score of 1231 points.  |
| Won 10 nos. of prizes in SAE TIER-II Event conducted at Sri Ramakrishna college of engg and Dr.NGP college of engg.   |
| A national level 'Solar competition' first of its kind in the state was organized by Mechanical department.   |
| Around 30 teams from all over India participated. Mechanical students secured overall second prize along with seven first prizes for individual events.                                 |
| A team of Mechanical students secured 'Best Acceleration award' in the SAE Efficycle 2018 competition held at Lovely Professional University.   |
| A team of Mechanical Students, Swept seven awards with cash prize of 1.4 Lakhs at "CROSS TRIKE" Electric-tricycle competition held at Pithampur, Madhya Pradesh.                        |
| A team of Mechanical Engineering students secured four first prizes at the "STUDENT FORMULA HYBRID 2017" competition held at Buddh International Circuit, Greater Noida, Uttar Pradesh. |

### Value added course offered

| Sl.No | Year     | Name of the Course |
|-------|----------|--------------------|
| 1     | III YEAR | Solidworks         |
| 2     | IV YEAR  | CNC                |

## Faculty paper published in Journals & Conferences

| S.No | Title  | Name of the Faculty                        |
|------|--|--|
| 1.   | Growth, vibrational, optical, thermal, magnetic and dielectric behavior of organo-metallic tetramethylammonium cadmium chloride crystal".  | Mr.S.Sivakumar                             |
| 2.   | Business Intelligence and Data Mining, Vol. 13, No. 1, 2018, Copyright © 2018 Inderscience Enterprises Ltd.  | Dr.C.Nithyanandam                          |
| 3.   | Published a paper entitled "Characterization of Simarouba glauca seed oil biodiesel: a comprehensive study" on Journal of Thermal Analysis and Calorimetry- Springer Publications., December 2018.           | Dr.P.Jeyalakshmi                           |
| 4.   | Comparative study on Microwave and conventional joining of Thermoplastic", Solid state phenomena, vol. 280, pp. 277-283, 2018.   | Dr.K.Siva                                  |
| 5.   | Thermodynamic analysis of forced convection solar air heater using pin-fin absorber plate. <i>Journal of Thermal Analysis and Calorimetry</i> . (Accepted for Publication).                                  | S. Sivakumar, Dr. K. Siva, Dr.M. Mohanraj, |
| 6.   | Experimental investigation and analysis of drilling parameters of metal matrix (Ti-TiB) composites, <i>Journal of Brazilian Society of Mechanical Sciences and Engineering</i> . (Accepted for Publication). | Dr.M. Mohanraj,                            |
| 7.   | Thermodynamic performance of automobile air conditioners working with R430A as drop-in substitute to R134a. <i>Journal of Thermal Analysis and Calorimetry</i> . (Springer Publishers, In press).            | Dr.M. Mohanraj,                            |

## PROGRAMMES CONDUCTED



**Organized National Level  
“Solar Vehicle Design Competition” on 27/2/2019 to 03/3/2019  
Chief Guests**

**Mr.S.VENKATARAMAN**  
Senior Vice President Techno Commercial , Jayam Automotives Pvt Ltd,  
Coimbatore

**Mr.MURALIDHARAN GOPI RAMESH**  
Program Manager, C&D Segment SUV & EV Business Leader  
Indian Planning Office, Renault Nissan, Chennai.





International Conference cum Exhibition  
On  
“RENEWABLE AND SUSTAINABLE ENERGY SYSTEMS (RSES2019)”  
11/04/2019 & 12/04/2019

Dr. KAMARUZZAMAN SOPIAN

Director

Solar Energy Research Institute,  
University of Kebangsaan Malaysia,  
Malaysia





**DOCTORAL DEGREE AWARDS**

Heartfelt congratulations to our faculty on their completion of PhD.



**Dr.R.Sankar Ganesh  
(IC Engines)**

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