



## Department of Mechanical Engineering

### MANGALAM COLLEGE OF ENGINEERING

(An ISO Certified Educational Institution, Approved by AICTE and affiliated to M.G. University)

Inside this issue:

Staff Training	2
Technical Achievements	2
ME Association	2
BAJA SAE 2014	3
New Members	3
PG Inauguration	3
Interesting Trivia	3
Social Service	4
International Journal	4



#### From the Captain's Desk:

Mechanical engineering is a discipline of engineering that applies the principles of mechanical systems. Many mechanical engineering companies have begun to incorporate various automated technologies have **changed the whole perception about Mechanical Engineering** with the introduction of the following new fields :

**CAD/CAM** (Computer Aided Design/ Computer Aided Manufacturing ) ,**CNC** (Computer Numerical Controlled) Machines, **CFD** (Computational fluid dynamics ) ,**CFD** (Computational fluid dynamics ) ,**RP** (Rapid Prototyping) ,**FEA** (Finite element analysis ),**PLM** (Product life cycle management ) ,**MEMS** (Micro electro-mechanical systems) ,**Robotics** Technology, **Mechatronics** and Control system ,etc

Mechanical Engineering is often rated as strongly male dominated field. But with the introduction of the above mentioned new fields in mechanical engineering , more and more female students are attracted to take this course. Diversity, whether gender, ethnicity, or geography, brings more creativity and innovation to a team. When there is gender diversity on a team rather than a single gender, most likely one can see a tremendous improvement in the outcomes. Hoping to see a drastic increase of female students in mechanical engineering branch all over Kerala shortly

#### Revival of Mechanical Department in the college

- Inaugural function of maiden Mechanical Departments Students Association to be held on 15 April 2013
- SAE India collegiate club under the Mechanical Department started functioning from April 2013
- Mechanical Department of Mangalam College of Engineering being a part of the prestigious BAJA SAE 2014 inter college event.
- Intake of B.Tech Mechanical students strength doubled
- Two new labs commissioned based on the revised Syllabus
- First time University Rank for engineering course



Newly commissioned state of the art CAD /CAM lab with latest modeling and manufacturing softwares dedicated to the students of Mechanical Engineering Department



New Computerized manufacturing facility (CNC Machine) worth 20 Lakhs from LMW LTD commissioned recently in the Mechanical Engineering Department



“We are what we repeatedly do. Excellence, therefore, is not an act but a habit “



**MG University Rank Holder**  
Congratulations to Ms. Nimisha for securing 3<sup>rd</sup> rank in MG University M.Tech (Industrial engineering & Management) examination 2012



### Training Activities by ME Staff

Attended one week trainee programme on CNC programming and operation at LMW coimbatore.

Participation in FDP on Thermodynamics at Saint-Gits,Kottayam

ISTE training on CFD

Training at CIFNET



**Mr Vishu M.S**  
Asst Professor



**Mr Vipin Mathew**  
Asst Professor



**Mr Shaiju Mohan**  
Asst Professor



**Mr Pradeep M**  
Asst Professor



**Mr T Darwin**  
Asst Professor

### GATE Student Achievers



**Lijin KV**



**Mahesh .V. Kumar**

### GATE Achievers of ME Dept



**Mr Albert Mathew**



**Mr Pradeep M**

# METALS

## Mechanical Engineers Technical Association of Legends



Mechanical Engineering Department is extremely proud to inform that we under the guidance of Mr Manoj Kumar GR & Mr Shaiju Mohan have formed the students association in the college which would be responsible for all the development activities undertaken by the students of the department.

## SAE India Collegiate Club

Department of Mechanical Engineering at Mangalam College of Engineering has inducted the first group of 77 students in the SAE collegiate club. This club would be operating under METALS, which is the students association of Mechanical Department. SAE collegiate club is a member of SAE India which is affiliated to SAE International, USA.

**SAE International**, formerly the **Society of Automotive Engineers**, is a U.S.-based, globally active professional association and standards organization for engineering professionals in various industries. Principal emphasis is placed on transport industries such as automotive, aerospace, and commercial vehicles. The Society coordinates the development of technical standards based on best practices identified and described by SAE committees and task forces. Task forces are composed of engineering professionals and students from relevant fields. SAE International has over 120,000 members globally.

### ZEAL xii :BAJA SAE 2014



“Dream big and dare to fail “

### Interesting Trivia

**65 mechanical engineers, all women, pass out of Pune college:** The country's first ever all-women batch of B.Tech mechanical engineers is passed out from the Cummins College of Engineering for Women (CoEW) Pune. The batch of 65 women mechanical engineers have already got jobs with attractive salary packages at leading firms, including global multinationals.

Third year students of Mechanical Department taking a historic step in the direction of showcasing Mangalam College of Engineering on the National platform with their participation in BAJA SEA 2014. A group of twelve students have taken the responsibility for this mammoth task.

Baja SAE is an intercollegiate design competition run by the Society of Automotive Engineers (SAE). Teams of students from universities all over the world design and build small off-road cars.

## New members of ME team



**Anup Nair**  
Asst Professor



**Arun Jose**  
Asst Professor



**Sarath Chandran**  
Asst Professor



**T. Darwin**  
Asst Professor



**Heartiest congratulations to Bindu Divakar on achieving 2nd rank in Master of Engineering from Vinayaka Mission University.**

*3rd Batch of  
M.Tech  
(Industrial  
Engineering &  
Management)*





**Analysis of dynamic behavior of a pre-stretched hyper elastic membrane with**



**Abu Thomas Cherian**

*Projects*



**Anup Nair**

This paper deals with the dynamic analysis of the linear vibration response of a pre-stretched circular hyper elastic membrane with large deformation. Geometrical as well as material nonlinearity come together due to finite deformations and a hyper elastic constitutive relationship. A commercial finite element code ANSYS is used to perform the pre-stressed modal analysis as well as hyper elastic material curve fitting. The effect of stretching ratio and membrane thickness on the mode frequencies, shapes and order is studied.

**International Project on Urban Mobility**



The project, 'Travel Buddy' is been developed to create an impact on the urban mobility system of the country. This ambitious project is carried out with the support of some NGOs in both Germany & India. On completion of this project, a web based product in the name of [www.travelbuddy.co.in](http://www.travelbuddy.co.in) would be available in the market which would be a small step in revolutionizing the urban mobility system in the country.

**Social Activity by ME students**



**Specialised Training imparted to ME students**



*Certification course on Solid modeling with CATIA and drafting with AutoCad were given to selected students and certificates AUTODESK. Inc. U.S.A were issued to them after successful completion of the same*

**Three essentials to leadership: humility, clarity and courage. Who would know that better than a Mechanical Engineer.**



**Mr Biju Varghese  
The Chairman**



**Dr N.K Varghese  
The Principal**



**Prof. Manoj George  
Vice Principal**