



iTEC INDIA 2015 P.1 SAEINDIA National Events P.3 Bangalore Section P.06 Northern Section P.07 Southern Section P.08 Western Section P.11



Feb 2016 SIIMCE 2016

#### Feb 2016 BAJA SAEINDIA

2016 EFFI CYCLE

2016 SUPRA SAEINDIA

#### **SINE 2015**

JOHN DEERE

SINE stands for "Students INdustry Education". This program is targeted to familiarize Women Engineering students to off-highway industry. In this program the selected 25 engineering students from 26 various colleges among 8 different states across the country undergone two weeks of learning through industry visits, product and technology trainings at John Deere, Eaton, Cummins, Caterpillar, Varroc, Ansys, PTC & ARAI.

The successful **3**<sup>rd</sup> **Edition** of SINE was inaugurated by the chief guest and key note speaker of the event was **Ms. Alka Pande**, advisor, Automotive Skills Development Council (**ASDC**) on 13<sup>th</sup> December 2015 at John Deere Technology Center for Women. The theme for this year is **"Growth through Diversity"**. The event was graced by Off-Highway industry and academia representatives along with students.

Mr. Anil Gupta, Head, Hydraulics Engineering, Eaton, welcomed all the guests, students and shared the thought on "Productive learning" along with "Educating a woman is educating a generation". Followed by Mr. Nitin Agarwal, Chairman, SAEINDIA Off-highway board shared the vision of SAEINDIA Off- highway board and importance of the SINE. Then Mr. Ritu Raj, Business Director John Deere, shared his prospective on "Role of Diversity in off

Highway industry " and "Role of Off-highway Industry in nation's growth".

Ms. Alka Pande, the Chief Guest congratulated all the candidates for getting selected for this program and encouraged participants on – Be determinant for achieving, Be stronger in tough times and respect in diverse needs of self as woman. She shared some of her experiences and challenges during her career and how she overcomes them with flying colors with lot of courage, determination and patience.

Ms. Swagata Kalve, Ms. Priyanka Sisodia and Ms. Amruta Venkatesh participants of SINE 2013 shared their work experience of Offhighway industries. Followed by Ms. Alka Pande and Board Members distributed the welcome kit along with Kindle and encouraged participants to develop reading habits.

Dr. K. C. Vora, Board Member SAEINDIA Off-Highway board, felicitated all the dignitaries and volunteers with "Lean In" book and he expressed the vote of thanks to all.

In the 10 days of industrial visits, students learn not only about the company's product but also about how the products come into existence. Beginning with, John Deere where participants learn about



#### SAEINDIA

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# SAEINDIA SINE 2015

agricultural products, and how even knowledge of farming is essential while designing such heavy equipments. At Eaton, they learned about power management solutions, technology trends in Off-Highway industry and Decision making through analysis in Product Development. At Ansys and PTC, participants get educated on Internet Of Things (IOT) and how software-tools plays crucial role during analysis, and saves time, reduces risks.

Participants went to a day trip to Aurangabad to visit Caterpillar and Varroc, where they not only learned about their products, but at same time they learned about high measures followed for safety by industries. At Cummins, the importance of engineering skills needed for any product development is reinforced. Visit to ARAI, made them learn about number of testing and certifications which a product need to go before reaching to market.



On 24th December 2015, Valedictory session of SINE 2015 was held at College Of Engineering (COE), Pune. The chief guest of the event was Dr. Prashanth Ravi – Head engineering Engine division, Caterpillar, and Guest of Honor was Dr. B.B Ahuja – Director COE, Pune. The event started with lighting the lamp by dignitaries.

Mr. Gajendra Jagtap, Co-convener SINE 2015, welcomed all the guests, students and shared the thought on "Productive learning" with mantra of "Science Technology Engineering Mathematics Art (STEMA)". Then Mr. Amar Variawa, Secretary SAEINDIA Off- Highway board, shared the journey of SAEINDIA Off-Highway Board, and how SINE program formulated to enhance the Inclusion & diversity in Off Highway industries. "I never lose, I either WIN or I learn" – that's the spirit of SINE program as shared by Mr. Amar Variawa.

Dr. B.B Ahuja, emphasized the importance of excellence & role of institutions in strengthening academia, with industry oriented engineering fundamentals. He was kind to offer the usage of COE facilities to all the participants and other members. Dr. Prashanth Ravi, Chief Guest talked about Career management & challenges, with respect to Diversity and way to manage in the professional world.

Mr. Krishnat Patil, Co-convener SINE 2015, shared the 10 days journey of participants and their key learning. Sai Thakare and Ashwini Wadhavkar presented a skit, in which they shared the key learning from the complete program. Manaswinee shared her excitement, fun & life changing experiences, what she got during these 10 days. She was inspired, and motivated to head towards a successful career.



Mr. Amar Variawa expressed the vote of thanks to all those who directly and indirectly supported this initiative. All participants have agreed to his submission on "SINE program is a life changing experience" At last, he posed the question to all the participants to ponder upon "what is the purpose of life?"



## **SAEINDIA**

#### Efficycle 2015

**EFFI-CYCLE** is an initiative of **SAENIS** with the objective of providing an opportunity for the students, to explore the **'Environment Friendly and Economical solutions for the day-to-day mobility needs of people'.** The event tasks the undergraduate engineering students to conceive, design and fabricate a prototype of a three wheeled configuration vehicle powered by human electric hybrid power and capable of seating two passengers.



This 6<sup>th</sup> SAE Efficycle event was supported by Maruti Suzuki and ICAT, which held at Lovely Professional University. To highlight the advantages of Lightweight design & fabrication, theme for this season was Lightweight. Light weight designs with optimum performance will be the key factor in this season. An award is also instituted for the same. The students have to function as a team to take part in various events that judge the design, cost, marketing potential, technical parameters, safety, dynamic characteristics and durability of the vehicle. The one that achieves the highest cumulative ranking in all the events stands out as the winner. Participation is sought from SAEINDIA Collegiate Clubs across the country. The participation in the event is a two stage process comprising of the simulation round, wherein the teams are required to simulate the prototype using CAE, followed by the main event, restricted to participation from qualifiers of the simulation round.



There were **3 categories** in the main event – **Technical inspection, Static event and Dynamic event.** Technical inspection consisted of Brake test, Figure of 8 test, weight measurement etc. Static event consisted of design evaluation, Cost evaluation and Marketing presentation. After the teams have cleared these 2 events they have to go for Dynamic event, which consisted of- Acceleration test, Gradient test, Maneuverability test, Utility test and then finally Endurance Run.

Mr. C V Raman, Chairman, SAE NIS has kicked-off Efficycle season 6 in Apr 2015. The 1<sup>st</sup> level screening the virtual rounds was conducted in Jul'15 at Indore and Ghaziabad. More than 150 teams have presented their concept for fabricating the Efficycle. Experts from Dassault and Siemens demonstrated the CAE simulation tools for optimizing the design.

A huge **participation of 101 student-teams from across India** showcased their expertise in vehicle mobility. The event was inaugurated by Director ICAT Mr. Dinesh Tyagi along with Chancellor LPU Mr. Ashok Mittal and Vice Chancellor LPU Mrs. Rashmi Mittal. Mr. Tyagi said "I am very excited to see young engineer's initiative for the green technology", GM ICAT Mr. UD Bhangale (Convener) and DGM R&D Maruti Mr. Jitendra Malhotra (Co-Convener) were also present.



This time main focus for the innovations was in the field of electronics. Some of the new ideas that participants came up with were: Direction Locators, this mechanism signals the driver about which way to turn, instead of having a bulky Navigation display. Integrated GSM chip, through this system we can control motor's output through the phone, and can also real time track battery usage through phone. Mechanical innovations were not lacking behind either. A team came up with a new system for reverse pedaling which can be used as an extra gear (For higher torque). A team also came up with a new application for reverse pedaling - actuating brakes. A team also came up with a steering movement control mechanism, to avoid cars from toppling over at high speed runs.

Out of those 101 teams, 60 teams made it for the final 1.5hr Endurance run, where the ultimate capability of the vehicle was tested. Teams were scored based on the maximum number of laps that they had completed within that time span.

Sant Longowal Institute of Engineering and Technology was declared overall winner of the event. College of Engineering, Pune & Guru Nanak Dev Engineering College, Ludhiana was declared 2<sup>nd</sup> & 3<sup>rd</sup> winners respectively. Cash prizes worth Rs 5 Lakh & certificates were distributed to the winners of the various competition.



Other winners were declared in the categories like best Design, Innovation, Marketing Presentation, Acceleration, Utility, Gradient, Maneuverability, Durability, Slogan, Light Vehicle, Built-up quality, Faculty advisor and Girl participant.

Conveying best wishes to the winning teams, Executive Director (R&D) Maruti Suzuki India and Chairman SAENIS, Mr. CV Raman said: "The great battle for green mobility organized by SAENIS at LPU in has exhibited new excitement & challenges as never before. I am enthralled to note the great efforts of young engineering students in accomplishing the targeted work for a 'Greener tomorrow'. I truly appreciate the deep commitment and enthusiasm of each student for making the Efficycle-2015 a memorable & highly competitive event." Executive Adviser (R&D) Mr. I V Rao and Vice President (R&D) Maruti Suzuki Dr. Tapan Sahoo also conveyed their congratulations to the winning teams.

#### Issue 13 - Supported by

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#### **Bangalore Section**

# Interaction with BAJA team participants

As part of good will gesture & Surprising Visit, Chairman Mr. Munirathnam Javaji, followed by SAEINDIA official visited to Kammavari Sangham Institute Of Technology to have interaction with BAJA team participants for the present year in their automotive workshop. The team briefed the chairman on the progresses carrying out with their present BAJA vehicle.



# Collegiate club mobility exhibition

Recently, Kammavari Sangham Institute Of Technology -KSIT had organized SAEINDIA KSIT collegiate club mobility exhibition. The Event was well witnessed from all the engineering streams.



## **SAEINDIA Section News**

#### **TECHNICAL TALK**

An SAEINDIA Bangalore Section (SAEIBS) sponsored technical talk on "The Haddon Matrix: Interventions & Systematic Study to Improve Road Safety" was held at Continental technical Centre India, Bangalore on 30<sup>th</sup> October 2015.



Resource person Dr. Pradeep Mohan, Professor Mechanical Engineering of CIT Engineering Institute covered all the important areas on the topic like Passive safety, Active safety, Testing dummies followed by case study on accident prevention systems & speed breaking barriers which are along the road side. The event was well witnessed from more than 100+ continental professionals and was well appreciated from the continental members fraternity.

Key People who contributed for its grand success of this event are, Mr.Girish Ramaswamy, Head Engine System Dept, Ms.Dhrakshayani Bhakthavatsalu, HR Business Partner, Mr.Ramachandran Panangattiri, Logistics & Administration, Mr. Sudeepth Puthumana, Head Passive Safety Dept and Mr.Dattprasad Vernekar, Passive Safety Dept, all are of Continental, Banglore.



#### Inaugural SAEINDIA Ambedkar Collegiate club

The inaugural function of SAE collegiate club was successfully conducted on 18th November 2015. The chief guest of the function was Mr. K P Murthy, Vice Chairman, SAE India, Bangalore section (BS) was presided by Dr. S. Chinnaswamy, Chairman, PVP Welfare Trust in the presence of other guests Dr. B. Hanumaiah, Vice Chancellor, Dr. Ambedkar Institute of Technology, Dr. T. C Manjunath, principal, Dr. Ambedkar Institute of Technology, Shri Datta Prasad, Technical Specialist, M/S Continental Automotives, Dr. L.Chandrasagar, HOD, **Department of Mechanical** Engineering and Dr. G. Rajendra, HOD, Industrial Engineering and Management.

The inaugural function was followed by a technical talk on Passive Safety and Sensorics by Mr. Datt Prasad, Technical Specialist, M/s Continental Automotives. The presentation was given on different sensors which are used for safety in the today's vehicles such as the proximity sensors, which are used to detect the object infront of the vehicle, to avoid collision how the range sensors are used to detect the distance object



infront of the vehicle, to avoid collision how the range sensors are used to detect the distance object which may be moving or standstill. Also stressed about the sensors which are used to accelerate/decelerate the vehicle depending on the distance of the object/vehicle in front of it and assist to change the lane on the road.



#### AWIM MASTER TEACHER TRAINING PROGRAMME

On 12.12.2015, SAEIBS had organized AWIM training session for Teachers, Industry volunteers & kids for 5th, 6th & 7th std. at GE technical Centre, Bangalore.

The main highlight of the event was "Glider being introduced for the first time from SAEBIS" for 7<sup>th</sup> standard students as part of Aerospace programme. Mr. Dinesh from Assystem was the Master Trainer to run this Indian glider as a part of pilot project.



## **Northern Section**

#### **SAENIS Student Convention**

SAENIS student convention for the year 2015-16 was organized at SKIT, Jaipur with great enthusiasm & participation of over 1900 participants & 27 colleges of Rajasthan. Convention was graced with the presence of Chief guest, Mr. A. K. Jain-CMD, REIL, Guest of honor, Mr. I. C. Agarwal- Chairman, Genus Power Infrastructure limited, Mr. Sandeep Raina-Vice President, Maruti Suzuki India Ltd, Mr. Rakesh Sood - MD, Trim India and Mr. Anup Kacker-ED,SAENIS.



The Saraswati Vandana, Lamp Lighting & Formal floral welcome set the mood of the convention. During the Inauguration session, Chief guest Mr. A. K Jain emphasized on the importance of quality & how Mechanical engineers can utilize SAE towards the growth of Indian industry with 100% quality.



Guest of honor, Mr. I. C. Agarwal shared his views on current Indian automotive scenario & how students can hone their skills to meet the future challenges. Mr. Anup Kacker thanked the SKIT management & organizing committee for providing a wonderful opportunity to industry academics interaction & shared the significance of SAENIS 2015-16 "DRIVE".

Mr. Rakesh Sood talked about AWIM, SAE foundation and shared how industry is encouraging students through scholarship programs of SAE foundation like Kalpna Chawla awards which is primarily for girl students. Mr. Sandeep Raina engaged the students with the amazing world of automobiles by canvassing a current scenario & future challenges of Indian automotive sector. Inauguration session was ended through vote of thanks. Inauguration session was followed by a spree of Technical lecture session.

Technical Lectures by eminent personalities were a part of this convention, Mr. K. P Panwar – General Manager, R&D, UNOMINDA started off with "Innovation-Adapting to change" in a product lifecycle development. Mr. Shailendra Deopa - Manager, Maruti Suzuki India Ltd educated students on the basics of 4 wheeler passenger car HVAC systems. Mr. P Sakthivel, Sr. Research Officer, IOCL delivered a phenomenal lecture on "transport fuels & Emission".

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During the day, an open house was conducted with all SAENIS collegiate clubs to understand their concern & how to make SAENIS more effective for students. To keep the students engaged, second half of the day was full with student activities like Auto expo, Poster / Project competition Auto Quiz, Technical paper presentation in which students participated with full enthusiasm. Above competitions were judged by present industry experts & Institution heads.

To conclude the convention in a fruitful direction, a panel discussion was setup with agenda of "Importance and improvised interaction between Industry & institutions". Focus of the panel discussion was centered upon strengthening the basics of engineering with an improvisation in communication, seeking moderation of industry inclined electives in syllabus & changing preface of industry towards institution through increased technical help via lectures, Industry visits, Study/experimental projects.

#### **IPG Workshop**

The Workshop on Automotive Simulation & Applications was conducted successfully by M/s. IPG Automotive Gmbh on 29th October 2015. It was attended by luminary personalities from the various auto sectors.

The workshop provided the delegates an unique platform to get close to the numerous simulation tools &to intensify their practical knowledge on engineering views & aspects and their applicability to an individual company's requirements. The program was commenced with a brief introduction about IPG & Car Maker.

It was ensued with the introduction to HIL testing and applications of HIL on ECU, Suspension and Steering development. Hence, the Workshop provided the delegates with the an opportunity to understand and use IPG's SIL, MIL or HIL solutions in an instructed environment.



It was then followed by a session in which demonstration on ADAS applications usage was conducted. A general overview over Electrical Faults Simulation, Component testing, Hybrid vehicle testing, Emission and Combustion optimization & overall generated a fervor environment among the crowd. It was finally concluded by Q&A session and high tea.

### **Southern Section**

#### **Inauguration of division offices**

SAEINDIA Mahindra World City (MWC) Division was inaugurated on 13<sup>th</sup> October 2015 at Dr. Kalam Auditorium, Mahindra Research Valley. The session started with the traditional Lamp Lighting by Mr. N Balasubramanian, Chariman, SAEISS.

During the inaugural function the dignitaries present are Dr Aravind Bharadwaj, SAEINDIA President, Mr. N Balasubramanian, Chariman, SAEISS. Mr. Jayanta Deb, Sr.VP, M & M,Mr. Velusamy, Sr.VP, M & M and Mr. Sanjay Deshpande, Chief Engineer, M &M.

This division is headed by Mr.C.Pradeep, M & M as Chairman, Mr.R.Balasubramanian, M & M as Secretary, Mr. Baskara Sethupathy, SRM University as Treasurer, Mr.R.Senthilkumar, M&M as Vice Chair and



Mr.Thirumoorthy, Visteon as Vice Chair.



During this inaugural Member Management System (MMS) an online platform for SAEINDIA professional members was relaunched and some of the dignitaries made their registration and renewal of membership with SAEINDIA.



SAEINDIA Madurai Division was inaugurated on 13<sup>th</sup> November 2015 at Kudil, TAFE, Madurai. The session started with the traditional Lamp Lighting by 3.Dr. M.Uthayakumar, Kalasalingam University.

This division is headed by Mr.V.Srinivasan, TAFE as chairman, Dr.R.Kannan, PSNA College of Engg.&Tech., as Secretary and Dr. M.Uthayakumar, Kalasalingam University as Treasurer. This inauguration also seen various representatives from TAFE.

## SKIP program on "Automotive Transmission"

The session was inaugurated by Mr.T.Kasiraja, MC member, SAEISS and he introduced the speaker Mr. R.venugopal, DRDO Fellow. Many modern cars, buses, trucks, off highway vehicles, mining equipment, and military vehicles use Automatic Transmissions. The driving comfort and improved life of drive train components by the use of automatic transmissions is attracting the attention of vehicle users as well as vehicle manufacturers.

Automatic transmissions offer ample opportunities to practicing engineers in various fields of product development. All executives irrespective of their involvement in different phases of product development cycle will benefit from this course. The session was presided by Mr.T.Sathya Narayanan, Treasurer, SAEISS and the session ended with issue to certificates to the participants.





#### **Lecture Meeting**

The first Lecture Meeting program on "Latest Trends in BRAKE SYSTEM DEVELOPMENTS" was organized by SAEINDIA Mahindra World City (MWC ) Division on 19<sup>th</sup> December 2015 at ESB Seminar hall, SRM University, Chennai. The speakers of the event are Mr. S Raghupathi (M & M) and Mr. Vallabha Rao (M & M), Chennai.

Mr.C.Pradeep, Chairman, SAEISS MWC Division inaugurated the lecture meeting in the traditional way of Lighting the kuthu vilaku. Mr.P.Baskara sethupathi, Treasurer, SAEISS MWC Division gave the welcome address. The speakers of the event are Mr. S Raghupathi (M & M) and Mr. Vallabha Rao (M & M), Chennai started delivering the speech on the topic. The entire session went well with the exact information, presentation, knowledge sharing thoughts and about the future and new technologies. Being the first lecture meet the participants also suggested various topics for future similar lecture meeting sessions. Mr. N Balasubramanian, Chariman, SAEISS gave some suggestions to the members regarding this topic and interacted with them.

Mr.C.Pradeep explained about the purpose of the Lecture meeting and future activities of the division.



The auspicious session came to an end by presenting momento to the chief guest Mr. S Raghupathi (M & M) by Mr. N Balasubramanian, Chariman, SAEISS.

#### **Aero Design Challenge**

The main objective of such a program is to develop the skills of the students using such platforms and supporting them. Mr.D.Seshadiri, Sr.Dy.Director, SAEINDIA inaugurated the program followed by Mr.C.S.Karunakaran, SAEISS Aerospace Champion explained the Aero Design Activities of SAEISS. The function also saw the launch of Rule Book for the Aero Design Challenge.

The Aero Design Challenge – Presentation and Design report guidelines launched by Aero Space Board Committee was conducted on 19<sup>th</sup> December 2015 at Hindustan Auditorium, Hindustan International School, Chennai.



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#### **AWIM REGIONAL OLYMPICS**

The 8<sup>TH</sup> AWIM Regional Olympics was held in two phases viz, first phase at Tirunelveli and second phase at Chennai. The first phase was held at St.John Higher Secondary School, PalayamKottai, Tirunelveli on 19<sup>th</sup> December 2015. The program was inaugurated by Mr. Selvanayagam from CEO Office -Tirunelveli District.



The 8<sup>TH</sup> AWIM Regional Olympics was held in two phases viz, first phase at Tirunelveli and second phase at Chennai. The first phase was held at St.John Higher Secondary School, PalayamKottai, Tirunelveli on 19<sup>th</sup> December 2015. The program was inaugurated by Mr. Selvanayagam from CEO Office -Tirunelveli District.

Mr. Nandhan, Member SAEISS explained the agenda of the program to all Students and Teachers. The Students started constructing their Jet toys from the kits distributed to them. The Competition was conducted in 5 levels, they are Distance, Time, Speed, Weight Carrying & Presentation with each level having 3 trails to each team.

The second phase of the event was held at Crescent School, Chennai on 30<sup>th</sup> December 2015. The program was inaugurated by Mr. S. Yoosuf, Senior Principal of Crescent School, Dr. R. Rajendran, Professor of B. S. Abdul Rahman University and Mr. B. Kumaran, AWIM Champion, SAEISS and Mr. G. Vijayan, Deputy Director General, SAEINDIA has presided over the



valedictory function.



This competition saw school students work as a team, applying scientific design concepts and exploring the principles of laws of motion, inertia, force, momentum, friction, air resistance, jet propulsion, etc. to create moving vehicles like balloon powered Jet-Toy.

The winning teams from SAEINDIA Southern Section details are given below.



S.No	Category	School Name
1	Distance	Devi Academy
2	Time	Good Will Matric School
3	Speed	SSM Academy
4	Weight	SKV International School
5	Accuracy	P S Senior Sec. School

# Western Section

### Workshop - Proficiency Improvement Programme

In the Workshop, a 1-Day Proficiency Improvement Programme (PIP) was conducted on "Evolution of Emission Control in India: From BS I to BS VI" at ARAI, Pune on 4<sup>th</sup> December 2015. The speakers for this PIP were as below:

• Mr. M. K. Chaudhari, Automotive Consultant Tata Motors Ltd., Pune.

• Dr. K. C. Vora, Vice President SAEINDIA, Sr. Dy. Director & Head, Academy, ARAI, Pune.



AWIM REGIONAL Olympics 2015

Society of Automotive Engineers (SAEINDIA) Western Section, in association with Automotive Research Association of India (ARAI), Eaton Technologies, John Deere, Cummins India & DC Design conducted "A World In Motion (AWIM) Pune Olympics 2015 at The Orchid School, Baner, Pune on 5<sup>th</sup> December 2015". This competition saw school students work as a team, applying scientific design concepts and exploring the principles of laws of motion, inertia, force, momentum, friction, air resistance, jet propulsion, etc. to create moving vehicles like skimmer and balloon powered Jet-Toy cars. The competition was judged by a panel of eminent personalities from the automotive & art field in and around Pune.

The contest with full of fun & challenges for School Students called A World In Motion (AWIM) had two main ingredients in this innovative, hands-on, physical science curriculum, designed by the Society of Automotive Engineers (SAE), USA. AWIM was started in the USA first and India is the second country to conduct a competition at National level for school children.



AWIM National Olympics 2015 is scheduled at Mahindra Research Valley, Chennai, on 23<sup>rd</sup> January, 2016. The winner team from AWIM Pune Olympics for "Jet Toy" and "Skimmer" will be participating in this competition.