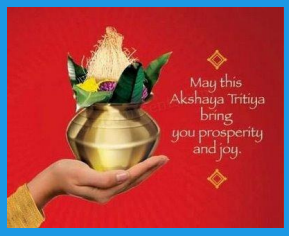
Issue 6, May 2011

Sampark

SAEINDIA NORTHERN SECTION

The Engineering Society For Advancing Mobility Land Sea Air and Space

Celebrating a decade of Knowledge Enhancement



From Co-Chairman's (tech board) desk

I am happy to reach out to SAENIS fraternity through "*Sampark*".

The key tenets of SAE India, to enhance the knowledge-base of mobility practitioners across India besides grooming the student talent pool which will be the foundation of the mobility industry in the future. To fulfil these objectives, SAE NIS has adopted a multi-pronged approach.

SAENIS had organized the SAE India International Mobility Conference three times since 2000 with resounding success. We will be having the next edition of the conference in January 2012. We need to work actively to make it a success.

We have also taken a target of organizing at least one technical seminar/lecture per month which not only serves as a mode of knowledge-upgradation for the participants, but also as a forum for fruitful and enriching discussions among the participants from industry and academia alike. Since Aug' 10 we have done 13 seminars with an average participation of approximately 75 participants per seminar. The seminars have covered diverse & varied topics like CAE & Testing, OEM-Supplier collaboration, Digital Engineering, Manufacturing Technology, Materials sciences, Coating Technologies, Lube & Fuels, Emissions & Engine Technology, etc. Thanks to all the companies who have supported our cause by sharing their knowledge and expertise at such seminars.

Furthermore, SAE NIS would be looking for opportunities to augment the knowledge of engineering students through technical sessions and seminars.

We, at SAE NIS, will continuously strive to bring increasing value to our members.

C.V.Raman
CGM, R&D, Maruti Suzuki India Ltd.
Co-Chairman, Technical Board, SAE NIS

SAE World Congress 2011

The theme of World Congress 2011 "Charging Forward Together" symbolizes the dynamic progress in the automotive industry, new advanced propulsion technology and importance of collaborative partnerships.

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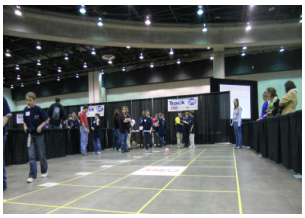

SAE AWIM Jet Toy Olympics

The 7th Jet Toy competition saw the participation of more than 500 students, teachers and volunteers.

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SAE SUPRA, Inspectors' Training

Gearing up with the SAE Supra event to be held from 1st-3rd July 2011, Inspector's Training was held to highlight the role and key responsibilities of a Technical Inspector.

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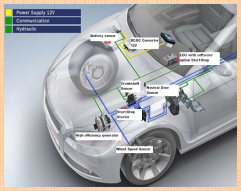
TECH BUZZ



Idle Start-Stop System

A technology that can seamlessly switch your engine on and off depending on how your vehicle is operating, substantially reducing fuel consumption and air pollution from idling vehicles.

Upcoming events…

- **Improving Productivity in Automotive Product Development, May 25th, Gurgaon**

Hurry !!!!!!!!!!!

- **Last date of submission of the abstracts for SIIMC is 15th may 2011, to submit the abstract log on to www.siimc2012.org**

SAE World Congress 2011, 12-14th April 2011, Detroit, USA

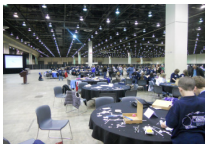
SAE 2011 World Congress, an essential automotive technology event, is an important instrument in providing a neutral and open forum for collaboration on important industry issues. This year's theme was "Charging Forward Together" which symbolizes the dynamic progress in the industry, exciting new advanced propulsion technology and importance of collaborative partnerships. Each day began with industry leaders speaking on topics to kick off discussions for Management Theatres. Technical papers presented by experts from reputed OEMs such as General Motors, Ford, Chrysler, Nissan etc.

There were leading edge exhibits and technical sessions were conducted on topics like NVH CAE, Occupant Protection, and Advancement in instrument panels and interiors. A 'Ride and Drive' event was also organized featuring vehicles from OEMs and suppliers like GM, Nissan, Robert Bosch to drive and experience a variety of propulsion and other technologies.

"Fuel Cell Olympics was also organized as part of A World in Motion"

SAE AWIM Jet Toy Olympics, 13th April 2011, Detroit, USA

More than 500 students, teachers and volunteers-who had participated in the 'A World in Motion'-Jet Toy Challenge -came to demonstrate and share what they had learned in their classrooms. Students in Engineering Design teams of 4 built the balloon-powered vehicles and competed in the distance, accuracy, weight carrying and timed events. The vehicles were run on specially built tracks.



The Indian national champions, along with the Indian event organizers Mahindra & Mahindra, also participated in this event.

"The National Champions- Wisdom High International School, Nashik represented India at this event"

SAE SUPRA Inspectors' Training Event, 9th April, MMST, Chennai.

The SUPRA SAEINDIA 2011 competition challenges undergraduate and graduate students to conceive, design, fabricate and compete with their own small, formula style, autocross racing cars.

The SAE SUPRA inspectors from different OEMs were trained so that they can check the car for high performance parameters in terms of acceleration, braking and handling qualities, low in cost, easy to maintain and reliable. The cars will be participating in a series of static and dynamic events including technical inspection, cost, marketing presentation, engineering design, solo performance trials and high performance endurance test on track.

The dynamic events will include acceleration, skid pad, autocross, fuel economy, endurance. The inspectors were also briefed on the activities carried out in SUPRA till date.

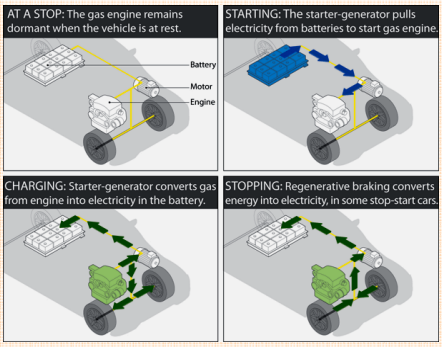
Mr. Behram (M&M) guided the invigilators about the minute points that they need to keep in mind while inspecting the students' vehicles. The basics of Formula car were shared to highlight the differences from a regular car. The invigilators were told to give major emphasis on safety. A demo vehicle was shown to the inspectors and each point of technical inspection book was explained practically.

TECH BUZZ

Idle Start-stop system

With the focus on environment and the increasing cost of oil production and consumption these days, people are looking for alternatives to the conventional gasoline engine. To combat the issue of frequently stopping, starting and standing still, is a technology that can seamlessly switch your engine on and off depending on how your vehicle is operating. An idle-stop system, or a start-stop system, is essentially what makes up today's increasingly popular so-called mild hybrids.
Despite the name, mild hybrids aren't technically hybrid cars. They use internal combustion engine. There is no electric motor in a mild hybrid to move the car, and although there's a battery, it serves a different purpose than a battery does in a full hybrid. The main purpose of the battery in a mild hybrid is to shut off the gasoline engine when the vehicle is at rest, coasting or slowing down.

There are essentially three main parts involved in an idle-stop system: gasoline engine, an electric starter/generator and a battery. The transfer of energy works in that order, both forward and backwards-- it just depends on what state the car is in.



Start-Stop system uses **regenerative braking** when you want to apply brake when engine is on. The rotational energy from wheels turns the electric generator and creates electricity. The generator sends electricity to the battery where it can be stored for later use. When the driver applies the brakes, however, the generator shuts off the gasoline engine. Pressing the accelerator pedal starts the engine once again by taking the stored energy from the battery and running it through an electric starter.

*Reference: http://auto.howstuffworks.com/fuel-efficiency/hybrid-technology/idle-stop-system.htm

http://www.hybridcars.com/stop-start-engine

"the engine switches on and off depending upon the state of the car"

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