

# Baja SAE Asia '10



May 2009

Volume 1/Issue #1

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## Welcome ...

Dear Students,

Hope to find you all in the best of your health and zealous spirit building up for the event. I want to take this opportunity to congratulate you for helping BAJA SAE ASIA'10 reach new heights by enrolling a record 152 teams for the event. The massive turnout this year just goes on to reinforce the wave which previous BAJA editions have created by making its presence felt strongly among student fraternity. With greater number of teams registered this time, the responsibility of making the

event a gala success has increased manifold; so has our commitment towards making it stand out from its previous editions.

As an endeavor to keep you updated with the latest advancement on our facade, we are coming forward with a monthly edition of BAJA SAE ASIA'10 newsletter. It would not only give up a sneak peek into latest happening of the world of BAJA, but would also enrich you with the wisely words from the winning teams.

This pdf newsletter would be sent directly to you each month, to keep you in sync with the developments and proceedings of the event.

Enjoy the read and keep up the spirits high building up to the competition.

**Dr. P.P. Chattaraj**

Convener,

BAJA SAE ASIA'10

## Changing Gears...

The sight of fifty eight buggies all fired up, waiting for race to get underway, the reverberation of engines hurling noises, chanting of emphatic victory slogans literally deafening the ears, news reporters taking a crack at the drivers to get the last minute byte... are few of the profuse memorable moments of BAJA SAE INDIA'09 which have been etched in our memory.

A saga of sorts in a bona fide sense, which not only exhibited inimitable talent of the future automobile experts, but also

gave them a brass ring to come face to face with the who's who of the automobile industry. It was a stage where one saw girls breaking the age-old mould of general perception by venturing into a field never explored before, exceptional prowess in sound technical skills and the never say die attitude of the students.

The reference would be incomplete without mentioning of colleges from little less popular towns making it BIG and HOW!

If we had teams from virtually unknown colleges like SLIET taking the top honors and crooning in the glory, we also had teams like IITB reinforce their mettle in the motor sports. The introduction of 'Innovation Award' and the 'Green Vehicle Award' just goes on to emphasize the fact that the organizers are leaving no stone unturned in recognizing and applauding the expertise and craftsmanship of the students.

This year, it is all going up to another altitude, a superior

arena. With BAJA SAE INDIA going into Asia level, the stage is set for more exhilaration, ecstasy and fun.

The voyage which started off with the noble intentions of providing a platform to Indian students for reaching out to masses with their caliber has taken a big leap by moving into a cut above prospects of reaching out to global audience. **Watch out for BAJA SAE ASIA'10!!!**

## Note from the Editor:

- Have something to say or contribute in Newsletter?
- Want your team to be featured in the Newsletter?
- Want us to write/cover some specific issue or topic?

Your Automobile/BAJA related contributions/articles should not be more than 200 words. Please do not forget to write your college and your team name along with your entry.

Write to us at [newsletter@bajasaehindia.org](mailto:newsletter@bajasaehindia.org)

- Guneet Bhatia



## Standing out from the Crowd -Ayush Saxena

### '09 Winners -Take a bow!

- ◆ *Event Winner* — **SLIET, Punjab**
- ◆ *Innovation Award* — **CITM, Faridabad**
- ◆ *Green Vehicle Award* — **IGIT, Delhi**
- ◆ *Best Design Award* — **IITB, Mumbai**

With Lombardini engine throttling matching power, M&M transmission, speeding up the buggy at par with each other, it was nothing short of evens Steven at the start. Grabbing eye balls urges one to take that extra mile, out of box thinking, innovation!!!

An invention is a new idea that is often turned into a tangible outcome, such as a product or a system. An innovation is the conversion of a new idea into engineering usage and profits.

Innovation has been one of the many highlights of attraction in both the editions of BAJA SAE INDIA, with both media and sponsors vying to do the honors.

BAJA SAE INDIA'09 put on display some of the exceptional engineering conceptual designs, with the team from CITM bagging the top honors. Their far-fetched concept of steering by wire, instead of steering linkages and putting the tyres inwards, strengthening them by the means of trusses, won them the accolades. Team ITM used additional brakes calipers which helped their driver at steep turns, thus enabling the reduction of the turning radius to a meager value. Mid car engine design by the team Pegasus, made new inroads to a never before

seen technology. When teams were having a tough time keeping the curb vehicle weight below 300kgs, the team from Dr. M.G.R Educational and research institute achieved the fete by building it all for just 248kgs, who were later bestowed with Chairman's Award for their exploits.

Green is in. Team IGIT made sure that their vehicle didn't add to soaring levels of the ever increasing pollution echelon. The team was awarded the Green Vehicle Award for formulating an environmental friendly vehicle.

## Frequently Asked Questions (FAQs)



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**Q-** I would like to know about the schedule of payments (e.g. next payment of INR 10000), so that our college club is prepared in advanced for the payments?

**A-** The schedule of payments is declared well in advance to help you arrange for the same. The organizing committee, on a regular basis, will send out e-mails in this regard. We highly recommend regular visits to the competition website [www.bajasaehindia.org](http://www.bajasaehindia.org) for all the news, updates and circulars .

**Q-** When does the team interview start for final short listing?

**A-** The interviews are slated for 30th June– 15th July (although we recommend waiting for the final update). The design presentation of the vehicle would be conducted simultaneously with the interviews .

**Q-** Please clarify whether we have to use the sponsorship proposal provided at the BAJA website or we are free to develop our own sponsorship proposal?

**A-** You may use your own spon-

sorship proposal for sending out to various companies. However, for your benefit and for the purpose of introducing a standard look and feel, we have provided a sample proposal template .

**Q-** Does the design and analysis report consist of only roll cage (with none of the systems attached)? Is there any format to follow to detail the same?

**A-** Ideally, you should look at providing as much details as possible in the report. Details of the overall design, subsystems along with their Failure Effectiveness Analysis (FEA) can be provided in the report. We suggest that you should not start the fabrication at this point of time. The design and analysis report should only be submitted in the template available at <name of the website>.

**Q-** We could not see our team featuring on the final list of participants? What could be the possible reason?

**A-** The final list is prepared

after receipt of completed registration documents (both in soft copy and hard copy). As you mail us the hard copy, please do not forget to mark a copy to [registration@bajasaehindia.org](mailto:registration@bajasaehindia.org). You will also receive a confirmation from us on your participation

**Q-** How should we prepare for the interview session?

**A-** Through the interview session, we look at assessing your basic knowledge of Natural Sciences, Engineering curriculum and not to be missed – your familiarity with the BAJA SAE rule book.

**Q-** Post registration for the event, what should be our course of action?

**A-** After registering for the event, we suggest you to wait for updates from the organizing committee. Meanwhile, you can proceed with a preliminary design of your vehicle and preparing for the interview session alongside.

*“Based on queries received from all of you thus far, we decided to simplify and set doubts to rest. These compiled set of FAQ's would help you prepare for the competition , the right way!”*

## Important Dates — A Ready Reckoner

- ◆ Short listing results to be declared on or before **10th May 2009**. Watch out!!!
- ◆ The short listed teams to deposit fee of **INR 10,000** after the declaration of the result.
- ◆ The teams to submit the design and progress report of the project before **15th June 2009**.
- ◆ After getting short listed, participants are encouraged to perform **CAD Modeling, FEA, Vehicle Simulation, Fixing Technical parameters of the vehicle**, except for actual fabrication and prototyping.
- ◆ The participants would give a **detailed presentation of their design and progress** (Actual date to be specified later).
- ◆ The short listed teams **would be interviewed** simultaneously along with the presentation, to be conducted from **30th June–15th July 2009**.

## The Winning Ways....



Winners don't do different things; they do things differently.... All of us are wondering what SLIET did differently which 57 equally talented teams did not do? What can be better than winners sharing a leaf or two from their book. So, here's **Arshjeet Singh** (Captain, Technical Team and Marketing Head), **Manjinder Gill** (Driver) and **Shobhit** (Vice Captain) of Team SLIET spilling the beans about what they did right and how:

### Role of the Captain

**Shobhit:** The most important role is played by the team captain. It is his/her responsibility to plan & schedule, arrange for the resources, communicate to the authorities for help/assistance on various stages, deal with the college/university authorities, conduct team meetings & put everybody together. Most important thing from my view point is that, **captain chooses the team instead of a team choosing a captain.**

### Managing the Team

**Arshjeet:** It is quite a responsibility as the people you come across are your batch mates, your friends; so assigning/distributing work equally to everyone (keeping their choice and abilities in mind) is critical. However, goals and targets do not bend for anyone. Avoiding any sort of differences/disputes is a good option, but talking about it and removing the difference is even better for the harmony in the team. Bottom line however, is to choose your team correctly, because you would be working with the team you select for almost one year. **So, the carefully you select the team, more likely the team will perform to its peak at the event.**

### What Makes A Team Stand Out

**Manjinder:** The only thing that makes a team stand out is simply, the cumulative team work. But if your team lacks co-ordination, things may not turn out as per your plan. A perfect team should have mixed of everything – some with sound knowledge of automobiles, some who can give impressive presentations, some who can get the sponsorships & the most important, at least two who can drive efficiently. **After all it's a team only which can make 1+1 equal 1000 (or any number you like!) or make 1+1 equal zero!**

### What's the Right Team Size: Quality Vs Quantity

**Arshjeet:** The idea should be to make a small but efficient team. If you are looking for making a mark in the competition, you should be concerned about quality and not quantity, If your team is able to arrange a sponsorship well in time, I guess the ideal team size is 10. I think the best example of quality team work in BAJA SAE INDIA 2009 was set up by the team from ADIT Gujarat — hats off to them for their excellent team work.



### Importance Of Meeting The Deadlines

**Shobhit:** Please keep this important point in mind — you will only get time for testing the vehicle only if you meet all the deadlines, i.e. your team completes the work **IN TIME**. Yes indeed, the deadlines are very important. Your marks are deducted if you fall-short/miss the deadlines. It's far easier this time in BAJA SAE ASIA 2010 as everything has been scheduled beforehand (refer that event Flowchart). Any which way, completing the work within the prescribed deadlines will help you accomplish the work/project in time & you get a lot of time for the vehicle testing which is the most important thing.

### Significance Of The Vehicle Testing Period

**Manjinder:** After you have done all the hard work, Testing helps you discover shortcomings of your vehicle, giving time to improve on them, Also, its imperative that the drivers get the hold of their vehicles (Yes, there were few teams which were driving their vehicles for the very first time at the event site !!). You must know the fuel consumption of your vehicle, stopping distance on loose gravel, minimum turning radius & various other parameters which are very helpful at the track & they can only be obtained by thorough/comprehensive testing of the vehicle. If the driver of your team is in good synchronization with the vehicle (which is only possible if he would have practiced & tested accordingly), then it will be easier for him to get the most out of that vehicle on the track (whether it may be the fuel consumption or performance).

# Letter from Dr. K.C. Vora



Letter No.: BAJAASIA/05.05.09/update1

Date: 05.05.2009

Dear Students,

I hope to find you all in the best of spirits and highly motivated for BAJA SAE ASIA 2010. I believe you all must be really anxious to know about further progress with the event. I would like to update you on several issues, which are as follows:

## **1. Convener/Co-convener:**

It gives me pleasure to inform you that Dr. P. P. Chattaraj, Sr Dy Director of NATRIP, Indore is nominated as Convener and Mr. Pankaj Sonalkar, EVP of AVTEC, Pithampur is nominated as Co-Convener for the event. I would like to welcome them aboard in this journey to realize our vision for a young and bright India. I strongly reckon that with their well credited experience and highly respected inputs, we would be able to scale up the event in terms of participation, quality and standards.

## **2. Telephonic Interviews:**

The interviews have now been clubbed with the design presentations. The design presentations would be conducted in June '09, the details are being chalked out and would be mailed to you on your email ids. It was observed that there were some ambiguities in the details furnished by some of the registered teams. All such teams have been notified and the ambiguities resolved. The final list of the team is **attached herewith**. These teams are suggested to submit the remaining fee of 10,000 INR to Indore immediately and complete their design work. They would be required to submit MS Project and an extensive Design Report by 15<sup>th</sup> June 2009, as per the revised flow-chart **attached herewith**. In case the teams fail to do so, they would NOT be considered for further process.

## **3. Design Report:**

The report format is available on the website. Please refer to the same. The page limit of the Design report has been fixed to 8 pages including cover. You can add attachments. The Design Report should cover Roll cage design & analysis with CAD Modelling/FEA/Vehicle Simulation/Vehicle Dynamics, selection criteria for aggregates, technical specs of the vehicle & aggregates, performance analysis, etc.)

## **4. Rulebook:**

The BAJA SAE ASIA 2010 rulebook is being updated and the draft of the same is **uploaded on the website** for your comments. Until this is finalized, the teams should refer to the 2009 rulebook.

## **5. SAE Memberships and Collegiate Club Affiliation:**

The students at all times must have a valid membership status of SAEINDIA. They should renew their memberships before 1<sup>st</sup> August 2009 and ensure that their club has minimum 50 student members and 2 faculty advisors. The same would be verified at BAJA SAE ASIA workshops and in case any violations are observed, the team shall be disqualified. Also, as an affiliate of SAEINDIA, all collegiate clubs need to conduct SAE Events such as technical fests/conferences/symposiums/ workshops/ competitions/ industry visits, etc. As a member of the BAJA Teams you are suggested to promote such events at your college premises. . The report on the same shall be sent to the SAEINDIA Chairmen of the respective Sections, details of which are **attached herewith**.

## **6. BAJA Workshops & Presentations:**

We are planning various workshops as follows:

- Awareness and Technical Workshops
- Engine Workshop in Aurangabad
- Virtual BAJA Workshop
- Technical Inspectors Training Workshop

Teams who are interested to host this workshop in their institutes are requested to send invitation through their management with suggested dates. The Auditorium facilities should be able to take more than 500 students (Preferably 1000 students from 155 Teams). The first BAJA Awareness and Technical Workshop is scheduled at Amrita School of Engineering, Coimbatore on 13/14<sup>th</sup> June, proceeding FSAE Workshop on 12<sup>th</sup> June 09. I would suggest that only 7 new members per team should attend.



**7. Sponsorship Brochures:**

The brochures are ready as **attached herewith** and also hosted on the website. Please go ahead and contact prospective sponsors for Event as well as Team sponsorship.

**8. Asian Countries Participation:**

The Asian Countries student brochures are ready as **attached herewith**. We request you to spread this news in Engineering Colleges of Asian Countries, to ensure a good response.

**9. Alumni Committee:**

BAJA SAE ASIA Alumni Committee has been formed with Mr Ankur Anand as the Chairman. The committee plays a pivotal role in the event and any information if required, may be sought from the committee members. The details of the same are **attached herewith**.

**10. Software Licenses:**

It is a pleasure to inform you that M/s MSC Software Corporation through their channel partner in India, M/s CSM Softwares India Pvt. Ltd, has kindly agreed to provide all the BAJA SAE ASIA 2010 participants with one (1) free license of MSC ADAMS and NASTRAN/PATRAN. Also, M/s IPG Germany, through their channel partner, M/s OEM Technological Instruments India Pvt Ltd, has kindly agreed to provide all the BAJA SAE ASIA 2010 participants with two (2) free licenses of the vehicle dynamics and suspension kinematics software IPG Carmaker and IPG Kinematics. These softwares shall be of good help to all of you. Please wait for further communication.

In case of any further information henceforth, please write to Dr. P. P. Chattaraj ([partha.chattaraj@natrip.in](mailto:partha.chattaraj@natrip.in)), Mr Pankaj Sonalkar ([pankaj.sonalkar@avtec.in](mailto:pankaj.sonalkar@avtec.in)) or Mr Ankur Anand ([ankur.anand@bajasaehindia.org](mailto:ankur.anand@bajasaehindia.org)). They would be glad to respond to your queries. All the attached files are also uploaded on the website.

Wishing you all the very best for your journey into experience engineering through BAJA SAEINDIA.

With Warm Regards,

Dr K C Vora  
Secretary, SAEINDIA.

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