



teamunwired **Baja SAE India 2012**



Marketing Brochure
2011 - 2012



National Institute of Technology Calicut is pleased to announce its participation in Baja SAE India 2012- a premier off-road vehicle design and fabrication competition. The competition is organized jointly by SAE (Society of Automotive Engineers) INDIA, ARAI (Automotive Research Association of India) and NATRIP(National Automotive R&D and Infrastructure Project).

NIT Calicut's team, named Team Unwired, is a group of budding engineers committed to the pursuit of innovation and excellence in engineering through motorsports. This is NIT Calicut's Golden Jubilee Entry to Baja SAE.

The project aims to teach students to apply the knowledge acquired in the classroom and experience the sheer thrill and joy of a real life engineering project.

We hereby invite you to support Team Unwired through sponsorship of your esteemed organization. A summary of the project, including sponsorship options and benefits is given in this brochure.

Looking forward to your generous support and participation in this endeavour.

Kind Regards.

Dr. V Sajith , Mr. Shijo Thomas
Faculty Advisor(s)
Team Unwired, NIT Calicut

Dr. S. Jayaraj
Professor and Head
Dept. of Mechanical Engg.

Mr. K. Saseendran,
Dean-Student Affairs,
NIT Calicut

teamunwired

“Do not go where the path may lead. Go instead where there is no path and leave a trail”

- *Ralph Waldo Emerson*

Unwired. A word that stands for the freethinking and convention defying spirit. The spirit that makes one push the boundaries of the ordinary into the realm of the extraordinary. Presenting, Team Unwired . From the land often called “God’s own country” here are engineers in the making from National Institute of Technology Calicut (NIT Calicut), one of India’s top technical institutes.

Baja SAE India 2012 is Team Unwired’s second run at the competition. The team consists of 25 undergraduate students of NITC ranging from 2nd to 4th year, spread across different disciplines. The team has been working tirelessly for the past four months and is determined to put forward an impressive performance at the competition.



NIT Calicut

(www.nitc.ac.in)



National Institute of Technology Calicut (NIT Calicut) is one of India's premier technical universities. The Institute was established in 1961 as Regional Engineering College Calicut (CREC). It was then accorded the NIT status in 2002 - making it an autonomous university under the purview of the Ministry of Human Resource Development, Govt. of India.

Set in a picturesque landscape at the foothills of the Western Ghats, NIT Calicut is located about 22 kilometers north-east of Calicut City in the Indian state of Kerala. In 2007, NIT Calicut, like other NIT's, was declared an Institute of National Importance by an Act of Parliament. NITC has been prominently featuring amongst the top technical universities in India.

- In the Dataquest IDC-NASSCOM India T-School Rankings, NIT Calicut was ranked 9th in 2008. It was ranked 14th overall in India in 2006 and 15th in 2007.
- In the Webometrics Ranking of World Universities (as of January 2008), NIT Calicut is ranked 10th in the Indian Subcontinent.
- NIT Calicut has consistently figured among the top ten institutes in India based on the performance of its students in the Graduate Aptitude Test in Engineering.
- NIT Calicut was ranked among the top twenty colleges for Engineering in India by the magazine India Today in 2008.



About SAE

www.sae.org | www.saeindia.org

SAE (Society of Automotive Engineers) International is a worldwide body of Automotive and Aerospace engineering professionals with over 121,000 members. The Society is a standards development organization for the engineering of powered vehicles of all kinds, including cars, trucks, boats, aircraft etc. The Collegiate Design Series of competitions organized by SAE enable university students to apply classroom theory by designing and building vehicles ranging from formula cars to model aircraft. One of these is Baja SAE, held around the world in USA, South Korea, Brazil, South Africa and India.

SAE INDIA, established in 2002 as an official affiliate of SAE International, is a non-profit engineering and scientific society dedicated to the advancement of mobility industry in India. Baja SAE India 2012 is jointly organized by SAE INDIA, ARAI(Automotive Research Association of India) & NATRIP(National Automotive Testing and R&D Infrastructure Project). The competition was started in 2007 and has steadily grown every year.

SAE INDIA Collegiate Club NIT Calicut

SAE INDIA Collegiate Club NIT Calicut is the student chapter of SAE INDIA at NIT Calicut. Revived in 2008, the club consists of more than 130 student members- both graduate and undergraduate, making it one of the largest SAE INDIA Collegiate Clubs in the country. Dr. V Sajith, Assistant Professor and Mr. Shijo Thomas, Assistant Professor, Dept. of Mechanical Engineering are the faculty advisors of the club. All TUW members are working members of the Club & SAE INDIA. The Club envisions being the leading SAE Collegiate Club in the country.

Baja SAE India 2012

(www.bajasaeindia.org)

17th to 21st February, 2012

Baja (pronounced as “Baha”) SAE India 2012 is a single-seat, IC engine powered, off-road vehicle design and fabrication contest organized by SAE INDIA, an affiliate to SAE International. Started in 2007, the competition has witnessed rapid growth. Internationally, the competition has been held for a number of years in US, Brazil, South Africa and South Korea.

The objective of the competition is to provide SAE student members with a challenging project that involves design, engineering, planning, manufacturing and marketing- the tasks to be fulfilled when introducing a new product to the consumer industrial market. Teams compete against one another to have their design accepted for manufacture by a fictitious firm. Students must function as a team not only to design, build, test, promote, and race a vehicle within the limits of the rules, but also to generate financial support for their project meanwhile managing their educational priorities. Each team's goal is to design and build a prototype of a rugged single seat, off-road recreational four-wheel vehicle intended for sale to a non-professional, weekend off-road enthusiast. The competition goals include that the vehicle must be safe, easily transported, easily maintained and fun to drive. It should be able to negotiate rough terrain in all weather conditions without damage.



unwind^{2.0}

THE CAR

unwind [uhn-wahynd]

Verb

[-winding, -wound]

1. to slacken, undo, or unravel
2. to relax after a busy or tense time

Team Unwired's revamped entry to Baja SAE- Unwind 2.0. The ideal vehicle for the weekend off-road enthusiast. The vehicle has been specially designed keeping ease of driving, safety and reliability in mind. The following are the specifications of the vehicle

Power & Transmission:

Engine: Lombardini Kohler, 11 HP

Drivetrain: CVT(Continuously Variable Transmission)+ Gearbox +differential

Chassis: 1018 Mild Steel

Steering: Rack and pinion

Suspension:

Front: Independent Double Wishbone

Rear: Independent Double Wishbone

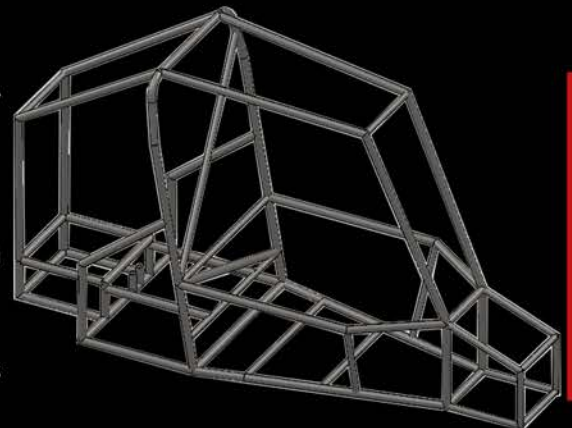
Brakes:

Front wheel: 2 disc brakes

Rear wheel: 2 disc brakes

PROGRESS OF WORK:

1. Completion of 3D modeling of the roll cage (chassis) and its FEA (Finite Element Analysis) to evaluate the stress distributions within the members in response to different loading and impact scenarios.
2. Front suspension geometry designed.
3. Final reduction ratio and drive train CAD assembly completed.
4. Basic design calculations have been completed. Procurement of the required parts and raw materials has been planned.
5. Team members have received training in workshop skills like Electrode-Arc welding and profiling.



Associate with teamunwired

Winning Baja SAE India 2012 is Team Unwired's dream and its constant pursuit. However, this dream can come true only with the financial support from the Industry. Your support via funds, parts or technical guidance will be greatly appreciated. Team Unwired is committed to ensure sustainability of NIT Calicut's participation in these competitions and to building lasting partnerships with the Industry.

Sponsor Benefits

Baja SAE India 2010 is the largest and the most challenging engineering competition of its kind in India and receives extensive media coverage. Your Company's association with TUW will indeed be a rewarding experience for both parties. The event will provide your company with numerous pre-competition, competition period and post-competition benefits.



Pre-competition benefits

1. Brand visibility- on website, media, auto shows.
2. Promotion of the company's image among the brightest engineering minds and the youth at large.
3. Media coverage-
Print: National Dailies such as The Hindu, Times of India, Industry magazines have been featuring articles on Team Unwired. Automotive magazines such as Overdrive have special coverage on Baja SAE. Publicity through online/print newsletters by Team Unwired.
Television: Baja SAE has been covered by national channels such as Ten Sports, Doordarshan, Star News. Besides, regional TV channels such as Amrita TV, Asianet, Kairali, Rosebowl regularly cover activities and events related to NIT Calicut.
4. Faster channel to the talent pool at one of India's premier technical institutes.
5. With India slated to be one of large production bases for international auto industry, Baja SAE is an ideal medium to spread awareness about the automotive industry.
6. Promotion of Industry interaction with NIT Calicut.
7. Fulfillment of a company's Corporate Social Responsibility (CSR) through Team Unwired's Community Outreach Program.

Competition period benefits:

1. Endorsement through vehicle: The Sponsor's Logo will prominently feature on the logo space on the car. The car will feature in National publications and events. Publicity in God's own country-first team from the state of Kerala to participate in the competition.
2. Endorsement through apparel: The company logo of the sponsor will be displayed on the driver's and team's apparel. Further it will also feature on Team Unwired's merchandise.
3. Media Coverage: Baja SAE India 2012 receives significant coverage from both the print and television media. Companies sponsoring Team Unwired would get additional visibility at the competition venue.
Coverage during Auto Shows/Expo's.
Team Unwired's vehicle will be featured numerous auto expos like WHEELZ, held during the college techfest TATHVA and will be displayed in many prominent colleges around Kerala.

Post-Competition benefits:

- Permanent brand visibility on Team Unwired's website.
- Permanent brand visibility on Pathshsala (the college community site for file sharing).

Current and Future Targets:

Upto 2013

Baja SAE India 2012 is TUV's second entry to SAE's Collegiate Design Series competitions. Our vision is to make NIT Calicut's participation in these competitions a regular feature.

1. Baja SAE India 2013- January 2013

Baja SAE reloaded in an all new avatar in January, 2013.

2. SAE Aero Design 2013: March/April 2013

The Aero Design Competition challenges engineering students to conceive, design, fabricate and test a radio-controlled aircraft that can take off and land while carrying the maximum cargo. This event gives students the opportunity to apply the knowledge learned in the classroom on a practical problem.

Currently, the Aero Design Series consists of three (3) classes: Open, Regular and Micro. Returning this year, Micro Class teams will be required to design and build a portable (modular based) UAV with packaging requirements and must also demonstrate its ease of assembly within 3 minutes.

3. Formula SAE/Formula Student 2013- June 2013

Formula SAE challenges engineering students to conceive, design, fabricate and compete with small formula-style racing cars. The competition offers students an outstanding opportunity to expand and demonstrate their engineering design and engineering project management skills. The cars are built by student teams over a period of one year and are taken to competitions in the FSAE Series for judging and comparison with vehicles from colleges and universities throughout the world. Students who have competed in Formula SAE today will be the engineering leaders of tomorrow. Currently, the Formula SAE Series has developed into a world-wide competition with three events held in the United States, and one each in the following countries: Australia, Brazil, Italy, Germany, United Kingdom and India. Formula SAE is also involved with hybrid technology by partnering on Formula Hybrid with Dartmouth College and IEEE.





Team Unwired's Community Outreach Program:

As engineers, the members of Team Unwired are conscious of and committed to fulfilling their social responsibility. Starting August 2011, TUW will kick-off its Community Outreach Program. In its First Phase the Program will involve informal interaction, awareness and discussion sessions for school students by Industry experts, NITC faculty members and the members of Team Unwired. The program aims to inspire students and motivate them towards hands-on learning while making them experience the sheer thrill and joy of engineering. It aims to fill the gaps present in the current education system that focuses more on rote learning and memorization rather than critical thinking and hands on learning. The sessions will make use of educational aids such as videos, presentations and live models.

The sessions will be held within the NITC Campus and will focus on:

1. Automobiles- the Hows and the Whys.
2. Awareness on Automotive and the Engineering Industry at large.
3. Awareness on Engineering Education.
4. Free CAD classes for students.
5. Workshops like water jet rocketry workshop and astronomy will be conducted to enhance the interest of the students towards practical engineering.

-----2011-----|-----2012-----

Schedule

	March	April	May	June	July	August	Sept	October	Nov	Dec	Jan	Feb
Team Organisation												
Knowledge Acquisition												
Design and Analysis												
Vehicle Fabrication												
Testing and Troubleshooting												
Driving Practice												
Publicity and Marketing												
Baja SAE India 2012												



Sponsorship Options

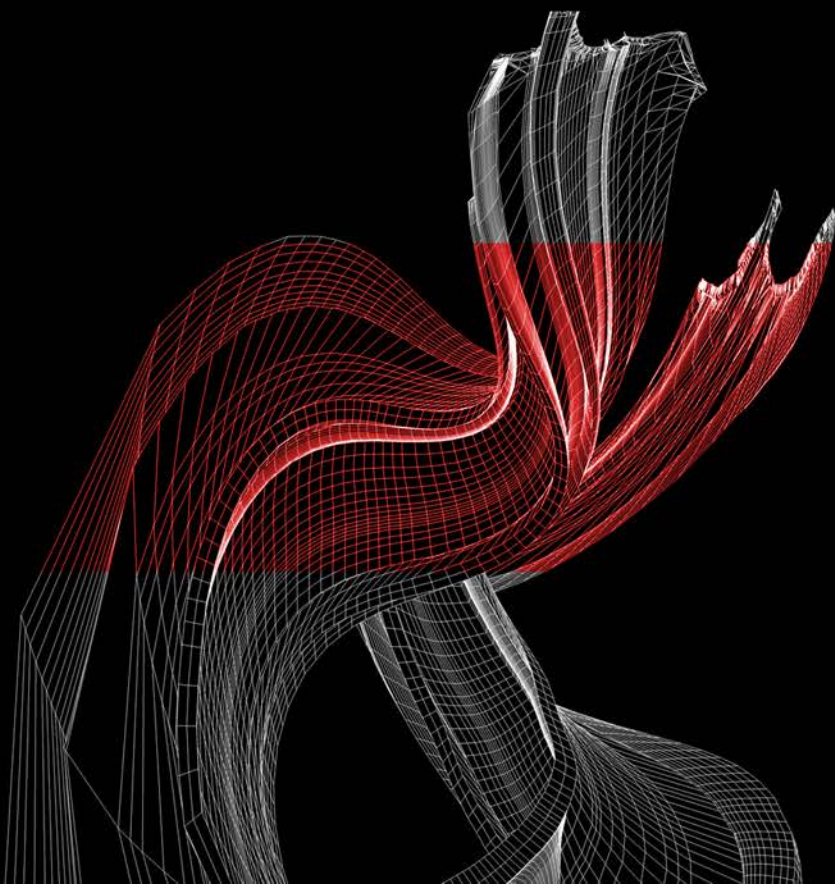
	1,50,000 INR	1,00,000 INR	50,000 INR or equivalent in Parts/Materials/ Logistics
	Platinum	Gold	Silver
Logo on Website			
Logo in Paathshala			
Logo on Team Apparel			
Logo on driver's uniform			
Small logo on car			
Medium logo on car			
Large logo on car			
Choice of location of logo on car			
Publicity during workshops			
Media Coverage			
Distribution of company info at events			
Promotion during college fest			
Reference and advert in online newsletter			
Company Profile on Website			
Availability of team/car in promotional events			



Nobody gonna take my car
Im gonna race it to the ground
Nobody gonna beat my car
Its gonna break the speed of sound
Oooh its a killing machine
Its got everything
Like a driving power big fat tyres
And everything

I love it and I need it
I bleed it yeah its a wild hurricane
Alright hold tight
Im a highway star...

"Highway Star", Deep Purple



Contact Us

If you are interested in supporting Team Unwired, NIT Calicut
please feel free to contact any of the following.

Dr. V Sajith
Asst. Professor (MED) & Faculty Advisor
Team Unwired, NIT Calicut
sajith@nitc.ac.in
+91 94463 61125

Mr. Shijo Thomas
Asst. Professor (MED) & Faculty Advisor
Team Unwired, NIT Calicut
shijo@nitc.ac.in
+91 94462 76409

Shivam Gupta
Team Lead
Team Unwired, NIT Calicut
shivam.nit@gmail.com
+91 90372 83044

Address

C/o Dr. V Sajith/ Mr. Shijo Thomas
Dept. of Mechanical Engineering
NIT Calicut, NIT Campus P.O.,
Calicut, Kerala-673601, India

Fax no: (0495) 2287250
KIND ATTN: Dr. V Sajith / Mr. Shijo Thomas

Email: teamunwired@nitc.ac.in

VISIT THE TEAM WEBSITE AT

www.teamunwired.org

