



Collegiate Design Series News

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2005 Formula SAE @ Pontiac Silverdome

The month of January is now gone, it is now February and the 2005 FSAE event is only 3 months and 2 weeks away!! **Information is NEEDED by the Education Relations department for the completion of the 2005 FSAE Program.** By now, you should be inputting your vehicle specs online under your team registration page. If you do not input this information before March 31, 2005 then your team’s information will not be published. Also needed is a list of your team members, advisor, and sponsors by the deadline of March 31, 2005. Again if this information is not obtained by the deadline, the information will not be published. The list can be emailed to shellham@sae.org. Please email in a word document and refer to the example below:

Team Members:

Name, Team Captain _____

Name _____

Name _____

(You can title your team captain, but no other titles will be published)

Faculty Advisor:

Name _____

Sponsors:

Name _____

Name _____

Name _____



Clean Snowmobile Challenge 2005 kicks off the CDS Schedule of Events...



Thirteen teams from universities across northern United States and Canada will be competing at the annual SAE Clean Snowmobile Challenge in Houghton, Michigan.

The teams and their sleds will compete March 14 – 19 at MTU's Keweenaw Research Center. This is Michigan Tech's third year hosting the event which is being co-organized by Jay Meldrum, KRC and William Predebon, MTU's Department of Mechanical Engineering.

The Clean Snowmobile Challenge consists of teams of engineering students from participating schools taking a stock snowmobile and reengineering it to reduce emissions and noise while maintaining or improving performance. This year teams will put their sleds through a series of performance and emissions tests, including the run north to Copper Harbor. A possible distance of 100 miles.

New this year is the ergonomic test that measures a rider's comfort. The driver will sit on an accelerometer (shaped like a whoopie cushion) that can record vibration. The less vibration, the greater the score. Also new is a subjective handling test in which professional snowmobile drivers rate the sleds on their maneuverability and driving characteristics. Basically this will capture in words whether someone would enjoy renting the sled.

Teams to look for are University of Wisconsin-Madison (1st place winners in 2004) who plans to return to the competition having improved and refined their 2004 design. Also returning with modifications to their 2004 sled is second place winner, Michigan Tech. Among the other teams returning are third place finishers University of Maine, Clarkson University, Ecole

De Technologie Superieure, Kettering University, McGill University featuring their improved electric sled, Minnesota State University at Mankato, Montana Tech, State University of New York at Buffalo, University of Alberta, University of Idaho, University of Wisconsin-Platteville.

Available online at

<http://students.sae.org/competitions/snow/>

is the 2005 event schedule as well as hotel information.



Aero Design West — The Return to Ft. Worth, Texas

The 2005 Aero Design West competition will be hosted by Lockheed Martin and the Ft. Worth Thunderbirds. Chris Berardi of Lockheed Martin, is organizing the competition that is scheduled for April 22-24, 2005.

The Ft. Worth Thunderbirds are excited to host the flying portion of Aero Design West. Please visit their website, <http://www.sae.org/students/adweventinfo.htm>, for more information and directions to the flying field. For a map of the Ft. Worth area, please visit <http://www.fwthunderbirds.org/membership.htm>. Any teams that will need a pilot must email CollegiateCompetitions@sae.org. Pilots from the R/C Club and JT's Hobby will be available on a first come, first serve basis.

The Green Oaks Hotel, www.greenoakshotel.com, is approximately fifteen minutes from the flying field. Make sure to mention that you are with SAE Lockheed Martin Aero Design West to receive the discounted room rates and make your room reservations by March 31, 2005!

Hotel Information

Green Oaks Hotel
(800) 433-2174
(817) 738-7311 (local)

www.greenoakshotel.com

Discounted Room Rate: \$69.00 plus tax

*Mention **Lockheed Martin Aero Design** to receive discount*

Reservations must be made by March 31, 2005 and can not be made online.

As a reminder, three (3) hardcopies of the Aero Design West Design Reports should be postmarked on or by March 18, 2005. Please mail the Design Reports to:

S.A.E.
P.O. Box 150928
Fort Worth, TX 76108-9998

NEW! ELECTRONIC COPIES: Electronic copy of Design Report must be submitted by midnight March 18, 2005 to:
AeroDesign@sae.org

Subject line must read: Aero Design West Design Report

JT's hobby shop will once again be able to accept delivery of SAE Aero Design aircraft prior to competition for storage. Models must be shipped to:

JT's Hobby
8808 Camp Bowie #150
Fort Worth, TX 76116

More detailed competition information, such as the event schedule, will be available soon at <http://students.sae.org/competitions/aerodesign/west/>.



Mini Baja 100

SAE's feature competition on June 1-4, 2005, is the Mini Baja 100. This competition is to commemorate SAE's 100th anniversary. Located in Green Valley, Arizona, the event site is being hosted at the Caterpillar Tinaja Hills Training Center. The Mini Baja 100 will provide teams with a true Mini Baja experience as they will compete with the desert terrain of dirt, sharp rocks and the sun. The event will conclude with a first ever 100 mile endurance competition. Activities are being planned throughout the competition including a night demonstration by Caterpillar using their diverse fleet of heavy machinery.

Currently registered are 106 teams expanding across the United States and including international teams from around the world including Canada, Guatemala, Korea, Mexico, South Africa, more!

Available online is the Mini Baja 100 website which details a preliminary event schedule, required submissions, event preparations, hotels and site photos. Please visit the website to review the mentioned details at <http://www.sae.org/exdomains/minibaja100/index.htm>.

Currently underway is the layout of the event. SAE staff in coordination with Caterpillar will be building the course from scratch. The endurance event will be roughly 2 miles long and is estimated to take somewhere between 5 and 7 hours. As soon as the first team crosses the line after 100 miles it will be the last lap and all teams will be scored on laps completed to that time.

Volunteer Today

Mini Baja 100 is looking for enthusiastic volunteers for a wide variety of assignments.

Available online at <http://www.sae.org/exdomains/minibaja100/index.htm> is a link for volunteers who wish to participate in this year's SAE Mini Baja 100 event. Job descriptions are posted for reviewing and online registration form is available for completion.



Robot Systems Challenge 2005

Hosting this year's event is Ecole de Technologie Superieure (ETS) in Montreal, Canada on April 28 – 30, 2005.

Currently there are no registered teams at this time. Deadline for registration is March 5, 2005. With the agreement between SAE and ETS, there will be a limit of six teams in order for the competition to commence.

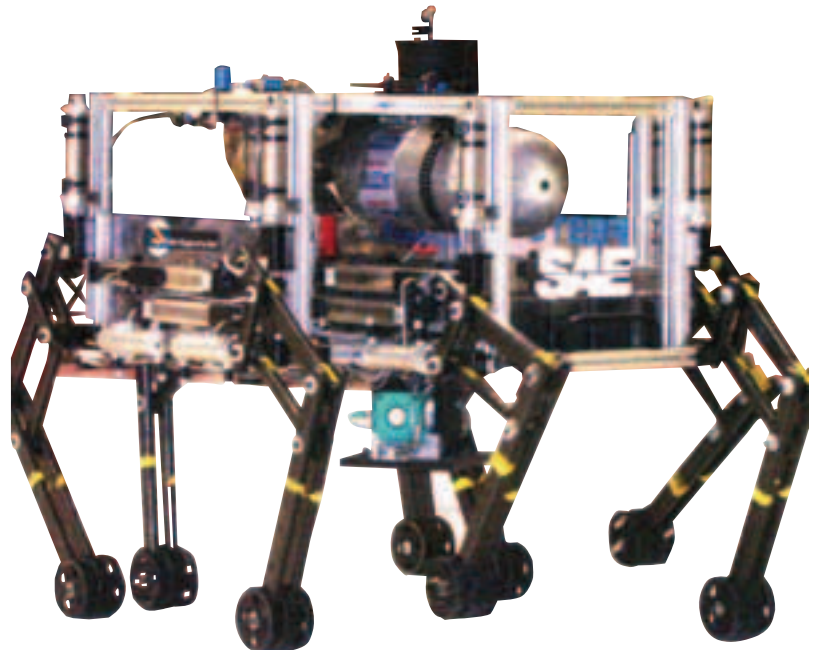
SAE has revised the competition to task-based rather than method-based. The challenges are harder, but in return competitors have a greater flexibility in their designs. A few of the changes are:

First, elimination of the walking requirement. Wheels are permitted. Robots can move by any method the team chooses and can use wheels, tracks, legs, arms, springs, jumping, tentacles or virtually anything else other than flying in any and all combinations. Flying robots are prohibited. Walking is, of course, permitted if that's what the team chooses.

Second, you may add a specialized attachment for every event. So if you want to develop a block pick-up and sorting device for the "Treasure Hunt" event feel free to do so. Such specialized attachments can be added and removed before and after each event. Thus a robot can have up to six attachments – one for each challenge.

Third, direct wire control has been eliminated so you can't follow the robot around the course with a controller anymore. The base control mode is now remote tele-operated, however a trailing cable link is allowed.

SAE feels the change from a method-based to a task-based competition will greatly increase the students design freedom and lead to a much more interesting and exciting competition. Check the Robot System Challenge rules online for complete requirements and event descriptions at <http://www.sae.org/students/walkrule.pdf>



Ralph K. Hillquist Honorary SAE Scholarship

Application Deadline: February 1, 2005

A \$1,000 nonrenewable scholarship will be awarded every other year at the SAE Noise & Vibration Conference, beginning in 2005. Eligible applicants will be U.S. citizens enrolled full-time as a junior in a U.S. university as of October 1, 2004 and pursuing an engineering or automotive-related discipline. A minimum 3.0 GPA with significant academic and leadership achievements is required. This scholarship was established to honor Ralph K. Hillquist, a retiree from General Motors Proving Grounds, and is funded by the SAE Noise & Vibration Conference and related activities.

Submission: Apply on-line at

<http://students.sae.org/awdscholar/scholarships/hillquist/>

Additional Scholarships

Applications are being accepted through April 1, 2005 for the following scholarships and loans:

SAE Long Term Member Sponsored Scholarship

<http://students.sae.org/awdscholar/scholarships/longtermmem/>

Yanmar/SAE Scholarship

<http://students.sae.org/awdscholar/scholarships/yanmar/>

William G. Belfry Memorial SAE Grant

<http://students.sae.org/awdscholar/scholarships/belfry/>

Siegel Service Technology Scholarships

<http://students.sae.org/awdscholar/scholarships/siegel/>

Doctoral Scholars Forgivable Loan

<http://students.sae.org/awdscholar/loans/doctoral/>

2005 Collegiate Competitions Sponsors

Interested in being a sponsor? Email Doug Shymoniak at Shymoniak@sae.org for sponsorship opportunities.

Corporate Sponsors

DaimlerChrysler
 Ford Motor Company
 General Motors
 Eaton Corporation - Supermileage
 Briggs & Stratton – Mini Baja and Supermileage – Platinum Sponsor
 Honda R&D Americas – Mini Baja – Gold Sponsor
 ArvinMeritor, Inc. – FSAE – Gold Sponsor
 Goodyear Tire & Rubber Co. – FSAE – Gold Sponsor
 Henkel Corporation – FSAE – Gold Sponsor
 SolidWorks Corporation – FSAE – Gold Sponsor
 Hoosier Racing Tire – FSAE – Gold Sponsor
 Visteon Climate Control – FSAE – Gold Sponsor
 Briel & Kjaer – FSAE – Gold Sponsor
 International Snowmobile Manufacturers Association (ISMA) – Clean Snowmobile Challenge – Gold Sponsor
 Gage Products – Clean Snowmobile Challenge – Gold Sponsor
 Michigan Snowmobile Association (MSA) – Clean Snowmobile Challenge – Gold Sponsor
 Lotus – Clean Snowmobile Challenge – Gold Sponsor
 Polaris Industries Inc. – FSAE and Mini Baja – Silver Sponsor
 EMITEC – Clean Snowmobile Challenge – Silver Sponsor
 Risse Racing Technology – FSAE and Mini Baja – Bronze Sponsor
 American Council of Snowmobile Associations (ACSA) – Clean Snowmobile Challenge – Bronze Sponsor
 Blue Ribbon Coalition (BRC) – Clean Snowmobile Challenge – Bronze Sponsor
 PCB Piezotronics - Clean Snowmobile Challenge – Bronze Sponsor
 Portage Health System - Clean Snowmobile Challenge – Bronze Sponsor
 ThermoAnalytics, Inc. - Clean Snowmobile Challenge – Bronze Sponsor
 Woody's - Clean Snowmobile Challenge – Bronze Sponsor
 CPC Colder Products - Clean Snowmobile Challenge – Bronze Sponsor

Supplier Sponsors

Hoosier Racing – FSAE – Discount on racing slicks.
 Goodyear Tire & Rubber Co. – FSAE – Discount of FSAE spec racing slick tires.
 Performance Electronics, Ltd. – FSAE – Discount on engine control packages.
 Risse Racing Technology – FSAE - Discount on rear suspension.
 Visteon Climate Control – FSAE – Free custom radiators on first come first serve basis by 11/17/04.
 Mechanical Simulation Corp – FSAE and Mini Baja – 90% discount on CarSim, vehicle dynamics simulation software.

Award Sponsors

Hoosier Tire Autocross Award – FSAE – Fastest three recorded autocross runs.
 Polaris Intake Systems Design Award – FSAE – Team that displays most innovation in their air intake and fuel delivery systems.
 Goodyear Best Performance Award – FSAE – Top 3 teams in the Endurance event.
 Polaris Innovative Suspension Award – Mini Baja – Team that demonstrates a superior off-road suspension design.
 Briel & Kjaer Quiet Car Cup – FSAE - Awarded for the car that measures the lowest dbA reading in the noise event.
 Solidworks Fastest Time to Market Skid Pad Award – FSAE – Top 3 teams with fastest time in the Skid Pad event.