

Cornell Races to Victory

Cornell University reclaimed the FSAE Championship and the SAE Foundation Cup honoring Neil A. Schilke with an outstanding performance by scoring 926.597 points out of the possible 1000. With a strong and talented group of students, the team won a number of other awards including:

1st place for the Robert Bosch Corporation Engine Management System Award, 1st place in the Goodyear Best Performance Award, 2nd place for Henkel Technologies Structural Foam Award, 2nd place for PACE Best Engineering Design, 2nd place for Solidworks Fastest Time to Market Skidpad Award, 2nd place for the Hoosiers Tire Autocross Award, and were honored as this year's recipient for the SAE's Motorsports Award.

Cornell continues to be a benchmark of success for the annual engineering competition winning the event for the eighth time.

Last year's 1st place winner the University of Wollongong slipped to 11th place. The second Australian entry, the University of Western Australia, in its first appearance at Formula SAE, finished in 13th place and won a number of awards including:

1st place in PACE Best Engineering Design to 1st in the SAE Perseverance Award and the William C. Mitchell Award, both honoring the top rookies. The University of Western Australia was also the first team to be awarded with the Carroll Smith Memorial Award.

This year's event attracted registration by 140 universities from 12 countries on 5 continents. A record number of teams, 128, brought cars to the competition.

Although thunderstorms threatened throughout the event, and there was flooding in the area immediately around the Silverdome, all of the events were held with some parts of the autocross and endurance running under the rain rules.

Endurance proved to be a challenge for many teams with only 40 of 119 starters finishing the 22 km event. Failure came in many guises including overheating, failure to restart after driver change, broken cables, suspension problems, and the classic "...it just stopped running."

The top three overall finishers are as follows:

1st place Cornell University,
926.597 points

2nd place Texas A&M University -
College Station, 845.342 points

3rd place Auburn University,
838.834 points

For more information on the final scores, please visit:

<http://www.sae.org/students/fsaeresu.htm>



Mini Baja East – Home Team takes 1st Place

Ecole de Technologie Superieure retained its #1 car number for the second consecutive year by winning the 2004 Mini Baja East competition with a score of 1017.1 points out of a possible 1150 points. Besides winning 1st place overall, the team also took home several other awards including:

1st place in Design, 1st place in Suspension, 1st place in Endurance, 2nd place in Bus Pull, and 2nd place in Land Maneuverability.

This year's competition was hosted by Ecole de Technologie Superieure in collaboration with Bombardier Recreational Products. Teams from 57 colleges and universities from across the United States, Canada, and Mexico, competed in the hills of Canada's Ski Bromont Resort roughly 40 miles east of Montreal. Ski Bromont provided the most difficult and challenging Mini Baja course in recent memory with steep ski slopes running close to a mile from top to bottom, paths through tight wooded areas accompanied by large rocks, and of course the main challenge a pond for the water maneuverability and floating static events.

Judges and volunteers from the top companies such as Bombardier Recreational Products, Briggs & Stratton, Honda and Polaris evaluated the teams as they passed through technical inspection, safety and design, acceleration and braking, the bus pull, land and water maneuverability and the suspension track. Organizers, Simon Constantineau, Hughes Maltais and Julie Desrochers managed to spice up the suspension track with a show down between Bombardier and Polaris ATV's pre-testing the course that the students would drive. Then to add to the show, a DJ accompanied the team's attempts with rock music.

During the banquet, the second U.S. Army TARDEC (Tank and Automotive Research and Development Engineering Center) Off Road Mobility Award was presented to University of South Florida. This award is presented to the recipients based on the design judging for originality, powertrain, suspension, brakes and steering.

The Briggs & Stratton awards for the overall performance went to Ecole de Technologies Superieure car #1 for 1st place, Ecole Polytechnique de Montreal car #52 for 2nd place, and University of South Florida car #41 for 3rd place.

The Honda awards for best design were given to Ecole de Technologies Superieure car #1 for 1st place, University of South Florida car #41 for 2nd place, and Universite de Sherbrooke car #19 for 3rd place.

Polaris presented its award for best suspension, innovation and originality to Universite de Sherbrooke car #19 for their raised tension bar and use of a hydraulic lift.

For more information on the final scores, please visit <http://www.sae.org/students/mbereslt.htm> under 2004 results.



Baja competition leads to Army interest for Purdue engineers

From the Purdue website

WEST LAFAYETTE, Ind. - The U.S. Army will study a Baja vehicle designed by Purdue University students to help develop new methods of off-road transportation.

A group of about 20 students in Purdue's School of Mechanical Engineering designed a lightweight off-road Baja vehicle that can be switched from four-wheel to two-wheel drive while in motion. The vehicle recently was awarded second place for engineering out of almost 100 at the 2004 Mini Baja West endurance competition in Portland, Ore.

Purdue also finished in the top third of the endurance portion of the competition, and E. Daniel Hirleman, William and Florence Perry Head of Mechanical Engineering, said the highlight was an award the team received from the Army as one of the competition's most innovative designs. The Army is exploring the design of a new generation of all-terrain vehicles.

In addition to recognizing the innovation of the Purdue team's engineering, Army officials asked the team for permission to study the design. The vehicle will be shipped to an Army base for two weeks after a second competition in June. "It is a testament to the ingenuity and the talents of Purdue's mechanical engineering students," Hirleman said. "Not only is this an incredible accomplishment, the students have gained valuable experience by taking on a difficult task and completing it on a short timetable."

In the competition, students run their vehicles on a rugged track for four hours. Vehicles are judged on how far they can go in the allotted time. The vehicle's lead engineer, Dan Burt, a senior from Chicago, said Purdue's entry into the contest is unique because the students were able to employ a four-wheel drive system that was efficient enough to remain competitive. The vast majority of entries were two-wheel drive. While four-wheel drive is common in commercial sport utility vehicles and other large vehicles, the weight of the components make it almost impossible in small vehicles like the Bajas, he said.

"Usually in the contest, vehicles with four-wheel drive are very slow because of extra weight," Burt said. "We were able to make ours lighter, and that made it able to compete with the two-wheel drive Bajas."

Burt said the Purdue Baja also benefited from being the only vehicle in the contest that could switch from four-wheel drive to the faster two-wheel drive. The change allowed the team to further improve the efficiency of the vehicle by disengaging many of the drive mechanisms while in two-wheel drive. Anthony Perfetto, team president and a senior from Rochester, Ind., said the team was proud not only with their success at the contest but also in the Army's interest. Unlike most teams, which usually make small modifications to their vehicle each year, Purdue's entry was built from scratch.

"We set out to do something pretty challenging," Perfetto said. "Unlike most teams, we designed and built everything new. That means this is entirely our design that won and that the Army wants to study. We are all very proud of that."



Universidad Autonoma de Aguascalientes Walks into 1st Place Victory

The top 3 overall winners are as follows:

1st place – Universidad Autonoma de Aguascalientes

2nd place – Universidad Bonterra

3rd place – Ecole de Technologie Superieure

For additional information on score results visit:

<http://www.sae.org/students/collegiate/wmc-2004results.htm>

Universidad Autonoma de Aguascalientes returned to Mexico with the championship of this year's SAE Walking Robot Competition. With their robot BEN, the team scored a winning total of 6389.8 points. The school also took home two special awards for Best New Design and Best Value in Engineering.



The 2004 SAE Walking Robot Competition was hosted by Union College, Schenectady, New York and

organized by, Professor Nicholas Krouglicoff. Teams are challenged to design, build and test a walking robot capable of accomplishing a variety of tasks.

Twenty-two colleges and universities from the United States, Mexico and Canada competed in six events including the dash, load retrieval, slalom, trip wire, object seeking and the endurance/obstacle course. These events are designed to test each robot's walking ability and control system.

This year's Walking Robot rules added "remote tele-operated" as a control mode. Remote Tele-operated control requires that an operator isolated from the robot run the events based only on information from television cameras mounted on the machine. One student running a remote tele-operated robot seemed to become confused about which way the machine should go, but was saved at the last minute when a team member put his hand under one of the cameras and pointed in the right direction.

Colorado State University's robot "Daisy" was designed using a rather broad interpretation of the word "walking". Rather than walking, per se, Daisy bounded down the course in 8 to 10 foot jumps... unquestionably the most spectacular performance by any entry.

Union College and SAE International gratefully acknowledge the generous support of sponsors General Motors and Honda. Representatives from each company were onsite accepting resumes.

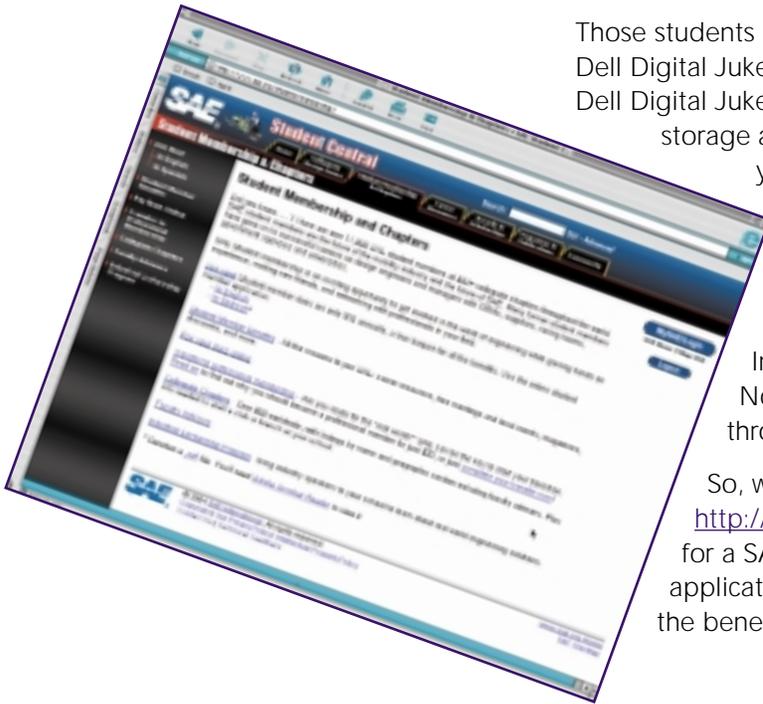
A Dell MP3 Player for Transferring Membership?

Student members that are graduating now have another reason to transfer their membership.

Those students that transfer by June 30, 2004 will be in the running for a Dell Digital Jukebox MP3 Player with the FM Transmitter Auto Kit. The Dell Digital Jukebox MP3 Player can store over 7000 songs, has 15 GB of storage and has a 2 inch LCD with a blue backlight. The kit allows you to take along your MP3 Player and play music in your car. Perfectly fits in a cup holder!

The benefits of transferring include FREE membership in the local SAE section, FREE attendance to SAE World Congress, FREE subscription to Automotive Engineering International or Aerospace Engineering and much more! Not to mention access to a network of 85,000 professionals throughout the world.

So, what are you waiting for? Visit <http://www.sae.org/students/membership/> to transfer or look for a SAE staff member at one of the competitions for an application. Transfer your membership today and you'll enjoy all the benefits of SAE and maybe even a Dell MP3 Player!



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Do you have information, stories, or pictures that you want to share regarding your team?

Email them to CollegiateCompetitions@sae.org

and qualify for a drawing for Free Registration to a 2005 event of your choice!

Myers Award for Outstanding Student Paper

This award is given annually for the best technical paper presented by a student. The paper must be based on work done by the lead author(s) while a student. The time of the work determines student status. The presentation of the technical paper must be made by the student at a major SAE meeting. Papers can be on any topic and from students worldwide. Technical papers presented from June 1, 2003 through May 31, 2004 are eligible for the 2004 award.

Phil Myers is a renowned expert on internal combustion engines, and before his retirement, a professor at the University of Wisconsin-Madison. Together with his wife, Jean, they have set a high standard for excellence, concern for students, and involvement with SAE. This award recognizes Phil and Jean for their lifelong devotion to these ideals.

This award, inaugurated in 1998, is based on the technical papers presented during the preceding year and is administered by the Myers Award Board under the auspices of the Engineering Education Board. The award consists of an attractive memento as well as a monetary gift. It will be awarded at the SAE World Congress and Exhibition, or if appropriate, at another SAE meeting.

Please visit <http://www.sae.org/students/index.htm> to read more about the Myers Award for Outstanding Student Paper and to complete the nomination form.

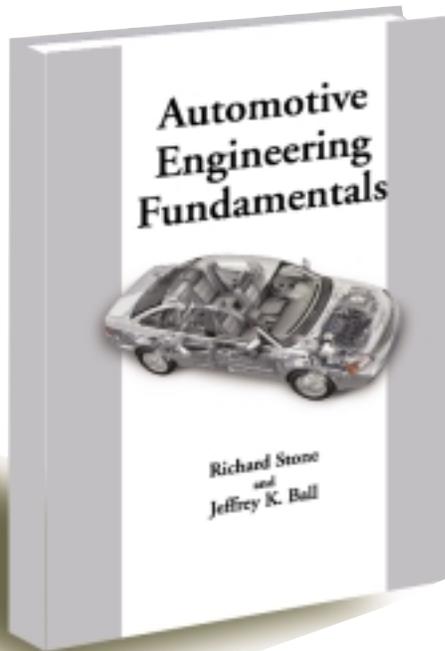
The 2003 winner was Dr. Ashley L. Dunn.

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