Collegiate Design Series
2009 Year in Review
Aero Design®
Baja SAE®
Clean Snowmobile Challenge™
Formula SAE®
Supermileage®
Your efforts to hire graduating college students can take many forms. Internships, on-campus recruiting events, advertising and other traditional avenues will put you in touch with a large marketplace. To target and recruit the brightest, most promising engineering students, meet the most motivated among them: the competing student teams of the SAE Collegiate Design Series (CDS). Below is a brief description of what each Collegiate Design Series Event has to offer:

The **SAE 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 gives students the opportunity to apply the knowledge learned in the classroom on a practical problem.

**Baja SAE** consists of three regional competitions that simulate real-world engineering design projects and their related challenges. Engineering students are tasked to design and build an off-road vehicle that will survive the severe punishment of rough terrain and even water. The objective of the competition is to provide SAE student members with a challenging project that involves the planning and manufacturing tasks found 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 to not only design, build, test, promote, and race a vehicle within the limits of the rules, but also to generate financial support for their project and manage their educational priorities.

The **SAE Clean Snowmobile Challenge** is an engineering design competition for college and university student members that challenge engineering students to reengineer an existing snowmobile to reduce emissions and noise while maintaining or improving the performance characteristics of the original snowmobile. The modified snowmobiles will compete in a variety of events including emissions, noise, fuel economy/endurance, acceleration, handling, static display, cold start and design. The modified snowmobiles are also expected to be cost-effective. Currently the event explores both Internal Combustion Class and Zero Emissions Class.

The **Formula SAE** competition is for SAE student members to conceive, design, fabricate, and compete with small formula-style racing cars. The restrictions on the car frame and engine are limited so that the knowledge, creativity, and imagination of the students are challenged. Formula SAE promotes careers and excellence in engineering as it encompasses all aspects of the automotive industry including research, design, manufacturing, testing, developing, marketing, management and finances. Formula SAE takes students out of the classroom and allows them to apply textbook theories to real work experiences. Today, the competition has expanded to three locations in the United States and includes a number of spin off events in Europe, Asia and Australia.

The **SAE Supermileage** competition provides engineering and technology students with a challenging design project that involves the development and construction of a single-person, fuel-efficient vehicle. Vehicles are powered by a small four-cycle engine. Students have the opportunity to set a world fuel economy record and increase public awareness of fuel economy.
Many Thanks to All Our Collegiate Design Series National Sponsors for a Successful 2009 Season

AERO DESIGN SERIES
Byron Fuel Gulfstream Lockheed Martin NASA

BAJA SAE SERIES
Autodesk Honda R&D America SolidWorks
Briggs & Stratton Husqvarna TARDEC
General Motors Polaris

CLEAN SNOWMOBILE CHALLENGE
General Motors

FORMULA SAE SERIES
Altair Engineering FISITA LCP Audio Services
Autodesk Ford Motor Co. Lincoln Electric
CD-adapco General Motors Polaris
CF Design Goodyear SolidWorks
Chief Cart (E-Z-GO) Honda R&D America Sunoco
ComSource Hoosier The MathWorks
FEV Jones Technical Group Wm. C. Mitchell Software

SUPERMILEAGE
EATON General Motors

Also Thanks to the many Local Sponsors who contributed to a specific event; SAE staff appreciates your help and support of our local organizers.
The first Aero Design competition of the year was held March 6-8, 2009 in Van Nuys, California. SAE International returned to Apollo XI Field after a year absence and along with Lockheed Martin as host and sponsor, the San Fernando Valley Radio Control Flyers, Byron’s Fuel and NASA, produced an outstanding competition! 54 teams from around the world registered for the event. Teams from the United States, Canada, India, Poland, Mexico and Venezuela all gathered for three days of fun and excitement.

Organized by Lockheed Martin employees, Gene Holloway, Lea Haubelt and hundreds of volunteers from the area, the event focused on developing young engineers challenging them to design, build and test a radio controlled plane and adhere to the rules and regulations put forth. The competition has been designed to provide exposure to the kinds of situations that engineers face in the real work environment.

The first day’s activities included a technical and safety check of all planes to determine whether the teams adhered to the specific rules and regulations. There was also an oral presentation by all teams that challenges their interpersonal communication skills. The oral presentations give students the opportunity to convince a government customer to purchase their aircraft design instead of any competitor’s design. Teams gave detailed explanations of how they arrived at the conclusion that their design was the best and why. Friday’s activities ended with a detailed outline of how the final two days of the competition will be organized.

A taste of the final results are below:

**REGULAR CLASS OVERALL / ELLIOTT GREEN AWARD:**
1st #002 - Kansas State University  
2nd #007 - Boise State University  
3rd #004 - University of British Columbia

**OPEN CLASS OVERALL:**
1st #217 - Ecole Polytechnique de Montreal  
2nd #212 - Polytechnic University - Brooklyn  
3rd #215 - Arizona State University - Tempe

**MICRO CLASS OVERALL:**
1st #311 - University of Akron  
2nd #317 - University of Central Florida  
3rd #318 - Iowa State University

**SAE DESIGN INNOVATION AWARD:**
#318 - Iowa State University  
Innovation – Use of Turbulator Strips

**NASA SYSTEMS ENGINEERING AWARD:**
#024 – Ecole de Technologie Superieure

**HEAVIEST PAYLOAD LIFTED:**
#217 – Ecole Polytechnique de Montreal  
(21.2 lbs)

**HIGHEST PAYLOAD FRACTION:**
#311 – University of Akron (0.5417)

**LIGHTEST WEIGHT:**
#311 – University of Akron (1.1 lbs)

**BEST ORAL PRESENTATION:**
#007 – Boise State University

**BEST DESIGN REPORT:**
#002 – Kansas State University

**BEST CRASH:**
#016 – Interamerican University of Puerto Rico
Other Interesting Stats:

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<th>Class</th>
<th>Attempts</th>
<th>Successful</th>
<th>%</th>
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</table>

For a complete listing of the 2009 Aero Design West results, please visit: http://students.sae.org/competitions/aerodesign/results/

Saturday and Sunday were the flying days with 8 rounds of flights by the three classes of planes within the competition; Apollo Field was the perfect venue to handle this competition and the teams. Sam Gengo and his team from the San Fernando Valley Radio Control Flyers provided some teams pilots and had the field prepared for a great weekend. 5 rounds of flights on Saturday and 3 on Sunday provided all teams with enough flying chances to test their designs fully. The yells and screams from excited students can still be heard through the hills! This hands-on experience and project management exercise provides students with the skills necessary to enter the real-world environment.

SAE would like to thank all of those who helped make this event a success. A big thank-you goes to Lockheed Martin, especially to Gene Holloway and Lea Haubelt. As with all SAE CDS competitions, these events would not have been possible without our volunteers. Those who volunteered and selflessly gave up their weekend to devote their time to this event are very much appreciated.
UW-Madison Wins It All

The University of Wisconsin at Madison was deemed victorious taking 1st place in both categories at the 2009 SAE Clean Snowmobile Challenge hosted at Michigan Technological University’s Keweenaw Research Center on March 16 – 21, 2009.

UW-Madison’s dual entries took both the National Science Foundation Award for the best sled in Zero-Emissions division and the International Snowmobile Manufacturers Association Award for the first place in the Internal-Combustion division.

Registered for the event this year were 16 universities across United States and Canada. Eighteen sleds were scheduled to compete; 13 sleds in internal combustion category and five in the zero emissions. Now in its 10th year, the Clean Snowmobile Challenge event is still challenging the students to take a stock snowmobile and reengineer it to reduce emissions and noise while maintaining or boosting the performance. In 2005 the rules committee added the second category for zero emissions. For 2009, the rules committee required internal combustion sleds to adapt their engines to run on flex-fuel. Before each running event, sleds were given were given a “mystery” fuel varying in ratio of ethanol and gasoline.

The event kicked off officially with the endurance event; traditionally 100 miles on the local trails on March 17th. Unfortunately due to weather, the trails were too wet for the team’s to complete their planned trek to Baraga. However five teams successfully managed to travel 65 miles to complete the modified endurance run: the University of Idaho, Clarkson University, Michigan Technological University, the University of Maine and the University of Wisconsin-Madison.

On their way to victory, the team from UW-Madison earned a list of other awards. Its internal combustion entry won the Land and Sea Award for Best Performance and the AVL Award for Best Emissions. Its zero-emissions snowmobile took both the Polaris Industries Award for Best Handling and the DENSO Corporation Award for Best Ride, unusual accomplishments for a battery-powered sled. It also won the Keweenaw Research Center Draw Bar Pull Award, a zero-emissions event.

The SAE International Award for Best Design was also awarded to UW-Madison in both the internal-combustion and zero-emissions categories.

Michigan Technological University in the internal combustion category finished in second place overall won the Yellowstone National Park Award. In addition, the MTU team received the PCB Group Award for the Quietest Snowmobile, the Sensors Inc. Award for Lowest In-Service Emissions, and the BlueRibbon Coalition Award for Most Practical Solution.

As a special honor, MTU also received the Founder’s Award for Most Sportsmanlike Conduct, which honors the late Bill Paddleford, Teton County Commissioner who cofounded the Clean Snowmobile Challenge in 2000. There to present the award was Dr. Lori Fussell, cofounder of the event and close friend of Paddleford’s. MTU received eight nominations from the competing teams; highest a team has ever received in 10 years of this event.

The University of Idaho was honored with four awards. After logging 13.3 mpg in the Challenge’s 64-mile Endurance Run, they earned the Gage Products Award for Best Fuel Economy. They also won the International Engineering and Manufacturing (Woody’s) Award for Best Acceleration and the EMITEC Technology Safety Award and the CH2MHILL Polar Services Range Event Award, presented to the zero-emissions sled that travels the farthest on a single charge. The sled traveled a distance of 16.6 miles; four miles farther than the other zero emissions sleds. The team in their first year presenting a zero-emissions sled managed to clinch a second place finish in the category.

The SAE Collegiate Design Series Staff would like to thank everyone who helped make this event a great success. To all the volunteers and sponsors, thank you for all your contributions! To all the students, thank you for your undying interest in the Clean Snowmobile Challenge and your education! For more information on this article or Event results please contact SAE International at collegiatecompetitions@sae.org.

To view all final score results from Clean Snowmobile Challenge, please visit http://students.sae.org/competitions/snowmobile/results/.
SAE CLEAN SNOWMOBILE COMPETITION 2009 (INTERNAL COMBUSTION) FINAL RESULTS: INTERNATIONAL SNOWMOBILE MANUFACTURERS ASSOCIATION AWARD FOR FIRST PLACE OVERALL WINNER
Presented to the team with the highest point total that also passes emissions and noise
University of Wisconsin, Madison IC

YELLOWSTONE NATIONAL PARK AWARD FOR SECOND PLACE OVERALL
Presented to the team with the second highest point total.
Michigan Tech University

AMERICAN COUNCIL OF SNOWMOBILE ASSOCIATIONS AWARD FOR THIRD PLACE OVERALL
Presented to the team with the third highest point total.
Clarkson University and University of Idaho

SAE MILWAUKEE CHAPTER FOR FIFTH PLACE OVERALL
Presented to the team with the fifth highest point total.
University of Maine

LAND AND SEA AWARD FOR BEST PERFORMANCE
Presented to the team receiving the highest total score in the Acceleration, and Handling events that also passed the Noise, Acceleration, and Emissions event.
University of Wisconsin, Madison IC

LOTUS ENGINEERING AWARD AND HORIBA INSTRUMENTS AWARD FOR BEST EMISSIONS
Presented to the team receiving the best score in the emissions event.
University of Wisconsin, Madison IC

SENSORS, INC. AWARD FOR LOWEST “IN SERVICE” EMISSIONS
Presented to the team that has the lowest “In Service” emissions.
Michigan Tech University

SOCIETY OF AUTOMOTIVE ENGINEERS AWARD FOR BEST DESIGN
Presented to the team receiving the highest total score in the Engineering Design Paper, Oral Design Presentation, and Static Display events that also received passing scores in the Emissions, Noise, and Acceleration events.
University of Wisconsin, Madison IC

GAGE PRODUCTS AWARD FOR BEST FUEL ECONOMY
Presented to the team receiving the most points in the Fuel Economy & Endurance event.
University of Idaho

PCB Group Award for Quietest Snowmobile
Presented to the team receiving the most points in the Noise events.
Michigan Tech University

BLUERIBBON COALITION AWARD FOR MOST PRACTICAL SOLUTION
Presented to team with the best balance between cost and measured noise and emissions reduction.
Michigan Tech University

EMITEC AWARD FOR BEST VALUE
Presented to team with the best balance between cost, fuel economy, and performance.
University of Idaho

Internal Combustion and Zero Emissions Award winners:

DENSO CORPORATION AWARD FOR BEST RIDE
Presented to the team with the best combined score in the Handling and Drivability and Subjective Ride events.
University of Wisconsin, Madison IC

INTERNATIONAL ENGINEERING AND MANUFACTURING (WOODY’S) AWARD FOR BEST ACCELERATION
Presented to the team winning the Best Acceleration Event.
University of Idaho

POLARIS INDUSTRIES AWARD FOR BEST HANDLING
Presented to the team winning the Objective Handling Event.
University of Wisconsin, Madison

BILL PADDLEFORD FOUNDER’S AWARD FOR SPORTSMANSHIP
Trophy awarded to the team recognized by other participants as being the most sportsmanlike.
Michigan Tech University

ARISTO CATALYSTS, INC. AWARD FOR MOST IMPROVED SNOWMOBILE
Presented to the team who in the opinion of the organizers has improved the most since last year.
SUNY Buffalo

CATERPILLAR CORPORATION AWARD FOR INNOVATION
Presented to the team who in the opinion of the organizers has the most innovative solution.
University of Waterloo

ALTAIR ENGINEERING AWARD FOR DESIGN SIMULATION
Presented to the team who in the opinion of the organizers demonstrates a successful simulation of their design.
University of Waterloo

HAWKE SAFETY AWARD:
University of Alaska, Fairbanks ZE

SERVICEABILITY AWARD:
McGill University ZE

BEST TEAM WEBSITE:
Ecole De Technologie Superieure

ROOKIE OF THE CHALLENGE AWARD:
University of Alaska, Fairbanks ZE

Zero Emissions Award Winners:

NATIONAL SCIENCE FOUNDATION AWARD FOR BEST ZERO EMISSIONS
Presented to the team with the highest point total in the ZE category.
University of Wisconsin, Madison ZE

CH2M HILL POLAR SERVICES RANGE EVENT AWARD
Presented to the team that travels the farthest distance on a single charge.
University of Alaska, Fairbanks

KEWEENAW RESEARCH CENTER AWARD
Presented to the team with that wins the Draw Bar Pull Event.
University of Wisconsin, Madison ZE

SOCIETY OF AUTOMOTIVE ENGINEERS AWARD FOR BEST DESIGN
Presented to the team receiving the highest total score in the Engineering Design Paper, Oral Design Presentation, and Static Display events that also received passing scores in the Emissions, Noise, and Acceleration events.
University of Wisconsin, Madison ZE
2009 SAE Aero Design East - Success in the Air!

The SAE Aero Design East competition held April 3-5, 2009 in Kennesaw, Georgia lived up to its high-quality, high-excitement tradition. Completing over 300 individual flights and 8 rounds of flight competitions, the almost perfect weather was the exclamation point to the competition’s three-day event.

Friday’s events held at the Kennesaw State University Continuing Education Center included safety and technical inspection of 57 team planes. It also included oral presentations by the teams, as if they were trying to convince a government customer to purchase their aircraft design instead of any other competitor’s design. That means the teams gave detailed explanations of how they arrived at the conclusion that their design is the best. The day ended with a meeting of the next two days activities and guidelines. Eight countries were represented; along with the United States and Canada, teams from Poland, Mexico, Venezuela, Germany, Brazil and India all participated in the competition.

Over 200 volunteers from Lockheed Martin, the Cobb County Radio Modeler’s Club, Gulfstream, NASA and other organizations assisted our lead organizer, Lonnie Dong, System Engineer Stf, Lockheed Martin Aeronautical Company. Lonnie has been organizing these events for a number of years now and he seems to outdo himself every year in the quality of this competition. This year, he arranged for a Thursday afternoon tour of the C130 Assembly Line and F-22 Flight Simulator / Demonstrator ride for 50 participants. Heart congrats to him and all the volunteers.

The SAE Collegiate Design Series staff would like to thank Lonnie and all the volunteers, sponsors and teams who helped make this event the success that it was. Thank you. These are two simple words that, when used together, have more impact and meaning than words far more eloquent. Unfortunately, these also are two words not said often enough. So, to you, the volunteers of the 2009 SAE Aero Design East competition, we say “thank you”.

<table>
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<th>OTHER INTERESTING STATS:</th>
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<td><strong>Class</strong></td>
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A summary of the top finishers are below:

**REGULAR CLASS OVERALL / ELLIOTT GREEN AWARD:**
1st #037 – Escola Politecnica Universidade de São Paulo
2nd #029 – Federal Universidade de Minas Gerais
3rd #002 – University of Cincinnati

**OPEN CLASS OVERALL:**
1st #218 – Escola de Engenharia de São Carlos – USP
2nd #219 – Warsaw University of Technology
3rd #217 – Missouri University of Science & Technology

**MICRO CLASS OVERALL:**
1st #319 – University of Minnesota
2nd #317 – Ryerson University
3rd #315 – University of Puerto Rico

**SAE DESIGN INNOVATION AWARD:**
#218 – Escola de Engenharia de São Carlos – USP
Innovation – Used 2 engines and a gear reduction to one propeller

**NASA SYSTEMS ENGINEERING AWARD:** (TIE)
#002 – University of Cincinnati
#037 – Escola Politecnica Universidade de São Paulo

**REGULAR CLASS – MOST PAYLOAD LIFTED AWARD:**
1st #037 – Escola Politecnica Universidade de São Paulo
   (28.310 lbs)
2nd #029 – Federal Universidade de Minas Gerais (27.060 lbs)
3rd #002 – University of Cincinnati (22.610 lbs)

**OPEN CLASS – MOST PAYLOAD LIFTED AWARD:**
1st #218 – Escola de Engenharia de São Carlos – USP (38.950 lbs)
2nd #219 – Warsaw University of Technology (28.120 lbs)
3rd #217 – Missouri University of Science & Technology (22.670 lbs)

**MICRO CLASS – HIGHEST PAYLOAD FRACTION AWARD:**
1st #319 – University of Minnesota (0.684)
2nd #315 – University of Puerto Rico (0.656)
3rd #317 – Ryerson University (0.608)

**REGULAR CLASS DESIGN AWARD (REPORT & PRESENTATION):**
1st #046 – California State University – Long Beach
2nd #029 – Federal Universidade de Minas Gerais
3rd #042 – Ohio State University

**OPEN CLASS DESIGN AWARD (REPORT & PRESENTATION):**
1st #218 – Escola de Engenharia de São Carlos – USP
2nd #217 – Missouri University of Science & Technology
3rd #219 – Warsaw University of Technology

**MICRO CLASS DESIGN AWARD (REPORT & PRESENTATION):**
1st #312 – University of Akron
2nd #321 – California State University – Long Beach
3rd #318 – Sri Bhagavan Mahaveer Jain College of Engineering

**MOST INTERESTING FLIGHT PATH AWARD:**
#020 – Louisiana State University

**BEST CRASH AWARD:**
#216 – Mississippi State University

**GULFSTREAM SPORTSMANSHIP AWARD:**
#043 – Marquette University

Nominated by #016 – Lawrence Tech University for helping their team after their plane crashed; they lent Lawrence Tech their tools and supplies

As an added benefit, Raymond Cervantes was also in attendance again to provide the live webcast on www.teamrcpilot.com. Hundreds of friends and family from around the world were able to join the event virtually through the webcast.

For a complete list of all the winners and specialty awards, please refer to: http://students.sae.org/competitions/aerodesign/results/
Canadian Teams Jubilant at First Baja SAE Competition of the Season!

Teams from Canada took the top two overall spots in the first Baja SAE competition of the season. The opening 2009 Baja SAE event of the year took place in Opelika, Alabama, April 16-19 at the National Center for Asphalt Technology (NCAT). The weather was almost perfect as 87 teams took to the custom designed and built track at NCAT. This site last held a Baja SAE competition in 2006 and was redesigned and toughened up to provide a unique and difficult challenge. The local organizing committee did an outstanding job and provided all 805 participants with a great event to begin the competition season with.

The entire 3-plus day competition was held at NCAT. The first day provided teams the challenge to pass a safety and technical inspection which included an engine setting by Briggs and Stratton staff, a rigorous technical inspection by the National Tech Inspectors, and also a braking test.

The second day’s dynamic events featured Land Maneuverability and Suspension courses (2 separate events), a Traction/Pulling challenge and an Acceleration event. Winning both the Land Maneuverability and Suspension events was team #002, Rochester Institute of Technology. Acceleration was won by team #097, University of Maryland – College Park, and tops in the Traction/Pulling event was team #069, Virginia Military Institute.

The third day was the Endurance event, a four-hour demonstration of vehicle and team management. The 2.7 mile course took teams through woods, mud (lots of it), streams and a host of obstacles. The overall winner of the competition capturing the Briggs and Stratton Overall award went to team #010, Universite de Sherbrooke, followed by #021, Ecole de Technologie Superieure and rounding out third, team #097, University of Maryland – College Park. The third place winner of the Endurance Event was team #051 – Michigan Tech University (first and second places of the Endurance event went to teams #010 and #021, respectively).

The awards banquet held on Sunday evening gave everyone the opportunity to congratulate all the winners. As a special demonstration of their support for the Collegiate Design Series program, Briggs and Stratton staff raffled off 16 special “hand built” Briggs & Stratton 10 hp OHV Intek engines that were made in Auburn, Alabama. A huge thank you to Briggs & Stratton, we know the teams loved getting these engines.

These competitions would not be possible if it wasn’t for the support from a large number of people. SAE Collegiate Design Series would like to thank the Auburn organizers (Auburn University, NCAT, and everyone who assisted) for selflessly giving up their free time and energy to organize and manage the event, especially Dr. Peter Jones, Jim Killian, Mike Zieman, Rob Daily, Emily Johnson, Andrew Stockton, Marc Jarmulowicz, Taylor Owens, Jeremy Belcher, Darrell Krueger, Brittany Consuegra, and all of the other hard working members of the organizing committee. Another huge thank you to our corporate sponsors for their time and contributions to make these events a success! And most importantly to the students who participate and provide feedback on how we can improve these events for future competitions. SAE International thanks everyone who helped make this event a great success!!

The top 10 overall winners from this event are listed below:

1st Place - #010 – Universite de Sherbrooke
2nd Place - #021 – Ecole de Technologie Superieure
3rd Place - #097 – University of Maryland – College Park
4th Place - #101 – Tennessee Tech University
5th Place - #002 – Rochester Institute of Technology
6th Place - #027 – University of Louisville
7th Place - #090 – University of Maryland – Baltimore County
8th Place - #051 – Michigan Tech University
9th Place - #006 – Auburn University
10th Place - #018 – Cornell University
BRIGGS & STRATTON OVERALL PERFORMANCE AWARD
1st ($1,000) - #010, Universite de Sherbrooke
2nd ($750) - #021, Ecole de Technologie Superieure
3rd ($500) - #097, University of Maryland – College Park

HONDA R&D AMERICAS ENDURANCE AWARD
1st ($1,000) - #010, Universite de Sherbrooke
2nd ($725) - #021, Ecole de Technologie Superieure
3rd ($525) - #051, Michigan Tech University

HONDA DYNAMIC EVENTS AWARD
1st ($1,000) - #010, Tennessee Tech University
2nd ($725) - #021, Ecole de Technologie Superieure
3rd ($525) - #051, Michigan Tech University

POLARIS DESIGN AWARD
1st ($1,000 in Polaris Parts) - #002, Rochester Institute of Technology
2nd #010, Universite de Sherbrooke
3rd #021, Ecole de Technologie Superieure

HONDA MANUFACTURING OF ALABAMA COST AWARD
1st #090, University of Maryland – Baltimore County
2nd #021, Ecole de Technologie Superieure
3rd #078, University of Rochester

ACCELERATION AWARD
1st #097, University of Maryland – College Park
2nd #018, Cornell University
3rd #005, Tennessee Tech University

TRACTION AWARD
1st #069, Virginia Military Institute
2nd #101, Tennessee Tech University
3rd #005, Tennessee Tech University

SUSPENSION AWARD
1st #002, Rochester Institute of Technology
2nd #097, University of Maryland – College Park
3rd #101, Tennessee Tech University

LAND MANEUVERABILITY AWARD
1st #002, Rochester Institute of Technology
2nd #022, University of South Florida
3rd #027, University of Louisville

DIGITAL ENGINEERING SOLUTIONS INNOVATIVE TECHNOLOGY AWARD
($100) #018 – Cornell University

AUBURN UNIVERSITY “UP ALL NIGHT” AWARD
(Auburn Travel Blankets) #058 – New York Institute of Technology

AUBURN UNIVERSITY “FURTHEST DISTANCE TRAVELED” AWARD
(Auburn Cooler & Energy Drinks) #010 – Universite de Sherbrooke

AUBURN UNIVERSITY “DIRTIEST DRIVER” AWARD
(Auburn Embroidered Towels) #002 – Rochester Institute of Technology

BRIGGS & STRATTON PRESSURE WASHER RECIPIENT
#018 – Cornell University

BRIGGS & STRATTON GENERATOR RECIPIENT
#098 – University of Missouri – Kansas City

BRIGGS & STRATTON ENGINE RECIPIENTS
#045 – Pittsburg State University
#058 – New York Institute of Technology
#051 – Michigan Tech University
#085 – Bucknell University
#009 – Clemson University
#010 – Universite de Sherbrooke
#061 – Florida Institute of Technology
#039 – Wichita State University
#023 – University of Alabama – Tuscaloosa
#098 – University of Missouri – Kansas City
#097 – University of Maryland – College Park
#005 – Tennessee Tech University
#018 – Cornell University
#049 – Embry-Riddle Aeronautical University
#071 – East Carolina University
#001 – Queen’s University
Building on their success from 2008, the Missouri University of Science & Technology Formula SAE takes 1st Place Overall at the second Formula SAE event organized at Virginia International Raceway (VIR). This venue, located in Alton, Virginia provides teams with a different experience from the other locations.

Teams did not have the luxury of paddocking on asphalt and had to provide their own power (something provided at the other competitions) but this was a small trade off in return for the exposure to professional race car drivers, an hour design judging review session, a full road course and a much more relaxing atmosphere than other events. Again VIR hosted the Bosch Engineering 250 Grand Am Series, students were able to watch the races and visit the professional teams in their paddocks. Participating teams were exposed to a full hour of review by the design judges who made the event challenging as the judges found many things to ask about and pushed the teams as far as they could with the questions about their vehicles. The road course measured 1.1 miles and provided a challenge to teams who are use to running in a flat parking lot. Teams encountered all the gates and slaloms as expected but also dealt with some serious elevation changes and a few off-camber sections. Dynamic event captains for Autocross and Endurance changed the course design to allow for more speed this year.

With the early timing of this event and the unfortunate economy, many teams were forced to withdraw or forfeit from the competition. However, 21 teams still provided challenging competition onsite. The competition kicked off on Wednesday, April 22nd with Technical Inspection. By the end of Thursday all but three cars were successfully passed; the 21st car received their third technical inspection sticker at the start of Endurance. All the static and dynamic events took place on Thursday starting with Cost, Design and Presentation judging. Taking first place in Cost was University of Michigan-Dearborn; only two teams were selected for Design Finals by the panels of 30 judges in first place was University of Wisconsin-Madison followed in second by Missouri University of Science & Technology, and first place in Presentation was Vanderbilt University.

For those cars that successfully passed all three parts of Technical Inspection the fun of driving began Friday with Acceleration and Skid Pad events in the morning and Autocross in the afternoon. Taking first place in Acceleration was University of Maryland with a time of 4.132 seconds. Taking first place in Skid Pad was University of Oklahoma with a time of 5.113 seconds. With a late start on the Autocross event, 17 cars crossed the starting line. Though most teams were able to complete both drivers’ runs, some teams struggled to finish and most were able to still receive a score. With a course longer than the usual half mile, Missouri University of Science & Technology took first place with a time of 94.516 seconds.
FORMULA SAE VIRGINIA 2009 AWARD WINNERS

SAE PRESENTATION AWARD
The team that receives the best score in Presentation
1st Place: Vanderbilt University

SAE COST AWARD
The team that receives the best score in Cost
1st Place: University of Michigan - Dearborn

HONDA ENGINEERING DESIGN AWARD
The teams who receive the best scores in Design - $1000, $725
1st Place: University of Wisconsin – Madison
2nd Place: Missouri University of Science & Technology

SAE ACCELERATION AWARD (SPONSOR CHANGE; MONETARY AWARD WILL STILL BE GIVEN)
The teams who receive the best scores in Acceleration - $1000, $725, $525
1st Place: University of Maryland - College Park
2nd Place: University of Illinois - Urbana Champaign
3rd Place: Rutgers University

SAE SKID PAD AWARD
The team who receives the best score in Skid Pad
1st Place: University of Oklahoma

HOOSIER TIRE AUTO CROSS AWARD
Fastest three recorded autocross runs. - 8 free tires, 6 free tires, 4 free tires
1st Place: Missouri University of Science and Technology
2nd Place: University of Illinois - Urbana Champaign
3rd Place: University of Maryland - College Park

GOODYEAR BEST PERFORMANCE AWARD
First team in Endurance event - 1 Day K&C Testing on Goodyear’s SPM application at the Akron Engineering Test Laboratory
1st Place: Missouri University of Science and Technology

SAE FUEL ECONOMY AWARD
Team that Receives the Best Fuel Economy Score
1st Place: Kansas State University

HONDA DYNAMIC EVENT AWARD
Best Combined Scores in Dynamic Events - $1000, $725, $525
1st Place: Missouri University of Science and Technology
2nd Place: University of Oklahoma
3rd Place: University of Illinois - Urbana Champaign

WILLIAM C. MITCHELL AWARD
Team most deserving - Racing by the Numbers software
Winner: York College of Pa

FORMULA SAE RECOGNITION OF ACCOMPLISHMENT
Teams that successfully score in all events and do not finish in the top 3
University of Wisconsin - Madison
University of Michigan - Dearborn
Kansas State University
University of Louisville
Clemson University

SPIRIT OF EXCELLENCE AWARD
TOP THREE OVERALL FINISHERS - $3000, $2000, $1000
1st Place: Missouri University of Science and Technology
2nd Place: University of Oklahoma
3rd Place: University of Illinois - Urbana Champaign
Endurance day welcomed the teams with bright sunshine and temperatures in the low 90s. With all 21 cars eligible for the green flag to start the event only 17 teams headed on course to race due to last minute issues and failures. Nine cars completed the event; a finishing percentage of 53%. Taking first place in Endurance was Missouri University of Science & Technology. Receiving the best fuel economy score was Kansas State University.

The award ceremony took place onsite a few hours after the completion of the Endurance event. Taking home 1st Place Overall was Missouri University of Science & Technology. Respectively, finishing in second and third was University of Oklahoma and University of Illinois – Urbana Champaign.

To view all final score results and award winners from Formula SAE at VIR, please visit http://students.sae.org/competitions/formulaseries/results/.

The results can also be found below this article.

The SAE Collegiate Design Series Staff would like to thank everyone who helped make this event a great success. To all the volunteers, sponsors and VIR staff, thank you for all your contributions! To all the students, thank you for your undying interest in this student competition. We hope you enjoyed the event. And remember, graduating students are encouraged to come back next year and volunteer! For more information on this please contact SAE International at CollegiateCompetitions@sae.org.
Oregon State University Conquers Washougal at Baja SAE Oregon 2009!!

Oregon State University (OSU) was on the winning track at the recently completed Baja SAE Oregon competition. Hosted by the SAE Oregon Section, the second of three in the Baja SAE series held May 7-10, the OSU Beaver Racing Orange Team (#002) took 1st places in Rock Crawl, Endurance, Overall Dynamic Events and Overall Design capturing 1st place overall and hoisting the 1st place trophy.

A typical tough and rugged West Coast terrain greeted the 65 teams as they traveled from the Portland Metropolitan Expo Center where Friday’s registration and static events were located to Washougal Motocross Park in Washougal, Washington for Saturday and Sunday’s events. Other countries represented at this event were Mexico, Canada, South Korea, India, South Africa, and the United Arab Emirates.

Unusually heavy rains and an unusable motocross course at the Park forced organizers to literally create a course from the surrounding area the week before the competition. On Saturday, teams were challenged by a Hill Climb, Rock Crawl, Acceleration and Maneuverability course. As the day progressed and the weather brightened, patience by many competitors was met later in the day with the dryer conditions. Rochester Institute of Technology (#019) was fastest in both Acceleration and Maneuverability, and OSU Beaver Racing Black (#005) won the Hill Climb event.
A very demanding endurance course that was created by the organizing committee included a small stream/mud crossing, elevation changes that challenged teams and also log drops. When all was said and done after the four-hour endurance event, Oregon State University (#002) was leading the pack.

SAE would like to thank the SAE Oregon Section and the organizing committee led by Chris Etzel. Chris and his hard working crew did an outstanding job planning and organizing this latest Baja SAE competition. These competitions would not be possible if it wasn’t for the support from a large number of people, especially from our volunteers and sponsors. To all the students, thank you for your undying interest in the Baja SAE competitions. SAE International thanks everyone who helped make this event a great success.

A sampling of the top 10 overall teams is below, for additional information on all the results please visit: http://students.sae.org/competitions/bajasae/results/

1st Place - #002 – Oregon State University
2nd Place - #009 – Michigan Tech University
3rd Place - #005 – Oregon State University
4th Place - #006 – South Dakota School of Mines & Technology
5th Place - #047 – Western Washington University
6th Place - #014 – University of Manitoba
7th Place - #015 – Queen’s University
8th Place - #022 – California State University – Chico
9th Place - #001 – California State Polytechnic University – Pomona
10th Place - #019 – Rochester Institute of Technology

ACCELERATION AWARD
1st #019, Rochester Institute of Technology
2nd #011, Tennessee Tech University
3rd #002, Oregon State University

HILL CLIMB AWARD
1st #005, Oregon State University
2nd #047, Western Washington University
3rd #002, Oregon State University

MANEUVERABILITY AWARD
1st #019, Rochester Institute of Technology
2nd #002, Oregon State University
3rd #032, University of Michigan – Ann Arbor

ROCK CRAWL AWARD
1st #002, Oregon State University
2nd #005, Oregon State University
3rd #022, California State University – Chico

SALES PRESENTATION AWARD
1st #024, Ecole de Technologie Superieure
2nd #038, University of California – Los Angeles
3rd #002, Oregon State University

BRIGGS & STRATTON PRESSURE WASHER RECIPIENT
#097 – Rochester Institute of Technology

BRIGGS & STRATTON GENERATOR RECIPIENT
#052 – McGill University
All the way from Austria, Graz University of Technology (TU Graz) managed to finish in 1st place jumping 5 places from their 6th place finish in 2008. Competing this year with their prize winning car unveiled at the 2008 Formula Student Germany competition, the TU Graz team clinched several event awards.

Formula SAE returned to Michigan International Speedway (MIS) for its second year as this venue offers a great experience to all who participate. Located in Brooklyn, Michigan, MIS offers team paddocks on asphalt with built-in electric hook-ups, NASCAR garages and suites for all static judging and the back side of the oval to run all dynamic events.

Kicking off the competition Wednesday was team registration and technical inspection. Over 90 teams registered to compete; representing colleges and universities from Austria, Brazil, Canada, Singapore, South Korea, United States and Venezuela.

Thursday’s events resulted in some surprising outcomes. Taking the highest score in cost for the lowest price was Car #83 University of Manitoba with an estimated cost of $8,987. This year all the Formula SAE teams experienced and took part in the new cost system being developed for future events to ensure accuracy and a level playing field for all universities with limited and unlimited budgets. Taking first place in presentation was the winning team, Car #6 Graz University of Technology.

Also announced on Thursday were the design semi-finals in which 13 universities were honored for a closer look in order to make finals. Competing in the semi-finals was Car #24 Ecole de Technologie Superieure from Canada, Car #6 Graz University of Technology and Car #13 University of Applied Sciences — Graz from Austria, Car #11 Centro Universitario Da FEI from Brazil, and Car #50 Pennsylvania State University, Car #8 Missouri University Science and Technology, Car #26 Rutgers University, Car #35 Purdue University — West Lafayette, Car #55 University of Kansas-Lawrence, Car #117 University of Michigan — Ann Arbor, and Car #118 University of Washington all from United States. Advancing to the finals were Ecole de Technologie Superieure, Pennsylvania State University, Graz University of Technology and University of Applied Sciences —Graz. Winning the design event and taking home 1st place was Ecole de Technologie Superieure.

For those cars that passed Technical Inspection, dynamic events began Friday with Acceleration and Skid Pad events in the morning and Autocross in the afternoon. With the weather threatening rain all day the track conditions went from dry to wet; still teams were displaying some fast times. Not to any surprise, Car #6 Graz University of Technology (TU Graz) clinched first place in Acceleration with the best time of 3.966 seconds, just .077 seconds faster than second runner up Car #65 North Carolina State. Also setting the fastest time at Skid Pad, TU Graz completed their best run in 5.025 seconds, .13 seconds faster than Car #13 University of Applied Sciences – Graz also from Austria.

Starting the autocross were 72 teams; most were able to complete both driver’s runs. With track conditions changing from dry to damp, the tough decision to change their tires was being made by many teams in the late afternoon; however finishing in first place a team who was lucky enough to beat the rain was Car #6 TU Graz with the best track time of 43.129 seconds.

On Endurance day, the drivers were once again faced with rainy conditions and a track declared damp. Getting the green flag to start were 76 teams, however 37 completed the event providing a finishing rate of 49%. Of those runs, only 34 teams received scores due to staying below the maximum run time of 2010 seconds. Taking first place in Endurance with the fastest lap time and best Fuel Economy score combined was Car # 24 Ecole de Technologie Superieure with a time of 1453.595 seconds, followed by Car #66 Rochester Institute of Technology.
**SAE PRESENTATION AWARD**
The team that receives the best score in Presentation
1st Place  Graz University of Technology

**SAE COST AWARD**
The team that receives the best score in Cost
1st Place  University of Manitoba

**HONDA ENGINEERING DESIGN AWARD**
Top 3 Finishers in the Design Event - $1000, $725, $525
1st Place  Ecole De Technologie Superieure
2nd Place  Pennsylvania State University
3rd Place  Graz University of Technology

**FISITA AWARD FOR ENGINEERING EXCELLENCE IN STATIC EVENTS**
The team with the highest combined score in the static events (Cost, Presentation and Design) - $663
Winner:  Pennsylvania State University

**POLARIS INTAKE SYSTEMS DESIGN AWARD**
Outstanding design of intake and fuel delivery system. - $1000 credit in Polaris parts
Winner:  Graz University of Technology

**CFDESIGN COMPUTATIONAL FLUID DYNAMICS AWARD**
Best implementation of Computational Fluid Dynamics for component or system design. - $1000
Winner:  University of Waterloo

**THE SECOND ANNUAL FSAE PUSHBAR COMPETITION EVENT**
Winner:  University of Missouri Columbia

**SAE ACCELERATION AWARD**
The team who receives the best score in Acceleration
1st Place  Graz University of Technology

**SAE SKID PAD AWARD**
The team who receives the best score in Skid Pad
1st Place  Graz University of Technology

**HOOSIER TIRE AUTOCROSS AWARD**
First three finishers in the Autocross event - 8 free tires, 6 free tires, 4 free tires
1st Place  Graz University of Technology
2nd Place  Rochester Institute of Technology
3rd Place  University of Kansas – Lawrence

**GOODYEAR BEST PERFORMANCE AWARD**
First team in Endurance event - 1 Day K&C Testing on Goodyear’s SPMM located at the Akron Engineering Test Laboratory
1st Place  Ecole De Technologie Superieure

**FORD FUEL ECONOMY AWARD**
Top three finishers in the Fuel Economy event - $1500, $1000, $500
1st Place  McGill University
2nd Place  Universite Laval
3rd Place  Ecole De Technologie Superieure

**HONDA DYNAMIC EVENT AWARD**
Best Combined Scores in Dynamic Events - 1000, 725, 525
1st Place  Graz University of Technology
2nd Place  Rochester Institute of Technology
3rd Place  Ecole De Technologie Superieure

**THE FEV POWERTRAIN DEVELOPMENT AWARD**
Overall excellence in powertrain development - $1500, $750, $300
1st Place  Ecole De Technologie Superieure
2nd Place  Graz University of Technology
3rd Place  Universite Laval

**ALTAIR ENGINEERING’S WILLIAM R. ADAM ENGINEERING AWARD**
Development of new and innovative design concepts for FSAE racing competition. - $1000
1st Place  Missouri University of Science and Technology
Honorable Mention: Rochester Institute of Technology

**WILLIAM C. MITCHELL ROOKIE AWARD**
Best Finish for a First Year Team - Racing by the Numbers software
Winner:  Lakehead University

**FORMULA SAE RECOGNITION OF ACCOMPLISHMENT**
Teams that successfully score in all events and do not finish in the top 3
Missouri University of Science and Tech
University of Florida
Centro Universitario Da FEI
University of Applied Sciences - Graz
Auburn University
McGill University
University of Michigan - Dearborn
Brown University
Technology with a time of 1386.097 seconds and Car #6 Graz University of Technology (TU Graz) with a time of 1461.252 seconds.

The award ceremony took place on Saturday night after the completion of the competition. All award winners were announced. Taking home first place overall and the traveling winner’s trophy was Car #6 Graz University of Technology with a total of 833.5 points, following in second place was Car #66 Rochester Institute of Technology with a total of 813.6 points and in third place was Car #24 Ecole de Technologie Superieure with a total of 789.6 points.

To view all final score results from the Formula SAE Michigan event, please visit: http://students.sae.org/competitions/formulaseries/results/. The results may also be found attached to this article; just select the download additional information link located at the bottom of the text.

The SAE Collegiate Design Series Staff would like to thank everyone who helped make this event a great success. To all the volunteers and sponsors, thank you for all your contributions! To all the students, thank you for undying interest in the Formula SAE competition. For more information on this article, event results or 2010 volunteering opportunities, please contact Kaley Zundel at kzundel@sae.org.
The thirty-year relationship between Eaton Corporation and SAE International continues to be strong, providing a venue and developing future engineers. 45 teams registered for the 2009 competition, the largest in recent memory. Teams from all over the world including Canada, India and Bahrain competed in the two-day high mileage event. The Supermileage competition provides engineering and technology students with a challenging design project that involves the development and construction of a single-person, fuel-efficient vehicle. Vehicles are powered by a small four-cycle engine donated by Briggs and Stratton, also a thirty-year partner. The vehicles run a specified course with the vehicle obtaining the highest combined kilometers per liter (miles per gallon) rating plus design segment points winning the event. Students have the opportunity to set a world fuel economy record and increase public awareness of fuel economy.
TOP 3 OVERALL WINNERS:
1. Universite Laval
2. Michigan Tech University
3. California State University - Los Angeles

BEST DESIGN REPORT, COMBINED WRITTEN & VERBAL:
Michigan Tech University

MOST VISUALLY APPEALING VEHICLE:
University of Massachusetts – Amherst (Team V.V.C.F.O.)

CLOSEST PREDICTED TO ACTUAL FUEL ECONOMY:
University of Cincinnati

BEST DEMONSTRATED OVERALL TEAM ATTITUDE:
Universite Laval

The event takes place at the Eaton Corporation Marshall, Michigan Proving Grounds. Teams go through a rigorous safety and technical inspection and an onsite oral presentation of their vehicles; slalom and brake test round out the first days’ activities. The second day consists of 6 lap runs around Eaton’s 1.6 mile test track. The teams can conduct as many 6 lap runs as time permits with the single highest mileage run counting toward their final score.

On hand to celebrate the 30th anniversary was 2009 SAE President, Dr. James E. Smith and Vice President of Technology-Truck Group-Eaton, Thomas R. Stover.

The overall winner of this year’s competition was Universite Laval from Canada with economy mileage of 1804 miles per gallon and a combined score of 2099. This was their second consecutive win at the competition taking the 2008 title as well. The top overall winners are below; for a complete listing please visit the SAE website at: http://students.sae.org/competitions/supermileage/results/

SAE competitions would not be possible if it wasn’t for the support from a large number of people. SAE Collegiate Design Series would like to thank Eaton and all of the Eaton volunteers who helped make this event possible for the last thirty years; for selflessly giving up their free time and energy to organize and manage the event, especially James “Jim” Gluys, Anne Wadsworth and all of the other hard working members of the organizing committee. And most importantly to the students who participate and provide feedback on how we can improve these events for future competitions. SAE International thanks everyone who helped make this event a great success!! Happy 30 Years!!
Oregon State University made it two wins in a row with their first place finish at the MGA Research Facility in Burlington, Wisconsin during the Baja SAE Wisconsin event held June 11 – 14. Coming in on the heels of their win in Portland, Oregon, Oregon State University backed it up with a rather convincing overall effort.

100 teams competed in the last of the Baja SAE competitions this year. Good weather greeted the competitors as the event kicked off on Thursday and Friday with registration and technical and safety inspections. The entire four day competition was held at the MGA Research Facility making logistics that much easier for the teams. A vast parking lot at the facility accommodated all the teams bringing smiles from many students.

Head organizer, Glenn Bower, and his committee challenged the teams with 5 dynamic events – Sled Pull, Acceleration, Suspension & Traction, Maneuverability and a Mud Bog. Saturday mornings’ rain and mist added more challenges to the competition although by the afternoon, clouds vanished and the sun appeared. Most of the track dried with the exception of the mud bog, a tradition at the Wisconsin event; an old OEM salt bath 75-feet in length filled with water, rocks and mud…watching this event can’t help but make one smile as everyone cheers each other on. The Mud Bog winner, ISAT, from France used their unique wheel and tire combination to beat the rest with an 11.04-second time! The same combination of wheels and tires also enabled them to win the Sled Pull event.

Michigan Tech University took honors in the Suspension & Traction event. University of South Florida won the Maneuverability competition and the University of Maryland - College Park was first in Acceleration. But it was Oregon State with its second place in the Mud Bog, a solid fourth in Maneuverability and a full lap on the track in the endurance event that helped them capture their second overall win of the season. Congratulations!

SAE would like to thank the SAE Milwaukee Section, Glenn Bower and all of his hard working organizing team members. Glenn and his diligent crew did an outstanding job planning and organizing this latest Baja SAE competition. A big thank-you also goes out to our sponsors and most importantly the students. Without any events could not take place!

A taste of the top 10 overall winners is below; for additional information on all the results please visit http://students.sae.org/competitions/bajasae/results/

1st Place - #037 - Oregon State University
2nd Place - #001 - Centro Universitario Da FEI
3rd Place - #005 - University of South Florida
4th Place - #006 - Universite de Sherbrooke
5th Place - #002 - Stony Brook University
6th Place - #099 - Michigan Tech University
7th Place - #064 - Ecole Polytechnique De Montreal
8th Place - #012 - Universidade Federal de Santa Catarina
9th Place - #009 - Tennessee Tech University
10th Place - #004 - Ecole De Technologie Superieure
**BRIGGS & STRATTON OVERALL PERFORMANCE AWARD**
1st ($1,000) - #037, Oregon State University
2nd ($750) - #001, Centro Universitario Da FEI
3rd ($500) - #005, University of South Florida

**HONDA R&D AMERICAS ENDURANCE AWARD**
1st ($1,000) - #037, Oregon State University
2nd ($725) - #001, Centro Universitario Da FEI
3rd ($525) - #005, University of South Florida

**HONDA DYNAMIC EVENTS AWARD**
1st ($1,000) - #099, Michigan Tech University
2nd ($725) - #056, University of Louisville
3rd ($525) - #037, Oregon State University

**POLARIS DESIGN AWARD**
1st ($1,000 in Polaris Parts) - #045, Cornell University
2nd #007, University of Michigan – Ann Arbor
3rd #096, LeTourneau University

**HONDA MANUFACTURING OF ALABAMA COST AWARD**
1st #004, Ecole de Technologie Superieure
2nd #039, University of Maryland – Baltimore County
3rd #001, Centro Universitario Da FEI

**MIKE SCHMIDT MEMORIAL IRON TEAM AWARD**
1st Place Michigan Tech University
2nd Place Rochester Institute of Technology
3rd Place Tennessee Tech University

**ACCELERATION AWARD**
1st #016, University of Maryland – College Park
2nd #001, Centro Universitario Da FEI
3rd #011, Escola Politecnia Univ. de Sao Paulo

**SLED PULL AWARD**
1st #026, ISAT (full pull)
2nd #045, Cornell University (full pull)
3rd #060, Western Kentucky University

**MANEUVERABILITY AWARD**
1st #005, University of South Florida
2nd #016, University of Maryland – College Park
3rd #065, Lawrence Tech University

**SUSPENSION & TRACTION AWARD**
1st #099, Michigan Tech University
2nd #045, Cornell University
3rd #039, University of Maryland – Baltimore County

**MUD BOG AWARD**
1st #026, ISAT
2nd #037, Oregon State University
3rd #056, University of Louisville

**BRIGGS & STRATTON PRESSURE WASHER RECIPIENT**
University of Wisconsin – Madison

**BRIGGS & STRATTON GENERATOR RECIPIENT**
Olivet Nazarene University
Rochester Institute of Technology (RIT) Finishes in 1st Place at Formula SAE California!

Rochester Institute of Technology (RIT) Car #66 finally clinched a 1st Place finish after having finished in 2nd place five times since 1994; including their most recent 2nd place finish at the 2009 Formula SAE Michigan event in May.

With a very tight lead of 8.9 points, Car #66 RIT was honored the title of 1st Place Champions over 2nd Place finishers Oregon State University, car #14. RIT dominated the competition finishing 1st in three events: Cost, Design and Autocross; 2nd in two events: Acceleration and Skid Pad and 3rd twice: Endurance and Presentation.

The competition returned to the Auto Club Speedway and welcomed 48 teams from around the world; competing teams represented Brazil, Canada, China, India, Mexico, South Korea and United States. This years’ higher than usual dropout rate was a reflection of the impact that the world economic situation is having on team funding. Still those teams onsite had the luxury of paddocking on asphalt with water and electric hookups available in their paddocks. All static judging took place in the NASCAR garages and suites. Dynamic events were staged and run on the infield road course areas.

The event kicked off on Wednesday, June 17th with Team Registration and early Technical Inspection. On Thursday all the static events were completed; Cost, Design and Presentation. Taking 1st in Cost was Rochester Institute of Technology, car #66.

Design Finals took place on Saturday, June 20th following the Endurance event. Out of the seven semi-finalists, only two were invited to the Design Finals and a Public Review; Car #66 Rochester Institute of Technology (RIT) and Car #14 Oregon State University. After a full review of the cars and a lengthy discussion by the judges Design Event Captain, Mike O’Neil announced RIT as the winner.

Finishing on top in Presentation was local team California Polytechnic State – San Luis Obispo, car #23.

The real test of the cars abilities and students engineering skills began Friday for those teams who passed Technical Inspection. In the morning Acceleration and Skid Pad were run followed by Autocross in the afternoon. Running in unusually cool weather for Southern California in June, teams managed to keep the track heated with the fastest time in Acceleration being 4.013 seconds by Car #9 Rensselaer Polytechnic Institute. Heating up the skid pad with a time of 5.023 seconds was the winged car from Missouri University Science and Technology, Car #2.
## 2009 Formula SAE California Award Winners

### SAE Presentation Award
The team that receives the best score in Presentation  
1st Place: California Polytechnic State University-SLO

### SAE Cost Award
The team that receives the best score in Cost  
1st Place: Rochester Institute of Technology

### Honda R&D Americas Engineering Design Award
Top 3 Finishers in the Design Event - $1000, $725, $525  
1st Place: Rochester Institute of Technology  
2nd Place: Oregon State University  
3rd Place: University of Kansas - Lawrence

### CD-ADAPCO’s Most Innovative Use of CAE Award
The best application of STAR-CCM+ for aerodynamics or thermal analysis and design of Formula SAE car - $1000  
Winner: University of Texas Arlington

### SAE Acceleration Award
The team who receives the best score in Acceleration  
1st Place: Rensselaer Polytechnic Inst

### SAE Skid Pad Award
The team who receives the best score in Skid Pad  
Winner: Missouri University of Science and Tech

### Hoosier Tire Autocross Award
First three finishers in the Autocross event - 8 free tires, 6 free tires, 4 free tires  
1st Place: Rochester Institute of Technology  
2nd Place: University of Kansas - Lawrence  
3rd Place: Missouri University of Science and Tech

### Goodyear Best Performance Award
First team in Endurance event - 1 Day K&C Testing on Goodyear's SPMM located at the Akron Engineering Test Laboratory  
1st Place: Oregon State University

### SAE Fuel Economy Award
The team who receives the best score in Fuel Economy  
1st Place: Oregon State University

### Honda Dynamic Event Award
Best Combined Scores in Dynamic Events - $1000, $725, $525  
1st Place: Oregon State University  
2nd Place: Rochester Institute of Technology  
3rd Place: University of Kansas - Lawrence

### William C. Mitchell Rookie Award
Best Finish for a First Year Team - Racing by the Numbers software  
Winner: San Jose State University

### Formula SAE Recognition of Accomplishment
Teams that successfully score in all events and do not finish in the top 3  
University of Maryland - College Park  
University of Oklahoma  
Western Washington University  
University of Toledo  
Rensselaer Polytechnic Inst  
University of Texas - Arlington  
San Jose State University  
Kookmin University  
University of Alberta  
Colorado State University  
Xiamen University of Technology  
Kettering University  
University of Idaho  
Clemson University

### Spirit of Excellence Award
Top three overall finishers - $3000, $2000, $1000  
1st Place: Rochester Institute of Technology  
2nd Place: Oregon State University  
3rd Place: University of Kansas - Lawrence
Staging for the Autocross event were 35 cars. Though all teams crossed the starting line, some teams struggled with completing both drivers’ runs. Finishing in first place with the fastest lap was Car #66 Rochester Institute of Technology with the time of 62.538 seconds. Hoosier Tires sponsored the Autocross Awards; a set amount of tires were provided to the top three finishers. In second place with a time of 62.779 seconds was Car #69 University of Kansas – Lawrence. Rounding out third place was Car #2 Missouri University of Science and Technology with a time of 63.029 seconds. All three finishers had clean runs as no one received any cone penalties on their fastest laps.

The competition concluded on Saturday, June 20th with the Endurance/Fuel Economy event and award ceremony. Unlike previous years where Endurance Day was so hot the tires could melt on the asphalt, the weather was overcast and windy. Temperatures were in the high 70s.

Thirty-five cars were given the green flag and 21 teams finished giving the event a finishing percentage of 60% a new record for the FSAE Series. Nineteen teams received points for staying under the maximum run time of 1810 seconds. Finishing 1st was Car #14 Oregon State University with the fourth fastest time of 1375.348 seconds. Oregon State finished the Endurance/Fuel Economy event using the least amount of fuel which helped clinch their victory over 2nd place finisher Car #69 University of Kansas – Lawrence with the time of 1366.854 seconds and 3rd place finisher Car #3 University of Oklahoma with the time of 1392.549 seconds. First place award sponsored by Goodyear Tires went to Oregon State. The team won a one day pass for testing at the Goodyear’s SPMM location in Akron, Ohio.

Not completing the event, several cars were not able to restart after the driver change. Several cars broke or stalled on track ending their efforts to finish. However the most painful defeat was for the Brazilian team Car #11 Faculdade de Engenharia de Sorocaba whose engine just stopped within feet of the finish line. Driver, Luis Fernando Baccarin was in tears while trying to push his wheels across the finish line unfortunately with an unsuccessful attempt before being ruled “dead on course” by event officials.

The award ceremony took place following the finish of Endurance and Design Finals. Taking home 1st Place Overall Car #66 Rochester Institute of Technology with a total of 885.6 points; in 2nd Place Car #14 Oregon State University with a total of 876.7 points and in 3rd Place Overall Car #69 University of Kansas-Lawrence with a total of 815.3 points.

The SAE Collegiate Design Series Staff would like to thank everyone who helped make this event a great success. To all the volunteers and sponsors, thank you for all your contributions and support! To all the students, thank you for your interest in the Formula SAE Series and your education! For more information on this article or Event results please contact SAE International at collegiatecompetitions@sae.org.

To view all final score results from Formula SAE California, please visit http://students.sae.org/competitions/formulaseries/results/. The results can also be found at the end of this article with the “Download Additional Information” link below the Award Winners List.
Interested in hosting a Future Baja SAE competition?

Do you want to organize a Baja SAE event?

Baja SAE quick list of information…

Provided by SAE:
- Registration fee share
- Sponsorship revenue
- Team records
- Online and on-site registration
- Advice, consultation and procedures
- National Technical Inspectors
- Endurance timing system including official scorekeepers
- Insurance
- Design reports on CD

Provided by you, the host and Organizer:
- Site
- Volunteers and judges
- Material and supplies
- Competition specific website (optional)
- Local Sponsorships (optional)

Want to know more? Contact Sam Barill at barill@sae.org or 724-772-4046 for all the details
Sae International
Educational Relations Staff

Bob Sechler
Manager, Educational Relations
724-772-7132
sechlr@sae.org

Steve Daum
Manager, Collegiate Programs (Formula SAE, Clean Snowmobile Challenge)
724-772-8535
daum@sae.org

Sam Barill
Manager, Collegiate Programs (Baja SAE, SAE Aero Design, SAE Supermileage)
724-772-4046
barill@sae.org

Kaley Zundel
Sr. Collegiate Program Coordinator (Formula SAE, Clean Snowmobile Challenge)
724-772-8533
kzundel@sae.org

Corporate Sales Staff
Gretchen Chamberlain
Corporate Sponsor Relations Staff
724-772-7591
gfry@sae.org

2010 Collegiate Design Series
Competition Schedule

*Please note all dates are tentative and may be subject to change.

SAE Aero Design West
March 5 – 7
Apollo XI Field
Van Nuys, CA
Hosted by: Lockheed Martin

Clean Snowmobile Challenge
March 15 – 20
Keweenaw Research Center
Houghton, MI
Hosted by: Michigan Tech

Baja SAE Carolina
April 8 – 11
Location TBD
Greenville, SC
Hosted by: SAE Carolina Section

Aero Design East
April 16 – 18
Forth Worth Thunderbird Field
Forth Worth, TX
Hosted by: Lockheed Martin

Formula Hybrid
May 3 – 6
New Hampshire International Speedway
Loudon, NH
Hosted by: Dartmouth College

Formula Sae Michigan
May 12 – 15
Michigan International Speedway
Brooklyn, MI
Hosted by: SAE International

Baja SAE Western Washington
May 19 – 22
Location TBD
Bellingham, WA
Hosted by: Western Washington University

Supermileage
June 3 – 4
Eaton Proving Grounds
Marshall, MI
Hosted by: Eaton Corporation

Baja SAE Rochester
June 10 - 13
Hogback Hill Motorcross Track
Rochester, NY
Hosted by: Rochester Institute of Technology

Formula Sae California
June 16 – 19
Auto Club Speedway
Fontana, CA
Hosted by: SAE International