

Brazilian Students Get First Place in the US for Engineering Design

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A team of Brazilian students won top prize at Continental's "Best-in-Class" Brake Systems Award held recently at the Pontiac Silverdome. The event is the largest student engineering design competition and the world's largest single-class motorsports event.

The award is based on innovation, technology, cost/value, analytical and design methods, component and material selection, failsafe and overall packaging of the braking system in the student-designed and built Formula SAE race cars.

Three college teams won prizes at this year's competition. Continental was a sponsor of Oakland University, one of the ten Michigan universities and colleges competing.

"The advanced materials and technology incorporated into these cars included carbon fiber, metal matrix and titanium and was very impressive," said Phil Headley, chief engineer, who presented the awards for Continental.

He also cited the use of state-of-the-art design and analysis tools. Student teams from 140 different colleges and universities came from all over the world to compete in this year's 2005 Formula SAE competition, but it was the team from Universidade de São Paulo (USP), Brazil, that overcame logistical and other challenges to take top honors and a US\$ 1,250 prize for this year's "Best-in-Class" Brake Systems Awards.

The team combined creativity and resourcefulness to adapt low-cost parts to their race-ready braking technology. A 1978 Volkswagen service part was used for the master cylinder; the team built their own rotors and developed their own heat treat process; their caliper design featured one machined part that was symmetrical, allowing its use for both halves of all three calipers; and they performed Finite Element Analysis on all parts to ensure system reliability.

"Theirs was just an outstanding overall effort and they really had to go the extra mile in overcoming challenges. The level of design, engineering and fabrication demonstrated a strong grasp of the competition parameters and the result was very impressive," said Headley.

A second place award of US\$ 750 went to the University of Illinois at Champaign/Urbana, Illinois team, for their design that incorporated a unique, hand-operated "fiddle brake." Their innovation allowed the driver to apply the rear brakes individually in order to modify the handling dynamics of the car.

The team from the University of Toronto, Canada, took third place and US\$500 for a design that used extensive data-gathering from their 2004 entry to set requirements for this year's system. The team's extensive research resulted in a new caliper mount design that achieved maximum heat transfer and effectiveness.

While providing a fun and challenging competition for participants, sponsorship of the event pays important dividends for Continental.

"As a safety system leader and a pioneer in braking system technologies, our future depends on nurturing the creative engineering talent that is on display here and as a company, we feel it's our responsibility to help foster it," said Trisha Adler, Human Resources Recruiting Specialist.

"Plus, it's really exciting to see the innovation these student engineers bring to a racing environment," she added.

With 2004 sales of approximately US\$ 15.6 billion, Continental AG is a major supplier of brake systems, chassis components, vehicle electronics, tires and technical rubber products.

Continental Automotive Systems' North American operation is headquartered in Auburn Hills, state pf Michigan and is a leading global supplier of automotive systems.

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