

MONASH WINS FORMULA SAE-A COMPETITION

A winged machine from Monash University won the 2009 international Formula SAE-A competition, the automotive engineering education program in a race car.

Hosted annually in Australia by the Society of Automotive Engineers – Australasia (SAE-A) since 2000, Formula SAE-A is an international event offering university engineering students the opportunity to work in real time on a meaningful, complex engineering project in a dedicated team environment.

In one academic year, the students form multi-skilled teams to design, build and test small race cars – all while completing normal studies.

The University of Western Australia, a previous winner of Australasian and United States of America events took second place.

The University of Wollongong won third place in a return to form after winning the Australasian and the United States events in earlier years.

In addition to running its petrol fuelled racer to take fifth place this year, RMIT University also demonstrated its 'green' electric powered car.

This development vehicle is the prototype of the university's challenger for the first international Formula Electric event in Germany in 2010.

Students win against the GFC

SAE-A Executive Director, Max Chanter, said the 2009 Formula SAE-A competition was an outstanding success, given the extremely difficult year experienced by the automotive industry leading up to the event.

"In the midst of the Global Financial Crisis, the universities and team sponsors faced testing times," he said.

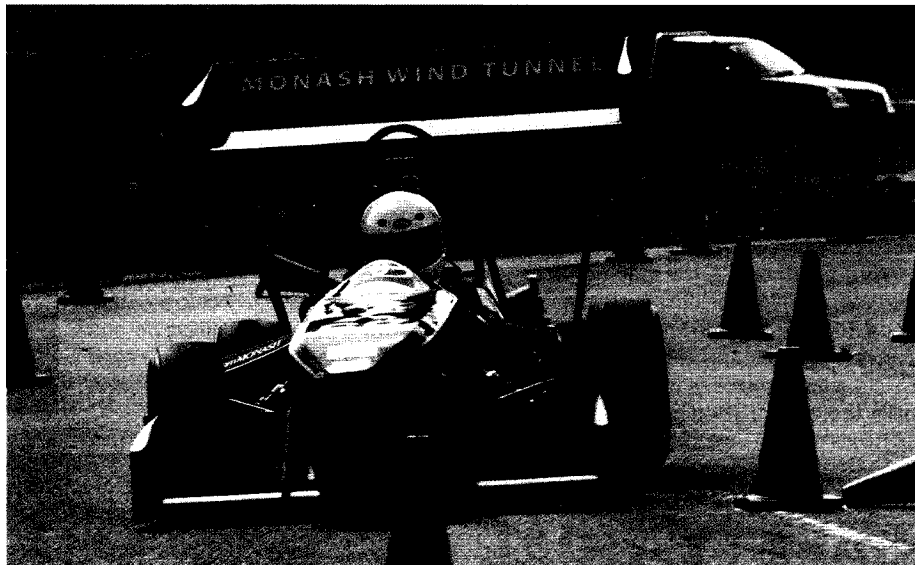
"We are delighted that 24 teams entered this year, although only 21 actually reached the competition venue at Victoria University Werribee Campus, near Melbourne.

"In addition to the Australian Universities, we welcomed teams from universities in India, Iran, Japan, Thailand and New Zealand. This was an excellent outcome."

Mr Chanter said the SAE-A congratulated all teams for their hard work and determination to get their cars designed and built under these tough conditions, much less raising the funds to travel to the competition.

"We also thank the hundreds of volunteers that joined in the spirit of this great educational experience to help stage the competition," he said.

"It was critical that we were able to hold Australasia's 10th Formula SAE-A event.



The winged warrior from Monash University was victorious at the 2009 Formula SAE-A competition for automotive engineering students.

"This education program is important to the development of keen automotive engineering students because they learn to apply their new knowledge in a real time, real world design and build situation – and they have to meet a budget. This year, their budgets were perhaps tighter than in previous years."

The students spend about 12 months designing, building and testing their car and its components before bringing the racer to the four-day competition.

On the first two days the teams present their cars to design and production engineering judges.

Then, to check their theories during the last two days, the students put their racers to practical tests on the track in acceleration, braking, autocross, skidpan, endurance and fuel economy events.

'Graduates' of the Formula SAE-A education program are highly sought after by employers and have been recruited to top automotive engineering roles, V8 Supercar race teams and international Formula One race teams.

Monash history of wings

It was Monash University's first Formula SAE-A win after scoring fourth place in 2008 and third place in 2007.

The university has entered every Formula

SAE-A competition and the 2009 team included 50 students representing a cross section of study areas ranging from Mechanical Engineering to Business.

A four-cylinder Honda CBR 600RR engine producing 80HP-transferring torque to the wheels via a single reduction driveline powers the 2009 Monash University car.

To save weight, the new intake and muffler have been constructed out of carbon fibre.

Furthermore, to increase the fuel economy, higher compression pistons have been installed and tested on the dynamometer with preliminary tests showing a 14 percent increase on overall fuel economy.

Monash University operates a state-of-the-art wind tunnel and this team has a tradition of high winged flyers.

The 2009 vehicle benefited from eight years of aerodynamic development in the form of front and rear multi-element wings.

Testing revealed the car produced about 600N of down force at 60kph for representative yaw angles seen on-track.

This additional normal force seen at the tyres increases the available grip, allowing the vehicle to corner at greater velocities than otherwise possible.

The benefit of the aerodynamic package is readily seen on-track, with peak lateral accelerations of 2.2G being measured on high-speed corners.