5th Malaysian Chem-E-Car Competition 2010

by ***Ir. Assoc. Prof. Dr Abdul Aziz bin Abdul Raman***

THE 5th Chem-e-car Competition was jointly organised by IEM and SEGi University College on 22 July 2010 at SEGi's campus in Kota Damansara. This year's competition is another milestone achievement by the Chemical Engineering Technical Division (CETD) of IEM as it was the first time that a private institution of higher learning (IHL) hosted the competition, and it was the first time that two newly established IHLs participated.

The Terengganu Advanced Technical Institute (TATI) sent two teams while, from East Malaysia, Universiti Malaysia Sabah (UMS) sent one team. Even though they were participating for the first time, the teams did rather well and were amongst the top teams in the competition. Universiti Tunku Abdul Rahman (UTAR) also participated for the first time in the competition. In addition, this year's competition was also opened to our ASEAN neighbours and two teams from the National University of Singapore (NUS) participated. One of the teams was judged the winner in the poster competition.

With the participation of 24 teams representing 12 IHLs, the 5th Malaysian Chem-e-car Competition had the largest number of participating teams this year since its inception in 2004. The competition, mooted by the CETD, aimed to provide a stage for undergraduates from universities and colleges to showcase their engineering ability and creativity towards the performance of a model car powered by self-built chemical cell or fuel cell. Participants were required to design a model car which is propelled by either a chemical cell or fuel cell. The power that is required to drive the model car must be generated or converted from chemical energy.

The Chem-e-car Competition focused on the concept of the present engineering education which emphasises on being hands on, creativity, active and continuous concepts – to equip future engineers to play an essential role in the development and progress of their countries. Besides teamwork, the students had the opportunity to experience in practice some of the difficulties associated with applying what they were taught in class. Such experience would be a valuable asset in preparation for their professional careers.

In addition, the competition did not focus on speed, but rather on the ability of the model car to transverse a specific distance whilst carrying a specific load of water – with both distance and load only revealed at the start of the competition day. The model car that came to a stop nearest to the finish line was the winner. It was, therefore, a test of accuracy and the participants' ability to calibrate their model cars on the spot, and inculcate flexibility and adaptability in the students.

This year, however, some modifications were made to the rules of the competition. The teams were not allowed to pour chemicals at the starting point and a time restriction for the model car to stop was inserted. Model cars that did not stop within the 2-minute time frame were disqualified. This made the competition tougher and the students had to be more careful in their calibration.

The competition started at 9.00 a.m. after the announcement of the distance (18m) and the load (400ml). The participating teams were each given two attempts according to the sequence determined by the organising

committee via the picking of lots. The first round ended at approximately 10.45 a.m. and the second round started at 11.30 a.m. The scores recorded are shown in Table 1.

UTP-iGreen from Universiti Teknologi PETRONAS took the first place with UKM-2 from Universiti Kebangsaan Malaysia taking second place, while Kimi Kar from Universiti Malaya came in third. The winner received a cash prize

of US$1,000, while the second and third place winners received cash prizes of US$750 and US$500 respectively.

The poster competition, that was held concurrently, aimed to address the concern that engineers were lacking in soft skills. Participants were given 10 minutes to present their model cars and describe the propulsion system as well as the innovative and creative ideas they have made in areas such as propulsion system, safety, environmental issues, efficiency, *etc*. Team Perky from NUS was voted the best by the judges, with Alluven from UMS coming in second and Sexy Baby from Universiti Sains Malaysia in third place.

The 5th Chem-e-car Competition also saw very good support from the Ministry of Science Technology and Innovation with the Deputy Minister himself present to close the competition and presenting prizes to the winners. The organising committee is proud to report that the Deputy Minister was very impressed with the competition and gave valuable suggestions to the committee including encouraging IEM to give more publicity to the competition as well as the winners.

At the closing ceremony, IEM was represented by Vice President Ir. Yim Hon Wa, who read the speech of the President who was unable to be present. Ir. Juares Rizal bin Abd. Hamid represented IEM at the opening ceremony. Approximately 100 supporters from the various IHLs including the host were at the competition venue to lend support to the participating teams.

Table 1: Scores Sheet

NO	TEAM	UNIVERSITY	THE BEST SCORE
1	TATIUC – T1	TATI	4.05
2	Inspiration	UiTM	4.33
3	Green Tech	UMP	4.77(D)
4	UKM-2	UKM	3.234
5	TATIUC – T2	TATI	15.92
6	WRAP	UPM	(D)
7	KASTURI	UPM	16.03
8	Unshaken!	NUS	5.902
9	Twin Chemo	UM	(D)
10	UTP i-Green	UTP	3.516
11	ALUVEN	UMS	0.432
12	PERKY	NUS	0.928
13	4 For Fighting	USM	5.448
14	Chemtro	UniKL MICET	10.068
15	UKM-1	UKM	2.446
16	UKM-3	UKM	11.97(D)
17	THINK	UPM	5.466(D)
18	Kimi Kar	UM	3.318
19	UTP SPRINTA	UTP	4.05
20	Seeker	UiTM	13.54(D)
21	Sexy Baby	USM	2.65
22	Bio-Lyte	UniKL MICET	3.128
23	Nitros Stallion	UTAR	2.98
24	Polymerian 2	UniKL MICET	3.3

A post mortem meeting was arranged to look into the weakness of the organising effort as well as future improvements to the competition. The organising committee would like to take this opportunity to thank SEGi University College for being a very good host, the judges for their time as well as the IEM Secretariat for making the event a success.

The CETD is proud to acknowledge that the competition had indeed gained a lot of exposure as well as created a tremendous amount of interest among the IHLs with a number of them stepping forward to indicate their interest to host the next competition. The division would take heed of the comments and suggestions made to further improve the competition. ■