



# YOUNG INVENTOR COMPETITION (YIC)

Co-organized by

The American Society of Mechanical Engineers, Hong Kong Section  
 The Institution of Mechanical Engineers, Hong Kong Branch  
 The Hong Kong Institution of Engineers, MMNC Division

The objective of this competition is to stimulate students' creative thinking ability in applying their knowledge to solve technical problems that are related to our community. There is no doubt that global warming and climate change has become a critical issue around the world and its impact would generate unpredictable damage to our planet. Over-using our natural resources and over-generating harmful gases, like CO<sub>2</sub> to the atmosphere are the key factors to shorten the life of the planet. In this competition, we intended to bring the students their understanding on the environmental problem, and thus, using their interest in mechanical engineering to design and make some tiny devices to assist the collection of rubbish, trapped inside the water or placed on the beach.

Press Conference of the event was held on 15 November 2008, and many school representatives and local news reporters joined in. Ir Dr C. W. Tso (Chairman of IMechE, Hong Kong Branch), Ir. Henry Ho (Chairman of ASME, Hong Kong Section), Ir Barry Lee (Chairman of HKIE, MMNC Division) and Ir Dr Alan K. T. Lau (Chairman of the organizing committee) gave speeches to audiences on their view in environmental protection and future development of engineering profession.



This competition was separated into two stages. The first stage was held on 22 November 2008, at The Hong Kong Polytechnic University. All students have to design and make a floating collector to dig up different kinds of rubbish that were floated on water, semi-floated in the water and settled at the bottom of the water tank. Over 16 teams of students had joined the event and all of them successfully got into the final round that was held on 28 February 2009 at Repulse Bay, Hong Kong Island. At that day, a total of 4 television and 3 newspaper reporting crews reported this activity to the public.

In this final round of competition, all students were required to design, build and operate their rubbish collector to clean up, as many as they can, all rubbish samples being placed on the beach at different locations. Unlike the first round of competition, the collector was required to operate on sand foundation. Several critical factors, such

as how to ensure (i) the tight attachment between wheels of the collector and sand, (ii) the maneuverability of the collector and (iii) the mechanism that can effectively collect the rubbish samples within a specified time. Finally, many ideas came out and were publicized in local newspapers.



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In general, comments received from the teachers and students are very positives. Few items that can be further improved in the future for ensuring a perfect event to promote engineering profession to the community, they are (1) the prototype fabrication period should be longer so as the students can have enough time to build and test the functionality and reliability of their products; (2) the contributions from the first and final round of the competition should be revisited so as not to discourage those having low score teams in the first round to compete in the final round; (3) the financial support to the students for prototype fabrication is encouraged and (4) prize awards / scholarships can provide the students incentive to learn on how to apply their technology knowledge into the design of useful engineering products. As a whole, this event is so encouraging to all secondary school students and it can bring a concrete bridge for the linkage between the schools, universities and the engineering industry.



This competition was also supported by Departments of Mechanical Engineering of The Hong Kong Polytechnic University, University of Hong Kong and The Hong Kong University of Science and Technology.

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