TKU ROBOT TEAMS WON FIRST AND SECOND PLACE IN IRHOCS

英文電子報

Lead by Chair of Dept. of Electrical Engineering Dr. Wong Ching-chang, TKU Robot Team, including 23 students from Dept. of Electrical Engineering, participated in the 2009 International Robot Hands on Competition and Symposium (IRHOCS) held by Robotics Society of Taiwan (RSC) on Feb. 6 and 7, taking first place in the division of Humanoid Robot Explorer and second place in the division of Basketball Robot, winning 100,000 and 120,000 NTD prize respectively, only less than NTU team's rewards.

In order to increase chances for students to apply theory into practice and develop more talents in electrical engineering, RSC and many universities co-held IRHOCS. The competition was divided into four different contests, including Basketball Robot, Creative Robot for Education, Rally &amp Shoot Robot, and Humanoid Robot Explorer. Dept. of Electrical Engineering sent four teams to take part in the contests of Basketball Robot and Humanoid Robot Explorer.

The tryout of Humanoid Robot Explorer included "sprint" and "steeplechase," and the final was robot-fighting contest. We used G6 robot, which won the first place in the 2009 FIRA RoboWorld Cup, to join the game. In order to complete the difficult task in the final without any remote control of the robot, team members adjusted the program to speed up robot's movement, to increase its ability of detecting obstacles, to maintain its center of gravity so that it could climb the stairs, stride across 3-centermeter high barriers and win the championship. Dr. Wong indicated that it was not an easy thing for two-leg robot to leap over the obstacles while maintaining its balance. "The great performance this time proved that the robots designed by students could handle different conditions," said Dr. Wong. "Simulating different impromptu situations in advance kept us away from being in a flurry during the game," expressed

smiling by the captain of TKU Humanoid Robot Explorer Team Hung Chih-hui, a second-year master student of Dept. of Electrical Engineering.

In the Basketball Robot contest, robots had to run to the center of court, get the ball, pass the ball to its team member standing inside a certain area, who then shot the ball through the hoop. Hence, beside the speed, the cooperation between robots and team members was also very important. The captain of TKU Basketball Robot Team He Chen-yao, a first-year doctoral student of Dept. of Electric Engineering, indicated that they originally led the formidable rival NTU Team in the first and second round of the final. However, the robot became unstable and missed the ball after they changed its components. That's why they failed to get first place.
"IRHOCS will be held again this October, and we will defeat NTU Team this time!" said He.

"Through the competition, graduate students could instruct the juniors and pass down their skills and knowledge to help college students accumulate experience in robot contests," said Dr. Wong. Hu Yueh-yang, a second-year doctoral student of Dept. of Electric Engineering and the captain of two teams, indicated that the contest items in IRHOCS was fewer than that in the previous international games, yet all the team members still put much effort into it to get good place. "We will improve robots' recognition systems and movement design in the coming days so that we can have better performance in the next game!" said Hu. (~Chen Chi-szu)