

Hawaii schools participate in SeaPerch Underwater Robotics competition

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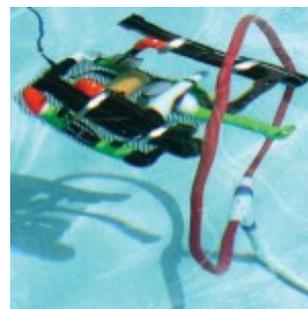
Students from elementary and middle schools participated in the 2014 Hawaii State SeaPerch Robotics competition May 3 at U.S. Coast Guard Base Honolulu on Sand Island.

Teams from elementary and middle schools navigate their underwater remotely operated vehicles (ROV) through an obstacle course held May 3 during the SeaPerch robotics competition at the U.S. Coast Guard base at Sand Island. The competition was hosted by the U.S. Coast Guard and co-sponsored by the Pearl Harbor Naval Shipyard, SPAWAR, Hawaii Department of Education and AFCEA.



Hosted by the U.S. Coast Guard, the robotics competition was cosponsored by the Pearl Harbor Naval Shipyard (PHNSY), the Space and Naval Warfare Systems Command (SPAWAR), the Hawaii Department of Education (DOE) and the Armed Forces Communications & Electronics Association (AFCEA) Hawaii.

SeaPerch is an innovative underwater robotics program that equips teachers and students with the resources they need to build an underwater remote-operated vehicle (ROV) that provides science, technology, engineering and math (STEM) concepts throughout the project.



"We've been doing this for about four years. For the first two years, all we did was build robots with a very small group of kids participating," said Cmdr. Bryan Dailey, deputy director of Joint Interagency Task Force West and organizer of the event.

"Last year, we actually said okay, we're going to not focus on building the robot so much, but we are going to announce a competition. Once we announced the competition, all of a sudden we've grown from four robots to 17 robots and 13 schools in one year."



"Kids are competitive; we have 32 robots and 17 schools participating this year. We've almost doubled in size," Dailey added.

With very little adult-direct assistance, students built the robots themselves by soldering circuit boards, waterproofing the engines, wiring and testing while mentors provided guidance and safety.

“This is the first time for our students to compete in SeaPerch,” said Cathy Callejo, robotics coach at Pearl Harbor Kai Elementary School. “Building was the most exciting and the students were inspired to use the tools.”

This year’s competition featured two challenging underwater events consisting of the “obstacle course” where teams navigate their ROV through large rings and the “heist course” where the teams’ ROVs pick up weights from the bottom of the pool, attempt to manipulate a simple latch to open a door on a mesh vault wall, then carry the weight through the door within five minutes.

While competitors maneuver their ROVs from the pool deck, Joint Base Pearl Harbor-Hickam (JBPHH) Navy divers assigned to Mobile Diving and Salvage Unit 1 (MDSU1) and Pearl Harbor Naval Shipyard volunteered and spent the whole day underwater to reset obstacles, helping robots out of the pool and evaluated the robots’ performance.

In addition to the underwater events, a poster and video presentation were displayed and judged at the banquet area of Club 14 at the U.S. Coast Guard base.

Overall, coming together as a community and as a team provided a successful learning experience among students.

“I’ve learned to trust my team-mates and robotics is a lot of fun. While we are enjoying ourselves, we are not only learning and gaining experience, we are also getting a better understanding,” said Brandon Evans, eighth grader at Ewa Makai Middle School.

“I like building the ROV the most because it’s a really fun experience to cut all the PVC pipes and put it together, assemble it and do trial and error until it gets to do what it needs to do,” said Evan Cavender, a student at Iroquois Elementary School.

Through engineering concepts, problem solving, teamwork and technical applications, students have the opportunity to learn about robotics as part of a science and engineering technology curriculum.

“SeaPerch is a gateway, an initial introduction to a lot of engineering principles. You want to get kids motivated and interested in it, which gives them an outlet to the creative work they put into their robot,” said Dailey.

For more information about Hawaii SeaPerch, visit <http://seaperch-hawaii.org/>.