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PRESS RELEASE

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Junior Lakehurst Engineers Judge National Underwater Robotics Competition

June 28, 2011: LAKEHURST, NJ – Four engineers from Naval Air Systems Command (NAVAIR) Lakehurst recently served as judges at the first national Office of Naval Research (ONR) sponsored SeaPerch Challenge held in Philadelphia, PA. Lakehurst Engineers James Hing, Aaron Leeb, Glenn Shevach, and Janna Ward, alongside Navy officers, sailors and civilians, monitored the performance of thirty middle school and high school teams as they piloted their waterproof robots through a series of underwater challenges.

The Lakehurst engineers' main mission, with support from Gaetan Mangano and the NAVAIR Lakehurst Education Outreach office, was to gain enough knowledge about the SeaPerch program to serve as mentors for local Lakehurst middle school and high school SeaPerch teams in future years. The need for local representation was evident, since there was not a single team from New Jersey in attendance. The national competition was dominated by eastern Pennsylvania, and Maryland teams.

Middle school and high school students, hailing from as far away as Hawaii, convened in the Natatorium of Drexel University in Philadelphia to compete. The competition involved the best teams from across the nation pushing their design to the limits to "Cap the Well"; a task created based on the operations performed by (Remote Operated Vehicles) ROVs to cap the oil well during the Gulf oil spill in 2010.

The first round this year involved testing the maneuverability of a team's robot with an obstacle course consisting of two foot diameter submerged rings arranged in various directions. The final score was based on course completion time. The second round, involved stopping the flow of "oil" (ping pong balls) and capping

the well (PVC pipe with an air pump). Oil at the water's surface then had to be transported and contained within a specified area of the pool. Each task of the challenge was timed and scored. A poster presentation was also required of all teams and was judged and scored based on content and interaction with the judges.

Parents and friends cheered as if they were attending a major sporting event. Such excitement and interest in engineering and science is usually hard to come by in young students, but the enthusiasm was evident in these competitors.

"I want to work for the Department of Defense (DoD) and build robotic devices to help soldiers perform better," said Jeffrey Blake, a member of the winning middle school team from Piccowaxen Middle School in Newburg, MD. Jeffrey, whose brother is a DoD employee, already had experience driving commercial bomb diffusing robotic vehicles. Surprisingly, he enjoyed maneuvering his own SeaPerch robot more for this competition because as he stated, "I get more of a thrill driving my own robot, since I designed it and know its capabilities." One would expect such a comment from a seasoned engineer, but not from a young middle school student. However, Jeffery was not alone. Many of the young students had a strong sense of ownership for their unique robot systems and a high level of maturity about their design and construction process. Much of this could be attributed to the great influence of each team's mentors.

The teams all held their mentors in very high regard. Students from the Upper Darby School Robotics and Engineering Team, said of their mentor (Michael Crane), "he is inspirational," with one student proclaiming, "I am going to college to be just like him." Mr. Crane, who has a business management background, stated that being a mentor to these teams is important because "each mentor brings to the students, not only their individual subject matter expertise, but also their unique life experiences as well." He thoroughly enjoys his mentoring experience because he stated, "students in many of their classes learn that there are only right and wrong answers with no in between. With these engineering projects, I can show them that there is in fact EVERYTHING in between." While his nine years of various robotic competitions experience allows him to offer up innovative design ideas, he said "if a student cannot explain or understand the design, it does not go on the robot." The mentoring experience for Mr. Crane has also been personally rewarding. He remarked, "I can see the growth of my own kids reflected in these students." His son graduated from Drexel this year and had been a competitor in robotic competitions during high school.

SeaPerch is unique in middle and high school robotic competitions in that robot construction is limited to the available materials in a small and inexpensive competition kit. The kit contains all the parts necessary to build a basic remote control underwater robotic vehicle with detailed online video instructions for constructing the standard design. Most teams build their robots in less than a month. The winners of the high school division, Bloomington High School South from Bloomington, Indiana built theirs in three days. Because of the straightforward objectives and basic design of the SeaPerch program, most mentors felt that one to three hours with their students per week was sufficient time to build a successful team and create a robot. Some teams, such as the Upper Darby School, have multiple mentors who share their time with the students.

One to three hours a week split amongst multiple mentors should be quite easy to manage given the great number of young and motivated engineers at NAVAIR Lakehurst. Hopefully news of this competition will inspire our engineers to mentor local Lakehurst middle school and high school students. We expect that Lakehurst will have a strong showing both at next year's SeaPerch regional (held in Philadelphia, PA) and national competitions (held in Virginia).

Ms Kathleen Donnelly, Director of the Support Equipment and Aircraft Launch and Recovery Equipment Engineering Dept at NAVAIR is a strong supporter of Science, Technology, Engineering and Math (STEM) initiatives. Ms. Donnelly recently stated "I encourage my department leaders and engineers to engage in STEM technology events where we promote science and technology to aspiring young men and women."

About SeaPerch:

Founded in 2007, the SeaPerch Program introduces middle and high school students to Science, Technology, Engineering, and Mathematics (STEM) through submersible robotics. In four years, participation has grown to over 26,000 students nationwide, along with 2,000 trained teachers and mentors. Learning is facilitated through hands -on activities while following an established curriculum. For more information, visit http://www.seaperch.org. For local NAVAIR Lakehurst involvement, contact james.hing@navy.mil.

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