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## **SEAPERCH COMPETITION INSPIRES FUTURE ENGINEERS AND SCIENTISTS AT LOCAL SCHOOLS**

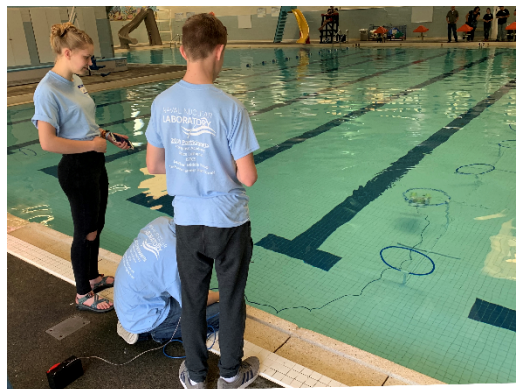
Eleven teams of students from five local schools have built and operated underwater remotely operated vehicles (ROVs), with some help from personnel who have a similar everyday mission.

The Naval Nuclear Laboratory-sponsored SeaPerch competition held on Friday, May 10<sup>th</sup> at the Wes Deist Aquatic Center in Idaho Falls concluded weeks of learning, engineering design, and hands-on construction for students at schools in Pocatello, Blackfoot, Idaho Falls, and Rexburg.

SeaPerch is a Massachusetts Institute of Technology-developed curriculum designed to generate awareness, interest, and eventual pursuit of science, technology, engineering, and math (STEM) careers, sponsored by the Office of Naval Research.

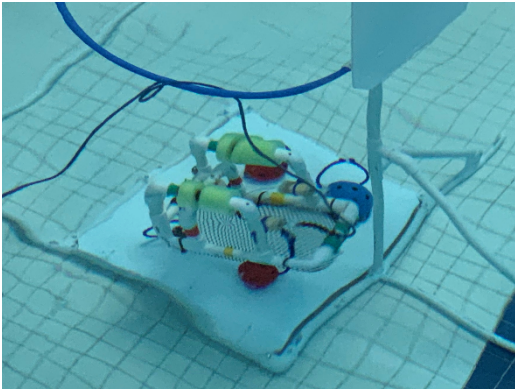
The SeaPerch program provides students with the opportunity to learn about robotics, engineering, science, and mathematics while building an underwater ROV as part of a science and engineering technology curriculum. Students learn engineering concepts, problem solving, teamwork, and technical applications throughout the project.

Volunteer coaches from Naval Nuclear Laboratory's (NNL) Naval Reactors Facility (NRF) assisted teachers from local schools by mentoring teams of two to five students during the building of the SeaPerch underwater ROV. The coaches are all employees of Fluor Marine Propulsion, LLC. (FMP), which operates NNL for the Department of Energy. For ten weeks, the coaches guided the students through afterschool sessions focusing on engineering and technology concepts such as marine propulsion, buoyancy, electronics, and soldering. These learning sessions were then immediately reinforced with the hands-on experience of designing and building their ROVs. The teams of students built the ROVs from kits comprised of low-cost, easily accessible parts provided by NNL.



*"SeaPerch has been a great experience, I have enjoyed working with the students. Their excitement and enthusiasm as they figured out ways to complete the challenge has been fun to see. In a short amount of time the students have been exposed to a simplified engineering design process. This program does a wonderful job of encouraging STEM learning and provides the students with some hands-on experience." – Keegan Ryan, FMP Engineer and SeaPerch Coach*

Nearly 40 students from the eleven teams built their vehicles from January through April, with the help of approximately 25 volunteer engineers, scientists, and technologists serving as their coaches and mentors. Once the students built and tested their SeaPerch ROVs, they participated in a one-day competition against all of the teams from the eastern Idaho schools. The participating teams deployed their ROVs on missions, including quickly navigating through an obstacle course and attempting a challenge course requiring that the ROVs perform designated underwater maneuvers and tasks. The final competition proved to be a real challenge for the teams, and both the students and their coaches learned a lot from the experience.



*"As a volunteer with the NNL SeaPerch program, I fully expected I would get questions from the students about what I do at NRF and of course questions about the build process. I was actually quite humbled because one of the students I work with actually asked me my opinion on colleges and his plans for his future. This was not a question I was expecting and I realized I was not just considered a mentor for this build project but also a role model." – Elaina Cooley, FMP Engineer and SeaPerch Coach*

This is the first year that the NRF NNL location has participated in the SeaPerch program, and the first time that

NNL has sponsored a SeaPerch competition in Southeastern Idaho. Based on this year's success, plans are in place to continue to support the SeaPerch program in this area. NNL expects that participation will be expanded to even more local schools in future years. NNL also hopes to grow the local competition such that it will serve as a qualifying regional competition. This would allow the winning team to advance to the national SeaPerch Challenge where they would compete against other regional winners.

*"When the idea of bringing SeaPerch to Southeast Idaho was initially discussed, I was excited to be part of bringing such a wonderful program to our community but intimidated by the challenges that would come with starting up a STEM program. It has been amazing to see how many NNL employees, teachers, parents, and students have come together to make this program successful this year. We would not have been able to work through the challenges of starting up a STEM program without the help of all those who have volunteered their time and skills. I am excited to see the program continue to expand throughout our community and hopefully one day we will be able to represent Southeast Idaho in the national SeaPerch competition!" - Corianne Moore, FMP Engineer and SeaPerch Program Organizer*

For more information on the national SeaPerch program, please visit [www.seaperch.org](http://www.seaperch.org).

## **About the Naval Nuclear Laboratory**

The Naval Nuclear Laboratory is operated for the Naval Nuclear Propulsion Program, a joint U.S. Department of Energy (DOE) and Department of the Navy program by Fluor Marine Propulsion, LLC, a wholly-owned subsidiary of Fluor Corporation. Naval Nuclear Laboratory personnel are Fluor Marine Propulsion (FMP) employees who work at four DOE facilities: Bettis Atomic Laboratory near Pittsburgh, Pennsylvania; Knolls Atomic Power Laboratory, near Schenectady, New York; Kenneth A. Kesselring Site, near Saratoga Springs, New York; and Naval Reactors Facility, within the Idaho National Laboratory; and at the U.S. Department of Defense-owned Nuclear Power Training Unit-

Charleston. FMP employees also have an established presence at numerous shipyard, satellite, and vendor locations.

For more than 70 years, the Naval Nuclear Laboratory has developed advanced naval nuclear propulsion technology, provided technical support, and trained world-class nuclear operators to ensure the safe and reliable operation of our nation's submarine and aircraft carrier fleets. The Naval Nuclear Laboratory is solely dedicated to the Naval Nuclear Propulsion Program. We rely on the dedication and innovation of our nearly 8,000 engineers, scientists, technicians and support personnel.