

# ONR goes back to school to open new pathways into science education

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Youth from Kenmoor Middle School in Landover, Md., examine the Sub Taxi -- which was built, designed and engineered by students -- at the Patriots Technology Training Center's back-to-school kickoff on Sept. 17. Volunteers from the Office of Naval participated in the event to help spark students' interest in the sciences. Credit: US Navy photo

Enlisting the aid of experts from the Office of Naval Research (ONR), a Maryland-based nonprofit rolled out a series of educational science competitions for area middle and high school students on Sept. 17.

ONR program managers Kurt Yankaskas and Dr. Mike Traweck talked with youth beside a 12-foot [submarine](#) at the Patriot Technology Training Center's (PTTC) back-to-school kickoff at Kenmoor Middle School in Landover, Md.

The bright yellow, 300-pound, human-powered vessel dubbed "Sub Taxi"—which was built, designed and engineered by [students](#)—drew a steady stream of spectators during the five-hour event.

"Some of the attendees were very young, and the excitement on their faces was clear as they took crew positions inside the submarine," said Yankaskas, who volunteered at the event. "At a minimum, some of the participants were excited at the prospect of becoming a scuba diver, a pursuit that's a core Navy competency, and has applications in marine biology."

Sponsored by the U.S. Coast Guard and the Naval Sea Systems Command, the event aligned with the Department of the Navy's efforts to inspire students to study science, technology, engineering and mathematics (STEM). By sparking scientific interest early in students' development, naval leaders hope to reinvigorate the flow of technical talent into the naval science and engineering work force.

## **Stepping Up Science Education**

With topics ranging from cyber security to submarine design and engineering, PTTC's programs have encouraged young people to learn about STEM with hands-on extracurricular challenges.

"We're putting students in the pipeline," said Dr. Thurman Jones, PTTC president. "By 2013, our eighth graders will be in high school, and we've got to get them ready."

The group has facilitated student participation in technology through competitions, summer camps, youth summits and after-school programs for more than a decade. By participating in the event, ONR helped to demonstrate STEM's real-life defense applications and career potential.

In July, PTTC participants attended the 11th International Submarine Races (ISR) at the Naval Surface Warfare Center in Bethesda, Md. While volunteering as ISR's technical director, Yankaskas introduced a group of PTTC students to underwater vehicle hydrodynamics, propulsion and scuba certification on site.

"The International Submarine Races is a natural step for students who have experienced ONR-sponsored events such as FIRST Robotics and SeaPerch," Yankaskas said. "It lets students apply what they've learned in these programs to larger-scale marine applications."

Traweek volunteered as an ISR judge in 2007, bringing his 9-year-old daughter along for the activity. He recalled her fascination with the event: "I have a photograph of her inside Sub Taxi, the same human-powered submarine Kurt brought to the event," he said. "She's now scuba-certified, active in STEM activities and anxious to help create a team in the Bowie, Md., area; all because of that exciting experience four years ago."

Other PTTC competitions planned for the 2011-2012 school year include Environmental Justice, First Lego, MathMovesU, the Science Bowl and SeaPerch, an ONR-sponsored underwater robotics program.

Provided by Office of Naval Research

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