
ISR 15 AWARDS

The Booz Allen Hamilton Overall Performance Award. A trophy and \$1000 award are given to the submarine team from any design category that displays the best overall performance. The ranking of Overall Performance is determined by quantifying the Figure of Merit (FOM) for each team and submarine. Seventeen weighted parameters are ranked to determine the FOM. The analysis includes aspects of other awards and the team's attitude, persistence, and resourcefulness. This award is sponsored by Booz Allen Hamilton. The runner up team in this category will receive a plaque and \$500.

Winner *OMER 11 / École de Technologie Supérieure (ÉTS)*

Runner-up *WASUB IX / Delft University of Technology*

Innovation Award. A plaque is given to recognize the submarine team from any design category that incorporates the most innovative design, construction and/or performance attribute. (Please note: This award may not be awarded if the judges determine that the level of innovation is insufficient to be recognized).

Winner: OMER 11 / École de Technologie Supérieure (ÉTS) - OMER 11 had three modes of propulsion: mirage drive, conventional two-bladed propeller, and mono-blade propeller. In addition, the mirage drive has springs added to even out the power impulses provided by the fins. The propeller pitch could also be adjusted during operation.

This year the Woods Hole Center of Marine Robotics has provided an award of free attendance to two team members of the Innovation Award winning team to attend the 6th annual Entrepreneurs Showcase and Leadership Forum in July 2020 in Woods Hole, Massachusetts. Woods Hole Oceanographic Institute created the Center for Marine Robotics to speed development of marine robotic technologies. The goal of the center is to collaborate with industry academia, and government agencies to change the way people and machines work together in the marine environment.

First Honorable Mention: UMPTYSQUATCH 9 / Sussex County Technical School - UMPTYSQUATCH 9 designed and installed an integrated ballast and trim system with integral structural tanks, pumps, and vents that maintained neutral buoyancy and trim during runs down the tank.

Second Honorable Mention: TRIDENT / Virginia Tech - Virginia Tech completely changed their management systems, resulting in a great improvement in race performance. Their testing plans included a bollard pull test, which was a submarine race first.

The American Systems Best Use of Technology Award. A plaque and \$1000 award are given to the team in any design category that exhibits the best and most successful use of technology to support their vessel's design, construction, and/or performance. This award is sponsored by American Systems.

Winner: CHINOOK II / University of Victoria - CHINOOK II won this award based on their use of existing technology to implement an autonomous depth control system, as well as their use of a four-piece modular hull design which facilitated shipping the submarine to the race. They also used tubercles on their fin leading edges to delay flow separation and reduce the associated wing drag.

Absolute Speed Award. A plaque is given to the submarine team with the fastest speed of the race from any of the design categories. If the speed sets a new speed record, \$500 will be awarded in addition to the plaque.

Winner *OMER 11 / École de Technologie Supérieure (ÉTS) - 6.85 knots*

Best Design Outline. A plaque is given to the team that submits the best design outline report on their submarine.

Winner: WASUB IX / Delft University of Technology - The report was well-organized and logically presented. The use and quality of graphics was superb. The coverage of each topic was thorough and of professional quality, with the report content thoroughly documented.

Smooth Operator Award. A plaque is given to a team in recognition of their efficiency in staging for the race course, racing the course, troubleshooting as necessary, and preparing for their next run.

Winner: GODIVA III MOD I / University of Warwick

Best Spirit of the Races. A plaque is given to the submarine team that displays the best gusto, fortitude, support for the other teams, and overall best spirit. The winner is selected by the submarine teams themselves. The Best Spirit of the Races is awarded in memory of the late ISR contestant, Steve Barton of team Sublime.

Winners (tie): MARYLAND MAKO / KIDS and OMER 11 / École de Technologie Supérieure (ÉTS)

Fastest Speed by Category. Certificates are given to first place and runner up speed finishers in each design category. The categories for speed awards include the combinations of the following characteristics - one or two person boats, propeller or non-propeller boats and Independent, High School and College level teams.

One Person, Non-Propeller, College

Winner – OMER 11 / École de Technologie Supérieure (ÉTS) - 4.78 knots

One Person, Propeller, Independent

Winner – MARYLAND MAKO / Kids Into Discovering Science (KIDS) – 2.34 knots

One Person, Propeller, High School

Winner - CLS MAKO / Frederick County Career & Technology Center – 3.29 knots

Runner-up - CORMORANT / Dover Area High School – 0.92 knots

One Person, Propeller, College

Winner - OMER 11 / École de Technologie Supérieure (ÉTS) – 6.85 knots

Runner-up - WASUB IX / Delft University of Technology – 6.54 knot

2019 FURE Scholarship Winner. An award of \$2000 is made to Mr. Andrew Prater who graduated from Crawford Mosley High School and is a member of the Gulf Coast State College submarine team.