

# 10th International Submarine Races

In June 2009 the 10th International Submarine Races (ISR) were held at the Naval Surface Warfare Center, Carderock Division near Washington, DC. The races are managed by the ISR Organization, a group of volunteers who have dedicated their personal talents and abilities to maintaining the continuity of this unique technology competition. The ISR Organization is led by individuals whose main concern and interest is to encourage engineering and technology students, as well as entrepreneurs of all types, in the development and evaluation of engineering designs of human-powered submarines and to expand the educational experience engendered by the underwater event.



The mission of the ISR is:

- To inspire students of the various engineering disciplines to delve into broad areas of underwater technology advancement and to provide them an educational experience that translates their theoretical knowledge into reality.
- To foster advances in subsea vehicle hydrodynamic, propulsion and life support systems.
- To increase public awareness of the challenges people face in working in and exploring the ocean depths.

The rationale for the ISR is that there is a continuing need to improve the efficiency of hydrodynamics, propulsion and life support systems for small, subsea vehicles. Profound lessons may be learned through the process of designing, building and operating an “optimized design.” The rules of this competition restrict the vehicle’s power to human power, thus focusing attention on maximizing the vehicle’s design and life support system.

Teams from a variety of educational institutions and other organizations design and build a one or two-person, human-powered submersible on an underwater course. The course is a 100 meter long straight run in a 22 foot deep water tank at the David Taylor Model Basin.

The participating teams were:

- |  |                |
|--|----------------|
| 1) U of California San Diego           | Odin’s Rage    |
| 2) Sussex County Technical School      | Umptysquatch-4 |
| 3) U of California San Diego           | Stanley        |
| 4) U of British Columbia, Canada       | SUBC           |
| 5) Wheaton Submarine Works             | SCUBA DO II    |
| 8) U. of Florida                       | Swamp Thing II |
| 11) Texas A&M                          | Maroon Harpoon |
| 12) Virginia Tech                      | Phantom 5      |
| 13) Scuba Sub Team                     | Sparky’s Sub   |
| 14) U. of Maryland                     | Terpedo II     |
| 15) U. of Michigan                     | Mercury        |
| 16) U. of Maine                        | Lobstar 1      |
| 17) Universidad Veracruzana            | Halcon Marvin  |
| 18) Ecole de Technologie Superieure    | OMER 6         |
| 19) Ecole de Technologie Superieure    | OMER 7         |
| 20) Team Sublime Hernando City School  | Sublime        |
| 21) Team Sea Wolf Hernando City School | Sea Wolf       |
| 22) Archimede                          | Archimede 5    |
| 25) UW Human Powered Sub Team          | Canis Maris    |
| 28) HPS Universidad Simon Bolivar      | PICUA          |
| 29) U.S. Merchants Marine Academy      | TBD            |
| 30) Florida Atlantic University        | Talon 1        |
| 31) U. of Bath, England                | SULIS          |



*The David Taylor Model Basin is the perfect facility for this competition.*



The winning teams in various categories were:

**Overall Performance:**

- First place: “Sublime”, Trophy and \$1,000
- Second place: “Talon-1”, \$500
- Third place: “OMER 7”, \$250

**Innovation:**

- First place: “OMER 7”, Trophy and \$750
- Second place: “Swamp Thing”, \$500
- Third place (tie): “Beluga”, \$250, and “Phantom 5”, \$250

**Best Use of Composites:**

“Beluga”, Trophy and \$750

**Absolute Speed:**

- First place: “Talon-1”, 6,298 knots, Trophy and \$750
- Second place: “Sublime”, 5,975 knots, \$500
- Third place: “Maroon Harpoon”, 5,445 knots, \$250

**Best Design Outline:** “Umptyscratch-4”

**Best Spirit of the Races:** “Umptyscratch-4”

**Smooth Operator Award:** “Team OMER-6,7”

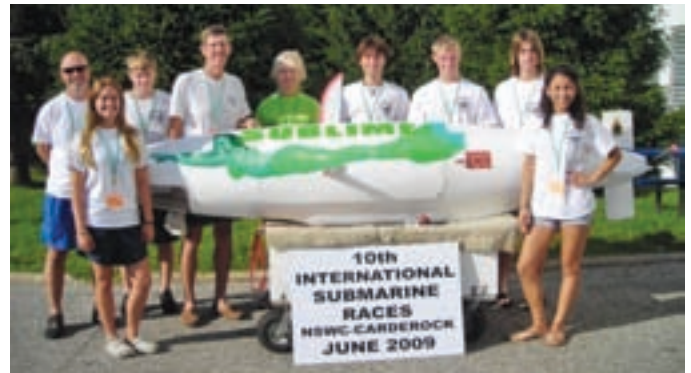
**Judges Award for Persistence and Resourcefulness:** “Picua”

The ISR Organization operates on a virtual basis, with support from corporate sponsors, government and academic officials, and a host of private individuals. Their involvement and spirit carry on the vision of H. A. “Hap” Perry, who conceived and founded the race in 1989 in collaboration with the Ocean Engineering Department of Florida Atlantic University and sustained it through 1993.

To remain abreast of the activities of the ISR Organization and FURE, access their web site at <http://www.isrsubrace.org/>.



Team “Picua” from Universidad Simón Bolívar.



Team “Sublime” from Hernando City School won first place in Overall Performance.



Team “Sulis” from the University of Bath demonstrated an innovative propulsion design featuring both propellers and oscillating fins that could be switched while underway.



“Battlin’ Pete” from the United States Merchant Marine Academy used oscillating fins for propulsion.



Team “OMER 7” from the University of Quebec’s École de Technologie Supérieure.