

UM Unveils Submarine Technology and Development Lab

Contributed by Tobie Baker
10/08/2008

Nearly 100 Attend Ribbon-Cutting Ceremony

OXFORD,

Miss. - A yellow, torpedo-shaped submarine and a box-like submersible with cameras and a robotic arm were displayed Wednesday as the University of Mississippi held the grand opening of its Undersea Vehicle Technology Center.

Housed at UM's Field Station

northeast of Oxford, the new 2,600-square-foot, three-bay undersea vehicle technology shop and development laboratory is part of the National Institute for Undersea Science and Technology partnership. Established in 2002 for ocean exploration, research and advanced technology development, NIUST is a collaboration among UM, the University of Southern Mississippi and NOAA's Undersea Research Program.

{flv}UnderseaFacility{/flv}

Watch video.

"This new facility allows us to consolidate our efforts for vehicle design," said NIUST Director Ray Highsmith at the ribbon-cutting ceremony. "We now have the capability for all our engineers and operators to work side-by-side at a single location, which helps to create better ideas in a more efficient manner."

Two of those vehicles, the Eagle Ray submarine and the box-like submersible Station Service Device, were on display for the nearly 100 people on hand at the ceremony. The Eagle Ray is designed to perform high-resolution sea floor mapping, as well as serve as a cargo unit to test and develop new underwater sensors and devices.

"The Eagle Ray is capable of multiple missions," said USM's Vernon Asper, director of the Undersea Vehicle Technology Center.

At 17 feet in length and 27 inches in diameter, the Eagle Ray weighs one ton on land, but in water, it weighs negative nine pounds. Its 110 multi-beam sonar system enables the vessel to perform deep topography sea floor mapping.

"It's completely autonomous," Asper explained. "We program it through its inertial navigation system, which is the same as a ring laser gyro found on cruise missiles, and off it goes. It travels back and forth, much like a lawn mower in the yard, to map the sea floor."

The multi-million dollar Eagle Ray, designed to submerge at depths of more than 2,000 meters, also features several safety devices, including a global positioning system sensor, strobe light, radio, satellite transmission sensor, satellite telephone and an acoustic transponder, just in case the vessel is lost at sea.

Asper said naming the yellow submarine Eagle Ray was part of a group effort. (An eagle ray is a white-spotted black ray that gracefully swims along the bottom of the sea floor).

"The name came from an internal contest that we had," Asper said. "Eagle Ray kept floating to the surface, so that's what the group decided."

The SSD, designed to be tethered to a ship and operated by remote control while at sea, is complete with four thrusters, a fiber optic communication system, an acoustic altimeter, cameras, lights and a robotic five-axis manipulator arm. It was designed to service NIUST's Seabed Technology Research Center's sea floor observatory, which is 100 miles due south of Biloxi at 900 meters beneath the Gulf of Mexico in what's known as Mississippi Canyon 118.

The sea floor observatory is designed to monitor the stability of methane hydrate deposits, which are being studied as potential fossil fuel alternatives.

Former STRC director Robert Woolsey, who passed away in July, would have been proud of the grand opening, according to family members.

"Bob (Woolsey) would have had just one word," said his widow, Maxine Woolsey. "Outstanding."

"This was a vision of his for years, so he'd be thrilled to see his dream become a reality," she said. "He would be inspired to see his colleagues here today, and I know he is in the hearts of all of them."

To learn more, visit <http://www.niust.org> .