

# Marine Technical Education

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ON&T has invited the Marine Advanced Technology Education (MATE) Center to contribute what will become a regular feature on marine technical education. Other Educational news will be featured as well.

The MATE Center is a national network of community colleges, high schools, universities, research institutions, marine industries and employers, and working professionals dedicated to improving marine technical education. The Center was established in 1997 with funding from the National Science Foundation's Advanced Technological Education Program and is headquartered at Monterey Peninsula College, Monterey, California.

The MATE Center recently received the 2003 Marine Technology Society (MTS) ROV Committee's Award for Academic Excellence and deservedly so; the Center and has taken significant steps towards improving the marine technical work force. Using information from industry through surveys, workshops and advisory committees, the MATE Center has developed a number of education and training programs designed to provide students with the skills they will need to succeed in the workplace and support our national economy.

One of the exemplary programs the center has developed is the national ROV competition that the Center coordinates with the MTS ROV Committee for high school, home school, community college, and university students from across the country and Canada. Read on to learn more about this exciting and educational event, one supported by ON&T and a number of its readers. What started as a back-of-the-envelope type of idea to bring more students into the marine industry has turned into a program that involves more than 300 students, working in teams, to design and build ROVs for missions based on real-world problems, with more than 50 marine organizations and 45+ technical professionals contributing to make the program a success. When the MTS ROV Committee's Drew Michel and Chuck Richards and MATE Center staff came together to establish the framework for a student ROV competition, they had no idea that it would grow into something that engaged so many students, educators, employers, and working professionals. But we're glad that it did! The national student ROV competition created by the MATE Center and the MTS ROV Committee is designed to increase student awareness of marine fields, employers, and careers; facilitate interactions between students and working professionals; and promote the development of the skills that students will need to support marine industries. More than that, the competition provides students with a learning environment that mimics the high performance work place. It involves budgeting, setting deadlines, documenting procedures and results, and producing deliverables on time. And on competition day, when the thrusters hit the water, it also involves trouble-shooting, problem solving, and resourcefulness, not to mention a great deal of stress.

## Industry Involvement Key to Success

The ROV competition is financially, logistically, and technically supported by employers, research institutions, professional societies, government agencies, and working professionals. Industry involvement is indeed the key to the competition's success. Contributions of funds, building supplies, access to facilities, time, and, most importantly, technical expertise from marine industries and working professionals make it possible for the Center and the ROV Committee to create a truly unique learning environment. Given the current state of technical education, particularly at the high school level where many electronics, machining, and other "shop" programs are being phased out, many teams would

not be able to participate without the support of mentors and marine businesses and industries. Case in point: 100% of the instructors who responded to a 2002 post-competition survey said that they would NOT have been able to compete had the MATE Center not provided them with funds for building supplies, travel, lodging, and meals.

## National ROV Competition

The competition was held for the first time in May 2002 at the Kennedy Space Center and the Brevard Community College-Cocoa (Florida) campus. Twenty-two teams from across the U.S. and including one from Canada took part in the event.

The second annual 2003 MATE/MTS ROV Committee ROV competition is shaping up to be even better (if that's possible!) than the first. Thirty-five teams are scheduled to compete in "Lost on the Titanic: Rusticles of Bust," which is taking place June 19-21 at the Massachusetts Institute of Technology (MIT) in Cambridge. The inspiration for this year's theme comes from "Ghosts of the Abyss," the new James Cameron 3-D, "IMAX" movie that documents Cameron's voyages to the Titanic and highlights the ROVs and submersibles that were used to explore the wreckage. "Ghosts of the Abyss" is a project of Walden Media, a Boston-based company whose mission is to marry popular entertainment and education. The company has contributed funds to help support the 2003 event and is arranging prizes, screenings of the film, and possible celebrity appearances as part of the competition activities.

## New in 2003 - Regional ROV Competitions

The MATE Center is supporting and helping to organize regional competitions in New England, Houston, Texas, and southern California that will serve as feeders into the 12-25 competition class. The New England regional is being coordinated by Cambridge Rindge and Latin High School, while Alvin Community College is coordinating the second annual Texas Regional ROV Contest. The Southern California Fly-Off, now in its third year, is being coordinated by educators from the Birch Aquarium at Scripps Institution of Oceanography and Mount Carmel High School, with help from the San Diego section of MTS. In collaboration with MTS and the ROV Committee, the MATE Center is working to establish regional competitions in strategic locations across the country. The goal is to engage MTS sections in helping to support - financially, technically, and logistically - the student teams participating in the regional event that take places in their area. The Center hopes to have several more regionals under way in 2004.

The hope of the MATE Center, MTS, and the ROV Committee's ROV is that the competition events will continue to grow and reach more and more students and in turn, more and more students will be excited to apply their math, science, engineering, and teamwork skills to creatively solving problems in the marine arena. For marine industries, the competition will continue to serve as a venue through which they can support marine technical education and, in turn, reap the rewards by way of students who are well prepared to meet their work force needs.

*If your organization's logo is currently absent from the advertisement on page 44, ON&T encourages you to do something about it. Contact Jill Zande, MATE's Outreach Director and the competition's coordinator, at (831) 646-3082 or jzande@marinetech.org.*