



INNOVATION PARK

A RESEARCH AND DEVELOPMENT CENTRE

NEWS

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CONTACT: SCOTT MARSHALL

Cell: (865) 805-7261

Tai-Yang Research Company Awarded \$450,000 Contract

Continues effort to develop superconducting cable connectors for U.S. Navy ships

TALLAHASSEE –Innovation Park-based Tai-Yang Research Company has been awarded a \$450,000 Small Business Innovation Research (SBIR) Phase II Contract to continue its efforts to build a connector for high temperature superconductors for use aboard U.S. Navy warships. The award follows the research firm’s completion of an initial connector design, funded by a Phase I contract of \$100,000 in 2007, sponsored by the Office of Naval Research.

Since World War II, the Navy has installed networks of electrical cables on its warships to “degauss”, or reduce the magnetic signature of the ships, rendering them less vulnerable to detection by underwater mines. Some of the larger Navy ships have over 100 tons of copper cable onboard just for this purpose.

Several important advantages are realized by using superconductors in place of copper for degaussing cables. A superconducting system weighs over 80 percent less than copper systems. High temperature superconducting materials will actually cost less than copper per unit of electrical current. Tai-Yang’s innovative connector design greatly reduces the cost of installing these cables in new ships, and will enable repair or replacement while the ship is underway.

“This award enables us to build and test fully functional prototypes of the connector we designed in Phase I,” said Scott Marshall, Principal Engineer, Tai-Yang Research Company. “Our long-term vision is to develop a manufacturing facility in Tallahassee to supply these connectors and related system components to the U.S. Navy for installation on all its new warships.”

In addition to the Phase II Base contract, four funding options totaling \$2.1 million are also proposed. These options, if awarded, would allow Tai-Yang to build a fully functioning superconducting degaussing cable system for “sea trial” qualification tests on a Navy ship.

“This award makes a lot of things possible for our company. We hired two new full-time employees to support this program. Both are FSU graduates with advanced degrees in engineering and physics, and work experience at the Magnet Lab and the Center for Advanced Power Systems. This award enables our company to expand our ongoing collaborations with the Magnet Lab, the Applied Superconductivity Center and the Center for Advanced Power Systems to exploit the potential of high temperature superconductors.” said Scott Marshall.

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The Tai-Yang Research Company is co-located with the Applied Superconductivity Center, next to the National High Magnetic Field Laboratory at Florida State University, in Innovation Park. The company is dedicated to the development and application of novel materials, including high temperature superconductors, optical fibers and thin films. Employees at Tai-Yang have over 50 years combined experience in high temperature superconductivity, high field magnet systems, and electronic systems and components design and manufacture.

The Small Business Innovation Research Program, coordinated by the U.S. Small Business Administration, is made available to small businesses through a proposal and award process based on their qualifications, degree of innovation, technical merit, and future market potential. Small businesses that receive awards then begin a three-phase program to explore the feasibility of a concept, develop and test prototypes, and ultimately commercialize the product.

For more information about Tai-Yang Research Company, visit www.tai-yang.com.

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