

UCF JOINS HIGH-TECH EFFORT

University, MIT will team up on federal smart-fiber contract

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By Paul Brinkmann, Staff Writer

The University of Central Florida and the new high-tech manufacturing center in Osceola County scored a major federal research contract victory, landing a role in a new \$75 million deal to develop smart-fiber technology.

It's the first time UCF has been named a partner with the federal government on a major project, said Ayman Abouraddy, a UCF associate professor who will be a leading researcher on the project.

UCF, in partnership with the Massachusetts Institute of Technology, will research textiles that can measure light, temperature, sound and other conditions, according to an announcement from UCF's Office of Research and Commercialization.

The new fiber could be used for medical or military purposes. For example, clothing made from smart fiber could monitor vital signs, or uniforms could detect laser targeting systems. Smart clothes might also someday change color, collect solar energy, adjust size, last longer, mask or transmit odors, and even take photos.

A formal contract announcement from Secretary of Defense Ashton Carter was scheduled for 11 a.m. today at MIT.

"This is a big step for UCF," Abouraddy said. "It's a sign of maturity for the university itself."

He will hire five new faculty as researchers who will work at the new Florida Advanced Manufacturing Research Center near Kissimmee. Osceola County is building the new \$70 million center as the centerpiece of a push to attract more higher-paying jobs to the area.

The research center will be run by a coalition of universities, the county and the Florida High Tech Corridor.

UCF's participation in the contract follows a stinging loss last year, when it was left out of a \$110 million contract to develop other types of sensors. In that contest, the University of Rochester and SUNY Polytechnic were named lead institutions, and MIT also had a role.

After that loss, UCF turned its attention to the smart fiber contract. The series of Department of Defense contracts is part of the Obama administration's Innovative Manufacturing Initiative.

“Many professors have received federal funding at UCF, but this is the first time we are actually a partner, as an institution, with the federal government on a project like this,” Abouraddy said.

The federal initiative for smart fiber technology stresses both military and commercial applications. The team that includes MIT and UCF will now be called Advanced Functional Fabrics of America. Its goal, according to MIT, is to “disrupt one of the world's oldest industries and keep nearly 50,000 jobs in the U.S. over the next 10 years.”

Other uses for the smart-fiber technology might include jackets that can store and convert thermal energy, window shades and tents that harvest solar energy, and self-drying shoes.

UCF said in a statement Friday that its participation in the program validates its investments in the Osceola County facility.

M.J. Soileau, UCF vice president for research and commercialization said Abouraddy, formerly of MIT, is “a world leader in this next-generation field.”

The universities acknowledge that much of the hope for so-called functional fabrics is still being researched. The process is expected to blend metals and semiconductor materials, along with the more traditional glasses and plastics. The goal is for ‘multi-material’ fibers to function like electronic devices in a low-cost package slightly thicker than a strand of hair.

The total dollar amount for the initiative is \$317 million. Some of that represents the in-kind contributions of staff and facilities by the various universities involved. UCF has committed \$29 million to the project over five years, including the hiring of five faculty to support the AFFOA and the use of facilities and equipment.

In return, UCF will benefit from additional funding and resources provided by the federal government and other members of the project, but UCF hasn't identified the portion of funding that would be directed to UCF eventually.

“This is one of many firsts we anticipate celebrating as our state-of-the-art facility rises from the ground and acquires the tools that enable advanced manufacturing to occur,” said Chester Kennedy, who is leading the Osceola research center organization known as the International Consortium of Advanced Manufacturing Research.

Besides MIT and UCF, the AFFOA includes 16 industry members, 27 other universities and 26 startup incubators. UCF said it is the only university in Florida to participate.

UCF said in its announcement that it and Valencia College will also begin offering coursework and other programs aimed at developing a workforce that understands the new technology and its uses.

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