



California State University, San Bernardino / 5500 University Parkway, San Bernardino, CA 92407

**FOR IMMEDIATE RELEASE**

Contact: Greg Zerovnik  
Communications Manager  
909-537-7785 (office, direct line)  
909-730-8428 (cell)  
gzerovni@csusb.edu

## **Grant Awards Announced for Advanced Technologies**

### **Cal State San Bernardino's OTTC provides \$485,000 to support biometrics and robotics.**

**SAN BERNARDINO, CA – December 11, 2006** – The Office of Technology Transfer and Commercialization (OTTC) at California State University, San Bernardino has announced seven award winners for grants from the Center for Commercialization of Advanced Technology (CCAT). The competition for the awards opened in August, and entrants had until September 17 to submit applications using the OTTC online solicitation management system.

The submissions were then matched with teams of evaluators with business or marketing and science or engineering backgrounds for peer review and evaluation. The OTTC team then did further evaluation and invited a select group of finalists to come to the Cal State campus in November to present their proposals to expert panels. The panels included representatives of military services who would presumably be prime customers for procuring successful technologies.

“We focused on biometrics and robotics,” says Dr. Stu Gordon, OTTC Director, “because our armed forces contacts assured us that these are two of the areas of greatest interest right now for the Department of Defense. Both these technology categories are in great need.”

With the panel presentations concluded, the experts submitted their recommendations, which were reviewed by OTTC. This was followed by due diligence (such as verifying intellectual property) to make sure the prospective winners would have a high likelihood of fulfilling the terms of the grant award. With the list of winners confirmed, OTTC secured final authorization from CSUSB administration and contacted the winners, who are now ready to start work.

OTTC has awarded CCAT grants for robotics technologies to:

CornerTurn, Corona, CA. “BOTDROPS Leave Behind Sensors.” There is a critical operational need to ensure that spaces previously mapped and examined by a robot in a combat environment remain under surveillance after the robot leaves. The goal of this project is to demonstrate remotely deployed leave behind sensors that provide a remote command station the ability to maintain surveillance of previously cleared spaces. CornerTurn will receive \$75,000 for Prototype Development, Testing & Evaluation (PDT&E) and up to \$25,000 for a Market Study (MS).

Nano Engineering, West Palm Beach, FL. “Robotic Integration of DMA Sensor.” The Differential Mobility Analyzer (DMA) is a new technology for detecting trace-volatiles of explosives and chemical weapons, with development sponsored by the U.S. Army SBIR ((Small Business Innovation Research)

Program. An electronic “nose,” the DMA is three orders-of-magnitude more sensitive than conventional Ion Mobility Spectrometry, with limits of detection in the parts-per-trillion range. The DMA is relatively low costs, compact and robust, making it well suited for robot integration. The combined DMA-robot technology promises to enable automated detection of roadside bombs, munitions dumps and chemical weapons caches while the operator remains at a safe distance. There are potential spin-off applications in homeland security. In collaboration with SPAWE, NanoEngineering will reduce the size/weight of the DMA in preparation for robot integration. Nano Engineering is receiving a \$75,000 PDT&E award and funds for a MS.

Trex, Kahului, HI. “Compact Imaging Radar System.” A compact imaging radar system is under development that is intended for installation on the Foster Miller TALON robot. This technology is capable of all-weather, day and night imaging of the terrain and associated elements. The compact radar is capable of real-time 3D imaging of the environment for improved situational awareness on the ground, particularly in degraded visual environments such as rain, fog and dust, where conventional sensors have limited utility. The imagery is capable of stand-alone utilization as well as image fusion with other imagers for multi-spectral imagery. Operations other than war (OOTW) include downed pilot rescue, commercial aircraft landing assistance, and homeland security applications. Trex has been awarded a \$75,000 PDT&E grant and approximately \$25,000 for a MS.

The following firms are receiving CCAT funding for biometrics technologies:

Bionics America, Los Angeles, CA. “Blood Vessel Authentication System (BVAS) Test and Evaluation.” The objective of this project is to document the test and evaluation necessary to submit to the M1 Committee, International Committee of Information Technology Standards (INICTS) for accepting BVAS as the standard for blood vessel authentication and to achieve final approval from NIST. The work will be co-authored with prime DoD contractor Unisys, and will take place at the Unisys Facilities in Reston, VA. The non-invasive blood vessel authentication system relies on a unique scanning technology that effectively “maps” blood vessels. Bionics America will receive approximately \$25,000 for a MS award.

Embedded Computer Products, Wildomar, CA. “Highly Integrated and High Speed Pattern Recognition.” RBF Neural Network Chip implementation is a unique, enabling technology for high-speed and complex pattern detection, recognition, classification and decision making. This implementation exploits silicon based parallel processors, performing Radial Basis Function (RBF) neural network algorithms in real time. It offers a unique alternative to standard computer processor and memory for applications oriented toward pattern recognition and information retrieval. This RBF Neural Net Chip implementation requires no programming or modeling; it has automatic learning capability and unlimited parallel expansion. ECP has been awarded \$10,000 for a Business Plan (BP) to evaluate the company’s business model and recommend an appropriate pathway to commercialization of the technology.

GEM Power, Redlands, CA. “GEM Power Universal Battery Charger for Biometric Sensing Equipment.” Using its intelligent battery charging technology previously developed under NAVAIR research and development contracts, GEM Power is considering the design and fabrication of a working prototype universal battery charger for biometric sensing equipment. GEM Power’s technology automatically determines the size and type of battery to be charged, and rapidly, correctly and completely recharges it. A single charger could be used to recharge the batteries of a myriad of biometric sensing equipment, potentially eliminating the need to support one charger per device, and improving the ability of various DoD, Federal and local agencies to respond to Homeland Security, Crisis/Consequence Management and Public Safety needs. A marketing and feasibility study has been awarded to GEM Power for the purpose of identifying the actual market and products used in the Biometric industry.

Lumidigm, Albuquerque, NM. Lumidigm is receiving grants for two technologies. The first is “Securing the J-Series Biometric Platform for Commercial Markets.” Lumidigm has built the most secure, robust, single-finger biometric sensor in the industry. However, even a powerful biometric is vulnerable to attack if the interfaces with the rest of the security system are not secure. This project will address the security vulnerabilities of these security system interfaces while incorporating encryption between the PC and the sensor, along with additional security functionality. Lumidigm will receive a \$50,000 PDT&E grant for this technology.

The second Lumidigm technology award is for “Maximizing Biometric Performance through Real-Time Presence Detection and Quality Assessment.” The current Lumidigm single-finger biometric sensor was built for an extreme working environment that could accommodate higher costs and a large footprint. In order to build a fingerprint sensor that can be incorporated into all access control settings—from point-of-sale to physical and logical access at volumes greater than 100,000 units per year—Lumidigm is redesigning the J-Series to have 1/10 the cost of production and 1/10 the volume and weight, while adding user feedback concerning finger placement. This will increase the fingerprint image quality and overall system performance. OTTC is providing a CCAT grant of \$75,000 for PDT&E.

#### **About the Office of Technology Transfer and Commercialization (OTTC)**

OTTC (<http://ottc.csusb.edu>) is the management office for a grant program known as CCAT, Center for Commercialization of Advanced Technology, funded by the Office of Naval Research (ONR) through Congressman Jerry Lewis’s office. The Foundation for California State University, San Bernardino hosts and oversees OTTC. CCAT provides grants intended to be used in two ways: (1) to help companies develop commercial applications for technologies that have been developed in government laboratories; and (2) to help the government find technologies it needs for defense and homeland security needs and help them along so they can enter government procurement channels. OTTC is a two-way conduit that acts as a virtual incubator for advanced technology.

#### **About the Center for Commercialization of Advanced Technology (CCAT)**

The Center for Commercialization of Advanced Technology (CCAT) is supported by Congress and funded by the Department of Defense as a public-private collaborative partnership among academia, industry, and government. With Centers located at California State University, San Bernardino (CSUSB) and San Diego State University (SDSU), the CCAT program provides funding and business development support services to small entrepreneurs, small businesses, and government/university research scientists that have developed technology for use in the Departments of Defense and Homeland Security, as well as the commercial marketplace. Additional program partners include the University of California, San Diego (UCSD) Jacobs School of Engineering, von Liebig Center and The Security Network with support from the Space and Naval Warfare Systems Center, San Diego. For more information about CCAT, visit <http://www.ccatsocal.org>.