

# Research A&T

DIVISION OF RESEARCH & ECONOMIC DEVELOPMENT  
NORTH CAROLINA A&T STATE UNIVERSITY  
EDWARD B. FORT INTERDISCIPLINARY RESEARCH CENTER

**EDITOR'S NOTE:**

*This is the sixth in a series of stories featuring  
University Approved Centers.*

## Autonomous Control...

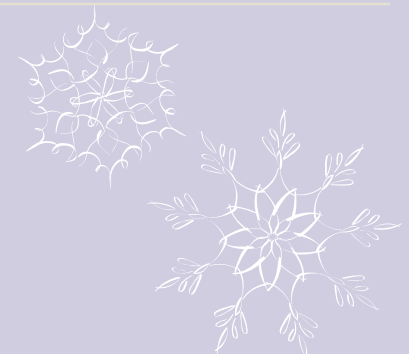
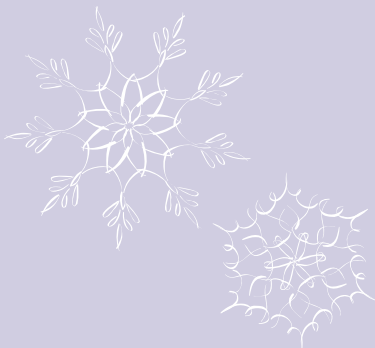
The Center for Autonomous Control and Information Technology was established in 1994 with a grant from the National Aeronautics and Space Administration (NASA) and the University of New Mexico at Albuquerque. The Center focuses on anything related to automation, or the method of reducing human intervention by operating processes that function automatically, without continuous input from an operator.

Currently, the Center is working on research for several projects including research for learning and adaptation for tactical behaviors in which the development of a terrain reasoner weight adapter (TRWA) will learn weights for time, mobility and exposure. Sensor fusion research in which the Center intends to formulate reliable hybrid sensor fusion algorithms is also proceeding. Other research taking place is the use of market based coordination of unmanned aerial vehicles (UAV)'s while decreasing the distance traveled and the use of communication resources when reaching targets. The Center is also working to develop locomotion control of a biped robot. The goal is to create autonomous robots, or robots that are able to make decisions.

"The idea is that these robots will have the capability to construct building on the moon which is an idea that will be realized by the year 2020," said Dr. Abdollah



*Dr. Abdollah Homaifar, Director of the  
Center for Autonomous Control and  
Information Technology and Electrical  
Engineering Professor*





*Administrators and faculty listened intently to presenter Adonica Williams, Budget Manager, at the Lunch and Learn workshop held on November 15, 2007.*

## Updates from Research Services

The Department of Research Services has recently added a new link to their heading on the website for the Division of Research and Economic Development (DORED). Faculty with funded grants can view a synopsis of the Banner Finance Manual. The Banner Finance Guide is geared toward grants; it gives principle investigators (PI) a snap shot of Banner Finance forms that relate to grants.

To view the Banner Finance Guide please visit [www.ncat.edu/~divofres/services/banner\\_finance.php](http://www.ncat.edu/~divofres/services/banner_finance.php) or simply go to the DORED website at <http://research.ncat.edu/> Click on the Research Services heading and scroll down to Banner Finance Guide.

## Another A&T First...

Over the past years, the United States has established several environmental regulations to protect parts of the environment. Dr. Stephanie Luster-Teasley, Assistant Professor/Inventor in the civil engineering Department, has developed technology that may assist with the compliance of these regulations.

Dr. Luster-Teasley is the first African-American female professor at A&T to receive patent pending status for the development of her Environmental Remediation invention. The technology's purpose is to protect the quality of surface water, ground water, soils, sediments, and other parts of the environment from numerous contaminants.

The technology can be placed in screened wells, mixed with soil, installed in a treatment reactor or packed in tanks. This method of remediation has the potential to increase the ease in the chemical oxidant use for in-situ treatment systems and also reduces the maintenance required for site remediation.

Dr. Luster-Teasley, her graduate student Patrick Onochie, and Dr. Vestal Shirley, lab manager of School of Agricultural and Environmental Sciences Analytical lab are currently testing the capabilities of the technology for remediating Trichloroethylene contamination in water.

The Office of Technology Transfer will provide Dr. Luster-Teasley with licensing opportunities and/or connect her with the potential to complete further research and development.



*Dr. Stephanie Luster-Teasley, Assistant Professor, Inventor, and future patent holder*

### DID YOU KNOW?...

**University patents have increased from 4 in August 2003 to 17 patents awarded in August 2007, with 10 applications currently in process.**



*Rod Clements, Grants Administrator, presented at the Lunch and Learn workshop, "Grants.gov – Proposal Submissions Made Easy."*

## Autonomous Control... *Cont'd from page 1*

Homaifar, Director of the Center for Autonomous Control and Information Technology. These robots will have the ability to communicate with each other and evade obstacles in their paths. The Center for Autonomous Control and Information Technology is conducting an array of research that

connects many areas of science.

*To find out more information please visit the Center's website at:*

*<http://www.ncat.edu/~divofres/centers/cacit.php>*

**FUNDED PROPOSALS October 18, 2007—November 16, 2007**

<u>PI</u>	<u>COLLEGE /SCHOOL</u>	<u>PROJECT TITLE</u>	<u>FUNDED</u>
Janice Brewington	ADMINISTRATIVE UNITS	NORTH CAROLINA LOUIS STOKES ALLIANCE FOR MINORITY PARTICIPATION - PHASE IV	\$1,916,025.00
Abdollah Homaifar	ENGINEERING, SCHOOL OF	LEARNING AND ADAPTATION FOR TACTICAL BEHAVIORS	\$18,750.00
Kunigal Shivakumar	ENGINEERING, SCHOOL OF	STRUCTURAL PERFORMANCE OF AFFORDABLE COMPOSITES FOR STEALTHY NAVAL SHIPS	\$100,000.00
Richard Robbins	AGRICULTURAL AND ENVIRONMENTAL SCIENCES, SCHOOL OF	PROGRAM AND POLICY COORDINATION II	\$223,883.00
Harmohindar Singh	ENGINEERING, SCHOOL OF	"CENTER FOR ENERGY RESEARCH AND TECHNOLOGY"	\$24,000.00
Abdollah Homaifar	ENGINEERING, SCHOOL OF	CENTER FOR POWER ELECTRONICS SYSTEMS	\$104,158.00
Harmohindar Singh	ENGINEERING, SCHOOL OF	INDUSTRIAL ENERGY ASSESSMENT STUDIES	\$7,500.00
Terrolyn Carter	ARTS AND SCIENCES, COLLEGE OF	Assessing and Examining Engaged Learning and Civic Engagement at North Carolina Agricultural and Technical State University: Implications for Student Well-Being and Retention.	\$2,500.00
Deborah Callaway	EDUCATION, SCHOOL OF	UNC TEACHER EDUCATION ENROLLMENT PLANNING AND RECRUITMENT EFFORT	\$32,851.00
Deborah Underwood	BUSINESS AND ECONOMICS, SCHOOL OF	North Carolina A&T State University's 2008 Summer Transportation Internship	\$14,000.00
Nail Yamaleev	ARTS AND SCIENCES, COLLEGE OF	Adjoint-Based Methodology for Time-Dependent Optimal Control	\$6,143.00

**Advanced Information Technology -- NRL-WIDE**

BAA 55-07-03  
Naval Research Laboratory  
**Deadline: December 31, 2008**  
Upper Amount: \$2,000,000  
URL for more information:  
<http://heron.nrl.navy.mil/contracts/baa.htm>

**Applications of Molecular Biology, Biochemistry, Analytical Chemistry and Advanced Laser Techniques -- NRL-WIDE**

BAA 61-07-05  
Naval Research Laboratory  
**Deadline: December 31, 2008**  
Upper Amount: \$2,000,000  
URL for more information:  
<http://heron.nrl.navy.mil/contracts/0708baa/>

**Funding Notices**

[baa.htm](#)

**Artificial Intelligence Technologies -- NRL-WIDE BAA 55-07-01**

Naval Research Laboratory  
**Deadline: December 31, 2008**  
Upper Amount: \$2,000,000  
URL for more information:  
<http://heron.nrl.navy.mil/contracts/baa.htm>

**Chemical, Biochemical, and Physical Sensing Materials, Transducers, and Sensor Systems -- NRL-WIDE BAA 63-07-03**

Naval Research Laboratory  
**Deadline: December 31, 2008**  
Upper Amount: \$2,000,000  
URL for more information:  
<http://heron.nrl.navy.mil/contracts/0708baa/baa.htm>

**Computational Chemistry - NRL-WIDE BAA 61-07-07**

Naval Research Laboratory  
**Deadline: December 31, 2008**  
Upper Amount: \$2,000,000  
URL for more information:  
<http://heron.nrl.navy.mil/contracts/0708baa/baa.htm>

**Computational Materials Science -- NRL-WIDE BAA 63-07-07**

Naval Research Laboratory  
**Deadline: December 31, 2008**  
Upper Amount: \$2,000,000  
URL for more information:  
<http://heron.nrl.navy.mil/contracts/0708baa/baa.htm>

**Laser Threat Countermeasure Technology -- NRL-WIDE BAA 56-07-03****Naval Research Laboratory**

**Deadline: December 31, 2008**  
Amount: \$100,000 Upper  
Amount: \$2,000,000  
URL for more information:  
<http://heron.nrl.navy.mil/contracts/0708baa/baa.htm>

**Materials Performance, Processing, and Modeling -- NRL-WIDE BAA 63-07-06**

Naval Research Laboratory (NRL)  
**Deadline: December 31, 2008**  
Upper Amount: \$2,000,000  
URL for more information:  
<http://heron.nrl.navy.mil/contracts/0708baa/baa.htm>



# Working Collectively

RESEARCH  
A&T

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November/December 2007

Although receiving funding is the ultimate goal, the process of preparing and submitting proposals to funding agencies lies in the capable hands of the Offices of Research Service and Sponsored Programs in the Division of Research & Economic Development.



*Fran Lackey, Assistant Director of OSP and Sandra Evans, Director of Research Services planning a training workshop for faculty and grant administrators.*

Research Services identifies appropriate funding opportunities, and assists in writing proposals and preparing budgets. The Research Services staff also provides training for faculty and grant administrators. Seeking funding can be difficult and the office of Research Services offers a variety of options for finding funding that matches the needs of the faculty. Assistance is provided to departments for questions that may arise during the proposal process.

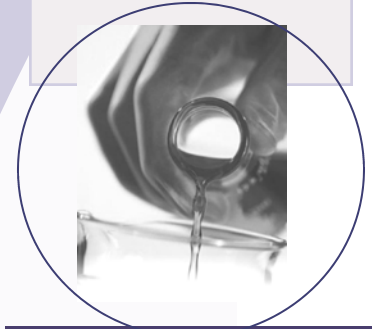
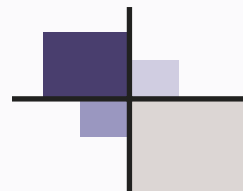
The Office of Sponsored Programs (OSP) concentrates on assisting with the development and processing of proposals for sponsored projects, including

submission to funding agencies and the administrative management of the award throughout the life of the project. The OSP also provides information and knowledge to ensure compliance with federal and state laws as well as with UNC policies. The office clarifies the submission procedures and processing of awards for external sponsored program funds and ensures a standardized administrative procedure among the constituent UNC institutions.

The resources that Research Services and OSP offer not only make the processing of the proposal less complicated, but also increase its chances of being selected for funding.

Although these departments are dedicated to different pieces of the proposal puzzle, both departments work collaboratively on helping faculty and staff throughout the process of submitting a proposal.

Faculty are encouraged to use the resources and opportunities that are available in the Research Services and Office of Sponsored Programs.



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