

Research A&T

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

Faculty Spotlight:

JOHN KIZITO

After only a year and a half, Dr. John Kizito, Assistant Professor in Mechanical and Chemical Engineering, has received funding for three proposals.

The thermal management of high heat flux systems is one of the projects Dr. Kizito is currently undertaking. Heat flux is the amount of heat going through a measured space, and the importance of this becomes apparent when devices such as satellites, rocket engines or electronic devices are taken into consideration. Should the internal temperature exceed the material operation limit temperature, the device will cease to work. The goal of Dr. Kizito's project is to dissipate heat so the electronic components stay at a constant temperature so the device will stay operational. "The problem with systems that produce lots of heat flux is that the amount of heat generated can't be carried away from the device in a timely manner, and when this happens the device will normally heat up and fail," said Dr. Kizito, "...if a solution is found it will overcome a thermal operation barrier."

The proposal for this project was funded within the first six months of Kizito's arrival to A&T.

Another project Dr. Kizito is working on is a project that deals with creating useful activity on the moon by determining the amount of energy required to extract oxygen out of lunar soil. It is a NASA space grant project which was a competition between North Carolina universities.

The proposal for this project was funded within the first 12 months of Kizito's arrival to A&T.

The third project Dr. Kizito is working on is concerning the thermal management of systems that move at hyper-sonic speed. "Because of the motion of the system you find that at those high speeds, there is frictional heating," said Dr. Kizito. One of the causes of frictional heating is when an object re-enters into earth's atmosphere. This usually takes place at a very great speed, causing tremendous heat build up from friction with the air. An example of this can be seen when asteroids enter earth's atmosphere they burn due to frictional heating which is not an issue, however if there is a system transporting cargo the idea is to prevent burning during re-entry due to frictional heating.

The proposal for this project was Dr. Kizito's most recently funded project.



Dr. John Kizito, Assistant Professor in Mechanical and Chemical Engineering

Happy
Holidays from
the
Division of
Research and
Economic
Development

Proposal Budget Development 101



Participants enjoy a presentation on Proposal Submission and Budget Development during the "Lunch and Learn" series sponsored by the Office of Research Services.

The Research Services Department recently held a brown bag series designed to offer insight in proposal budgets. Adonica Williams, Budget Manager for the Division of Research offers these tips in preparing your budget:

1. Make sure the math is right!
2. Be sure the budget details the financial objectives and scope of work.
3. All costs charged to a sponsored project should be allowable, allocable, and reasonable.
4. Double check the facilities and administrative costs calculations to ensure

only the correct items were included.

5. The budget should include a written justification explaining how costs are directly related to the scope of work and necessary for carrying out the project.
6. Review the subcontract budgets for accuracy and compliance with regulations.
7. Review the budget justification for clarity



For more information concerning proposal budget development, you may visit the Office of Sponsored Programs, on the web at: <http://www.ncat.edu/~divofres/>.

Institutional Review Board (IRB): Exempt Research Series II

***This series is designed to provide insight into frequently asked questions about IRB's*



For more information concerning IRB's and other compliance matters, you may contact Donna Eaton, Director of Compliance at dheaton@ncat.edu.

If my research is deemed exempt, will that expedite IRB approval?

The regulations do not specify how long the IRB should take to determine if a research project is exempt. The time from approval varies across institutions and depend upon factors such as amount of IRB staffing, protocol workload, and completeness of the information provided in the protocol application. In addition, the following cannot be determined as exempt:

- Research involving prisoners, pregnant women, fetuses, and human in vitro fertilization.
- Survey research involving children
- Radical new instruction technology that involves random assignment of subjects to different instructional methods
- Education research that involves deception
- Research education that involves exercise, if the activity is altered in a significant way
- If research data contains any subject identifiers and if disclosure will harm subjects

NC A&T IRB Review Policy:

Operating procedures require that a determination for exemption as well as expedited review be made within 5-7 business days of receiving complete protocol information.

RAMSeS Tips for Lead Principle Investigators:

Now that RAMSeS is up and running, the Office of Sponsored Programs would like to give tips to remember when using the system.

1. Complete the Notice of Intent form before you enter your information in RAMSeS.
2. Please give at least two weeks notice when you intend to start a new proposal in RAMSeS.
3. Complete the following: general info, investigators/research teams, budget information (if the budget is not available, then complete the first two items)
 - Please complete all the information that is applicable to your proposal.
4. Please attach all the information that is required, e.g. proposal announcement guidelines, solicitation, budget, cost sharing form (if applicable), subcontractors required forms (if applicable), letter of support (if applicable), etc
5. Complete proposal information in RAMSeS and submit at least five days before the sponsor deadline to allow enough time for: all the people in the research team to certify the proposal, the department Chairs and Deans to review and approve the proposal, the grant administrators to review your proposal before submitting to the sponsor.
6. Proposals will not be submitted without the Chair's and Dean's approval.

If you have any further questions regarding RAMSeS, please feel free to contact Frances Lackey, Office Of Sponsored Programs Director, at 336-334-7995

For the complete list of Funding Announcements, Visit our website: <http://research.ncat.edu>

Funded Proposals October 24– October 31, 2008

AWARD TITLE	AWARD	ORIGINAL PI	AWARD ADMIN DEPT
Africanarray: Imaging The African Superplume, Building African Partnership and Enhancing Diversity In The Geosciences	\$118,470.00	Bililign, Solomon	Physics Dept
Agroforestry and Sustainable Vegetable Production In Sea Watersheds	\$309,660.00	Reyes, Manuel	Natural Resources - Env Design
Clare Booth Luce Graduate Fellows	\$79,286.00	Monroe, Joseph	College of Engineering
Adjoint– Based Methodology For Time-Dependent Optimal Control	\$26,000.00	Yamaleev, Nail	Mathematics Dept
Strengthening Institutions Development Program	\$5,491,230.00	Murray, Kenneth	Division Of Academic Affairs
Adaptive and Fault-Tolerant Trajectory Tracking Control	\$9,057.00	Song, Yong-Duan	Electrical And Computing Engineering Department
Center for Nanoscience and Nanomaterials (Materials and Development for NAVY Application	\$1,080,000.00	Sankar, Jagannathan	Mechanical and Chemical Engineering
A Multi-Disciplinary Approach To Improve the Environmental Performance of Niche	\$175,000.00	Oh, Sang	Farm
The 1890 Land Grant System Addressing Universal Issues Through Science and Engagement	\$10,000.00	Thompson, Alton	Agri Bus Appl Econ & Ag Sci
Southeastern Transportation Center	\$18,900.00	Underwood, Deborah	Transportation Institute
Southeastern Transportation Center	\$18,900.00	Underwood, Deborah	Transportation Institute
Investigations in Intermediate Energy Spin Physics	\$183,476.00	Danagoulian, Samuel	Physics Dept
Collaborative Project: Carolina Cyber Defender Scholarship	\$1,163,001.00	Yu, Huiming	Civil Engineering
Revolutionizing Metallic Biomaterials	\$3,250,000.00	Sankar, Jagannathan	Mechanical and Chemical Engineering
Production of Biodiesel and Biopower from Waste Materials to Improve Energy Security and Mitigate Greenhouse Gas Emissions	\$770,180.00	Shahbazi, Abolghasem	Natural Resources / Env Design
2008: Enhancement of Teaching, Research and Extension Facilities at North Carolina	\$1,079,485.00	Mckinnie, Marion	Cooperative Extension Programs
"Conduct Detailed Energy Surveys, Preliminary Benchmarking M&V and Follow Up Validation of M&V in North Carolina	\$75,000.00	Singh, Harmohindar	Civil, Architectural, Agricultural And Environmental Engineering Department
A student internship program to Support GIS Research and Education: 2008-2009 Continuation	\$10,000.00	Fersner, Peggy	Civil, Architectural, Agricultural And Environmental Engineering Department
College Cost Reduction and Access Act of 2008	\$1,575,729.00	Murray, Kenneth	Title Iii Coordination
AMRDEC Logistics Engineering Support	\$99,999.00	Stanfield, Paul	Industrial And Systems Engineering Department
Establishing a Graduate Interdisciplinary Liberal Engineering Ethics Curriculum	\$49,896.00	Park, Eui	Industrial Engineering Dept
Title III Strengthening Historically Black Graduate Institutions (HBGI) Programs	\$2,148,069.00	Murray, Kenneth	Title Iii Coordination
Enhancing Incomes of Small Farms and Business Through Efficient Production and Marketing Opportunities	\$100,000.00	Yeboah, Osei-Agyemang	Agri Bus Appl Econ & Ag Sci
Carolina Cyber Defender Scholarship Program	\$44,765.00	Yu, Huiming	Computer Science Department
Expanding Research and Research Training Infrastructure at NCA&TSU	\$849,714.00	Thompson, Alton	Biology Department
Neighborhood Revitalization & Microenterprise Expansion Initiative	\$698,531.00	Shofoluwe, Musibau	Construction Management And Safety Department
Feasibility Studies of Collaborative Interaction For Minority Institution/ Cancer	\$182,438.00	Smith, Mary	Biology Department
Enhancing Our Competitive Advantage through Healthcare Engineering	\$71,000.00	Stanfield, Paul	Industrial Engineering Dept
Development of Hypoallergenic Peanut Products: Process Optimization and Clinical Safety Testing	\$234,000.00	Ahmedna, Mohamed	Human Env / Family Science



Taking Your Product to the Market

Market analysis is a vital element in the introduction of products to the commercial marketplace. Market analysis is research intended to predict the future of a market based upon quantitative data, such as price movements of the market, in addition to qualitative data such as buyer behavior. Market analysis takes into consideration multiple product applications and different sets of consumers. Consider the fundamentals of Who, What When, Why and How in order to properly analyze the market.

WHO

Who is Your Customer?

A customer profile is a precise description of the characteristics of buyers for a specific product or service that targets your customer. After a customer profile has been created, develop an overview of your prospective market by conducting surveys of customer needs.

WHEN

When to Enter a Market

Familiarize yourself with the market so that you understand the right and wrong times to enter the market. Wrong times include when the market is saturated with similar products, when industry demand is low and when the product is not fully developed. Timing is right when demand is high, sales leads exist and the product is suitable for customers.

HOW

Advertise & Distribute Your Product/ Service

Think of new and innovative ways to advertise and distribute the product or service: online advertisement, targeted mailings, demonstrations at trade shows and published technical articles. Distribute your products through a combination of methods: sales representatives, retail outlets, and strategic partners.

WHAT

Understand Your Product/ Service

Consider what your product has to offer that your competitors are not. Identify voids, incorporate key features, know your competitive advantage and recognize market opportunities for your product.

WHY

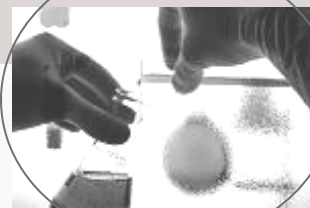
Why Your Product?

Emphasize the benefits of your product: higher quality, less expensive and longer product life. For a service, feature benefits like: depth of expertise, convenience, high return-on-investment and being less expensive than maintaining internal staff.

RESEARCH
A&T

Issue 6 Vol. 2

November/ December 2008



Research A&T is published by
The Division of Research &
Economic Development
North Carolina A&T State University

1601 E. Market Street
Greensboro, NC 27411
(336) 334-7995
(336) 334-7086 (Fax)
<http://research.ncat.edu/>



N. Radhakrishnan,
Vice Chancellor for Research &
Economic Development

Editor

Shena L. Crittendon
Assistant Vice Chancellor for
Communications & Operations

Contributing Writers

Whitney J.G. Code
Public Relations Assistant

Brandee Reed
Student Assistant

Sammie J. Dow
Student Assistant

Contributing Photographers

Whitney J. G. Code

Brandee Reed

Sammie J. Dow

Layout & Design

Whitney J. G. Code

Brandee Reed

Sammie J. Dow



Division of Research &
Economic Development
North Carolina A&T State Univ.
1601 E. Market Street
Greensboro, NC 27411