34th Annual University-Wide Research Symposium
March 26-30, 2012

Sustaining the Legacy
The Forty-Eight Year Legacy of Distinguished and Scholarly Leadership for Research and Sponsored Programs, 1964-2012

of Excellence Through Research

Celebrating 100 Years
Centennial Commemorative Edition
Celebrating Leadership in Learning Sciences, Research, and Service

PROGRAMS AND PROJECTS
Head Start Career Advancement Partnership Program (HS-CAPP)
Tennessee Early Childhood Training Alliance (TECTA)
Tennessee State University-TN CAREs Early Head Start
Social Services Competency Based Training (SSCBT)

RESEARCH INITIATIVES
STEM Education
Teaching and Learning
Early Intervention Models
Student Learning Measurement
Early Childhood Educator Professional Development
P-12 Instructor and Administrator Professional Development
Birth to Three Curriculum, Program and Professional Development

For more information, please contact:
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Tennessee State University
Center of Excellence for Learning Sciences
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Nashville, TN 37209
Main Office: 615.277.1651
Fax: 615.277.1654
www.tnstate.edu/learningsciences
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University President

Millicent Lownes-Jackson, Ph.D.  
Interim Provost and Executive Vice President for Academic Affairs

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Interim Associate Vice President for Academic Affairs for Research and Sponsored Programs

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Dr. Carolyn A. Caudle  
David E. Danner  
Princess Gordon-Patton  
Contributing Editors

The 34th Annual University-Wide Research Symposium Booklet

March 2012 issue, is the centennial issue. The booklet is published by the Division of Research and Sponsored Programs and is published once a year.

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March 16, 2012

Dear Colleagues:

Welcome to Tennessee State University and our 34th Annual University-Wide Research Symposium.

As we celebrate our centennial year of excellence, we continue to recognize research as a key component of a world-class education for our graduates in the 21st Century. The Symposium is a week-long forum for students and faculty to confer with and to present research endeavors to the campus and affiliated publics for an interactive and collaborative critique of the research process.

As we confer toward greater knowledge, we also celebrate excellence in research as exemplified by our symposium keynote speaker Dr. Levi Watkins, Jr., Associate Dean, Johns Hopkins School of Medicine. Dr. Watkins is a 1966 graduate of Tennessee State University who invented the Automatic Implantable Defibrillator (AID) and implanted the first AID at Johns Hopkins in 1980. The groundbreaking and life-saving research of Dr. Watkins provides solid inspiration to our students to continue this legacy of greatness into the next generation of researchers.

As you discuss the countless issues along the spectrum of knowledge during the research symposium, be cognizant that your presence and contribution represent a core dynamic of our motto Think, Work, and Serve.

Sincerely,

Portia H. Shields, Ph.D.
President
March 16, 2012

Dear Colleagues:

Welcome to the 34th Annual University-Wide Research Symposium as we celebrate our centennial year at Tennessee State University and the world-changing contributions of our researchers, such as our alumnus and keynote speaker Dr. Levi Watkins, Jr. (’66).

Dr. Watkins is Associate Dean of the Johns Hopkins University School of Medicine and full Professor of Cardiac Surgery who created and implanted the first Automatic Implantable Defibrillator (AID) at Johns Hopkins in 1980. Since that time, the device and its derivatives have revolutionized heart care having been implanted in tens of thousands of patients.

The Symposium is comprised of a week of interdisciplinary presentations by faculty and students seeking competitive awards for their deliberative innovation that showcases the research process from laboratory to solution. The Symposium thus constitutes an annual capstone of university-wide research endeavors that deliver academic value to Tennessee State University undergraduate and graduate students who promise to continue the creative legacy of Dr. Watkins.

On behalf of the Office of Research and Sponsored Programs, we celebrate this campus environment of research excellence which can manifest in life-saving and other innovative inventions and processes.

Sincerely,

Michael Busby, Ph.D.
Interim Associate Vice President of Academic Affairs
Office of Research and Sponsored Programs
# Overview of Events

**Monday, March 26, 2012**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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| 8:00 a.m. - 1:30 p.m. | Symposium Registration – Program booklets available  
                               Research and Sponsored Programs Bldg, First Floor Lobby |
| ALL ORAL PRESENTATIONS | Research and Sponsored Programs Building, Room 163 |
| 9:00 a.m. - 12:15 p.m. | ORAL PRESENTATIONS SESSION A: GRADUATE ENGINEERING |
| School of Nursing Day • 8:00 a.m. - 1:00 p.m. | James E. Farrell – Fred E. Westbrook Building, 118 |
| 11:40 a.m. - 1:00 p.m. | Luncheon – Speaker Dr. Susan A. DeRiemer,  
                               Professor, Department of Professional & Medical Education, Meharry Medical College |
| TIGER Institute Ribbon Cutting Ceremony • 1:00 p.m. | Research and Sponsored Programs Building, Basement Level |

**Research Symposium Opening Ceremony and Plenary Session**

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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| 2:00 p.m. - 4:00 p.m. | Keynote Address – Speaker Dr. Levi Watkins, Jr., M.D.  
                               Associate Dean of the Johns Hopkins University School of Medicine and Professor of Cardiac Surgery |

**Tuesday, March 27, 2012**

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<th>Time</th>
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| 8:00 a.m. - 1:30 p.m. | Symposium Registration – Program booklets available  
                               Research and Sponsored Programs Bldg, First Floor Lobby |
| 9:00 a.m. - 12:15 p.m. | ORAL PRESENTATIONS SESSION B: GRADUATE SCIENCE I |
| 1:30 p.m. - 3:45 p.m. | ORAL PRESENTATIONS SESSION C: GRADUATE SCIENCE II |
| Psychology Day • 1:00 p.m. - 6:00 p.m. | Robert Murrell Forum, Kean Hall |
| 3:00 p.m. - 4:00 p.m. | Speaker Dr. Jeri L. Lee,  
                               Assistant Chair, Psychology Department, Tennessee State University |

**Wednesday, March 28, 2012**

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<th>Time</th>
<th>Event</th>
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| 8:30 a.m. - 4:00 p.m. | Symposium Registration – Program booklets available  
                               Research and Sponsored Programs Bldg, First Floor Lobby |
| 9:00 a.m. - 12:00 p.m. | ORAL PRESENTATIONS SESSION D: GRADUATE SCIENCE III |
| 1:00 a.m. - 2:15 p.m. | ORAL PRESENTATIONS SESSION E: UNDERGRADUATE SCIENCE |
| 2:15 p.m. - 4:30 p.m. | ORAL PRESENTATIONS SESSION F: UNDERGRADUATE ENGINEERING |
| College of Engineering Day • 12:00 p.m. - 1:00 p.m. | James E. Farrell – Fred E. Westbrook Building, 118 |
| Speaker, Dr. John Hopkins  
                               Director of Strategic Operations, University of Tennessee |
| College of Health Sciences Day • 9:00 a.m. - 1:00 p.m. | Clement Hall, 165 |
| 12:00 p.m. - 1:00 p.m. | Luncheon – Speaker, Dr. Iris Johnson Arnold,  
                               Associate Professor, Department of Speech Language Pathology and Audiology, Tennessee State University |
## Overview of Events

**THURSDAY, MARCH 29, 2012**

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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</table>
| 9:00 a.m. - 2:00 p.m. | Symposium Registration – Program booklets available  
Research and Sponsored Programs Bldg, First Floor Lobby |

**JUDGING for Graduate Posters – Jane Elliott Hall Auditorium**

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<th>Time</th>
<th>Event</th>
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<tr>
<td>9:00 a.m. – 12:00 noon</td>
<td>POSTER SESSION: GRADUATE AND FACULTY</td>
</tr>
<tr>
<td>12:30 noon – 3:30 p.m.</td>
<td>POSTER SESSION: UNDERGRADUATE</td>
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**Association of Pre-Professional Life Scientists (APLS) Day • 9:00 a.m.- 5:30 p.m.**
Research and Sponsored Programs Building

<table>
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<th>Time</th>
<th>Event</th>
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| 9:00 a.m. – 12:00 noon | Laboratory and Technical Skills Training (Hands-On and Demos),  
Nanoscience and Biotechnology Core Facility |
| 1:30 p.m. – 3:00 p.m. | APLS Panel Discussion: “Transitioning from College to the Workplace:  
Strategies for Success,” Conference Room 163 |
| 3:00 p.m. – 4:00 p.m. | APLS Professional Development Workshop Series: “Development of  
a Professional Portfolio for Effective Self-Marketing,” Conference Room 107 |
| 4:30 p.m. – 5:30 p.m. | APLS Business Meeting (members only), Conference Room 163 |

**FRIDAY, MARCH 30, 2012**

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<th>Time</th>
<th>Event</th>
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| 8:30 a.m. - 10:30 a.m. | Symposium Registration – Program booklets available  
Research and Sponsored Programs Bldg, First Floor Lobby |

**ORAL PRESENTATIONS**
Research and Sponsored Programs Building, Room 163

<table>
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<tr>
<th>Time</th>
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<tr>
<td>9:00 a.m. – 11:00 a.m.</td>
<td>ORAL PRESENTATIONS: FACULTY</td>
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**AWARDS AND CLOSING CEREMONY**
James E. Farrell – Fred E. Westbrook Building, 118

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<tr>
<td>12:00 p.m. – 2:00 p.m.</td>
<td>Luncheon. Presentation of Awards. Adjournment</td>
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Posters will be displayed in the Jane Elliott Hall Auditorium. March 28-29, 2012
34TH ANNUAL UNIVERSITY-WIDE RESEARCH SYMPOSIUM

OPENING CEREMONY AND PLENARY SESSION

MONDAY, MARCH 26, 2012

2:00 PM – 4:00 PM

E. T. GOINS RECITAL HALL, PERFORMING ARTS BUILDING

Mistress of Ceremonies, Kimberley LaMarque, MFA
Associate Professor of Theater and Director of Forensics

Prelude .................................................................................................................................................. Gary Welch, Soloist
Darryl G. Nettles, Pianist

TENNESSEE STATE UNIVERSITY “ALMA MATER”, Laura M. Averitte, 1918

Welcome and Greetings

Dr. Portia Holmes Shields
President, Tennessee State University

Occasion

Mrs. Nannette C. Martin
Research Symposium Co-chair

Introduction of Keynote Speaker

Dr. Michael Busby
Interim Associate Vice President
for Academic Affairs for Research and Sponsored Programs

Keynote Address,
SHOCKING THE HEART BACK TO LIFE: THE STORY OF HUMAN DEFIBRILLATION

Dr. Levi Watkins, Jr.
Professor of Cardiac Surgery
Associate Dean, School of Medicine
The Johns Hopkins University, Baltimore, MD

Remarks and Presentation of Award

Dr. Michael Busby

Special Music

“GO, LOVELY ROSE” by Roger Quilter

Gary Welch, Soloist
Darryl G. Nettles, Pianist

The Forty-Eight Year Legacy of Distinguished and Scholarly Research Leadership, 1964 – 2012 Honoring Past Research Administrators for Research and Sponsored Programs at Tennessee State University

Closing .................................................................................................................................................. Ms. Kimberley LaMarque
Dr. Carolyn Caudle, Research Symposium Co-chair

Reception to follow in the Rotunda

Gary Welch, Senior in Music
Darryl G. Nettles, Associate Professor of Music
LEVI WATKINS, JR., M.D.
Associate Dean, School of Medicine
Professor of Cardiac Surgery
The Johns Hopkins University, Baltimore, Maryland

Shocking the Heart Back to Life:
The Story of Human Defibrillation

Dr. Levi Watkins, Jr. is the Associate Dean of the Johns Hopkins University School of Medicine and full Professor of Cardiac Surgery. He is the first African American to achieve these positions at Hopkins. Dr. Watkins was the third of six children born to Dr. and Mrs. Levi Watkins of Montgomery, Alabama. He received his elementary and secondary education from the Alabama State Laboratory High School where he graduated valedictorian. While in high school he was interested in athletics and was selected to the Montgomery All Star basketball team.

Growing up in Alabama exposed him to widespread prejudice and the early civil rights movement, both of which would have lasting effects. He initially attended First Baptist Church of Montgomery and became close friends with his pastor, Dr. Ralph David Abernathy and his family; later he attended Dexter Avenue Baptist Church where he was first introduced to Martin Luther King, Jr. and his family.

After graduating from high school, Dr. Watkins attended Tennessee State University where he majored in biology and continued the development of his political interests by becoming president of the student body. He led many student movements on that campus, and in addition, graduated with highest honors. While at Tennessee State he was a member of the Alpha Omega Alpha medical honor society, Alpha Kappa Mu honor society, Beta Kappa Chi honor society, and many other notable organizations.

In 1966 he integrated the Vanderbilt University School of Medicine becoming the first black ever admitted and the first black to graduate from that institution. He was later honored by that institution by being selected to become a member of Alpha Omega Alpha medical honor society. In June 1988, he was honored again being awarded the Vanderbilt Medal of Honor for outstanding alumni. Further recognition came in October 2002, when Vanderbilt established a Professorship and Associate Deanship in his name because of his work for diversity in medical education. In October 2005 his portrait was unveiled at the School of Medicine, honoring his life’s work and commitment to Vanderbilt. In October 2008, he received the university’s “Most Distinguished Alumnus Award”.

In 1970 he went to Johns Hopkins Hospital as a surgical intern and in 1978 became the first black chief resident in cardiac surgery at that institution. He interrupted his surgical training between 1973 and 1975 to develop his research interest at the Harvard Medical School Department of Physiology. There he defined the role of the renin-angiotensin blockers in the treatment of congestive heart failure today.

After completing his residency, he joined the full time faculty in the Division of Cardiac Surgery at Johns Hopkins. Since joining the faculty, Levi pursued several different interests, both professional and political. Professionally, he performed the world’s first human implantation of the automatic implantable defibrillator in February 1980 and subsequently developed several different techniques for the implantation of this device. To date, over 1 million devices have been implanted and the lives of approximately 2/3 of these patients have been saved with this treatment. He has also helped develop the cardiac arrhythmia service at Hopkins where various new open heart techniques are now being performed to treat patients at risk of sudden cardiac death. His interest in coronary heart disease in blacks led to his research in that area.

Early exposure to the civil rights movements and its leaders sealed Levi’s commitment to racial equality, particularly in the area of medicine. In 1979, he joined the admissions committee of the medical school and after four years, minority representation increased 400%. Similarly, growth has now occurred in the faculty and house staff.

In May 1983, the largest number of black physicians ever to graduate from Johns Hopkins finished the institution. His efforts were recognized nationally and in 1983 he was appointed to the National Board of the Robert Wood Johnson Minority Faculty Development Program. This program seeks to increase the number of minority medical faculty nationally.

His interest in worldwide human rights led him to initiate the annual Martin Luther King commemoration at Johns Hopkins University. He has brought to the program many world leaders among whom are Nobel Laureate Desmond Tutu, Coretta Scott King, Martin Luther King III, Mayor Andrew Young, Harry Belafonte, Maya Angelou, Benjamin Hooks, and Zenevi Mandela Dlamini, daughter of Nelson and Winnie Mandela. While the program honors King, it focuses attention on global humanitarian issues. Because of his work in both medicine and human rights, the Sojourner-Douglas College conferred upon him the Doctorate of Humane Letters in July 1988. In May 1989 a second doctorate was conferred by Meharry Medical College. In May 1996 he received a third doctorate from Spelman College. In May of 1997, he along with President William Clinton received a doctorate from Morgan State University.

In June 1991, he was promoted to full Professor of Cardiac Surgery, and that September appointed Dean for Post Doctoral Programs and Faculty Development in the Johns Hopkins School of Medicine. In this capacity, he helped revolutionize the culture for postdoctoral education in America by working to establish the nation’s first postdoctoral association. Today, over fifty associations now exist throughout America. For this, he was featured in the September 1999 issue of Science, the official publication form the American Association for the Advancement of Science.

In 1986, he along with Oprah Winfrey, was named Baltimore’s Best by then Mayor William Donald Schaeffer. In April of 1993, his life and work were featured on national television on PBS’ New Explorers program entitled “A Dream Fulfilled.” In 1996 his life was featured again on Maryland Public TV. In June 1999, he was the recipient of the Johns Hopkins University Alumni Association Heritage Award for exceptional contributions and devotion of the university. In May 2000, he was honored nationally by the Guidant Corporation for his pioneering work on the automatic defibrillator. In December 2008, he was honored by the National Black Caucus of State Legislators with the Nation Builders Award, along with President-Elect Barack Obama and James H. Meredith.

In January 2010, he was appointed co-chair of Mayor Stephanie Rawlings-Blake’s transition team for Health and Human Services and in April of 2010 he received the Thurgood Marshall College Fund award for excellence in medicine.

In January 2012, he was the recipient of the National Trumpet Award along with Ted Turner and Earth, Wind and Fire.

The Research Symposium

A B R I E F  H I S T O R Y

The Annual University-Wide Research Symposium at Tennessee State University is celebrating 33 years of providing an opportunity for faculty, undergraduate, and graduate students to present their research. In 1979, the event started as Research Day and it was renamed University-Wide Research Day in 1981. During the early years, only oral presentations were given. Since 1995, both poster and oral presentations have been included. Also, in 1995, the number of presentations had increased so much that all activities could not be completed in one day. Consequently, the name was changed from Research Day to Research Symposium where there are now five days of activities, including presentations from several speakers from various disciplines. Dr. Rubye Torrey, Assistant Vice President for Research and Professor of Chemistry (Emeritus), was the first Research Day Chair (1979-1981). TSU honored Dr. Torrey at the 2008 Symposium.

In 1979, the winners of the student presentations and their advisors were: Tyrone McKinnie (Richard Hogg, Advisor), George Pruitt (Rudolph Woodberry, Advisor) and Karen Sharp (Sandra Sheick, Advisor). Faculty presenters included Baqar A. Husaini (Sociology); Robert Taylor (currently Dean of Agricultural and Environmental Sciences, Alabama A&M University); Asalean Springfield (English), and Sandra Scheick (Mathematics). Remarks were given by then-Governor Lamar Alexander, Congressman John Bray, Mayor Richard Fulton, Fisk University President Walter Leonard, Meharry Medical College President Richard Lester, and Vanderbilt University President Emmett Fields.


The Dean of the College of Arts and Sciences (Wendolyn Bell, Bobby Lovett, William Lawson, and Interim Dean Gloria Johnson) has supported the research symposium from its inception. In 1995, Maurice Mills (Director, Office of Sponsored Research) embraced the vision of the research symposium being campus wide and being supported by, not only the College of Arts and Sciences, but also by the Office of Sponsored Research with increased financial and human resources. With Carolyn Caudle (Faculty Liaison, OSR) at the helm of the research symposium leadership, activities moved to a new level. She re-established the presentation times to 15 minutes and introduced concurrent sessions. The symposium reached a peak of 130 presentations during her chairmanship. Caudle instituted advertisements in the symposium booklet from schools, departments and institutes throughout the University. Caudle’s co-chair, Nannette Martin, and later Jovita Wells, assisted in the design of the Research Symposium booklets and many of the advertisement pages. In 2004, Marcus W. Shute, first Vice President for the Division of Research and Sponsored Programs, significantly increased the level of financial support for the Symposium and began the tradition of inviting TSU alumni engaged in research careers to speak to students during the awards luncheon. In 2009, as a part of TSU’s grand recruitment campaign for students, the Division of Research and Sponsored Programs, under the leadership of Dr. Maria Thompson introduced unit research days for various disciplines and programs; and in 2010, she initiated the Spring Break Academy for high school students. The research symposium booklets were given to all attendees and were used as a recruitment tool for students and faculty by the University’s president, School of Engineering and other departments and schools of the University. The research symposium booklet (or program) also became a means to showcase various research activities at Tennessee State University.

Vice President Maria Thompson of the Division of Research and Sponsored Programs and Interim Dean Gloria Johnson of the College of Arts and Sciences continue to support the chairs of the Research Symposium. Only the research titles and authors are now published in the program booklet, while the abstracts and presentations are published on Tennessee State University’s research website (www.tnstate.edu/research).
A graduate of Alcorn State University, Mays received his M.S. and Ph.D. from Southern Illinois University. After receiving his Ph.D. in 1962, Mays accepted a nine month appointment at Florida A &M University. In August of the following year, he began a career in Tennessee that would span 43 years when he accepted his first of several university appointments in the State of Tennessee and at Tennessee A & I University, now known as Tennessee State University (TSU).

In his early years at TSU, Mays served as Professor of Education and Coordinator of Graduate Studies in Education. He taught Philosophy and Research in Education at TSU up until he was promoted to his first administrative appointment as Director of Institutional Research and Development.

Beginning in August 1968, Mays held several positions at Fisk University, including Executive Assistant to the president, head of the Department of Education, and Director of the Division of Social Sciences. In July 1975, he accepted an appointment as Associate Vice President of Academic Affairs and Research for the University of Tennessee’s (UT) statewide administration. At the time of this appointment, Mays was the only African American to hold a position at that level at a major state research university in the South. In that position, Mays played a major role in the approval of all academic and research programs as well as all professional school programs on four UT campuses.

Mays was a key participant in the dismantling of segregated programs in the state’s higher education system, including the states' graduate schools, the schools of law, medicine, dentistry, pharmacy and veterinary medicine. Many of today’s professionals in those areas received scholarships due, in part, to Mays’ efforts in implementing federal court orders.

From Fall 1987 to Winter 1992, Mays was on loan from UT to serve Tennessee as Deputy State Education Commissioner. Among his many responsibilities he conducted a study of dropouts from public schools in Tennessee, which led to legislation that called for a large increase in before and after school programs at public elementary schools in Tennessee and established a state level Dropout Prevention Center for the purpose of working with local school districts and citizen-led Dropout Prevention Task Forces.

During that same period, Mays also served as chairman of a state-wide task force to reverse the near “disappearance” of African-American students in college teacher preparation programs. His leadership as task force chairman established a legislative approved minority Teacher Fellows Program and Special State Grant Program (now known as Diversity Grants) for non-traditional students to enter teacher preparation programs at colleges and universities in Tennessee. He had a major role in refining the Tennessee Comprehensive Assessment Program (TCAP) in grades 3-8 and worked with UT Professor Dr. William Sanders in developing the Value-Added Assessment program.

In November 1992, Mays was appointed Senior Vice Chancellor for Academic Affairs and Strategic Planning for the Tennessee Board of Regents, with the additional responsibility for implementing court-ordered desegregation programs at the Board of Regents’ 20 colleges and universities. In January of 1997, Mays left the Board of Regents to return to TSU and served almost 10 years as Distinguished Professor of Education and five years as Director of the Geier Fellows Program, later named the Maxine Smith Fellows Program.

During his career Mays received many awards and honors. His scholarly research, consultations, lectures and publications have brought wide acclaim. In 2002, Mays was named a National Visionary Leader by the Camille Cosby and Renee Poussaint National Project for the Identification of Visionary African-American leaders. He was one out of 50 African-American leaders in the United States chosen that year. On October 19, 2005, Mays was recognized by Fisk University for his accomplishments and lifetime contributions to education. A videotape of his contributions to education was placed in the Fisk University Library.

From March 2002 to March 2006, Mays served part-time as Distinguished Professor in Post-Retirement Research, working with students engaged in doctoral research. Although officially retired, Mays volunteers his time reviewing State legislative issues in education including minority teacher issues, lottery scholarships, and the dropout problem in public schools, of which Mays says, based on his experience, requires constant and continuing attention less the children fail.
Soon after Dr. Calvin Atchison came to Tennessee A&I College in 1953, a research study which he began while in Charlotte, NC, was published. President Dr. Walter S. Davis learned about the publication and expressed an interest in helping Atchison to return to study in order to complete his degree.

Dr. Davis had a vision for the college to become not only a number one teaching institution but a research institution as well. Federal funds given because of its land grant share were insufficient to realize the expected status of a research institution. Dr. Davis recognized that the college had to position itself to earn a greater share of the federal funds. He encouraged Atchison to attend meetings in Washington whenever there was an opportunity to meet federal officials and have them know more about Tennessee A&I College. In 1958, Atchison was appointed Coordinator of Graduate Studies and Research for the School of Education. His responsibility was to work with the Dean of Education and his department heads to assist faculty to become involved in grant writing and project developments.

During the late 1950s, the Commissioner of Education for the State of Tennessee requested that Tennessee A&I College enter into a state-wide competition to conduct a research study for a report to be made at the 1960 White House Conference on Children and Youth. President Davis assigned that responsibility to Atchison. The theme for the conference was "The Values We Hold". When the study was completed, Davis took Atchison to make a presentation to the Tennessee Legislature. The report became a significant part of the State of Tennessee's report to the National Conference, and Atchison was selected to attend the conference as a delegate from Tennessee.

During the 1960s, Atchison was appointed to chair the first self study for accreditation by the Southern Association of Colleges and Schools. The administrative structure for the college was reorganized, and Atchison was appointed Acting Director of Development pending affirmation by the accreditation agency. Dr. Charles Fancher, Dean of Faculty, was appointed to complete the study.

President Lyndon B. Johnson's War on Poverty gave Tennessee State University the opportunity to use its faculty and resources to conduct special projects and training programs. Atchison worked with Dr. Nebraska Mays on numerous projects and research studies. Atchison wrote a proposal for a summer pre-college program and a number of high schools graduates were brought to the campus for an eight-week training program. The following year Upward Bound became a federal program, Title III served as the launching pad for Tennessee State University to become fully involved in federal elations. The University was appointed to serve as the coordinating institution for a group of developing institutions in order to send a package proposal for the first year of funding. Dr. Frederick Patterson appointed me to prepare the report for Washington.

After being appointed Vice President for Research Development, it was now time for the University to position itself to solicit and manage private funds. Atchison wrote the charter for the Tennessee State University Foundation. He is the lone surviving charter member of the Foundation, He retired from the University in 1986 and served as Executive Director of the Foundation until 1989.

Prior to coming to Tennessee, Atchison served as a school psychologist for the Charlotte City Schools in Charlotte, NC from 1949 – 1953. He received his Ed.D. in psychology from Indiana University in Bloomington in 1958.

In 1968, following 14 years of service with TSU, Atchison, professor of psychology, began his second career the University in the area of institutional advancement. The need for institutional advancement – student services, academics, development and business – was an outgrowth of TSU's 1968-1969 Self-Study conducted by Dr. Atchison. Subsequently, President Andrew Torrence appointed Dr. Atchison to the Acting Director for Development post which included the responsibility for managing sponsored research. Federal funds to the University at that time had been concentrated in the areas of agriculture and home economics, which had been awarded to TSU from the U.S. Department of Agriculture since 1967. In 1972, Atchison was appointed Vice-President for Research and Development and served in this capacity through 1986.
John Michael Mallette graduated from Xavier University with a B.S. degree in 1954. He then attended Texas Southern University and received his M.S. in zoology in 1958. From 1957 through 1958, he was a research technician with the University of Texas Dental Units. From 1958-59, he was an instructor in zoology at Texas Southern University. He studied at Pennsylvania State University from 1959 – 1962, and he received his Ph.D. in zoology in September 1962.

From September 1962 to 1970, Mallette was employed as an Associate Professor and was promoted to Professor of Biological Sciences and Chairman of Graduate Studies and Research with Tennessee State University. In 1971, he was named Teacher of the Year at Tennessee State University.

In 1979, Mallette began serving as Associate Vice-President for Research and Development, under Dr. Calvin Atchison. In that position, he made significant accomplishments, including the establishment of an official protocol for conducting research at TSU, and the initiation of compensation for faculty summer research efforts.

Mallette had a distinguished career as a researcher, serving in such positions as President of the Tennessee Academy of Science, and was listed in World's Who's Who in Science and the American Men of Science. He was well-versed in the responsibilities of sponsored research, serving as a consultant to the National Institutes of Health, the Department of Health, Education and Welfare, and the National Science Foundation. His affiliation with these federal agencies led to increased funding in research at the University.

In 1971, Mallette became Director of the Joint Allied Health Center between Meharry Medical College and Tennessee State University. He worked part-time with the University of Tennessee at Nashville beginning in 1968, and in September 1974, he became a full time Professor of Biological Sciences. In June 1975, he was named Vice Chancellor for Academic Affairs with The University of Tennessee at Nashville. He began directing graduate students in research in 1962.

Mallette was a consultant to several organizations, and he received several grants, including awards from the Gulf Oil Company, Standard Oil Foundation, National Science Foundation (NSF) Undergraduate Research Participation Program, and the National Institute of Health.

Mallette was an active member of many community affiliations and served as a member of the Board of Directors for the Catholic Charities of Tennessee. He was a member of the Board of Directors for the Middle Tennessee Social Action Committee, the People United for the Restoration of the Environment, the National Conference of Christians and Jews, and Samaritan's Incorporated.

Mallette was a Fellow of the Tennessee Academy of Science and a Fellow of the New York Academy of Science. He was a member of the American Association of University Professors, and during 1967-68 he served as President of the Tennessee State Chapter. He was also a member of the American Zoological Society, the American Association for the Advancement of Science, the American Institute of Biological Sciences and the National Institute of Science. He was also a member of Sigma Xi. His publications appeared in several journals including Experimental Cell Research, American Zoologists, Science, Tennessee Academy of Science, Growth and Development, BioScience, and Survivalists.

Mallette was the recipient of many honors. In 1960-61, The National Foundation-Pennsylvania State, made him a Pre-Doctoral Fellow, and in 1965 he was Alumnus of the Year at Xavier University, in New Orleans. On Dec. 28, 1965, a paper he delivered at the University of California, Berkeley, was chosen as one of the most outstanding and newsworthy presenter at the American Association for the Advancement of Science. In June 1967, he attended the First International Congress of the Transplantation Society in Paris, France. He was accepted as a Grants Associate with the National Institutes of Health in April 1969. In 1970, he was listed in Outstanding Educators in America, Personalities of the South, and Community Leaders in America. He was a Fellow of the American Association for the Advancement of Science and appeared in the Dictionary of International Biography throughout the 1970s.
Dr. Edward L. Risby, Sr. (Retired)

Dean for School of Graduate Studies and Research, Director for Office of Sponsored Research, Department Chair for Biology and Professor, Tennessee State University

Dr. Edward Risby, who was employed at Tennessee State University (TSU) from 1978-1990, was instrumental in laying the foundation which culminated in the approval of the doctoral program in biology. During his tenure at TSU, Risby was Professor and Department Head of Biology, Program Director for Minority Biomedical Research Program (MBRS), and Director of the Research Instrumentation at Minority Institutions grant. Risby expanded the Biology Department's potential and capabilities through the renovations of McCord and Harned Hall, which resulted in expanded teaching and student research training facilities. After facility expansion, Risby successfully recruited research-oriented faculty in neuroscience, molecular biology, and expanded teaching and modern research instrumentation.

Risby attended the Extramural Associates Program at the National Institutes of Health (NIH), and upon returning to TSU continued in facilitating the expansion of the science curriculum and research. He wrote the first proposal for the Research Centers in Minority Institutions (RCMI) award at TSU, funded through NIH, under the directorship of Dr. Sidney McNairy. This RCMI grant award led to the development of the Center of Excellence for BioBehavioral Research on Health, which allowed for the hiring of new faculty. It also allowed for the establishment of an independent Institutional Office of Sponsored Research, which enhanced faculty and student research support and participation. This Center of Excellence Award, along with expanded faculty and research facilities, positioned the Department of Biological Sciences in 1985 to formulate and submit the proposal for the Ph.D. program through The University to the Tennessee Board of Regents for review and approval for implementation.

From 1986-1990, Risby also served as the Dean of the School of Graduate Studies and Research, and Director of the Center of Excellence for Bio-Behavioral Research on Health, Title III Program, and Health Careers Opportunity Programs (HCOP). Dr. Michelle Thomas and Dr. James Campbell provided invaluable assistance in the development of the RCMI and Ph.D. proposals, respectively.

Risby wrote over 25 refereed publications on biomedical research. He received several honors and awards including the George Henry Penn Award for best dissertation in his graduating class at Tulane University, Who's Who in Science, Lane College Service Award, Tennessee State University Service Award, Meharry Medical College Achievement Award, and the Million Dollar Research Club at Tennessee State University.

Risby is a member of the Millionaire Club. His note-worthy achievements in research at TSU include generating grant awards above $3 million in support of research and undergirding the development of research programs and facilities that positioned the University to offer the Ph.D. program in biology.

After leaving Tennessee State University, Risby went to Meharry Medical College, where he played a major role in the development of Meharry’s Ph.D. program. He managed the securing of Tennessee medical licensing of visiting physicians (MMC) deemed essential to effectuate the merger. Risby generated more than $20 million in federal research dollars for both Meharry and TSU.
Dr. Robert F. Newkirk, Sr.

Professor, Department of Biological Sciences in College of Agriculture, Human, and Natural Sciences
Tennessee State University

Robert F. Newkirk received his M.S. in biology in 1968 from Virginia State University, where he served as an instructor on the faculty from 1967–1968. He earned his Ph.D. in physiology in 1972 from Colorado State. He returned to Virginia State University to teach in 1972 and later rose to the rank of Associate Professor. He served on the faculty of VSU for six years. He received further research training and experiences at the Marine Biological Laboratory (Woods Hole, MA), Meharry Medical College, and the University of Illinois Medical Center (Chicago).

Newkirk is a professor of biology at Tennessee State University (TSU), where he teaches and conducts research in neurobiology. He has served as Program Director of the Minority Biomedical Research (MBRS) Program, Minority High School Student Research Apprentice Program (MHSSRAP), a summer program for high school students; the Research Centers in Minority Institutions (RCMI) Program, the Research Infrastructure in Minority Institutions (RIIMI) Programs, and the National Science Foundation (NSF) Historically Black Colleges and Universities Undergraduate Program (HBCU UP). These programs supported biomedical research for faculty, postdoctoral fellows, graduate, undergraduate and high school students.

Newkirk is coauthor on 16 papers published in refereed scientific journals, the first one of these was published with the world renowned Dr. Victor P. Whittaker, father of “Synaptosomes.” He is a member of the TSU Million Dollar Club for Research, and he has mentored more than a dozen students to the Master’s degree and five of these have continued on to the Ph.D., two for M.D. degrees, and all to successful careers. In 2012, Newkirk completes 32 years of faithful service to Tennessee State University.

Newkirk served as Director of the Office of Sponsored Research from 1990–1991. At this time, sponsored research continued to be supported through TSU’s Research Centers for Minority Institutions (RCMI) grants program awarded through the National Institutes of Health with Newkirk as the director. During his tenure, Newkirk maintained the administration of the program and aided faculty in soliciting additional funding for the university’s research endeavors.
Dr. Nathaniel Pugh, Jr.

Vice President for Planning and Institutional Effectiveness
Suffolk County Community College

Nathaniel Pugh, Jr., Ph.D. is Vice President for Planning and Institutional Effectiveness at Suffolk County Community College, in Long Island, NY. He received his Ph.D. from the University of California at Berkeley in 1974. He held part-time positions as Associate Professor in the School of Health Systems, College of Engineering, and Senior Research Scientist at The Georgia Institute of Technology in Atlanta, GA, from 1980 to 1984. Pugh served as Dean of the School of Graduate Studies and Research and Professor of Educational Administration at Tennessee State University (TSU) in Nashville, Tennessee from July 1991 – August 1992.

During his tenure at TSU, Dr. Pugh addressed issues that were foremost for the School of Graduate Studies and Research that included strengthening admissions policy between admissions to graduate school vs. admissions to a graduate program; the length of time a graduate student could matriculate in a graduate program before currency of a program would expire and a student would be required to retake the course for credit toward the master’s or doctorate degree; and finding additional funds to support graduate students in the pursuit of their graduate education and research interest.

Dr. Pugh continued with the efforts that had already been established by former research directors for research and sponsored programs at TSU. He provided stimulating leadership for researchers on campus and encouraged faculty to pursue funding opportunities related to their research interests and related initiatives from various funding agencies.

Pugh has a very extensive research career. He was Assistant to the President and Associate Professor of Educational Leadership and Research, Georgia Southern College, Statesboro, GA, from August 1984 to December 1992. He was Scholar in Residence for the Institute of Higher Education at the University of Georgia, in Athens, from 1997 – 2000. June 2000. He served as Vice President for Academic Affairs and Professor of Psychology at Fort Valley State University in Fort Valley, GA, from 1992 – 1996. He also served as Assistant Vice President for Institutional Research and Professor of Education at Clark Atlanta University, from 2000 – 2006. He was Senior Consultant for The Atlanta Higher Education Group, Stone Mountain, GA, from 2006 to 2010.
Dr. Maurice Mills (Deceased)

FORMER DIRECTOR, OFFICE OF SPONSORED RESEARCH
PROFESSOR, DEPARTMENT OF CHEMISTRY
TENNESSEE STATE UNIVERSITY

Dr. Maurice Mills attend Texas College in Tyler, Texas, where he received his B.S. in Chemistry in 1960. He earned his Ph.D. in Physical Organic Chemistry at Howard University in Washington, DC in 1972.

Mills devoted his life to Historical Black Colleges, in order to help educate his community, and increase the number of minorities in the field of science. He started his career as a high school teacher and coach at Mayflower and Tatum ISD schools. While there, he was awarded for his outstanding football coaching career as an Offensive Coordinator and Championship wins.

Mills started his college career as an Associate Professor of the Department of Chemistry at Prairie View A&M University from 1973-1975. He later became Head of the Department of Chemistry from 1975-1978. During his tenure at Prairie View A&M, he was cited for outstanding research growth in Chemistry. After receiving news that his father was ill, he moved to Marshall, TX and took a position at Wiley College as Professor and Division Chair of Science and Mathematics from 1978-1989. There, he was cited for producing one of the “Top 25 Science and Technology Students” in the nation by the White House Initiative on HBCUs.

In 1990–1991, Mills was a Professor of Chemistry at Tyler Junior College. In 1991–1992, he was the Professor and Head of the Department of Chemistry at Jarvis Christian College in Hawkins, Texas. In 1992, he accepted a position as Professor in the Department of Chemistry and Director of the Office of Sponsored Research at Tennessee State University in Nashville. He was awarded an Extramural Associate Award through the National Institutes of Health that same year. During his tenure, from 1992 – 2003, he set a record by increasing funding from $8.6 million in 1992 to $41.6 million in 2003. Through the concerted efforts of Mills and his administrative staff, the number of proposals funded increased, establishing meaningful partnerships with research institutions and industry, recruitment of outstanding research faculty, establishment of a strong research environment, and re-tooling the senior level faculty with new research ideas and initiatives.

Mills was instrumental in building a research center for the University. He initiated mini grants to faculty from funds from National Institutes of Health to get involved in research. He initiated the idea for research incentive awards and started the Million Dollar Club, which recognizes researchers for successfully receiving a million dollars or more in funding in any given year.

Mills returned to the East Texas area in 2006 and accepted a position as Chair of the Division of Arts and Sciences at Jarvis Christian College in Hawkins, Texas, where he served until 2008. He ended his career at Texas College in Tyler, Texas working as a Professor of Chemistry in 2009.

Throughout Mills’ career, he had many achievements and received several honors. In 1984, he was the first African-American chemist to receive the Fulbright Award, which allowed him the opportunity to teach at the University of Zambia in South Central Africa in 1986. He was also awarded the United Negro College Fund (UNCF) Distinguished Scholar Award. In 1989, he received a citation for Excellence in Science and Technology from the Congressional Commission on Science and Technology. In 1997, he received the Distinguished University Service Award (Kudos).

In 2002, along with other faculty members from Tennessee State University, Mills went to South Africa and helped develop one of the University's science and technology departments. In 1999, the Office of Sponsored Research was awarded a grant under his directorship that allowed researchers at Tennessee State University's Center for Automated Space Science to be the first ever to discover a planet outside of our own solar system.
Marcus W. Shute, P. E., Ph.D., became the Vice President for Research and Sponsored Programs at Clark Atlanta University (CAU) in May 2008. Prior to joining CAU, Dr. Shute served as the first Vice President for Research and Sponsored Programs at Tennessee State University (TSU) from 2003–2008, where he was responsible for developing and implementing the vision and strategic plan for the research enterprise. He led the completion of a new state-of-the-art 62,000 sq. ft. research facility at TSU, developed and revised policies and processes for research administration, and was responsible for more than $6.5M in funding from federal initiatives and research contracts during his tenure as VP, including $2M to establish the Nanoscience and Biotechnology Core Laboratories and Research Programs at TSU.

Dr. Shute was also the CEO and Founder of Shute Enterprises, Inc., a scientific, technical and business consulting firm specializing in optical and wireless communications. In addition, Dr. Shute served as Vice President of Advanced Technologies at Luxcore Networks, Inc., where he was responsible for developing technology solutions to enable Luxcore's next generation optical internetworking systems. He previously served as Vice President of Engineering, where he was charged with building a world-class engineering organization to design, develop and produce Luxcore's products.

Dr. Shute began his 25+ year career in research and development at Bell Laboratories, of AT&T and now Lucent Technologies, Inc., in Murray Hill, NJ, and subsequently Norcross, GA. He was recognized for sustained technical contributions in his areas of expertise by the appointment to Distinguished Member of Technical Staff, an honor reserved for the top five percent of the technical population at Bell Laboratories. Dr. Shute initially conducted research and development activities on the evaluation of fiber properties and characterization of fibers and radiation-hardened fibers. He led several development projects related to optical fiber technology, including the $70M Tactical Fiber Optic Cable Assembly, which was used in the Patriot Missile System in Operation Desert Storm, the Shipboard Optical Fiber Cable Project and the Fiber Optic Guided Missile project. Dr. Shute led the effort to develop, fabricate and qualify linear optical fiber amplifiers for analog and digital video transmission systems and was responsible for the development of the Reliability Assurance Program for the Optical-Application Specific Integrated Circuits program, including dense wavelength division multiplexing devices. Dr. Shute later served as a technical consultant and provided system performance analyses for several major wireless service providers. In addition, he led teams to deploy new wireless technology, and optimize the performance of voice and data wireless systems.

Dr. Shute earned a Bachelor of Science in Mechanical Engineering degree from Tennessee State University as University Scholar, becoming the first student to graduate with a cumulative grade point average of 4.0 out of 4.0; the S.M. degree in Materials Science and Engineering from the Massachusetts Institute of Technology in Cambridge, MA, and the Master of Science and Doctor of Philosophy degrees in Mechanical Engineering from the Georgia Institute of Technology in Atlanta, GA. He is a registered Professional Engineer (Mechanical) in the state of Georgia.

Dr. Shute has received numerous awards including the 1994 Black Engineer of the Year Award for Most Promising Engineer by U.S. Black Engineer magazine, the 1999 Golden Torch Award for Engineering Excellence by the National Society of Black Engineers, the Council of Outstanding Young Engineering Alumni Award from the Georgia Institute of Technology, the 2005 NTA Technical Achiever of the Year Award – Engineering by the National Technical Association, and Senior Member of the Institute of Electrical and Electronics Engineers. Dr. Shute has an interest in becoming a mission specialist on future space shuttle and space station missions and was a finalist in the astronaut class of 2000 to the NASA Mission Specialist Astronaut Program. He is a member of The Honor Society of Phi Kappa Phi, Pi Tau Sigma Mechanical Engineering Honor Society, the Omega Psi Phi Fraternity, Inc., and an All-American USA Masters Track and Field athlete.

Dr. Shute is a widely published and recognized subject matter expert in optical communications, polarization phenomena, wireless communications, and materials science. He has presented numerous technical papers as an invited lecturer and taught several short courses in his areas of expertise. He holds several patents and has patents pending in the areas of optical fiber design and characterization, polarization phenomena, optical fiber amplifiers, and optical networking. Dr. Shute is a leader in the scientific community and is an active member in several professional organizations.
Dr. Maria Thompson

MARIA THOMPSON, PH.D. SERVES AS PROVOST AND VICE PRESIDENT FOR ACADEMIC AFFAIRS AT THE STATE UNIVERSITY OF NEW YORK (SUNY) AT ONEONTA

Dr. Maria Thompson, Ph.D. serves as provost and vice president for academic affairs at the State University of New York (SUNY) at Oneonta. Early in her career she was an instructor at SUNY Oneonta before moving on to the University of Kentucky as assistant professor. In 1998, Thompson returned to her alma mater, Tennessee State University, where served in various positions in research administration culminating in a promotion to vice president of Research and Sponsored Programs where she oversaw $47 million in externally funded projects annually, which is, to date, the highest total in TSU history.

Dr. Thompson was awarded over $1 million by National Science Foundation (NSF) to create the Tennessee State University Interdisciplinary Graduate Engineering Research (TIGER) Institute which will be a state-of-the-art graduate-level research facility that will provide infrastructure for research in the areas of advanced scientific visualization, smart sensor networking, and materials science and engineering.

She approaches her responsibilities with a student-centered perspective and thus developed the university scholarship model The Scholar in U (TSU) Experience which is a multi-year interdisciplinary program that immerses undergraduate students in enhanced learning that contributes to their intellectual, professional, and personal growth. TSU has used the model to leverage existing resources to create “grand rounds” that include undergraduate research, study abroad, service learning, industry internships, and enterprise leadership. This highly successful model has been published and presented nationally and it has received funding from federal and state agencies.

Recognizing and advocating that well-developed students are the result of well-developed faculty, Thompson created the Research Enterprise Enhancement Model (REEM©) as a structured, systematic approach to effectuating research mentorship for faculty at all career levels. She received funding from the NSF to pilot her REEM© model as a means of advancing the careers of women faculty in science, technology, engineering and mathematics (STEM).

Thompson is a third-generation graduate of Tennessee State University. She received a Bachelor of Science degree from TSU and a Master of Science degree from the Ohio State University. She earned her doctorate in textile science and textile economics from the University of Tennessee, Knoxville in 1994. She was selected for and completed the National Council of University Research Administrators (NCURA) Leadership Development Institute in 2005 and the Millennium Leadership Initiative sponsored by the American Association of State Colleges and Universities in 2010. Also, she completed the prestigious Institute for Educational Management at Harvard University in 2011.
Dr. Ruby P. Torrey

FOUNDER OF RESEARCH DAY AT TENNESSEE STATE UNIVERSITY, 1979

Dr. Ruby Mayette Prigmore Torrey is Assistant Vice President for Research and Professor of Chemistry (Emeritus), Tennessee Technological University (TTU) in Cookeville, Tennessee. While active in this capacity, Dr. Torrey worked with faculty to develop proposals, and kept faculty apprised of agencies with available funds compatible with their research interests.

Dr. Torrey grew up in East Tennessee in the town of Sweetwater. She attended Swift Memorial Junior college and earned both her Baccalaureate and Master of Science degrees at TSU with honors. Dr. Torrey earned her doctoral degree in radiation-electroanalytical chemistry at Syracuse University in Syracuse, New York. After receiving her doctorate, Dr. Torrey did post-doctoral research at Brookhaven National Laboratory in Long Island, New York in the Mass Spectrometry Division. At TSU, she established a research laboratory in gaseous ion chemistry with funds from the Atomic Energy Commission. Dr. Torrey was invited to be a Visiting Chemist at the National Bureau of Standards (now the National Institute of Standards & Technology). She has held professorships in chemistry at TSU, the University of Tennessee-Nashville, and TTU.

HOW RESEARCH DAY BEGAN

A new president, Dr. Frederick Humphries, came to Tennessee State University in 1975; shortly after his arrival, many faculty committees were established. One such committee was a small university-wide Research Committee (“Committee”) whose duty was to work with Dr. Calvin Archison, the Vice President of Research and Sponsored Programs. The Committee mainly reviewed proposals before they were submitted to an agency for funding. Dr. Ruby Torrey, who had received a continuation grant from the Atomic Energy Commission (in year 5+), was chosen to represent the College of Arts & Sciences on the university-wide Committee. Dr. Robert Hudson, Dean of the College of Arts and Sciences, then asked Dr. Torrey to establish and chair such a committee for the College of Arts and Sciences. The following faculty made up the committee: Dr. Richard Hogg, Biological Sciences; Dr. Jacqueline Martin, Biological Sciences; Dr. Harold Mitchell, Speech Therapy; Dr. Ernest Rhodes, Social Sciences; Dr.

Dr. Torrey was very concerned that the research experience be an intricate part of the training of all students. Furthermore, she was concerned over the fact that those students who participated in research did not have a platform to present their findings. She had tried on previous occasions to get University funding to take analytical chemistry students to meetings and to visit the then National Bureau of Standards (now The National Institute of Standards and Technology/“NIST”) — home of the measurement standards that are in use—to no avail. Dr. Torrey suggested to the College of Arts and Sciences Research Committee that they host a university-wide “Research Day” in an effort to give students a platform and proper environment for presenting their research findings. Each presenter must have a faculty sponsor-mentor, and a panel of appropriate judges would be assembled. First, second, and third prizes would be awarded in the Graduate and Undergraduate Divisions. Attire would be professional; a time-keeper would be employed, plus all other aspects of a session at a national professional meeting.

There were no funds available in the College of Arts and Sciences for such a function. Dr. Torrey approached TSU President Humphries who confirmed the fact that there were no funds in the University for such a function; however, he gave Dr. Torrey permission to solicit funds for the event in the name of the University. Dr. Torrey solicited funds from First American National Bank, Third National Bank and Citizens Savings Bank, all of whom responded very favorably, but there was still not enough to cover event expenses and the financial awards to the students. Everyone who attended received a souvenir—a six-inch ruler/letter holder with the name of the University on it and Research Day, 1979. The Committee members gave the prize money out of their pockets. “Research Day” was successful!

Due to the reviews received and the interest created, Dr. Torrey presented her future plans for expanding the program and requiring students to attend a research session for class credit. The second year (April, 1980), those recommendations were implemented and the program was expanded to cover two days. In that same year, Dr. Torrey applied for and received a grant from the National Science Foundation—designing a program to increase the population of students majoring in chemistry, physics, and mathematics. Since she was the Director of the grant, known as the “Technologically-Assisted Physical Science” program (“TAPS”), she served as consultant to the Research Day Committee until she left the university in1983 to go to NIST.

Dr. Torrey is extremely pleased and honored that the “seed” of Research Day planted in 1979 has strongly flourished in the annual event of the University-Wide Research Symposium.
Oral Presentations
Monday, March 26, 2012
SESSION A: GRADUATE ENGINEERING

All Presentations will be in the Research and Sponsored Programs Building Room 163

9:00 GE1  SAFETY EFFECTIVENESS EVALUATION OF MEDIAN CABLE RAIL SYSTEMS IN TENNESSEE
Emasit, Daniel*; Advisor, Dr. Deo Chimba. Department of Civil and Environmental Engineering

9:15 GE2  EVALUATION OF THE IMPACT OF UNSCHEDULED ROAD WORKS TO TRAFFIC INCIDENTS IN TENNESSEE
(CASE STUDY: NASHVILLE, TN)
Kutela, Boniphace*; Advisor, Dr. Deo Chimba. Department of Civil and Environmental Engineering

9:30 GE3  DEVELOPMENT OF DECISION FUSION SOFTWARE SYSTEM FOR AIRCRAFTS STRUCTURAL HEALTH MONITORING
Mikhail, Maged*, Saleh Zein-Sabatto, and Mohammad Bodruzzaman; Advisor, Dr. Saleh Zein-Sabatto, Department of Electrical Engineering

9:45 GE4  A BODE PLOT CHARACTERIZATION OF ALL STABILIZING CONTROLLERS FOR MIMO SYSTEMS
Kallakuri, Sirisha*; Advisor, Dr. Lee-Hyun Keel. Department of Electrical and Computer Engineering

10:00 GE5  DESIGN AND IMPLEMENTATION OF A LABVIEW / EDUCATIONAL CONTROL PRODUCTS INTERFACE
Stratton, Timothy*; Advisor, Dr. Lee-Hyun Keel. Department of Electrical and Computer Engineering

10:15 GE6  ASSESSMENT AND DEVELOPMENT OF A VIRTUAL AND AUGMENTED REALITY BASED ASSEMBLY DESIGN SYSTEM
Adas, Husam*; Stephanie Starling; Advisor, Dr. Sachin Shetty. Department of Electrical and Computer Engineering

10:30 – 10:45 BREAK

10:45 GE7  ENHANCING THE CLASSIFICATION ACCURACY OF IP GEOLOCATION
Maziku, Hellen*, and Sachin Shetty; Advisor, Dr. Sachin Shetty, Department of Electrical and Computer Engineering

11:00 GE8  VISUALIZING GEOLOCATION OF SPAM EMAIL
Muuallem, Asmah*, and Sachin Shetty; Advisor, Dr. Sachin Shetty. Department of Electrical and Computer Engineering

11:15 GE9  AN INTEGRATED MACHINE LEARNING AND CONTROL THEORETIC MODEL FOR MINING CONCEPT-DRIFTING DATA STREAMS
Mukkavilli, Sai Kiran*; Advisor, Dr. Sachin Shetty. Department of Electrical and Computer Engineering

11:30 GE10  NETWORK TRAFFIC ANALYSIS FOR DATABASE SECURITY OF MOBILE DEVICES
Turner, LaRhonda*; Advisor, Dr. Sachin Shetty. Department of Electrical and Computer Engineering

11:45 GE11  A CASE STUDY OF ALTERNATIVE UNINTERRUPTIBLE SOLAR POWER SUPPLY FOR A DATA CENTER SERVER FARM
Tesfaye, Mekibib*; Advisor, Dr. Satinderpaul Devegan. Department of Electrical and Computer Engineering

12:00 GE12  THE IMPLEMENTATION OF QUALITY FUNCTION DEPLOYMENT AND COMPUTER AIDED DESIGN IN SEAT COMFORT DESIGN AND ANALYSES
Amer, Saed*; Adviser, Dr. Landon Onyebueke. Department of Mechanical and Manufacturing Engineering

Oral Presentations
Tuesday, March 27, 2012
SESSION B: GRADUATE SCIENCE I

9:00 GS13  IDENTIFYING STRATEGIES FOR ENHANCING SWITCHGRASS QUALITY FOR USE AS A BIOENERGY FEEDSTOCK
Abimbola, Allison *, and Jason de Koff; Advisor, Dr. Jason de Koff. Department of Agricultural and Environmental Sciences

9:15 GS14  GOAT MEAT MARKETING: AVAILABILITY AND CONSUMPTION PATTERNS IN THE METROPOLITAN NASHVILLE AREA
Favors, Delicia*; Advisors, Dr. Enefiok Ekanem, Dr. Surendra Singh and Dr. Barbara Canada, Department of Agricultural Sciences and Cooperative Extension

9:30 GS15  AN ASSESSMENT OF THE IMPACT OF ANTI-DUMPING TARIFFS ON U.S. SHRIMP IMPORTS
Pongo, Clarence*; Advisor, Dr. Enefiok Ekanem. Department of Agricultural and Environmental Sciences

9:45 GS16  THE PREVELANCE OF ANTIBIOTIC RESISTANT ENTEROCOCCUS IN POULTRY
A. Brown*, A. Kilonzo-Nthenge, and Deborah Long. Department of Family and Consumer Sciences

10:00 GS17  DE NOVO TRANSCRIPTOME SEQUENCING OF THE GUINEA FOWL PANCREAS
Darris, Carl*, James Tyus, Gary Kelley, and Samuel Nahashon; Advisor, Dr. Samuel Nahashon. Department of Agricultural and Environmental Sciences

10:15 GS18  ENHANCED UTILIZATION OF Selenocysteine in CHICKENS USING A DIRECT-FED PROBIOTICS AND PREBIOTICS FORMULA
Dixon, Beverly*, Samuel Nahashon, Agnes Kilonzo-Nthenge; Advisors, Dr. Samuel Nahashon and Agnes Kilonzo-Nthenge. College of Agriculture, Human and Natural Sciences

Denotes Presenter

All abstracts can be found at www.tnstate.edu/research
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<td>10:45 – 11:00</td>
<td>GS19</td>
<td>INFLUENCE OF DIRECT-FED MICROBIALS ON MECHANISMS OF PHOSPHORUS ABSORPTION AND</td>
<td>Donkor, Joseph* and Samuel Nahashon; Advisor, Dr. Samuel Nahashon.</td>
<td>Department of Agricultural and Environmental Sciences</td>
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<td>METABOLISM IN CHICKENS</td>
<td>Department of Agricultural and Environmental Sciences</td>
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<td>11:00 – 11:15</td>
<td>GS20</td>
<td>TWO-DIMENSIONAL GEL ELECTROPHORESIS EVALUATION OF THE PROTEOME OF BROILER CHICKENS</td>
<td>Kelley, Gary*, Sam Nahashon, Xiaofei Wang, Fur-Chi Chen, and Ann</td>
<td>Department of Agricultural and Environmental Sciences</td>
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<td>DURING ADIPOSE TISSUE ACCRETION</td>
<td>Stewart-Bohannon; Advisors, Dr. Samuel Nahashon, Dr. Xiaofei Wang and</td>
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<td>Dr. Fur-Chi Chen.</td>
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<td>11:15 – 11:30</td>
<td>GS21</td>
<td>CHARACTERIZATION OF PROTEINS ASSOCIATED WITH ADIPOSE TISSUE ACCRETION IN BROILER</td>
<td>Kimathi, Boniface*, Gary Kelley, Ann Stewart, Samuel Nahashon, Fur-Chi</td>
<td>Department of Agricultural and Environmental Sciences</td>
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<td>CHICKENS</td>
<td>Chen and Xiaofei Wang; Advisors, Dr. Samuel Nahashon, Xiaofei Wang and</td>
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<td>Dr. Fur-Chi Chen.</td>
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<td>11:30 – 11:45</td>
<td>GS22</td>
<td>INFLUENCE OF PROBIOTICS AND PREBIOTICS ON MECHANISMS OF CHOLESTEROL METABOLISM AND</td>
<td>Kuppachi, Sri Harsha* and Samuel Nahashon; Advisor, Dr. Samuel Nahashon.</td>
<td>Department of Agricultural and Environmental Sciences</td>
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<td>OBESITY IN BROILER CHICKEN</td>
<td>Department of Agricultural and Environmental Sciences</td>
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<td>11:45 – 12:00</td>
<td>GS23</td>
<td>EVALUATION OF LYSINE REQUIREMENT OF THE FRENCH GUINEA FOWL BROILER</td>
<td>Nelson, Kimiya*; Advisor, Dr. Samuel Nahashon. Department of Agricultural</td>
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**Oral Presentations**

**Tuesday, March 27, 2012**

**SESSION C – GRADUATE SCIENCE II**

All Presentations will be in the Research and Sponsored Programs Building Room 163

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<td>GS24</td>
<td>SOFT TISSUE MOBILIZATION AND TRIGGER POINT THERAPY FOR TENSION HEADACHES:</td>
<td>Cheatham, Lee Ann*, Garcia, Jessie*, Goodwin, Sarah*, and Shaver, Bryan*; Advisor, Dr. Ronald De Vera Barredo.</td>
<td>Department of Physical Therapy</td>
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<td>A REVIEW OF RESEARCH EVIDENCE</td>
<td>Department of Physical Therapy</td>
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<td>1:15 – 1:30</td>
<td>GS25</td>
<td>DOES ESTROGEN HAVE IMMUNOMODULATORY EFFECTS ON PREGNANT WOMEN DIAGNOSED WITH</td>
<td>Brown, Amber*, Kimberly McNair, Reneé Rawson, and Turner Sibley;</td>
<td>Department of Physical Therapy</td>
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<td></td>
<td>MULTIPLE SCLEROSIS</td>
<td>Advisor, Edilberto Raynes, MD.</td>
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<td>1:30 – 1:45</td>
<td>GS26</td>
<td>BEYOND THE LYRICS PART I: A RELATIONAL/HISTORICAL ANALYSIS OF AFRICAN AMERICAN</td>
<td>Flatt, Daniel*, Prather Lauren, McCullough Chareva; Advisors, Dr. Iris</td>
<td>Department of Physical Therapy</td>
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<td>ENGLISH AND HIP HOP FROM 1965 -1989</td>
<td>Johnson Arnold and Dr. Owen Johnson.</td>
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<td>1:45 – 2:00</td>
<td>GS27</td>
<td>MECHANISMS FOR SALT TOLERANCE AND SUSCEPTIBILITY IN TOMATO</td>
<td>Nveawiah-Yoho, Peter*, Suping Zhou, and Roger Sauve; Advisors, Dr.</td>
<td>Department of Agricultural Sciences.</td>
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<td></td>
<td>Suping Zhou and Dr. Roger Sauve.</td>
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<td>2:00 – 2:15</td>
<td>GS28</td>
<td>PD-CATALYZED NEW ORGANIC TRANSFORMATION FOR DIRECT AROYLATION, AND AMINATION</td>
<td>Liu, Kwei-Yu*; Advisor, Dr. Mohammad Al-Masum. Department of Chemistry</td>
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<td>REACTIONS</td>
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<td>2:30 – 2:45</td>
<td>GS29</td>
<td>THE EFFECT OF SPECIFIC FORMS OF HERB MARINATION ON THE REDUCTION OF CAMPYLOBACTER</td>
<td>Yorke, Richard*; Advisor, Dr. Fur-Chi Chen. Department of Food and</td>
<td>Department of Food and Consumer Science</td>
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<td>JEJUNI POPULATIONS ON CHICKEN</td>
<td>Consumer Science</td>
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<td>GS30</td>
<td>EVALUATION OF OPTIMUM CALCIUM AND PHOSPHORUS REQUIREMENTS OF THE FRENCH GUINEA</td>
<td>Puckett, Quinton*, and Samuel Nahashon; Advisor, Dr. Samuel Nahashon.</td>
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<td>FOWL BROILER</td>
<td>Department of Agricultural and Environmental Sciences</td>
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<td>3:00 – 3:15</td>
<td>GS31</td>
<td>COMPARATIVE ANALYSES OF THE GLUCOSE-DEPENDENT INSULINOTROPIC POLYPEPTIDE EXPRESSED</td>
<td>Tyus, James*; Advisor, Dr. Samuel Nahashon. Department of Agricultural</td>
<td>Department of Physical Therapy</td>
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<td>IN THE AVIAN HYPOTHALAMUS</td>
<td>Sciences; Department of Biological Sciences.</td>
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<td>3:15 – 3:30</td>
<td>GS32</td>
<td>EFFECTS OF LOW FAT VS A HIGH FAT DIET ON EXPRESSION OF FGFR3, IGFBP2, CCL4 AND</td>
<td>Bohannon-Stewart, Ann*, Gary Kelley, Joseph Donkor, Boniface Kimathi,</td>
<td>Department of Physical Therapy</td>
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<td>GREM1 IN BROILER CHICKENS</td>
<td>Carl Darris, James Tyus, Breyonna Jarrett, Rhia Nelson, Shatira Wilson,</td>
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<td>Samuel Nahashon, Xiaofei Wang. Advisors, Samuel Nahashon, and Dr.</td>
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<td>Xiaofei Wang. College of Agriculture, Human and Natural Sciences.</td>
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<td>3:30 – 3:45</td>
<td>GS33</td>
<td>COMPARISON OF ULNAR COLLATERAL LIGAMENT RECONSTRUCTION REHABILITATION PROGRAMS:</td>
<td>Wright, Cory*, Jason Controy, Craig Strickland, Chad Gosselin, and</td>
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<td>A LITERATURE REVIEW</td>
<td>Jason Rath, and Derek Charles. Advisor, Derek Charles.</td>
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*Denotes Presenter
## Oral Presentations

**Wednesday, March 28, 2012**

### SESSION D – GRADUATE SCIENCE III

All Presentations will be in the Research and Sponsored Programs Building Room 163

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<td>GS34</td>
<td>CRITICAL THINKING DISPOSITIONS OF GEORGIA AGRICULTURAL EDUCATORS</td>
<td>Parks, Clarissa* and John C. Ricketts; Advisor, Dr. John C. Ricketts.</td>
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<td>9:15</td>
<td>GS35</td>
<td>VERTICAL INTEGRATION IN BROILER INDUSTRY: TENNESSEE BROILER INDUSTRY</td>
<td>Bukari, Foziatu*; Advisor: Dr. Surendra Singh.</td>
<td>Department of Agricultural and Environmental Sciences</td>
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<td>9:30</td>
<td>GS36</td>
<td>ASSESSING THE HEAT TOLERANCE OF PIGEON PEA (CAJANUS CAJAN (L.) MILSPAUGH)</td>
<td>Okekeogbu, Ikenna*, Suping Zhou, and Sarabjit Bhatti; Advisor, Dr. Suping Zhou.</td>
<td>Department of Agriculture and Environmental Sciences</td>
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<td>9:45</td>
<td>GS37</td>
<td>STUDY ON THE BIOCHEMICAL AND PHYSIOLOGICAL PROPERTIES FOR SALT AND DROUGHT TOLERANCE IN TOMATO WILD SPECIES</td>
<td>Palmer, Marsha*, Roger Sauvé, Suping Zhou, and Sarabjit Bhatti; Advisor, Dr Suping Zhou.</td>
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<td>10:00</td>
<td>GS38</td>
<td>FUNCTIONAL STUDY OF ALUMINUM-RESPONSIVE GENES IN TOMATO USING REVERSE GENETIC APPROACHES</td>
<td>Sangrieddy, Sasi*; Advisor, Suping Zhou.</td>
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<td>10:30</td>
<td>GS39</td>
<td>SIGNALING AND GENETIC STUDIES OF CHROMOBACTERIUM VIOLACEUM</td>
<td>Trabue, Sydnee*, Terrence L. Johnson and Anthony Ejiofor; Advisors, Dr. Terrence L. Johnson and Dr. Anthony Ejiofor.</td>
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<td>10:45</td>
<td>GS40</td>
<td>MANAGEMENT OF CHERRY LEAF SPOT IN FLOWERING CHERRY (PRUNUS L. SPECIES)</td>
<td>Joshua, Jacqueline*; Advisor, Dr. Margaret T. Mmbaga.</td>
<td>Department of Biological Sciences</td>
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<td>11:00</td>
<td>GS41</td>
<td>THE EFFECTS OF HYPERICUM ON MAMMALIAN CANCER CELLS</td>
<td>Farrukh, Faryal*, E. Lewis Myles and Leigh Arino de la Rubia; Advisors, Dr. E. Lewis Myles1 and Dr. Leigh Arino de la Rubia2.</td>
<td>1. Department of Biological Sciences, 2. Center of Excellence for Learning Sciences</td>
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<td>11:15</td>
<td>GS42</td>
<td>EFFECT OF VIOLACEIN EXTRACTED FROM DIFFERENT CHROMOBACTERIUM VIOLACEUM STRAINS ON CANCER CELL GROWTH</td>
<td>Mehta, Toral *, E. Lewis Myles and Terrance L. Johnson; Advisor, E. Lewis Myles.</td>
<td>Department of Biological Sciences</td>
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<td>11:30</td>
<td>GS43</td>
<td>ANALYSIS OF PROTEIN PHOSPHATASE WITH EF HAND 1 TRANSCRIPT IN CHICKENS</td>
<td>Donkor, Joseph* and Xiaofei Wang; Adviser, Xiaofei Wang.</td>
<td>Department of Biological Sciences</td>
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<td>11:45</td>
<td>GS44</td>
<td>THE SYNERGISTIC ACTION OF CHRONIC ETHANOL AND REACTIVE OXYGEN SPECIES ON INSULIN SIGNALING IN HYPERVENTILATION SMOOTH MUSCLE CELLS</td>
<td>Williams, Sparkle D.* and Benny Washington; Advisor, Dr. Benny Washington.</td>
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<td>1:00</td>
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<td>EFFECTS OF PLANTING DATE, DENSITY, AND VARIETY ON LEAF PHOTOSYNTHESIS, STOMATA CONDUCANCE, SOIL RESPIRATION, AND LEAF ARE INDEX OF PIGEONPEA</td>
<td>Wilson, Corie*; Advisor, Dr. Dafeng Hui.</td>
<td>Department of Biological Sciences</td>
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<td>1:15</td>
<td>US2</td>
<td>THE GROWTH INHIBITION EFFECT OF CAMELLIA SINENSIS ON HUMAN COLONTUMOR CELL LINES COLO 320 AND HT 29</td>
<td>Johnson, Jamiiel M.*, Charla L. Juniel and E. Lewis Myles. Advisor, Dr. E. Lewis Myles.</td>
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<td>1:45</td>
<td>US4</td>
<td>EXPOSURE TO TRIBUTYL Tin ALTERS THE SECRETION OF INTERFERON GAMMA FROM HUMAN NATURAL KILLER CELLS</td>
<td>Reid, Jacqueline* and Margaret Whalen; Advisor, Margaret Whalen.</td>
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**Wednesday, March 28, 2012**

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<td>REVIEW OF INCIDENT TRANSPORTATION EMERGENCY EVACUATION SYSTEMS FOR POPULATED AREAS</td>
<td>Housel, Heather*; Advisors, Dr. Deo Chimba and Dr. Sachin Shetty.</td>
<td>Department of Civil and Environmental Engineering and Department of Electrical Engineering</td>
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2:30  UE7  STUDY OF EMERGENCY EVACUATION STRATEGIES FOR TENNESSEE STATE UNIVERSITY
Walker, Cory*, Advisors, Dr. Deo Chimba and Dr. Sachin Shetty. Department of Civil and Environmental Engineering and Department of Electrical

2:45  UE8  ANALYSIS OF IP AND DNS TRAFFIC FOR IMPROVED CLOUD NETWORK SECURITY
Nelson, Dwight*; Advisors, Dr. Tamara Rogers, Department of Computer Science, Dr. Sachin Shetty, Department of Electrical and Computer Engineering

3:00  UE9  RECONFIGURABLE PLATFORM FOR REAL TIME WIRELESS TRANSMISSION OF MULTIMEDIA TRAFFIC
Zibut, Cornel*, Liang Hong and Sachin Shetty; Advisors, Dr. Liang Hong and Dr. Sachin Shetty. Department of Electrical and Computer Engineering

3:15  UE10  ASSESSING SOFTWARE AND PROTOCOL VULNERABILITIES IN ROUTERS FOR SECURE CLOUD COMPUTING
Luna, Nicholas* and Helten Maziku; Advisor, Dr. Sachin Shetty. Department of Electrical and Computer Engineering

3:30  UE11  BIRDS OF A FEATHER (BOF), ANOMALY DETECTION USING TIME SERIES ANALYSIS IN ELECTRONIC MEDICAL RECORDS (EMRS)
Shamsuddin, Mostafa*; Advisors, Dr. Bradley Malin and Dr. Sachin Shetty. Department of Biomedical Informatics and Department of Electrical and Computer Engineering

3:45  UE12  CONTROL SYSTEM DESIGN FOR AND SIMULATION OF A MICRO-TURBINE ROTOR DRIVE SYSTEM
Jameson, Noel Jordan*; Advisor: Dr. Hamid Hamidzadeh. Department of Mechanical and Manufacturing Engineering

4:00  UE13  DESIGN PARAMETERS THAT AFFECT SEAT COMFORT AND EXPERIMENTAL VALIDATION
White, Kamishia*, Charity Iweorah, Michael Onyebueke; adviser, Dr. Landon Onyebueke. Department of Mechanical and Manufacturing Engineering

4:15  UE14  IMPULSIVE STATE FEEDBACK CONTROL OF MARKOVIAN SWITCHING LINEAR STOCHASTIC SYSTEMS
Jameson, Noel Jordan*, M.J. Knap, L.H. Keel, and S. Sathananthan; Advisor: Dr. S. Sathananthan. Department of Mechanical and Manufacturing Engineering

Poster Presentations
Thursday, March 29, 2012 from 9:00 A.M. – 12:00 P.M.

GRP1  CHARACTERIZATION OF NALIDIXIC ACID-RESISTANT ISOLATES OF ERWINIA TRACHEIPHILA FOR GROWTH AND VIRULENCE
Mason, Sean N.*, Caleb Kersey & C. Korsi Dumeny; Advisor, Dr. Dumeny. Department of Agricultural & Environmental Sciences

GRP2  COUPLING MICROALGAE PRODUCTION TO WASTE TREATMENT AND CO2 MITIGATION
Fadeyi, Omowunmi*, Marie Blacksmith, Derrick Lee; Advisor, Dr. Kudjo Dzanot. Agricultural and Environmental Sciences

GRP3  ENHANCING OF CELLULOSIC BIOMASS FEEDSTOCK PRODUCTION THROUGH ARBUSCULAR MYCORRHIZAL FUNGI SYMBIOSIS
Moore, Virginia*, Janiel Jackson, Harold Pettigrew; Advisor, Dr. E. Kudjo Dzanot, Department of Agricultural Sciences

GRP4  THE EFFECT OF INCOME GROWTH AND FOOD CONSUMPTION PATTERN IN DEVELOPING COUNTRIES ON U.S. AGRICULTURAL EXPORT
Giaa, Damilola* and Enefiok Ekanem; Advisor, Dr. Enefiok Ekanem. Department of Agricultural and Environmental Sciences

GRP5  TENNESSEE'S AGRICULTURAL PRODUCERS: PRODUCTION RISK MANAGEMENT AWARENESS
Towns, Danielle R. H.* Advisor, Dr. E. Ekanem and Dr. S. Singh. Department of Agricultural and Environmental Sciences

GRP6  TOBACCO USE AMONG TENNESSEANS AND STRATEGIES FOR CHANGE
Novotry, Meggan L.*; Advisor, Dr. Jan Emerson. Center for Prevention Research

GRP7  OCCURRENCE OF ENDOPHYTIC MICROORGANISMS IN FLOWERING DOGWOOD AND THEIR POTENTIAL APPLICATIONS
Lawrence, Shaniece* and Margaret T. Mmbaga; Advisor, Dr. Margaret T. Mmbaga. Department of Agricultural and Environmental Sciences

GRP8  RESISTANCE TO POWDERY MILDEW IN FLOWERING DOGWOOD PLANTS
Pariikh, Lipi*, M.T. Mmbaga, Guorong Zhang; Advisor, Dr. M.T. Mmbaga. Department of Agricultural and Environmental Sciences

GRP9  PRODUCTION OF VOLATILE COMPOUNDS BY POTENTIAL BIOLOGICAL CONTROL BACTERIA COLLECTED FROM FLOWERING DOGWOODS
Rotich, Emily*, Margaret T. Mmbaga, and Mu Zheng; Advisors, Dr. Margaret T. Mmbaga1 and Dr. Mu Zheng2. Department of Agricultural Sciences, 2Department of Chemistry.

GRP10  OPTIMIZING BIOSENSOR PERFORMANCE THROUGH ANTIBODY DESIGN AND SELECTION
Darris, Carl*, Samuel Nahashon and Fur-Chi Chen; Advisors, Dr. Samuel Nahashon and Fur-Chi Chen. Department of Agricultural and Environmental Sciences

GRP11  STUDENT ACHIEVEMENT IMPACT OF GEOCACHING INTEGRATION IN AN AGRISCIENCE LESSON PLAN
Hendrix, Rachel* and John Ricketts; Advisor, Dr. John Ricketts. Department of Agriculture and Environmental Sciences

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<td>Reynolds, Jonathan*; Advisors Dr. S.K. Hargrove, Dr. M. Malkani, S. Sutton. Dept of Computer and Electrical Engineering</td>
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<th>GRP40</th>
<th>MACHINE LEARNING BASED SECURE IP GELOCATION</th>
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<tbody>
<tr>
<td>Biswal, Biswajit*; Advisor, Dr. Sachin Shetty. Department of Electrical and Computer Engineering</td>
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<tr>
<th>GRP41</th>
<th>USING COMPRESSED SENSING TO ENHANCE ANOMALY DETECTION IN CLOUD COMPUTING</th>
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<tbody>
<tr>
<td>Gold, Kimberly*; Advisors: Dr. Sachin Shetty and Dr. Tamara Rogers. Department of Electrical and Computer Engineering</td>
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<tr>
<th>GRP42</th>
<th>ASSESSING VULNERABILITIES OF NETWORK APPLICATIONS IN CLOUD COMPUTING PLATFORM</th>
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<tr>
<td>Lenkala, Swetha Reddy; Advisor, Dr. Sachin Shetty. Department of Electrical and Computer Engineering</td>
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<tr>
<th>GRP43</th>
<th>PRIMARY USER EMULATION ATTACKS IN COGNITIVE RADIO NETWORK - SECURITY MEASURES</th>
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<tbody>
<tr>
<td>Thanu, Meena* and Dr. Sachin Shetty. Advisor, Dr. Sachin Shetty. Department of Electrical and Computer Engineering</td>
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<tr>
<th>GRP44</th>
<th>INTEGRATING BIM SOFTWARE AND A WEARABLE AUGMENTED REALITY SYSTEM FOR WEATHERIZATION ASSESSMENT</th>
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<tbody>
<tr>
<td>Henderson, Jamal*, S. Keith Hargrove, John Drew; Advisor, Dr. S. Keith Hargrove. Department of Mechanical &amp; Manufacturing Engineering</td>
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<tr>
<th>GRP45</th>
<th>EXAMINATION OF CURRENT LITERATURE TO DETERMINE THE BEST PROTOCOL FOR WHOLE BODY VIBRATION TO INCREASE BONE MINERAL DENSITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klomp, Michael*, Richardson, Daniel and Zelenock, Julie; Advisor, Dr. Deborah Edmondson, Department of Physical Therapy</td>
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<tr>
<th>GRP46</th>
<th>ARE THERE ASSOCIATIONS OF OBESITY RATES WITH CANCER RATES IN TENNESSEE FROM 2003-2010?</th>
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<tbody>
<tr>
<td>Foster, Maya* &amp; Julie Vu; Advisor, Dr. Janice Emerson. Center for Prevention Research, Department of Agricultural, Human, and Natural Sciences</td>
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<tr>
<th>GRP47</th>
<th>ACCESS NASHVILLE: THE PROGRAM AND THE COMMUNITY RESPONSE</th>
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<tbody>
<tr>
<td>Cox, Beth*, Sarah Goodwin; Advisor, Dr. Natalie House. Department of Physical Therapy</td>
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<tr>
<th>GRP48</th>
<th>AQUATIC THERAPY FOR FALL PREVENTION IN THE OLDER ADULT</th>
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<tr>
<td>Carlson, Lindsay*, Aaron Greet, Brad Ellis, Allison Lamb; Advisor, Dr. Natalie House. Department of Physical Therapy</td>
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<tr>
<th>GRP49</th>
<th>EFFECTIVENESS OF PREHABILITATION ON FUNCTIONAL OUTCOMES AFTER TOTAL KNEE ARTHROPLASTY: A LITERATURE REVIEW</th>
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<tbody>
<tr>
<td>Neilson, Kerrianna*, Robert Nelson, Benjamin Farmer, Sara Sizemore, Jacob Hamrick; Advisor, Dr. Kevin Lawrence. Department of Physical Therapy.</td>
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<th>GRP50</th>
<th>EFFECTS OF SOCIAL SKILLS ENRICHMENT ON PRAGMATIC LANGUAGE AND SOCIAL COMPETENCE</th>
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<td>Saliba, Jennifer*; Advisor Dr. Mary Dale Fitzgerald. Department of Speech and Hearing Sciences</td>
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<tr>
<th>GRP51</th>
<th>DISTINGUISHING BETWEEN TRANSFORMATIONAL AND SERVANT LEADERSHIP</th>
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<tbody>
<tr>
<td>Herman, Karen*; Advisor, Dr. Rodney Stanley. Department of Public Administration and Urban Affairs</td>
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<th>GRP52</th>
<th>TRANSCRIPTION: AN OVERLOOKED SET OF QUALITATIVE VARIABLES?</th>
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<tbody>
<tr>
<td>Zajdel, Joseph*; Advisor, Dr. Leigh Arino de la Rubia. Center of Excellence for Learning Sciences</td>
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<tr>
<th>GRP53</th>
<th>DEVELOPING A WEARABLE AUGMENTED REALITY SYSTEM FOR WEATHERIZATION ASSESSMENT</th>
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<tbody>
<tr>
<td>Drew, John*, Jamaal Henderson, S. Keith Hargrove; Advisor, Dr. S. Keith Hargrove. Department of Mechanical &amp; Manufacturing Engineering</td>
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All abstracts can be found at www.tnstate.edu/research

*Denotes Presenter
### Poster Presentations

**Thursday, March 29, 2012 from 12:30 P.M. – 3:30 P.M.**

**UNDERGRADUATE POSTERS**

*All abstracts can be found at www.tnstate.edu/research  
*Denotes Presenter

<table>
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<tr>
<th>UGP1</th>
<th>DNA AMPLIFICATION OF INDIVIDUAL COTTON POLLEN GRAINS</th>
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<tr>
<td>Jackson, Rickey*; A. Naseer Aziz, J.N. Jenkins, Jack C. McCarty, D.M. Stelly and S. Saha; Advisor, Dr. A. Naseer Aziz. Department of Agricultural and Environmental Sciences</td>
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<tr>
<th>UGP2</th>
<th>INVESTIGATIONS ON THE HETEROTROPHIC GROWTH OF MICROALGAE FOR USE IN ENVIRONMENTAL CLEANUP AND BIOFUEL PRODUCTION</th>
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<tbody>
<tr>
<td>Blacksmith, Marie*; Deric Lee, Brittany Woodard, and Omowumi Fadeyi; Advisor, Dr. E. Kudjo Dzantor. Department of Agricultural and Environmental Sciences</td>
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<tr>
<th>UGP3</th>
<th>MICROALGAL IMMOBILIZATION FOR RESEARCH ON REMEDIATION AND BIOFUEL TECHNOLOGIES</th>
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<tbody>
<tr>
<td>Davidson, Chloe*; VaShonda Allen, S. Azubike, and D. Hui; Advisor, E. Kudjo Dzantor. Department of Agricultural and Environmental Sciences</td>
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<tr>
<th>UGP4</th>
<th>CHARACTERIZATION OF A BACTERIAL STRAIN WITH PUTATIVE CELLULOSIC ACTIVITY</th>
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<tbody>
<tr>
<td>Monk, Bria*; Hui Li, Suping Zhou; Advisor, Dr. Suping Zhou. Department of Agricultural and Environmental Sciences</td>
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<th>UGP5</th>
<th>ISOLATION OF A BACTERIAL STRAIN WITH PUTATIVE CELLULOSIC ACTIVITY</th>
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<tr>
<td>Monk, Bria*; Hui Li, Suping Zhou; Advisors: Dr. Suping Zhou and Dr. Terrance Johnson. Department of Agricultural and Environmental Sciences</td>
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<th>UGP6</th>
<th>ISOLATION OF BT AND CRY PROTEINS</th>
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<tr>
<td>Porter, Kadijah*; Advisors, Dr. Anthony Ejiofor and Dr. Terrance Johnson. Department of Biological Sciences</td>
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<tr>
<th>UGP7</th>
<th>A TIME COURSE STUDY OF NEUROPILIN-2 EXPRESSION IN THE POST-NATAL BRAIN OF RATS.</th>
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<tbody>
<tr>
<td>Jordan, Tiemy S.* and Brenda S. McAdory; Advisor, Dr. Brenda S. McAdory. Department of Biological Sciences</td>
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<tr>
<th>UGP8</th>
<th>MICROWAVE ENHANCED CU-CATALYZED CROSS-COUPILING REACTION OF POTASSIUM ARYLTRIFLUOROBORATES AND ETHANOLAMINES</th>
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<tr>
<td>Cain, Laurance T.*; Advisor, Mohammad Al-Masum. Department of Chemistry</td>
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<tr>
<th>UGP9</th>
<th>MICROWAVE IRRADIATED PROCESS FOR OXAZOLIDINES, AND OXAZINANES SYNTHESIS FROM ALDEHYDES AND AMINOALCOHOLS IN THE PRESENCE OF AIR</th>
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<tr>
<td>Lott, Baillie W.* and Nazanin Ghaziaisharif; Advisor, Dr. Mohammad Al-Masum, Department of Chemistry</td>
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<th>UGP10</th>
<th>SYNTHESIS OF VARIOUS FLUORO SUBSTITUTED AROMATIC KETONES BY PALLADIUM-CATALYZED CROSS-COUPILING OF POTASSIUM ARYLTRIFLUOROBORATES AND AROYL CHLORIDES</th>
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<tr>
<td>Taylor, Kristen*; Advisor, Mohammad Al-Masum. Department of Chemistry</td>
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<th>UGP11</th>
<th>EFFECT OF HIGH DOES OF GENISTEIN ON OXIDATION OF ARACHIDONIC ACID</th>
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<tr>
<td>Dallaire, Sarah*; Advisor, Dr. William Boadi. Department of Chemistry</td>
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<th>UGP12</th>
<th>EFFICIENCY OF QUERCETIN AND KAEMPFEROL ON IRON-INDUCED PEROXIDATION OF METHYL LINOLATE</th>
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<tr>
<td>Shaft, Ali*; Advisor, Dr. Boadi, Williams. Department of Chemistry</td>
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<tr>
<th>UGP13</th>
<th>SYNTHESIS OF GOLD NANOPARTICLES IN THE PRESENCE OF POLYSACCHARIDES: WHAT CAN TRIGGER THE REACTION?</th>
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<tbody>
<tr>
<td>Tyler, Lauren*; Kiara Simmons, and Koen Vercruysse; Advisor, Dr. Koen Vercruysse. Department of Chemistry</td>
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<th>UGP14</th>
<th>ORGANOCHLORINE PESTICIDE, PENTACHLOROPHENOL, ALTERS THE SECRETION OF TUMOR NECROSIS FACTOR ALPHA FROM HUMAN NATURAL KILLER LYPHOCYTES</th>
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<tr>
<td>Durham, Andrea* and Margaret Whalen; Advisor, Margaret Whalen. Department of Chemistry</td>
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<tr>
<th>UGP15</th>
<th>DIBUTYL Tin ALTERS SECRETION OF INTERFERON GAMMA FROM HUMAN NATURAL KILLER CELLS</th>
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<tr>
<td>Sledge, Alexis* and Margaret Whalen; Advisor, Margaret Whalen. Department of Chemistry</td>
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<th>UGP16</th>
<th>PRELIMINARY OBSERVATIONS OF WIC-APPROVED SMALL GROCERY STORES</th>
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<tr>
<td>Gray, Valentino*; Olisa Menakaya, Courtney Gipson, Veronica James, and Veronica Oates; Advisor, Dr. Veronica Oates. Department of Family and Consumer Sciences</td>
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<th>UGP17</th>
<th>NETWORK TRAFFIC ANALYSIS FOR CLOUD AUDITING</th>
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<tr>
<td>Smith, Shondalyn*; Dr. Keesook Han (AFRL/RIGD); Advisors, Dr. Sachin Shetty. Department of Electrical and Computer Engineering and Dr. Tamara Rogers. Department of Computer Science</td>
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*Denotes Presenter  
All abstracts can be found at www.tnstate.edu/research
Poster Presentations
Thursday, March 29, 2012 from 9:00 A.M. – 12:00 P.M.

FACULTY POSTERS

FP1 TWO BACTERIAL BIOCONTROL AGENTS REDUCE MACROPHOMINA ROOT ROT AND POWDERY MILDEW, AND PROMOTE PLANT GROWTH IN FLOWERING DOGWOOD
Mackasmiel, Lucas*, and Margaret Mmbaga; Advisor, Dr. Margaret Mmbaga. Dept of Agricultural and Environmental Sciences

FP2 AMBROSIA BEETLE INSECTICIDE AND BIOPESTICIDE TRIALS
Oliver, Jason*, Michael Reding, Christopher Ranger, Peter Schultz, Nadeer Youssef, James Moyseenko, and Alicia Bray. Department Agriculture and Environmental Sciences, USDA-ARS, and Virginia Tech

FP3 FURAZOLIDONE-INDUCED CARDIOMYOPATHY IN BROILER CHICKENS
Nahashon, Samuel*, and Thea Boatswain. Department of Agricultural and Environmental Sciences

FP4 WALNUT TWIG BEETLE TRAP DEVELOPMENT: CAN IT SNIFF OUT THE TREE?
Bray, Alicia¹, Nadeer Youssef¹, William Klingeman2, Jason Oliver1. 1Department of Agricultural and Environmental Sciences, Tennessee State University; 2University of Tennessee

FP5 EFFICACY OF THYME OIL AGAINST SALMONELLA SPP ON CUCUMBERS
Kilonzo-Nthenge, Agnes * and Deborah Long. Department of Family and Consumer Sciences

FP6 AN OVERVIEW OF WATER QUALITY CONTAMINANTS IN MOUNTAIN CREEK, WARREN COUNTY IN TENNESSEE
Akuley-Amenyenu, Aonya*, and Thea Boatswain. Department of Agricultural and Environmental Sciences, Tennessee State University, University of Tennessee

FP7 THE LONG-HORNED BEETLES (CERAMBYCIDS) OF TENNESSEE
Youssef, Nadeer N. ¹, Jason B. Oliver¹, Joshua P. Basham¹, and William E. Klingeman2; ¹Department of Agriculture and Environmental Sciences, Tennessee State University, ²University of Tennessee

Oral Presentations
Friday, March 30, 2012

FACULTY

Oral Presentations will be in the Jane Elliott Hall, Auditorium

9:00  F1 TENNESSEE GOAT PRODUCERS: EXAMINING THE EXTENT OF MARKET REACH AND DISTRIBUTION METHODS
Ekanem, Eneliok*, Mary Mafuyai-Ekanem, Fisseha Tegegne and Surendra Singh Department of Agricultural and Environmental Sciences

9:15  F2 WHAT FACTORS INFLUENCE FARMERS’ DECISIONS TO PRODUCE SWITCHGRASS AS AN ENERGY CROP?
Tegegne, Fisseha*, K. Sanford, E. Ekanem, A. Wade and M. Mafuyi.

9:30  F3 IDENTIFICATION OF BIOMARKERS AND GENES FOR TOLERANCE TO ABIOTIC STRESSES IN PLANTS
Zhou, Suping*, Roger Sauve, Sarabjit Bhatti. Department of Agricultural Sciences, College of Agriculture, Human and Natural Sciences, Tennessee State University

9:45  F4 NEAR ISOMETRIC BIOMASS PARTITIONING IN CHINESE FOREST ECOSYSTEMS
Hui, Daifeng¹,*, Jun Wang², Weijun Shen², Xuan Le¹, Emeka Nwaneri¹, Philip Ganter¹, and Hai Ren² 1Department of Biological Sciences, Tennessee State University, Nashville, TN, USA; 2Key Laboratory of Vegetation Restoration and Management of Degraded Ecosystems, South China Botanical Garden, Chinese Academy of Sciences, Guangzhou, China

10:00 F5 HOSPITAL ADMISSION MAY BE DRIVEN BY HOSPITAL BED CAPACITY IN SOME TENNESSEE COUNTY HOSPITALS
Johnson, Owen*, Department of Public Health, Health Administration and Health Sciences

Williams, Learoath.a; Department of History, Geography, Political Science, and Africana Studies

10:30 F7 CONTROLLER DESIGN AND THE GAUSS-LUCAS THEOREM
Knap, Michael*, Advisor, Dr. Lee Keel and Dr. S.P. Bhattacharyya

10:45 F8 GENDER AND BANLIEUE LANGUAGE
Todd, Teresa.* Department of Language, Literature and Philosophy
Division of Nursing Day

THEME: “EXTENDING YOUR HEALING TOUCH THROUGH RESEARCH”

Dr. DeRiemer did her undergraduate work at UCLA in Biology and her doctoral work at Yale in Pharmacology working with Drs. Paul Greengard and Len Kaczmarek on modulation of neuronal activity. She spent 3 summers at the Marine Biological Laboratory, Woods Hole developing histological techniques to map regeneration of nerve cells with Dr. Eduardo Macagno. Her postdoctoral work was done at the Max-Planck Institute for Biophysical Chemistry with Dr. Bert Sakmann on control of ion channel activity. She also worked with Dr. Rami Rahaminoff of the Hadassah Medical School on ion channels in intracellular organelles. She held an Assistant Professorship in the Department of Biological Sciences of Columbia University before moving to Nashville and Meharry Medical College where she is now a Professor in the Department of Professional & Medical Education. Her current research interests are in teaching communication and cultural competence in Medical School, geriatrics education, and increasing the number of minorities and women in the health and science pipeline. Recent projects include a series of conferences on Ethical Issues around HIV and Substance Abuse in Minority Populations, the activities of the Meharry Consortium Geriatric Education Center, and a joint project with the Metropolitan Nashville Public Schools’ Health Career Academies.

Monday, March 26, 2012 - James E. Farrell - Fred E. Westbrook Building, 118

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>8:00 am</td>
<td>Registration and Continental Breakfast</td>
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<tr>
<td>8:30 am</td>
<td>Occasion by Mrs. Deirdre Jones, Chairperson</td>
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<tr>
<td>8:45 am</td>
<td>Welcome Dr. Kathleen McEnerney, Dean – College of Health Science and Dr. Kathy Martin, Associate Dean, Division of Nursing</td>
</tr>
<tr>
<td>9:00 am - 9:30 am</td>
<td>MSN and BSN Poster Presentations</td>
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<tr>
<td>9:35 am - 11:15 am</td>
<td>Concurrent Sessions</td>
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<tr>
<td>11:15 am - 11:35 am</td>
<td>Presentation by Sponsors</td>
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<tr>
<td>11:40 am - 12:15</td>
<td>Luncheon</td>
</tr>
<tr>
<td>12:20 pm - 1:00 pm</td>
<td>Address, Dr. Susan A. DeRiemer, Professor, the Department of Professional &amp; Medical Education Meharry Medical College</td>
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Monday, March 26, 2012 RSP Building, Basement Level

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<tbody>
<tr>
<td>1:00 pm</td>
<td>TIGER Institute Ribbon Cutting Ceremony, Dr. Maria Thompson, Dr. S. Keith Hargrove, Mr. Ronnie Brooks Principal Investigators</td>
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<td></td>
<td>Remarks and Tour</td>
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The TIGER (TSU Interdisciplinary Graduate Engineering Research) Institute is the result of an infrastructure award from the National Science Foundation (NSF). Located on the ground floor of the Research & Sponsored Programs Building, several laboratories will conduct research in cyber-security, advanced visualization & computation, nano-materials, and energy systems, and currently has funding from NSF, Department of Homeland Security, and several corporations.

Psychology Day

Jeri L. Lee, Ed.D., J.D., Licensed Psychologist, Licensed Attorney, Licensed Professional School Counselor, and Licensed Teacher has taught at Tennessee State University since 2001, in the university setting since 1977, teaching at three of the universities granting her a degree, including: East Texas Baptist University, Texas Christian University and Tennessee State University, as well as teaching at Minot State University (North Dakota), Jacksonville College (Texas), Austin Peay State University, Meharry Medical College, Volunteer State Community College, and Trevecca University.

A member of American School Counseling Association since 2001 and of Tennessee Counseling Association since 1991, she currently serves on the TCA Ethics Committee. Past President of the Tennessee Psychological Association, she also served as Vice President, Legislative Chair, and Federal Advocacy Coordinator. She was Legislative Chair for Middle Tennessee Counseling Association. She has been in private practice as a psychologist for nine years and continues to provide psychological consultation services. She also serves on the Metro School Counseling Advisory Board.

Presently, she coordinates Tennessee State University’s Professional School Counseling Program and teaches graduate students in the Department of Psychology, where she is a tenured Associate Professor.

Tuesday, March 27, 2012 The Forum, Kean Hall

<table>
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<tr>
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<tbody>
<tr>
<td>1:00 p.m. - 2:30 p.m.</td>
<td>Posters Presentations (posters judged from 11:00 a.m. to 1:00 p.m.)</td>
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<tr>
<td>2:30 p.m. - 3:00 p.m.</td>
<td>Welcome Angela Scott, GPSO President and Ayesha Douglas, ABPsi President</td>
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<td>Introduction of Keynote Speaker, Linda Guthrie, Ph.D., Chair, TSU Psychology Department</td>
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<tr>
<td>3:00 p.m. - 4:00 p.m.</td>
<td>Keynote Address,“Applying Evidence-Based Psychological Research to Avoid Malpractice”</td>
</tr>
<tr>
<td>4:00 p.m. - 5:00 p.m.</td>
<td>Panel Discussion “Collaboration and Publishing”</td>
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<tr>
<td>5:00 p.m. - 6:00 p.m.</td>
<td>Awards Ceremony</td>
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**College of Health Sciences Day**

Iris Johnson Arnold is an associate professor within the Department of Speech Language Pathology and Audiology. She received her bachelor’s and master’s degree from South Carolina State University and doctorate from The University of Memphis. Currently, she is leading a research group of undergraduate and graduate students investigating the relationship between African American English and Hip Hop music. Dr. Johnson Arnold is particularly proud of her leadership of the TSU Chapter of the National Student Speech Language and Hearing Association and works extensively with them to provide students with volunteer, research and travel opportunities. She was recently selected as a 2011-2012 President’s Fellow and is working with Dr. S. K. Hargrove to investigate retention and recruitment variables. Nationally, she has served as an Executive Board Member and Convention Chair for the National Black Association of Speech Language and Hearing.

**College of Engineering Day**

John A. Hopkins is Director of Strategic Operations working out of the Office of the Executive Vice President of the University of Tennessee. He is also Director of Tennessee NSF and DOE EPSCoR programs, including the NSF Track I RII titled Tennessee Solar Conversion and Storage using Outreach, Research, and Education – TN-SCORE. These statewide programs are directed to building research infrastructure and collaborations within the state to make Tennessee more successful in competing for research funding. Dr. Hopkins was formerly Vice President of the UT Research Foundation, which manages the technology commercialization activities stemming from the research performed at UT’s campuses. From 2003 to 2009, he served as UTRF Director of Technology Transfer and oversaw the development and implementation of technology evaluation and licensing processes in both its Knoxville and Memphis offices.

Prior to UTRF, Dr. Hopkins served as a faculty member at the UT Space Institute, where he contributed to a number of innovative technologies, leading to 11 US patents, and directly assisted in their commercial success. He helped develop and license laser-manufacturing technologies that were used in the world’s first no-lube fifth wheel latches for over the road trucks, and has also been involved in more than ten start-up companies, including roles as founder, technology inventor, licensor of intellectual property, and business development support. Dr. Hopkins serves as a Director and Treasurer of the Tennessee Center for Research and Development, a non-profit company that supports emerging technologies in the Knoxville-Oak Ridge region, and he has served on the Executive Committee of the Innovation Valley Technology Council.

Dr. Hopkins received his B.S., M.S., and Ph.D. degrees in mechanical engineering from The University of Tennessee and was a NASA Pre-Doctoral Research Associate during his graduate program while supporting both ground and flight experiments for the First International Microgravity Laboratory (IML-1) space lab mission. Dr. Hopkins, is a licensed engineer in Tennessee, has authored or co-authored more than fifty technical papers, and received his MBA from the Owen Graduate School of Management at Vanderbilt University.

**Wednesday, March 28, 2012**

**Schedule of Events**

<table>
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<th>Event</th>
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<tbody>
<tr>
<td>8:00 am – 9:00 am</td>
<td>Registration and Mounting of Posters</td>
</tr>
<tr>
<td>10:00 am – 12:00 noon</td>
<td>Plenary Poster Session (for general public)</td>
</tr>
<tr>
<td>12:00 noon – 1:00 pm</td>
<td>Luncheon. Speaker Dr. Iris Johnson Arnold, Associate Professor, Department of Speech Language Pathology and Audiology, Tennessee State University</td>
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**Wednesday, March 28, 2012**

**Schedule of Events**

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<td>12:00 pm - 1:00 pm</td>
<td>Speaker, Dr. John Hopkins</td>
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</table>
APLS is a multi-disciplinary, multi-institutional professional organization focused on providing a more well-rounded college experience to students in the Life Sciences. Through academic enrichment, professional development, life science education and student advocacy, APLS seeks to become an important resource supplement to its members’ undergraduate and/or graduate training. APLS membership includes students, faculty, staff and professionals at Tennessee State University, Middle Tennessee State University, Meharry Medical College, Vanderbilt University, Auburn University, as well as a host of high school, community and industry partners.

Those with an interest in the life sciences, technologies or research are encouraged to visit APLS at www.aplsglobal.org or email us at enrichment@aplsglobal.org.

Thursday, March 29, 2012

Schedule of Events

Research and Sponsored Programs Building

Nanoscience and Biotechnology Core Facility

9:00 am – 12:00 p.m. Laboratory and Technical Skills Training (Hands-on and Demos)

Conference Room 163

1:30 p.m. – 3:00 p.m. APLS Panel Discussion: “Transitioning from College to the Workplace: Strategies for Success”

Conference Room 107

3:00 p.m. – 4:00 p.m. APLS Professional Development Workshop Series: “Development of a Professional Portfolio for Effective Self-marketing”

Conference Room 163

4:30 p.m. – 5:30 p.m. APLS Business Meeting (members only)
Friday, March 30, 2012  12:00 P.M. – 2:00 P.M.

Students Awards Ceremony
James E. Farrell - Fred E. Westbrook Building, 118

Welcome  Mrs. Nannette C. Martin, Symposium Co-Chair

Luncheon

The Message from the President  Dr. Portia Holmes Shields, President, Tennessee State University

Presentation of Awards  Dr. Michael Busby, Interim Associate Vice President for Academic Affairs for Research and Sponsored Programs

Student Awards
Research Mentor Award
APLS Awards

Acknowledgements and Closing Remarks  Dr. Carolyn Caudle, Symposium Co-Chair

Adjournment
Million Dollar Club Members

Ronnie G. Brooks, Facilities Management
Dr. Michael Busby, Center for Excellence in Information Systems Engineering and Management
Mrs. Katari Coleman, Center of Excellence for Learning Sciences
Dr. Satinderpaul Devgan, College of Engineering, Technology, and Computer Science
Dr. Soumen N. Ghosh, Office of Business and Economic Research
Dr. Robert Hampton, Academic Affairs
Dr. S. Keith Hargrove, College of Engineering, Technology, and Computer Science
Dr. Pamela Hull, Center for Health Research
Dr. Baqar A. Husaini, Center for Health Research
Dr. Prem S. Kahlon, Department of Biological Sciences
Dr. Lee-Hyun Keel, Center for Excellence in Information Systems Engineering and Management
Dr. William Lawson, School of Arts and Sciences
Mrs. Mary Love, TRIO Programs
Mrs. Janice Lovell, Center of Excellence for Learning Sciences
Dr. Mohan Malkani, College of Engineering, Technology, and Computer Science

Dr. Peter E. Millet, College of Education
Dr. E. Lewis Myles, Department of Biological Sciences
Dr. Robert F. Newkirk, Department of Biological Sciences
Dr. Barbara Nye, Center of Excellence: Basic Skills
Dr. Chinyere Onwubiko, College of Engineering, Technology, and Computer Science
Dr. Edward L. Risby, Graduate School and Office of Sponsored Research
Dr. Decatur B. Rogers, College of Engineering, Technology, and Computer Science
Dr. Lonnie Sharpe, Massie Chair of Excellence in Environmental Engineering
Dr. Amir Shirkhodaie, College of Engineering, Technology, and Computer Science
Dr. Marcus W. Shute, Research and Sponsored Programs
Dr. Willard Smith, Center for Excellence in Information Systems Engineering and Management
Dr. Jennifer Stewart-Wright, Center of Excellence for Learning Sciences
Dr. Maria Thompson, Division of Research and Sponsored Programs

Congratulation to the 28 members of the Million Dollar Club. This is an exclusive club populated by scholars who, due to their commitment to excellence, are on the cutting edge in research, teaching, and service. The steady increase in sponsored research and program support is a direct result of the million dollar projects awarded to these 28 distinguished scientists, engineers, and educators. Their efforts, although measurable in dollars, are immeasurable in terms of the positive impact their work has had on the University's ability to achieve its mission.
Research and Sponsored Project Awards FY 2011

**Submissions by Project Type**

- Research: $38,752,568 (80)
- Service: $7,189,504 (16)
- Instruction: $7,123,041 (15)
- Other: $5,230,472 (13)
- **Total**: $58,295,585 (124)

**Awards by Project Type**

- Research: $11,937,816 (56)
- Instruction/Training: $20,399,167 (84)
- Service: $9,091,082 (25)
- Construction: $3,821,527 (5)
- **Total**: $45,249,592 (170)

**Submissions by Source**

- Federal: $55,437,600 (96)
- State: $1,031,561 (13)
- Foundations: $303,697 (8)
- Industry: $92,000 (3)
- Other: $1,430,727 (4)
- **Total**: $58,295,585 (124)

**Awards by Source**

- Federal: $41,417,458 (146)
- Private: $484,700 (8)
- State: $3,347,433 (16)
- **Total**: $45,249,592 (170)
33rd Annual University-Wide Research Symposium

Congratulations to our student researchers and faculty advisors for their winning entries in the oral and poster presentation competition during the research symposium. For 2011, there were 156 student authors and 17 faculty authors for oral presentations and posters.

UNDERGRADUATE ORAL PRESENTATION - ENGINEERING I
First Place UE8 Paul Moore and Ashia Coleman
Second Place UE1 Carlton Cobb, and Jameka Johnson
Third Place UE3 Kyle Brook, Justin Hailey, and Carleton Douglas

UNDERGRADUATE ORAL PRESENTATION - ENGINEERING II
First Place UE11 Terrell Phillips
Second Place UE17 Timothy Stratton
Third Place UE15 Dwight Nelson

UNDERGRADUATE ORAL PRESENTATION – SCIENCE
First Place US6 Warren Dean, V
Second Place GE19 Teric Tibbs and Shantae Modena
Third Place GE17 Marcus Pennington and Ashley Bradley

GRADUATE ORAL PRESENTATION - ENGINEERING I
First Place GE9 Meena Thanu
Second Place GE2 Isaac Lyatuu and Michael Knap
Third Place GE3 Michael Knap

GRADUATE ORAL PRESENTATION - ENGINEERING II
First Place GE16 McKenzie McNeal
Second Place GE19 Jerry Sweafford
Third Place GE17 Kevin Tyrell

GRADUATE ORAL PRESENTATION - SCIENCE I
First Place GS7 Jam es Tyus
Second Place GS5 Thea Boatswain
Third Place GS4 Jacqueline Joshua, and Lucas Mackasmiel

GRADUATE ORAL PRESENTATION - SCIENCE II
First Place GS19 Erin Walden
Second Place GS22 Sparkle Williams
Third Place GS11 Thomas Dean, Joseph Kachelman, Nathan Philippi, and Charity Winters

GRADUATE POSTER - ENGINEERING, TECHNOLOGY AND COMPUTER SCIENCE
First Place P7 Omari Boyd
Second Place P41 Jonathan Reynolds and Adriane Parker
Third Place P1 Abdalla Alsalah

GRADUATE POSTER - PSYCHOLOGY AND HEALTH SCIENCE
First Place P51 Michelle Reece
Second Place P42 Holly Beth Roach, Jessica Spivey, Kaitlyn Seaman, and Melanie Pond
Third Place P34 Jonathan McAnulty, Stephen Blazer, and Jonathon Farmer

GRADUATE POSTER - SCIENCE
First Place P48 James Tyus and Niesha Bonner
Second Place P14 Carl Darris and Ashley Tinnon
Third Place P12 Lindsay Celada

UNDERGRADUATE POSTER - ENGINEERING, TECHNOLOGY AND COMPUTER SCIENCE
First Place P13 Thomas Holman and Kimberly Eakins
Second Place P22 Gary Moore
Third Place P33 Jonathan Smith

UNDERGRADUATE POSTER - PSYCHOLOGY AND HEALTH SCIENCE
First Place P15 Asiya Jabeen, Vivien Casagrande, and Yaoguant Jiang
Second Place P6 Rachel Connor
Third Place P20 Cierra Love-Baker, Daniel Flatt, Jalesa Howard, Jeanna LaNier, Lauren Prather, Lauren Phillips, and Alex Gibbs

UNDERGRADUATE POSTER - SCIENCE
First Place P38 Ashley West
Second Place P26 Jacqueline Reid
Third Place P30 Nadia Simmons

2011 Research Mentorship Award Winner
Samuel Nahashon, Ph.D.
Congratulations to Dr. Samuel Nahashon, Associate Professor, Department of Agricultural and Environmental Sciences in the College of Agriculture, Human, and Natural Sciences.

Dr. Nahashon was awarded this honor for serving as mentor/advisor to the greatest number of winning student research entries during the 33rd Annual University-Wide Research Symposium, 2011. Four of Dr. Nahashon’s nine (9) student entries placed in the student research competitions. He received $1,000 cash in recognition of his research mentorship.

List of Dr. Nahashon’s Winning Student Research Mentees

Graduate Oral Presentation-Science 1
1st Place, James Tyus
2nd Place, Thea Boatswain

Graduate Poster Presentation-Science
1st Place, James Tyus* and Niesha Bonner
2nd Place, Carl Darris* and Ashley Tinnon
The Center of Excellence in Information Systems Engineering and Management is an interdisciplinary research facility located on the Tennessee State University Main Campus in the Division of Research and Sponsored Programs Building. At the Center, TSU graduate and undergraduate students are presented with opportunities to participate in a genuine research environment. Major areas of research include:

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  - Nashville Children Eating Well for Health
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  - Meharry-Vanderbilt-TSU Cancer Partnership

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The goals of the Annual Research Symposium, now in its 34th year, exemplify the educational philosophy and mission of the College, which seeks to elevate the life of the mind on campus, to promote authentic creativity, and to honor the unique gifts, interests, and goals of each student. In its presentation of both student and faculty research, the Symposium also reflects the College's vision of a genuinely collaborative intellectual and creative community in which its faculty and students work, discover, and learn together.

The College is proud again this year to support the Annual Research Symposium and congratulates participating faculty and students on their vital contribution to the life of the University.

Gloria C. Johnson, Ph.D.
Interim Dean
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