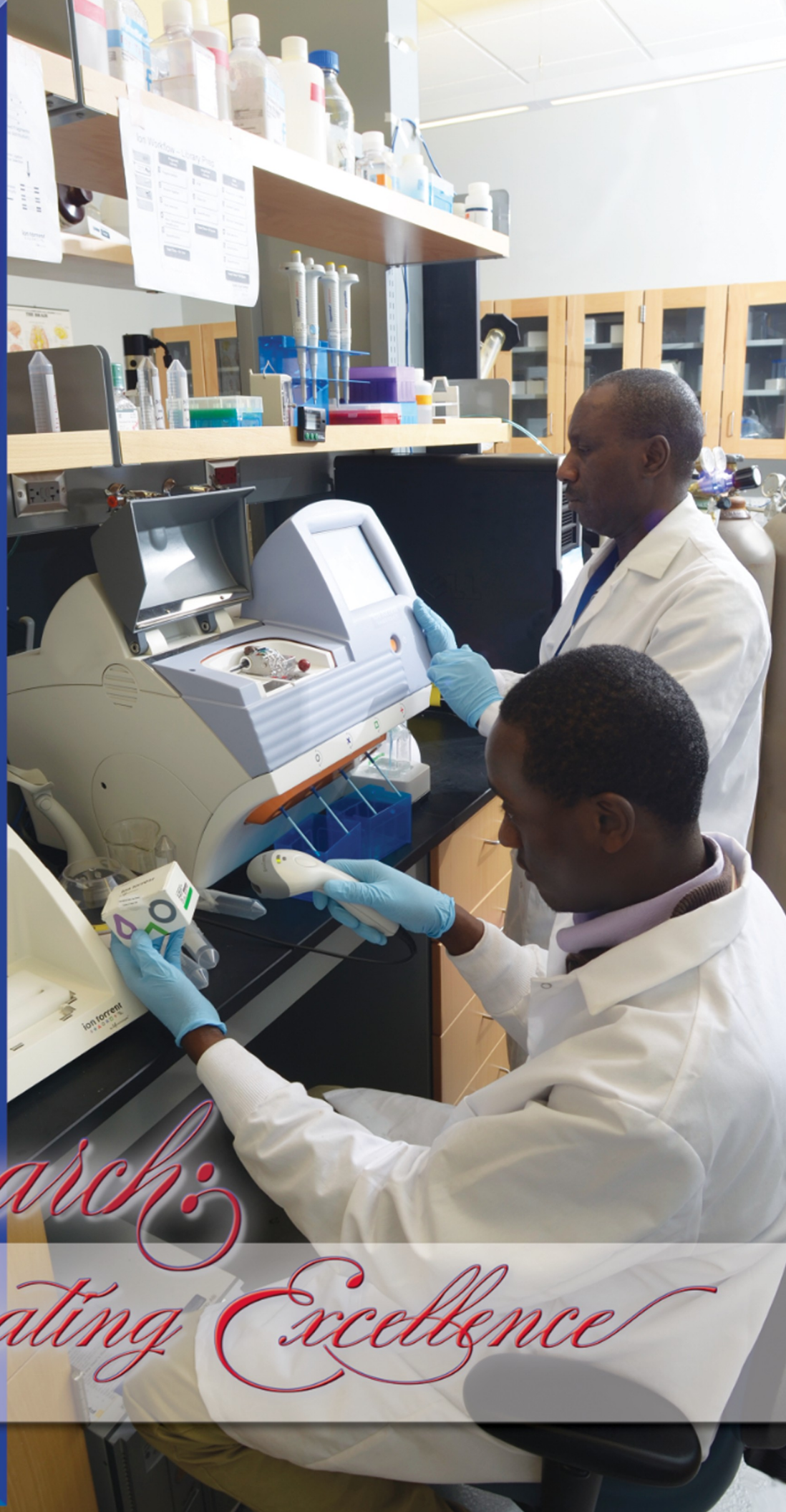




37th Annual
UNIVERSITY
WIDE
RESEARCH
SYMPOSIUM

MARCH 30 - APRIL 3, 2015

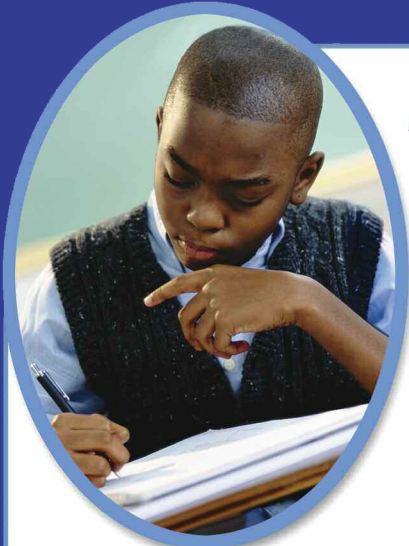
*Research:
Celebrating Excellence*





Center of Excellence for Learning Sciences

**Proudly Supports the 37th Annual University-Wide
Research Symposium**



ACADEMICS

Child Care Provider Training and Academic Support

The Center provides professional learning opportunities within higher education institutions, workplaces, and online environments, as well as other informal and non-traditional educational settings.

RESEARCH

Research that addresses the needs and priorities of the educational community

The Center's research focus is the field of Learning Sciences an interdisciplinary/multidisciplinary field that draws on multiple theoretical perspectives and research paradigms with the goal of advancing knowledge about human learning and development in formal and informal settings.



SERVICE

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The Center's service programs are examples of the successful outreach and community partnerships that enhance the opportunities for the growth and development of children and adults in Tennessee and throughout the nation.



For more information visit www.tnstate.edu/learningsciences

or contact Valerie Williams, Director • 615-277-1651 • learningsciences@tnstate.edu

Research and Sponsored Programs Building • Suite 1B



Division of Research and Sponsored Programs

**37th Annual University-Wide Research Symposium
Official Symposium Program Booklet
Commemorative Issue**

Research: Celebrating Excellence

Glenda Baskin Glover, Ph.D., J.D., CPA
University President

Mark G. Hardy, Ph.D.
Vice President for Academic Affairs

Jane Shaw-Jackson, Esq.
*Vice President for Administration
Senior Advisor to the President*

Laurence Pendleton, J.D.
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Contributing Editor



Tennessee State University Executive photography, artwork, and inside book photography (facilities and faculty) courtesy of John Cross, Media Services.

Photography for announcements and invited speakers courtesy of TSU colleges and invited speakers.

Cover and photograph at left courtesy of Vando L. Rogers, Nashville, TN, 2015.

Cover: Graduate student researchers majoring in animal science, Collins Khwatenge, M.S. candidate (left) and Joseph Donkor, Ph.D. candidate (right) operate the ion touch and next generation sequencer to generate gene transcripts of bacterial organisms derived from the gastrointestinal tract of chickens and guinea fowl. Select microorganisms will be characterized and selected based on their properties and used to develop probiotics. The probiotics will be fed to poultry to competitively exclude pathogenic microorganisms and minimize excessive use of antibiotics in poultry production, minimizing occurrence of antimicrobial drug resistance. The animal biotechnology research group is led by Samuel Nahashon, Ph.D., Professor and interim Head, Department of Agricultural and Environmental Sciences in the College of Agriculture, Human, and Natural Sciences.

Left: Graduate students pursuing research in either plants or animal biotechnology. Research facilities in the agricultural biotechnology building are shared by all faculty and students.

April 2015 issue. This booklet is published by the Division of Research and Sponsored Programs and is published once a year.
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(former Symposium Co-chair)*

APLS Day

THE ASSOCIATION OF PRE-PROFESSIONAL LIFE SCIENTISTS

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.





OFFICE OF
THE PRESIDENT

TENNESSEE STATE UNIVERSITY
3500 JOHN A. MERRITT BOULEVARD
NASHVILLE, TENNESSEE 37209-1561



March 30, 2015

Dear Colleagues:

It gives me great pleasure to welcome each of you to the 37th Annual University-Wide Research Symposium, themed, "Research: Celebrating Excellence", here at Tennessee State University. I also want to extend a heartfelt welcome to our distinguished speaker, Dr. Georgia M. Dunston, Professor and former Chair of the Department of Microbiology, Howard University College of Medicine, and the founding Director of the National Human Genome Center (NHGC) at Howard University and Director of Molecular Genetics in the NHGC.

As we become a more global community, taking on a global perspective and embracing multiculturalism, we are granted greater awareness of our multi-ethnic genetic makeup. Innovative research conducted by Dr. Dunston highlights the genetic markers of disease susceptibility and health disparities among African Americans and other African diaspora populations.

I am encouraged by the passion of our students and faculty as they continue to embrace multidisciplinary research and the advancement of technology in science, engineering, business, and the emerging humanities disciplines. This knowledge is transmitted to our students by the collaborative educational interactions and networking which this annual Symposium at TSU provides. Our students are offered a challenging and supportive arena for presenting their undergraduate and graduate research. I congratulate them all for their outstanding work – a celebration of excellence.

The 2015 Symposium continues to serve as a bridge to the TSU family and broader community. It also provides an additional opportunity for me to reach out to faculty, students, alumni, and the community of institutions and people for innovative ideas and inspiration.

The TSU family is committed to promoting and encouraging student and faculty researchers who are striving and blazing trails for the next generation of *Think, Work, and Serve* ambassadors.

Sincerely,

A handwritten signature in purple ink that reads "Glenda Glover".

Glenda Glover

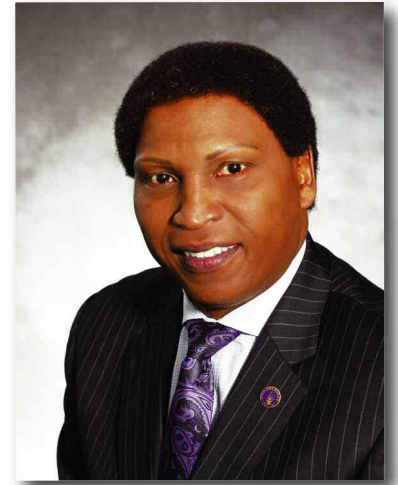
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Academic Affairs
3500 John A. Merritt Boulevard
Nashville, Tennessee 37209-1561
Office: (615) 963-5301
Fax: (615) 963-5597



March 30, 2015

Dear Colleagues:

I am excited to welcome you to the 37th Annual University-Wide Research Symposium. The theme "Research: Celebrating Excellence" at Tennessee State University expresses our desire to be one of the top HBCUs in the country in research and sponsored programming. I am also pleased to know that the noted molecular geneticist Dr. Georgia M. Dunston, Professor of Microbiology, Founding Director for the National Human Genome Center, Director of Molecular Genetics, and former Chair, Department of Microbiology-College of Medicine at Howard University will be our symposium keynote speaker.

We are proud of our history and accomplishments in the research arena at Tennessee State. Yet there is still work we must do to achieve the goals we have set for ourselves. Given the extraordinary opportunities that exist, our aspirations are attainable as we continue to pursue our goals and objectives allowing us to shape and mold our future. There is no doubt we will continue the rich legacy we have obtained given the success we have enjoyed and the work we continue to do through our strategic research agenda.

This week we celebrate the creative research our faculty and student researchers have generated this past year. There will be an exchange of knowledge and ideas through stimulating dialogue and collaborative interactions graduate and undergraduate students engage in during the symposium. It is through these sessions faculty and students engage in conversations specific to research topics investigated across the globe.

I extend my congratulations to Dr. Lesia Crumpton-Young and all of the TSU family for the effort that has been expended to sponsor this symposium. It is a capstone event that provides value not only to our student participants, but to the broader research community.

Sincerely,

Mark G. Hardy, Ph.D.
Provost and Executive Vice President of Academic Affairs



"Think. Work. Serve."

Office of the Vice President
Research and Sponsored Programs
3500 John A. Merritt Boulevard
Nashville, Tennessee 37209-1561
Office: (615) 963-7631
Fax: (615) 963-5068



March 30, 2015

Dear Colleagues:

Welcome to the 37th Annual University-Wide Research Symposium at Tennessee State University.

The purpose of the Symposium is to highlight and celebrate the multi-disciplinary research experiences of TSU students.

The oral and poster presentations of students from across the university spectrum help to foster a greater understanding of the core areas of knowledge central to their respective areas of study.

The Symposium showcases vital research that is essential to the future of our university and the nation. Student participation in research opportunities has tremendously impacted their learning experience and increased their career marketability and vitality.

Please join me in celebrating our students, faculty, and researchers as they continue to embark upon future research endeavors.

I hope that you will encourage and applaud our students as they prepare for a lifetime of achievement and service, with research as a component and cornerstone of their continuing accomplishments.

Sincerely,

Lesia L. Crumpton-Young, Ph.D.
Chief Research Officer
Associate Vice President

OVERVIEW OF EVENTS

ON-SITE REGISTRATION SCHEDULE					
Presentation Type	Location	Monday, March 30, 2015	Tuesday, March 31, 2015	Wednesday, April 1, 2015	Friday, April 3, 2015
Oral	RSP Building 1st Floor Lobby	8:30 am – 1:00 pm	8:30 am – 1:00 pm	8:30 am – 1:00 pm	8:30 am – 10:00 am
Poster	Jane Elliott Hall Lobby	1:00 pm – 4:00 pm	8:30 am – 1:00 pm		

MONDAY, MARCH 30, 2015

Division of Nursing Research Day: James E. Farrell - Fred E. Westbrook Building, 118

7:30 a.m. – 1:00 p.m. Poster Sessions. Awards. Luncheon Speaker – Maria Revell, Ph.D.

Presentations:

9:00 a.m. – 12:15 p.m. Graduate Engineering I Orals, RSP 163

9:00 a.m. – 12:15 p.m. Graduate Science I Orals, RSP 209

2:00 p.m. OPENING CEREMONY AND PLENARY SESSION
E. T. Goins Recital Hall, Performing Arts Center
Symposium Keynote Address – Georgia M. Dunston, Ph.D.

TUESDAY, MARCH 31, 2015

Presentations:

9:00 a.m. – 12:15 p.m. Graduate Engineering II Orals, RSP 209

9:00 a.m. – 12:15 p.m. Graduate Science II Orals, RSP 163

1:00 p.m. – 4:00 p.m. Graduate Sciences III Orals, RSP 163

1:00 p.m. – 4:00 p.m. Graduate Science IV Orals, RSP 161

WEDNESDAY, APRIL 1, 2015

Presentations:

9:00 a.m. – 12:00 p.m. Graduate Science V Orals, RSP 163

9:00 a.m. – 12:15 p.m. Undergraduate Engineering Orals, RSP 161

9:00 a.m. – 11:45 a.m. Undergraduate Science Orals, RSP 209

College of Health Science Research Day: Avon Williams Campus, Auditorium 3rd Floor

12:00 p.m. Plenary Poster Session

2:15 p.m. Speaker – Eleanor Fleming, Ph.D., D.D.S.

3:00 p.m. Awards and Poster Session

THURSDAY, APRIL 2, 2015

Poster Presentations: Posters will be displayed in the Jane Elliott Hall Auditorium – March 31, 2015 – April 2, 2015

9:00 a.m. – 11:00 a.m. Faculty Poster Session, Jane Elliott Hall Auditorium

9:00 a.m. – 11:00 a.m. Graduate Poster Session and Judging, Jane Elliott Hall Auditorium

1:00 p.m. – 3:00 p.m. Undergraduate Poster Session and Judging, Jane Elliott Hall Auditorium

Psychology Research Day: James E. Farrell – Fred E. Westbrook Building, 118

2:30 p.m. Oral sessions. Poster sessions. Awards

5:30 p.m. Speaker – Kevin Cokley, Ph.D.

FRIDAY, APRIL 3, 2015

9:00 a.m. – 11:30 a.m. Faculty Orals, RSP 163

12:00 p.m. – 2:00 p.m. Awards Luncheon and Closing Ceremony, James E. Farrell-Fred E. Westbrook Building, 118
Luncheon. Keynote Speaker, Mr. Amos L. Otis, President and CEO, SoBran, Inc.

Posters will be displayed in the Jane Elliott Hall Auditorium – March 31, 2015 – April 2, 2015

THE RESEARCH SYMPOSIUM

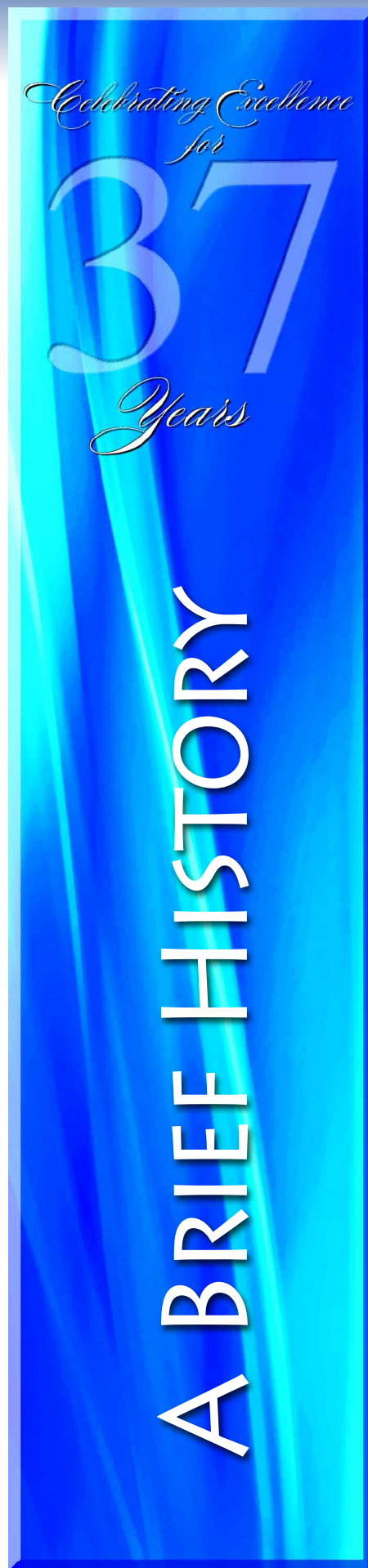
The Annual University-Wide Research Symposium at Tennessee State University is celebrating 37 years of providing an opportunity for faculty, undergraduate, and graduate students to present their research. In 1979, the event started as Research Day and it was renamed University-Wide Research Day in 1981. 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 has honored Dr. Torrey at milestone years during annual research symposia.

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.

Over the ensuing 37 years of annual symposia, the following persons have served as symposium chairs; Rubye Torrey (1979-1981), Jacquelyn Martin (1982-1986), Joan Elliot (1987-1994), Carolyn Caudle (1995-1999), E. Lewis Myles (2000-2004), Elaine Martin (2005-2007), Brenda McAdory and Valerie Williams (2008-2010), and Carolyn Caudle and Nannette Martin (2011-2013). Current symposium chairs are Nannette Martin (2011-present) and Tamara Rogers (2014-present).

The Deans of the College of Arts and Sciences (Wendolyn Bell, Bobby Lovett, William Lawson, and Gloria Johnson) have 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 (Vice President) 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 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.

Beginning in 2011, Interim Associate Vice President Dr. Michael Busby continued to support the Symposium with financial resources and by sanctioning the engagement of national and international acclaimed scientists to present Symposia keynote addresses and conduct faculty research team forums. In 2014, Chief Research Officer and Associate Vice President Dr. Lesia Crumpton-Young joined the Division of Research and Sponsored Programs, embracing the spirit and financial support of the Research Symposium, and continuing enhancement of partnerships with federal agencies for increasing research at the University.



37TH ANNUAL UNIVERSITY-WIDE RESEARCH SYMPOSIUM

Research: Celebrating Excellence

OPENING CEREMONY AND PLENARY SESSION

MONDAY, MARCH 30, 2015

2:00 P.M. – 4:00 P.M.

E. T. GOINS RECITAL HALL, PERFORMING ARTS CENTER
MISTRESS OF CEREMONIES, KIMBERLY P. JOHNSON, PH.D.
ASSISTANT PROFESSOR OF COMMUNICATION STUDIES
DEPARTMENT OF COMMUNICATION, COLLEGE OF LIBERAL ARTS

MUSIC..... IMANI DALE
Soprano

WELCOME AND GREETINGS PRESIDENT GLENDA GLOVER
Tennessee State University

OCCASION..... MRS. NANNETTE C. MARTIN
Research Symposium Co-chair

INTRODUCTION OF KEYNOTE SPEAKER..... DR. LESIA CRUMPTON-YOUNG
*Chief Research Officer and Associate Vice President
Division of Research and Sponsored Programs*

KEYNOTE ADDRESS DR. GEORGIA M. DUNSTON
*Professor of Microbiology
Founding Director, National Human Genome Center
Director of Molecular Genetics
Former Chair, Department of Microbiology-College of Medicine
Howard University*

THE HUMAN GENOME STORY: UNLOCKING THE MYSTERIES OF GENES IN HEALTH AND DISEASE

REMARKS AND PRESENTATION OF AWARD..... DR. LESIA CRUMPTON-YOUNG

CLOSING REMARKS DR. TAMARA ROGERS
Research Symposium Co-chair

MUSIC..... AUDIENCE
TENNESSEE STATE UNIVERSITY ALMA MATER, LAURA M. AVERITTE, 1918

RECEPTION TO FOLLOW IN THE ROTUNDA

KEYNOTE SPEAKER



GEORGIA M. DUNSTON, PH.D.

PROFESSOR OF MICROBIOLOGY

FOUNDING DIRECTOR, NATIONAL HUMAN GENOME CENTER

DIRECTOR OF MOLECULAR GENETICS

FORMER CHAIR, DEPARTMENT OF MICROBIOLOGY-COLLEGE OF MEDICINE

HOWARD UNIVERSITY

GEORGIA M. DUNSTON, Ph.D., is a Professor of Microbiology; the founding director of the National Human Genome Center (NHGC) at Howard University, and Director of Molecular Genetics. She is also the former chair of the Department of Microbiology in the College of Medicine at Howard University. Dr. Dunston received the Bachelor of Science degree in Biology from Norfolk State University, Master of Science degree in Biology from Tuskegee University, and the Doctor of Philosophy in Human Genetics from the University of Michigan. She conducted post-doctoral work in Tumor Immunology at NIH in the Laboratory of Immunodiagnosis at the National Cancer Institute.

Early in her career, Dr. Dunston founded and directed the Research Centers in Minority Institutions Human Immunogenetics Laboratory at Howard University, where her research focused on the identification and characterization of human leukocyte antigen (HLA) polymorphisms in African Americans and the biomedical significance of these inherited differences. The

Immunogenetics Laboratory provided the research base for later establishment of the Clinical Histocompatibility Laboratory, the only CLIA certified HLA testing lab on the campus of an Historically Black College and University (HBCU). During this period Dr. Dunston and her collaborators published extensively on genetic variation in HLA in clinical transplantation and as markers of disease susceptibility in African Americans. Dr. Dunston

served on the National Advisory Council for the NIH National Institute of Environmental Health Sciences, the Genetic Basis of Disease Review Committee for the NIH National Institute of General Medical Sciences, and the National Academy of Sciences Review Committee on the Human Genome Diversity Project. Her research on human genome variation in disease susceptibility has been the vanguard of efforts at Howard to build national and international research collaborations focusing on the genetics of diseases common in African Americans and other African Diaspora populations. As program director of the Coordinating Center for the Africa America Diabetes Mellitus (AADM) Study, Dr. Dunston was instrumental in building an international collaboration to study the genetics of type 2 diabetes in ancestral populations of African Americans, and as program director of the Coordinating Center for the African American Hereditary Prostate Cancer (AAHPC) Study Network, she was instrumental in building a national cooperative to map and characterize genes for prostate cancer in African Americans. The formation of the

NHGC provided the foundation for bringing multicultural perspectives and resources together in the application of knowledge gained from the Human Genome Project and research on human genome variation to research on health disparities. Dr. Dunston and her team of NHGC investigators published numerous papers on the genetic basis of diseases common in African Americans and populations of African descent.

Currently, Dr. Dunston co-leads a newly formed NHGC biophysics research and interdisciplinary development group (BRIDG) that is exploring functional aspects of common variation and population genetics from first principles of thermodynamics and statistical physics (i.e., "genodynamics"). BRIDG presents a biophysical perspective on genomic information encoded in common variants, like single nucleotide polymorphisms (SNPs) and introduces metrics for mathematically modeling genome-environment interactions.

Dr. Dunston's passion is building community-academic partnerships that connect the African Diaspora to the global genome revolution. Her research addresses the power of genome variation and population diversity in decoding the biology of disease. She asserts that the 'Genome Story' is an African story of human origins, migrations, adaptations, and transformation, on a science-based path to human liberation.

DR. RUBY P. TORREY

Founder of Research Day at Tennessee State University, 1979

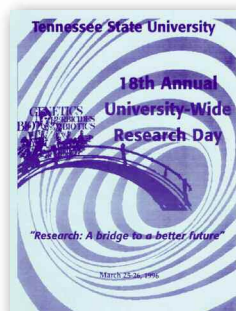
Dr. Rubye Mayette Prigmore Torrey, founder of Tennessee State University's (TSU) "Research Day" in 1979, is Assistant Vice President for Research and Professor of Chemistry (Emeritus), Tennessee Technological University (TTU) in Cookeville, Tennessee. While active in this capacity, Dr. Torrey worked with faculty to develop proposals, and kept faculty apprised of agencies with available funds compatible with their research interests. She conducted Proposal Development Workshops for faculty and administrators and served as the Executive Officer for the federally regulated institutional committees on "The Use of Human Subjects in Research" and "The Use of Experimental Animals in Research." Dr. Torrey applied for and received a grant from two federal agencies for sponsoring a state-wide conference on "Human Subjects in Research" that included internationally acclaimed speakers. Under her guidance the campus Sigma Xi Club (a research honor society) became a valid chapter. Dr. Torrey launched a successful Inaugural Student Research Day at TTU in 2005.

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. Her Master of Science degree research was sponsored by the Tennessee Valley Authority, wherein she developed a chemical method for determining insipient spoilage in fruits and vegetables indigenous to the State of Tennessee. Dr. Torrey earned her doctoral degree in radiation-electroanalytical chemistry at Syracuse University in Syracuse, New York where she was elected to the Research Honor Society of Sigma Xi. 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.

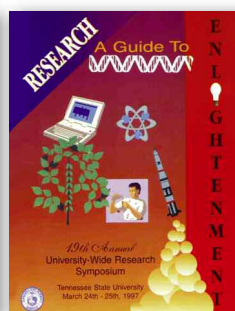
Dr. Torrey has for many years reviewed and evaluated proposals for Federal government agencies such as the U.S. Department of Education and the National Science Foundation. Dr. Torrey has published articles in scientific journals and has been an invited speaker and workshop conductor at numerous professional conferences. She has also achieved the illustrious status of Emeritus membership in the American Chemical Society.



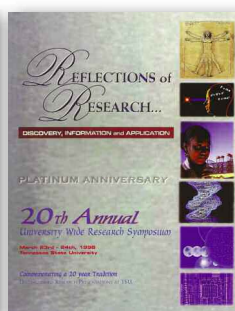
Celebrating Excellence for
37
YEARS



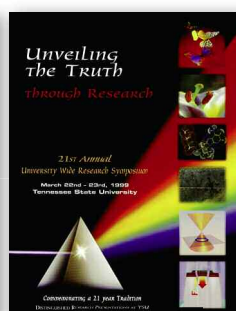
1996



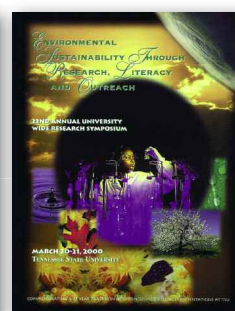
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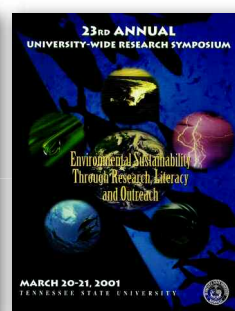
1998



1999



2000



2001

HOW IT ALL 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 Atchison, the Vice President of Research and Sponsored Programs. The Committee mainly reviewed proposals before they were submitted to an agency for funding. Dr. Rubye Torrey, who had received a continuation grant from the Atomic Energy Commission (in year 5+), was chosen to represent the College of Arts and 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. Rubye P. Torrey, Physical Sciences and chair of the committee.

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 in 1983 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.



2011

2012

2013

2014

ORAL PRESENTATIONS - MONDAY, MARCH 30, 2015

GRADUATE ENGINEERING I

9:00 am – 12:00 pm - Presentations will be in the Research and Sponsored Programs Building, Room 163

9:00 AM	GR ENGR 1	ELECTROCHEMICAL CHARACTERIZATION OF ELECTRODE MATERIALS FOR MIXED-POTENTIAL SENSORS Jonathan Reynolds*. <i>Engineering</i> , College of Engineering. Advisor(s): S. Keith Hargrove, Courtney Kreller, Lizhi Ouyang and Richard Mu
9:15 AM	GR ENGR 2	A TESTBED FOR MODELING AND DETECTING ATTACKS ON NFC ENABLED PHONES Kimberly Gold*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty and Tamara Rogers
9:30 AM	GR ENGR 3	SCALABLE REAL-TIME DETECTION OF ANOMALIES IN SMARTPHONES Paul McNeil*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty
9:45 AM	GR ENGR 4	ACCUMULATIVE FEEDBACK ADAPTATION TRANSMISSION RATE IN MOBILE AD HOC NETWORK Ashraf Al Sharah*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty
10:00 AM	GR ENGR 5	TOWARDS A NETWORK AWARE VM MIGRATION: EVALUATING THE COST OF VM MIGRATION IN CLOUD DATA CENTERS Hellen Maziku*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty
10:15 AM	GR ENGR 6	MEASUREMENT BASED APPROACH TO FAULT TOLERANT CONTROL OF MULTIVARIABLE SYSTEMS Sirisha Kallakuri*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Lee Hyun Keel
10:30 – 10:45	BREAK	
10:45 AM	GR ENGR 7	DESIGN OF AN EXPERIMENTAL PLATFORM FOR CLOUD BASED MULTI-VEHICLE CONTROL SYSTEM Arafatur Rahman*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Lee-Hyun Keel and Liang Hong
11:00 AM	GR ENGR 8	SIZING OPTIMIZATION AND DYNAMIC SIMULATION OF AN HYBRID ENERGY SYSTEM Olumide Bello*and Kehinde Oke*. <i>Mechanical and Manufacturing</i> , College of Engineering. Advisor(s): Landon Onyebueke
11:15 AM	GR ENGR 9	PROBABILISTIC ESTIMATION OF LONGITUDINAL PAVEMENT MARKINGS SERVICE LIFE Emmanuel Kidando*. <i>Civil and Environmental Engineering</i> , College of Engineering. Advisor(s): Deo Chimba
11:30 AM	GR ENGR 10	COOPERTOWN UNSIGNALIZED INTERSECTION OPERATIONAL AND SAFETY EVALUATION AND COUNTERMEASURES RECOMMENDATION Tonjanika Robinson*. <i>Civil and Environmental Engineering</i> , College of Engineering. Advisor(s): Deo Chimba
11:45 AM	GR ENGR 11	DESIGN OF INTELLIGENT FUZZY CONTROLLERS FOR LATERAL CONTROL OF LINEARIZED GTM MODELS Kevin Terrell*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Saleh Zein-Sabatto

GRADUATE SCIENCE I

9:00 am – 12:15 pm - Presentations will be in the Research and Sponsored Programs Building, Room 209

9:00 AM	GR SCI 1	COUPLING BIO/PHTYOREMEDIATION WITH SWITCHGRASS TO BIOFUEL FEEDSTOCK PRODUCTION IN MIXED-CONTAMINANT SOILS Oluwatosin Ogunmayowa*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Kudjo Dzantor
9:15 AM	GR SCI 2	MARKETING CHANNELS THAT LINK PRODUCERS WITH CONSUMERS Md. Jobaer Hossain*. <i>Agricultural and Environmental Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Enefiok Ekanem and Mary Mafuyai
9:30 AM	GR SCI 3	EFFECTS OF PRECIPITATION CHANGE ON PHYSIOLOGY AND BIOMASS OF SWITCHGRASS Chih-Li Yu*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Dafeng Hui and Suping Zhou

P R E S E N T A T I O N S C H E D U L E S

9:45 AM	GR SCI 4	ECONOMIC ANALYSIS OF PRODUCTION OF BIODIESEL FROM SUMMER OIL SEED CROPS FOR SMALL FARMERS Suraj Adhikari*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Prabodh Illukpitiya, Fisseha Tegegne, Enefiok Ekanem and Bharat Pokharel
10:00 AM	GR SCI 5	INHERITANCE OF POWDERY MILDEW DISEASE RESISTANCE AND BROAD SENSE HERITABILITY IN FLOWERING DOGWOOD Srikanth Kodati*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Mmbaga
10:15 AM	GR SCI 6	COMPARATIVE ANALYSIS AND CHARACTERIZATION OF PROTEINS ASSOCIATED WITH FAT ACCRETION IN BROILER CHICKENS AND GUINEA FOWL Boniface Kimathi*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Samuel Nahashon
10:30 – 10:45	BREAK	
10:45 AM	GR SCI 7	ANTITUMOR PROPERTIES OF VIOLACEIN EXTRACTED FROM CHROMOBACTERIUM VIOLACEUM ISOLATED FROM A COPPER BASIN IN TENNESSEE Toral Mehta*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Quincy Quick and Terrance Johnson
11:00 AM	GR SCI 8	SYNTHESIS AND STRUCTURAL INVESTIGATION OF COORDINATION COMPLEX OF ZINC(II) AND 1,3-BIS(DI-TERTBUTYLPHOSPHINOMETHYL)BENZENE) LIGAND Montwaun Young*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Tasneem Siddiquee
11:15 AM	GR SCI 9	TRIBUTYL TIN ALTERS THE PRODUCTION AND SECRETION OF INFLAMMATORY CYTOKINES FROM HUMAN AND MOUSE IMMUNE CELLS Shanieek Lawrence*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Whalen
11:30 AM	GR SCI 10	CLONING AND EXPRESSION OF POLYHYDROXYBUTYRATE (PHB) GENES FROM THE NEW IDENTIFIED BACILLUS CEREUS TSU1 Hui Li*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Suping Zhou
11:45 AM	GR SCI 11	ANIMAL ASSISTED THERAPY ELICITS PRO-SOCIAL BEHAVIORS IN CHILDREN WITH AUTISM Taylor Reese*, Josh Lunn*, Sarah Ronin* and Halley Wiggins - Stagman*. <i>Physical Therapy</i> , College of Health Sciences. Advisor(s): Deborah Edmondson
12:00 PM	GR SCI 12	DOES ROBOTIC ASSISTED GAIT TRAINING (RAGT) DEMONSTRATE GREATER EFFICACY THAN TRADITIONAL PHYSICAL THERAPY INTERVENTIONS IN THE ATTEMPT TO IMPROVE THE GAIT OF PERSONS WITH A SPINAL CORD INJURY (ASIA RATING OF "C" OR "D")? Josh Burkett*. <i>Physical Therapy</i> , College of Health Sciences. Advisor(s): David Lehman

ORAL PRESENTATIONS - TUESDAY, MARCH 31, 2015

GRADUATE ENGINEERING II

9:00 am – 12:30 pm - Presentations will be in the Research and Sponsored Programs Building, Room 209

9:00 AM	GR ENGR 12	DEVELOPMENT OF BATTERY MODIFICATION SYSTEM FOR REDUCTION OF SEI FORMATION TIME Adrian Parker*. <i>Engineering</i> , College of Engineering. Advisor(s): S. Keith Hargrove and Lizhi Ouyang
9:15 AM	GR ENGR 13	REAL-TIME OPPORTUNISTIC SPECTRUM ACCESS IN COGNITIVE RADIO NETWORKS Kamrul Hasan*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty
9:30 AM	GR ENGR 14	DEVELOPMENT OF REAL-TIME COMPUTATIONAL INFRASTRUCTURE ON PRIVATE CLOUD DATA CENTER AT TENNESSEE STATE UNIVERSITY Waled Tayib*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty
9:45 AM	GR ENGR 15	ENHANCED LEARNING CLASSIFIER TO LOCATE DATA IN CLOUD DATACENTERS Biswajit Biswal*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty
10:00 AM	GR ENGR 16	WATERMARK ANALYSIS OF NETWORK TRACES FOR ANOMALY DETECTION Sai Kiran Mukkavilli*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty

*Denotes Presenter

P R E S E N T A T I O N S C H E D U L E S

10:15 AM	GR ENGR 17	DEVELOPMENT OF A RESILIENT FORMATION CONTROL ALGORITHM FOR A TEAM OF AUTONOMOUS ROBOTS AGAINST NETWORK INTRUSION Esther Amullen*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Lee Keel
10:30 – 10:45	BREAK	
10:45 AM	GR ENGR 18	MEASUREMENT BASED APPROACH TO FAULT TOLERANT CONTROL OF MULTIVARIABLE SYSTEMS Sirisha Kallakuri*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Lee Hyun Keel
11:00 AM	GR ENGR 19	DETECTING VIRTUAL MACHINE CO-RESIDENCY IN CLOUD COMPUTING ENVIRONMENT WITH ACTIVE TRAFFIC James Savage*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty
11:15 AM	GR ENGR 20	MODELING OF ENERGY HARVESTING SOURCES FOR LOW POWERED APPLICATION Kehinde Oke*. <i>Mechanical and Manufacturing</i> , College of Engineering. Advisor(s): Landon Onyebueke
11:30 AM	GR ENGR 21	INJURY SEVERITY MODELING OF THE MEDIAN RELATED CRASHES AT CABLE BARRIER LOCATIONS Evarist Ruhazwe*. <i>Civil and Environmental Engineering</i> , College of Engineering. Advisor(s): Deo Chimba
11:45 AM	GR ENGR 22	SIMULATION OF HURRICANE INDUCED STORM SURGE USING EXPLICIT AND IMPLICIT MODELS Simbarashe Kanjanda *. <i>Mechanical and Manufacturing</i> , College of Engineering. Advisor(s): Muhammad Akbar
12:00 PM	GR ENGR 23	DETECTION A MOVING OBJECTS IN DYNAMIC ENVIRONMENT USING A MOVING CAMERA Abdalla Al-Salah*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Saleh Zein-Sabatto and Mohammad Bodruzzaman

GRADUATE SCIENCE II

9:00 am – 12:00 pm Presentations will be in the Research and Sponsored Programs Building, Room 163

9:00 AM	GR SCI 13	EFFECT OF FLAME RETARDANT COMPOUNDS ON IL-1 β RELEASE FROM HUMAN IMMUNE CELLS Sharif Anisuzzaman*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Whalen
9:15 AM	GR SCI 14	A COMPREHENSIVE LITERATURE REVIEW ON THE CURRENT STRUCTURE OF THE GOAT MEAT INDUSTRY IN TENNESSEE Mikhail Miller*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Enefiok Ekanem and Mary Mafuyai
9:30 AM	GR SCI 15	INADEQUACY OF GRAM'S IODINE ASSAY TO DETECT CELLULOSE DEGRADATION DURING SCREENING FOR LIGNOCELLULOLYTIC BACTERIA AND FUNGI Joshua O'Hair*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Terrance Johnson and Anthony Ejiofor
9:45 AM	GR SCI 16	ISOLATION AND IDENTIFICATION OF ROOT ROT PATHOGENS OF COMMON BEANS Jacqueline Joshua*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Mmbaga
10:00 AM	GR SCI 17	WHAT CONSUMERS WANT IN GOAT MEAT J'Darvous Cross*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Enefiok Ekanem and Mary Mafuyai
10:15 AM	GR SCI 18	CLOSTRIDIUM DIFFICILE AN EMERGING FOODBORNE PATHOGEN IN RETAIL CHICKEN Olukunle Adekunle*. <i>Family and Consumer Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Agnes Kilonzo-Nthenge
10:30 – 10:45	BREAK	
10:45 AM	GR SCI 19	CYTOTOXIC ACTIVITY OF CURCUMIN, MELISSA, AND CLOVES EXTRACTS ON COLON, LUNG, AND BREAST CANCER CELL LINES Tiara Smith* and Asrab Hasan*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): E. Myles
11:00 AM	GR SCI 20	DIETARY LYSINE: EFFECTS ON LYSINE HOMEOSTASIS AND PERFORMANCE OF BROILER CHICKENS Collins Khwatenge*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Samuel Nahashon

P R E S E N T A T I O N S C H E D U L E S

11:15 AM	GR SCI 21	DEVELOPMENT OF GENOME-DIRECTED, PCR-BASED MOLECULAR DIAGNOSTIC SYSTEM FOR SOFT ROT ENTEROBACTERIACEAE M. Niamul Kabir*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Korsi Dumenyo
11:30 AM	GR SCI 22	IMPROVING SWEET POTATO PRODUCTION IN ORGANIC MANAGEMENT SYSTEM IN TENNESSEE Sochinwechi Nwosisi*. <i>Cooperative Extension</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Dilip Nandwani
11:45 AM	GR SCI 23	GRANT FUNDED PROGRAMMING TO ENHANCE MINORITY REPRESENTATION IN ALLIED HEALTHCARE EDUCATIONAL PROGRAMS AND PROFESSIONS Brandon Moorehead*. <i>Physical Therapy</i> , College of Health Sciences. Advisor(s): David Lehman, Darrius Brooks, Iris Arnold-Johnson and Christine Watt

GRADUATE SCIENCE III

1:00 pm – 3:45 pm Presentations will be in the Research and Sponsored Programs Building, Room 163

1:00 PM	GR SCI 24	COMBINATIONS OF GENISTEIN, EGCG AND/OR RESVERATROL SYNERGISTICALLY INHIBIT PRE-ADIPOCYTE DIFFERENTIATION BY SUPPRESSING PPAR-γ/C/EBP-α PATHWAY Bulbul Ahmed*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Hongwei Si, Samuel N. Nahashon and Xiaofei Wang
1:15 PM	GR SCI 25	COMPARATIVE CHARACTERS OF UPLAND COTTON CHROMOSOMAL SUBSTITUTION LINES UNDER GREENHOUSE Deependra Bhatta*. <i>Institutional Effectiveness & Research</i> , College of Institutional Effectiveness & Research. Advisor(s): Ahmad Aziz
1:30 PM	GR SCI 26	EVALUATION OF METHIONINE AND CYSTEINE REQUIREMENTS OF THE FRENCH GUINEA FOWL BROILER DeKarra Johnson*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Samuel Nahashon
1:45 PM	GR SCI 27	INVESTIGATION OF THE EFFECTS OF VIOLACEIN ON HUMAN SEROTONIN 2C RECEPTORS Letimicia Fears*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Hugh Fentress and Terrance L. Johnson
2:00 PM	GR SCI 28	CONSTRUCTION OF A GFP-BASED AND POSITIVE ANTIBIOTIC SELECTION TRANSPOSON FOR GENETIC STUDIES IN PHYTOPATHOGENIC ENTEROBACTERIACEAE Eric Nazareno*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Korsi Dumenyo
2:15 PM	GR SCI 29	QUANTITATIVE TRAIT LOCI (QTL) MAPPING AND IDENTIFICATION OF MARKERS LINKED TO POWDERY MILDEW RESISTANCE IN FLOWERING DOGWOOD (C.florida) POPULATION Lipi Parikh*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Mmbaga
2:30 – 2:45	BREAK	
2:45 PM	GR SCI 30	ANTI-PROLIFERATIVE EFFECT OF MORINGA OLEIFERA, GLOBIMETULA BRAUNNI AND CURCUMA LONGA EXTRACTS ON PANCREATIC CANCER CELLS Sochinwechi Nwosisi*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): E. Myles and Joy Okpuzor
3:00 PM	GR SCI 31	DEVELOPING NOVEL PROBIOTICS AND EVALUATING THEIR MECHANISMS OF INTERACTION WITH HOST ENVIRONMENT TO ENHANCE POULTRY PERFORMANCE Sarayu Bhogoju*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Samuel Nahashon
3:15 PM	GR SCI 32	SYNTHESIS AND ANTIBACTERIAL STUDY OF SCHIFF BASES FROM 2,2'-BIPYRIDYL-5,5'-DIALDEHYDE Md Hoq*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Mohammad Karim
3:30 PM	GR SCI 33	EXAMINING THE ASSOCIATION BETWEEN READING FOOD NUTRITION LABELS AND WEIGHT STATUS Arielle Arzu*. <i>Center for Prevention Research (CPR)</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Janice Emerson, Meghan Quirk and Van Cain

P R E S E N T A T I O N S C H E D U L E S

GRADUATE SCIENCE IV

1:00 pm – 3:45 pm

Presentations will be in the Research and Sponsored Programs Building, Room 161

1:00 PM	GR SCI 34	GENOMIC DNA VERIFICATION IN SINGLE GAMETES COTTON CHROMOSOMAL SUBSTITUTION LINES THROUGH MOLECULAR MARKERS Abdul Mujeed Yakubu*. <i>Institutional Effectiveness & Research</i> , College of Institutional Effectiveness & Research. Advisor(s): Ahmad Aziz
1:15 PM	GR SCI 35	EXAMINING, PRODUCER PERCEPTIONS OF THE ROLE OF GOVERNMENT IN THE TENNESSEE MEAT GOAT INDUSTRY Allen Denkins*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Enefiok Ekanem, Mary Mafuyai, Fisseha Tegegne and Prabodh Illukpitiya
1:30 PM	GR SCI 36	ASSESSMENT OF PATHOGENESIS RELATED PROTEINS AND ENZYME ACTIVITY OF BACTERIAL BIOLOGICAL CONTROL AGENTS IN CORNUS FLORIDA Emily Rotich*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Mmbaga and Parama Sikdar
1:45 PM	GR SCI 37	CYTOTOXICITY ACTIVITIES OF LEMON BALM, WORMWOOD, COSTUS, AND GUAVA LEAVES PLANT EXTRACTS ON CANCER CELL LINES Naif Alhawiti* and Heba Alhamdi*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): E. Myles
2:00 PM	GR SCI 38	CHARACTERIZATION OF CHICKEN AND GUINEA FOWL GASTROINTESTINAL TRACT MICROBIAL PROFILES USING THE 16sRNA HYPER-VARIABLE REGION Joseph Donkor*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Samuel Nahashon
2:15 PM	GR SCI 39	AN EXAMINATION ON THE EXPRESSION OF GLUCOSE TRANSPORTERS IN CHICKENS Mary Shannon Byers*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Xiaofei Wang
2:30 – 2:45	BREAK	
2:45 PM	GR SCI 40	EFFECTS OF PENTACHLOROPHENOL (PCP) ON SECRETION OF INTERLEUKIN 1- BETA FROM HUMAN IMMUNE CELLS Tamara Martin*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Whalen
3:00 PM	GR SCI 41	DEVELOPMENT OF A RECOMBINANT BACTERIOCIN FOR PROBIOTICS APPLICATIONS Ahsan Raza*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Samuel Nahashon
3:15 PM	GR SCI 42	PHYSIOLOGICAL PROPERTIES AND PROTEOME EXPRESSION IN DROUGHT TREATED SWITCHGRASS Zhujiya Ye* and Chihli Yu. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Suping Zhou, Dafeng Hui and Theodore W. Thannhauser
3:30 PM	GR SCI 43	STUDENTS WERE SURVEYED ABOUT FACULTY WITH ACCENTS Rachael Price*, Melissa Bukovi*, Rachel Loggins* and Samantha Williams*. <i>Speech Pathology and Audiology</i> , College of Health Sciences. Advisor(s): Iris Johnson Arnold, Owen Johnson and Jame'l Hodges

ORAL PRESENTATIONS - WEDNESDAY, APRIL 1, 2015

GRADUATE SCIENCE V

9:00 am – 12:00 pm

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

9:00 AM	GR SCI 44	COMPARATIVE SEED TRAITS' PROFILING OF UPLAND COTTON LINE WITH PIMA COTTON CHROMOSOMAL SUBSTITUTIONS Diwas K. Silwall*, A. N. Aziz1*, Ankit Patras1, Bharat Pokhare1, Nsoki Phambu2, Sukumar Saha3. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Ahmad Aziz, Ankit Patras and Phambu Nsoki
9:15 AM	GR SCI 45	STUDY OF ENDOPHYTIC DIVERSITY OF FLOWERING dogwoods (Cornus florida L.) AND ALSO ASSESS THEIR CYTOTOXICITY Asha Maheshwari*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Mmbaga

P R E S E N T A T I O N S C H E D U L E S

9:30 AM	GR SCI 46	OCCURRENCE OF GENERIC ESCHERICHIA COLI, E. COLI O157 AND SALMONELLA SPP. IN FRESH PRODUCE FROM SMALL AND MEDIUM SIZE FARMS IN TENNESSEE Jessica Dompok*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Agnes Kilonzo-Nthenge, Samuel Nahashon, John T. Robinson, Jr. and Terrance Johnson
9:45 AM	GR SCI 47	ACTIVATION OF THE JAK/STAT PATHWAY BY THE HUMAN SEROTONIN 2C RECEPTOR Marybeth Curtis*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Hugh Fentress
10:00 AM	GR SCI 48	PERCEPTION VERSUS REALITY: WHICH IS MORE IMPORTANT IN THE FIGHT AGAINST CHILDHOOD OBESITY? Melissa Diniz* and Erika Stanley*. <i>Center for Prevention Research (CPR)</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Janice Emerson, Meghan Quirk and Van Cain
10:15 AM	GR SCI 49	EFFECT OF DROUGHT ON SWITCHGRASS QUALITY FOR BIOENERGY PRODUCTION Priya Saini*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Jason de Koff
10:30 -10:45 BREAK		
10:45 AM	GR SCI 50	POWDERY MILDEW ON COWPEA: A NEW DISEASE OF LATE SEASON PRODUCTION Devendra Bhandari*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Matthew Blair and Margaret Mmbaga
11:00 AM	GR SCI 51	PERFORMANCE AND EGG CHARACTERISTIC OF PEARL GREY GUINEA FOWLS FED VARYING LEVELS OF LYSINE Joseph Donkor*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Samuel Nahashon
11:15 AM	GR SCI 52	AN EXAMINATION OF THE ROLE OF WNT INHIBITORY FACTOR IN ADIPOSE TISSUE DEVELOPMENT Manal Alsaedi*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Xiaofei Wang, Hugh Fentress, Elbert Myles and Bulbul Ahmed
11:30 AM	GR SCI 53	ECONOMIC ANALYSIS OF PRODUCTION OF BIOFUEL AND ELECTRICITY GENERATION FROM CORN STOVER FOR SMALL FARMERS Ibukun Alegbeleye*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Prabodh Illukpitiya, Fisseha Tegege and Enefiok Ekanem
11:45 AM	GR SCI 54	PdCl₂(Dtbpf), AN EFFECTIVE CATALYST FOR C-H ACTIVATION AND CROSS-COUPLED WITH STYRYLTRIFLUOROBORATES Wejdan Shaban*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Mohammad Al-Masum

UNDERGRADUATE ENGINEERING

9:00 am – 11:45 am Presentations will be in the Research and Sponsored Programs Building, Room 161

9:00 AM	UG ENGR 1	GRAPHICAL USER INTERFACE BASED TOOLS TO AUTOMATE HURRICANE STORM SURGE MODELING TO SETUP AN EVACUATION PLAN Samuel Bustelo*. <i>Mechanical and Manufacturing</i> , College of Engineering. Advisor(s): Muhammad Akbar
9:15 AM	UG ENGR 2	MULTI-SCALE INTEGRATED HURRICANE STORM SURGE SIMULATION TO SETUP AN EVACUATION PLAN Adriann Wilson*. <i>Mechanical and Manufacturing</i> , College of Engineering. Advisor(s): Muhammad Akbar
9:30 AM	UG ENGR 3	GRAPHICAL USER INTERFACE BASED TOOLS TO AUTOMATE HURRICANE STORM SURGE MODELING TO SETUP AN EVACUATION PLAN Samuel Bustelo*. <i>Mechanical and Manufacturing</i> , College of Engineering. Advisor(s): Muhammad Akbar
9:45 AM	UG ENGR 4	LIGHTWEIGHT HELIOGYRO SOLAR SAIL RESEARCH AT NASA Bobby Gleghorn*. <i>Mechanical and Manufacturing</i> , College of Engineering. Advisor(s): Jiann-Shiun Lew and Lucas Horta
10:00 AM	UG ENGR 5	ASSESS SECURITY RISK OF GOOGLE GLASS Jared Wagnac*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty and Tamara Rogers

*Denotes Presenter

P R E S E N T A T I O N S C H E D U L E S

10:15 AM	UG ENGR 6	INTERACTIVE AND IMMERSIVE VISUALIZATION OF ENGINEERING SYSTEMS Marc Primeau*and Dan Fishler*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty
10:30 – 10:45	BREAK	
10:45 AM	UG ENGR 7	HUMAN INTERFACE MODULE DESIGN TO STUDY FOR 3DROBOTS QUADCOPTER CONTROL Ryan Stubbs*. <i>Mechanical and Manufacturing</i> , College of Engineering. Advisor(s): Lee-Hyun Keel
11:00 AM	UG ENGR 8	LI-ION BATTERY CAPACITY FADE MODELING AND SIMULATION USING COMSOL Corey Zusin*. <i>Mechanical and Manufacturing</i> , College of Engineering. Advisor(s): Landon Onyebueke and Lizhi Ouyang
11:15 AM	UG ENGR 9	EFFECT OF ENVIRONMENTAL PARAMETERS ON POWER GENERATION OF A PHOTOVOLTAIC MODULE Ebholo Ijeh*and Olumide Bello*. <i>Mechanical and Manufacturing</i> , College of Engineering. Advisor(s): Muhammad Akbar and Landon Onyebueke
11:30 AM	UG ENGR 10	EVALUATING CHARACTERISTICS OF TRAFFIC CRASHES IN THE VICINITY OF TENNESSEE STATE UNIVERSITY James Jones*. <i>Civil and Environmental Engineering</i> , College of Engineering. Advisor(s): Deo Chimba

UNDERGRADUATE SCIENCE

9:00 am – 11:45 am Presentations will be in the Research and Sponsored Programs Building, Room 209

9:00 AM	UG SCI 1	EXPANDING MARKETING SYSTEMS FOR MEAT GOAT PRODUCERS IN TENNESSEE George Davis*. <i>Agricultural and Environmental Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Enefiok Ekanem and Mary Mafuyai
9:15 AM	UG SCI 2	GROWTH INHIBITORY EFFECT OF PERGANUM, SAGE, AND OLIVE LEAVES PLANT EXTRACTS ON BREAST AND LUNG CANCER CELL LINES Carla Gibbs*, Ola Almusallam* and Trent Malone*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): E. Myles
9:30 AM	UG SCI 3	HOW LONG CAN SALMONELLA SURVIVE ON THE SURFACES OF FOOD PACKAGES? Marian Wakefield* and Himabindu Gazula. <i>Family and Consumer Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Fur-Chi Chen and Sandria Godwin
9:45 AM	UG SCI 4	THE DISTRIBUTION OF CALBINDIN AND CALRETININ IN THE AUDITORY CORTEX OF MARMOSSET MONKEYS Sterling Hubbard* and Lisa de la Mothe. <i>Psychology</i> , College of Education. Advisor(s): Lisa de la Mothe
10:00 AM	UG SCI 5	OCCURRENCE OF EXTENDED-Spectrum β-LACTAMASE- AND AmpC-PRODUCING ENTEROBACTERIACEAE FROM POULTRY FARMS AND RAW CHICKEN SOLD IN LOCAL MARKETS Kourtney Daniels*. <i>Family and Consumer Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Agnes Kilonzo-Nthenge
10:15 AM	UG SCI 6	NEW FLUORINATION PROCESS BY THE MICROWAVE IRRADIATED CROSS-COUPPLING REACTION OF POTASSIUM ARYLTRIFLUOROBORATES AND METAL FLUORIDE Rebecca Welch*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Mohammad Al-Masum

10:30 – 10:45 BREAK

10:45 AM	UG SCI 7	GENERATION AND CHARACTERIZATION OF THE PROLINE280LEUCINE SINGLE NUCLEOTIDE POLYMORPHISM IN THE HUMAN SEROTONIN 2C RECEPTOR Leonel Herrera-Flores*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Hugh Fentress and Michael T. Ivy
11:00 AM	UG SCI 8	THE STUDENTS DISCUSS COMMUNICATION IN THE CLASSROOM Isabella Kearney*, Stephanie Austin* and Stephanie Dixon*. <i>Speech Pathology and Audiology</i> , College of Health Sciences. Advisor(s): Iris Johnson Arnold, Owen Johnson and Jame'l Hodges

P R E S E N T A T I O N S C H E D U L E S

11:15 AM	UG SCI 9	MARKETING CHANNELS USED BY SMALL FARMERS IN TENNESSEE Bambata Hogue*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Enefiok Ekanem and Mary Mafuyai
11:30 AM	UG SCI 10	THE DISTRIBUTION OF CALBINDIN AND CALRETININ IN THE FRONTAL CORTEX OF MARMOSET MONKEYS Kiona Coleman* and Lisa de la Mothe. <i>Psychology</i> , College of Education. Advisor(s): Lisa de la Mothe

ORAL PRESENTATIONS - FRIDAY APRIL 3, 2015

FACULTY

8:45 am – 11:30 am		<i>Presentations will be in the Research and Sponsored Programs Building, Room 163</i>
8:45 AM	FAC O 1	WOODROW WILSON, THE OTTOMANS, AND THE UNINTENDED CONSEQUENCES OF NEUTRALITY Andrew Patrick*. <i>History, Geography and Political Science</i> , College of Liberal Arts
9:00 AM	FAC O 2	LEADERSHIP COMPETENCIES OF EXTENSION AGENTS: IMPLICATIONS FOR PROFESSIONAL DEVELOPMENT John Hall* and Thomas Broyles. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences
9:15 AM	FAC O 3	THE GENDER DIVIDE IN AGRICULTURE Mary Mafuyai*, Enefiok Ekanem, and Fisseha Tegegne. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences
9:30 AM	FAC O 4	DEVELOPMENT OF A NAVIGATION SYSTEM SOFTWARE FOR OBSTACLE AVOIDANCE IN A DYNAMIC ENVIRONMENT Maged Mikhail* and Saleh Zein-Sabatto. <i>Electrical and Computer Engineering</i> , College of Engineering
9:45 AM	FAC O 5	ECONOMIC IMPACT: POTENTIAL BENEFITS OF EXPANDING NURSERY RESEARCH CENTER FACILITIES Hiren Bhavsar*, Fisseha Tegegne, and Enefiok Ekanem. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences
10:00 AM	FAC O 6	ESTIMATING THE ECONOMIC IMPACTS OF LOCAL FOOD MARKETS ON SELECTED RURAL AREAS IN TENNESSEE Enefiok Ekanem* and Mary Mafuyai. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences
10:15 AM	FAC O 7	MENTORING PRACTICES AND HBCUS: GRADUATE STUDENTS' PERCEPTION OF AN IDEAL MENTOR Andrea L. Tyler* and Janet Finch.* <i>Education Administration</i> , College of Education
10:30 AM	FAC O 8	THE rsmD LOCUS ENCODING A GGDEF AND EAL DOMAIN PROTEIN CONTRIBUTES TO VIRULENCE IN THE SOFT ROT AND BLACKLEG PATHOGEN, PECTOBACTERIUM ATROSEPTICUM C. Korsi Dumenyo*, Urmila Adhikari, and Rabiul Islam, and Caleb M. Kersey. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences
10:45 AM	FAC O 9	SMALL TOWN RESIDENTS' PERCEPTIONS OF ECONOMIC AND COMMUNITY DEVELOPMENT Ruthie Reynolds*, Lonnie Sharpe, Anis Mnif, Paula Roberts*, and Martha Cowan. Center for Entrepreneurship and Economic Development
11:00 AM	FAC O 10	MARKETING OF TENNESSEE'S SMALL FARMER PRODUCE: THE ROLE OF AGRICULTURAL COOPERATIVES Enefiok Ekanem*, Oladayo Omosa, and Mary Mafuyai. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences
11:15 AM	FAC O 11	FILM, ART, AND THE GAME OF LIFE Kelle Neal*. <i>Language, Literature, and Philosophy</i> , College of Liberal Arts

POSTER PRESENTATIONS

Posters will be displayed in the Jane Elliott Hall Auditorium, March 31, 2015 – April 2, 2015

FACULTY POSTERS

- FAC-P 1 **POTENTIAL FOR INCORPORATION OF A PLANT ESSENTIAL OIL FOR MANAGING IMPORTED FIRE ANTS IN ORNAMENTAL NURSERIES**
 Karla Adesso*, Jason Oliver, Paul O'Neal, and Nadeer Youssef. *Agricultural Sciences*, College of Agriculture, Human and Natural Sciences
- FAC-P 2 **NURSE FACULTY AND PROFESSIONAL DEVELOPMENT: A STUDY OF THE EFFECT OF THE TYPE AND TIMING OF PROFESSIONAL DEVELOPMENT AND JOB SATISFACTION IN THE NURSE FACULTY ROLE**
 Pinky Noble-Britton*. *Nursing*, College of Health Sciences
- FAC-P 3 **IDENTIFYING EXTENSION AGENTS PERCEIVED LEVEL OF IMPORTANCE OF LEADERSHIP SKILLS IN TENNESSEE**
 John Hall* and Tom Broyles. *Agricultural Sciences*, College of Agriculture, Human and Natural Sciences
- FAC-P 4 **WOULD COMBINING A HANDHELD HIGH FREQUENCY VIBRATION TO CONSERVATIVE TREATMENT WHEN COMPARED WITH CONSERVATIVE TREATMENT ALONE, LEAD TO INCREASED RANGE OF MOTION AND DECREASED TOTAL THERAPY DURATION IN PATIENTS WITH ADHESIVE CAPSULITIS?**
 Kevin Lawrence*. *Physical Therapy*, College of Health Sciences
- FAC-P 5 **EVALUATION OF YIELD POTENTIAL IN COMMERCIAL COWPEA VARIETIES**
 Matthew W. Blair*. *Agricultural Sciences*, College of Agriculture, Human and Natural Sciences
- FAC-P 6 **DEVELOPMENT OF MUNG BEAN/SWEET CORN INTERCROPPING**
 Matthew W. Blair*. *Agricultural Sciences*, College of Agriculture, Human and Natural Sciences
- FAC-P 7 **THE RELATIONSHIP BETWEEN STUDENT'S GRADE POINT AVERAGE AND PASSING RATES OF THE REGISTERED HEALTH INFORMATION MANAGEMENT ADMINISTRATOR NATIONAL CERTIFICATION EXAM**
 Valerie Brock*. *Health Information Management*, College of Health Sciences
- FAC-P 8 **EXPLORING ONLINE MARKETING OPPORTUNITIES FOR SMALL FARMERS**
 Mary Mafuyai*, Enefiok Ekanem*, Prabodh Illukpitiya, An Peischel, and Fisseha Tegegne. *Agricultural Sciences*, College of Agriculture, Human and Natural Sciences
- FAC-P 9 **FACTORS INFLUENCING MARKET EXPANSION OF MEAT**
 Mary Mafuyai*, Enefiok Ekanem, and Fisseha Tegegne. *Agricultural Sciences*, College of Agriculture, Human and Natural Sciences
- FAC-P 10 **EFFECTS OF NO-TILLAGE AND IMPROVED FERTILIZER MANAGEMENT ON CORN YIELD AND SOIL N₂O EMISSION IN MIDDLE TENNESSEE**
 Qi Deng*, Dafeng Hui, Sam Dennis, Junming Wang, Tigist Jima, Stephen Iwuzo, Chih-Li, David Smart, and Chandra Reddy. *Biological Sciences*, College of Agriculture, Human and Natural Sciences

GRADUATE POSTERS

GRADUATE POSTER JUDGING THURSDAY APRIL 2, 2015

9:00 a.m. – 11:00 a.m. in Jane Elliott Hall Auditorium

- GR-P 1 **IMPACT OF SUBOPTIMAL MACRO AND MICRONUTRIENT SUPPLY ON BIOMASS PRODUCTION OF CUCUMBER (*Cucumis sativus* L.)**
 Garrett Morris*. *Agricultural and Environmental Sciences*, College of Agriculture, Human and Natural Sciences. Advisor(s): Dharmalingam Pitchay
- GR-P 2 **DIVING INTO THE REALM OF AQUATIC TREADMILL TRAINING FOR CHILDREN WITH CEREBRAL PALSY**
 Michael Hill*, Kristen McAuliffe*, Pamela Watkins*, April Wheeler*, and Edilberto Raynes. *Physical Therapy*, College of Health Sciences. Advisor(s): Edilberto Raynes
- GR-P 3 **EFFECTS OF TRIBUTYL TIN EXPOSURES ON INTERLEUKIN 1 BETA SECRETION AND PRODUCTION FROM HUMAN IMMUNE CELLS**
 Shyretha Brown*. *Chemistry*, College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Whalen

P R E S E N T A T I O N S C H E D U L E S

GR-P 4	CRYOTHERAPY APPLICATION: TIMING AND DOSAGE FOR DECREASING PAIN AND CONTROLLING INFLAMMATION Jesse Davenport*, Scott Dunham*, Drew Kiel* and Lucas Wall*. <i>Physical Therapy</i> , College of Health Sciences. Advisor(s): Ronald Barredo
GR-P 5	IDENTIFICATION AND CLONING OF NOVEL CELLULOSE GENES FROM GOAT'S RUMEN METAGENOME Santosh Thapa* and Hui Li*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Suping Zhou
GR-P 6	CLOUD BASED OPPORTUNISTIC SPECTRUM ACCESS FOR COGNITIVE RADIO NETWORKS Ayodeji Borode*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty
GR-P 7	GREENHOUSE AND IN VITRO EVALUATION OF AMARANTH SEEDLING CHARACTERISTICS Ranjita Thapa* and Matthew Edwards*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Matthew Blair and Tim Johnson
GR-P 8	APPLICATION OF ADVANCED OPTICAL TECHNOLOGIES FOR TREATING MYCOTOXINS Sharath Chandra Julakanti*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Ankit Patras and Bharath Pokharel
GR-P 9	A PILOT STUDY PROPOSAL TO DETERMINE IF A NEW AQUATIC EXERCISE APPARATUS (AQUABOOM) IS EFFECTIVE IN ENHANCING UPPER EXTREMITY STRENGTH AND A MUSCULAR ENDURANCE Logan Hays*, Grant Hitchens* and Tam Tran*. <i>Physical Therapy</i> , College of Health Sciences. Advisor(s): David Lehman and Timothy Jones
GR-P 10	MARKETING OF NURSERY AND GREENHOUSE PRODUCTS IN TENNESSEE Kofi Baryeh* and Samuel Gray*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Fisseha Tegegne, Hiren Bhavsar and Enefiok Ekanem
GR-P 11	LEAF MORPHOLOGICAL AND ANATOMICAL DIFFERENCES OF PLANT SPECIES REPRESENTING C3, C4 AND CAM PHOTOSYNTHESIS Mary Jane Espina*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Ali Taheri and Dharmalingam Pitchay
GR-P 12	EVALUATION OF PHOTOSYNTHETIC TRAITS IN COMMERCIAL COWPEA VARIETIES Xingbo Wu*, Chih Li* and Trevor Johnston. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Matthew Blair and Dafeng Hui
GR-P 13	OPTIMIZATION OF DNase HYPERSENSITIVITY SITE DETECTION PROTOCOLS FOR GENOME-WIDE MAPPING OF REGULATORY DNA REGIONS Nicholas Cook*, Azzah Baashirah* and Eilaf Alqureish*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Xiaofei Wang
GR-P 14	THE EFFECT OF PILATES ON POSTURAL INSTABILITY IN EARLY TO MID-STAGE PARKINSON'S DISEASE Jeffrey Berger*, Morgan Faulkner*, Nancy Hedges* and Amanda McPeek*. <i>Physical Therapy</i> , College of Health Sciences. Advisor(s): Ronald Barredo and Rosalyn Pitt
GR-P 15	A COMPARISON OF DIAGNOSTIC IMAGING AND VIBRATING TUNING FORKS IN THE DETECTION OF BONY STRESS FRACTURES: A REVIEW OF THE LITERATURE Ashleigh Elkins*, Kelsey Nikkila*, Andrew Kneeburg*, Jason Danielson*, Thomas Austin*. <i>Physical Therapy</i> , College of Health Sciences. Advisor(s): Derek Charles
GR-P 16	SURVIVAL ANALYSIS AND DETECTION OF ESCHERICHIA COLI O157:H7, SALMONELLA spp. AND LISTERIA MONOCYTOGENES ON FRESH STRAWBERRY. Himabindu Gazula*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Suping Zhou and Furchi-Chen
GR-P 17	USING SPATIAL STATISTICAL TOOLS TO CORRELATE BICYCLE AND PEDESTRIAN CRASHES WITH SOCIO-DEMOGRAPHICS Abram Musinguzi*. <i>Civil and Environmental Engineering</i> , College of Engineering. Advisor(s): Deo Chimba
GR-P 18	MUNG BEAN AS A POTENTIAL CROP IN TENNESSEE: ADVANTAGES AND LIMITATIONS Faridul Md. Islam*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Matthew Blair and T.S. Johnston
GR-P 19	EFFECT OF CHOLESTEROL ON THE INTERACTION BETWEEN AN ANTIMICROBIAL PEPTIDE AND MODEL MEMBRANES Angela Stone*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Nsoki Phambu

P R E S E N T A T I O N S C H E D U L E S

GR-P 20	SYNTHESIS, CHARACTERIZATION AND ANTIBACTERIAL STUDY OF SCHIFF BASES DERIVED FROM 6,6'-DIMETHYL 2,2'-BIPYRIDINE. Md. Razzak*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Mohammad Karim
GR-P 21	ASSOCIATION OF LEAF MICRO-MORPHOLOGICAL CHARACTERS WITH POWDERY MILDEW DISEASE RESISTANCE IN FLOWERING DOGWOOD Srikanth Kodati*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Mmbaga
GR-P 22	PREVALENCE OF PATHOGENIC AND COMMENSAL BACTERIA IN LOCAL AND IMPORTED FRESH PRODUCE Siqin Liu*. <i>Family and Consumer Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Agnes Kilonzo-Nthenge
GR-P 23	THE IMPACT OF THE AFFORDABLE CARE ACT AND COVERAGE GAPS ON EMPLOYERS IN TENNESSEE: A WHITE PAPER Nicole Glover*, Onyeka Arinze, Artchalee Calvert, Melissa Diniz*, Alexander Love* and Alandrea Plump. <i>Healthcare Administration & Health Sciences</i> , College of Health Sciences. Advisor(s): Elizabeth Brown
GR-P 24	SCREENING FOR RESISTANCE TO COMMON BACTERIAL BLIGHT IN DRY BEAN (PHASEOLUS VULGARIS) GERMLASM. Jacqueline Joshua*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Mmbaga and Matthew Blair
GR-P 25	VEGETABLE COWPEA (YARD-LONG BEAN) VARIETAL EVALUATION Devendra Bhandari* and Abimbola Allison. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Matthew Blair
GR-P 26	A NEW PROCESS OF SYNTHESIZING ANANDAMIDE DERIVATIVES FROM ARACHIDONIC ACID IN THE PRESENCE OF BORON CATALYST Linda Quinones*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Mohammad Al-Masum
GR-P 27	EFFECT OF IRON AND ZINC RATE ON THE VEGETATIVE GROWTH AND DEVELOPMENT OF BROCCOLI (BRASSICA OLERACEA) Steven Kennedy*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Dharmalingam Pitchay
GR-P 28	HEXABROMOCYCLODODECANE AND TETRABROMOBISPHENOL A ALTER SECRETION OF INTERFERON GAMMA (IFNγ) FROM HUMAN IMMUNE CELLS Haifa Almughamsi*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Whalen
GR-P 29	IMPACTS OF WNT INHIBITORY FACTOR-1 (WIF-1) ON THE DIFFERENTIATION OF PREADOPOCYTES Duaa Babaer*, Mary Shannon Byers*, Mahmoud Gaballa* and Manal Alsaedi*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Xiaofei Wang
GR-P 30	THE MARKET FOR SCHOOLING IN TENNESSEE Timothy Walker*. <i>Public Administration</i> , College of Public Service & Urban Affairs. Advisor(s): Meg Streams
GR-P 31	VALIDATING HOST-SPECIFICITY IN ERWINIA TRACHEIPHILA-CUCURBITACEAE INTERACTIONS IN A GREENHOUSE TRIAL Eric Nazareno*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Korsi Dumenyo
GR-P 32	WHITE PAPER: COVERAGE GAP ISSUES AMONG HOSPITALS AND HEALTHCARE SYSTEMS IN TENNESSEE Lauren Buford*, Delisha Crawford*, Moise Findley*, Rhoda Oaihimire* and Ruth Oaihimire*. <i>Healthcare Administration & Health Sciences</i> , College of Health Sciences. Advisor(s): Elizabeth Brown
GR-P 33	ESTIMATION OF NARROW SENSE HERITABILITY OF POWDERY MILDEW RESISTANCE IN PSEUDO F2 (F1) POPULATION OF FLOWERING DOGWOODS (Cornus florida L.) Lipi Parikh*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Mmbaga
GR-P 34	COMPARATIVE ANther AND MICROspore STAGES IN THE UPLAND COTTON CHROMOSOME SUBSTITUTION LINES Shreya Singh Hamal*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Ahmad Aziz
GR-P 35	FOLIAR TISSUE STANDARDS FOR HYDROPONICALLY GROWN ROMAINE LETTUCE (Lactuca sativa L. var. longifolia) Grija Vijayan*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Dharmalingam Pitchay
GR-P 36	EFFECTS OF FLAME RETARDANTS, HBCD AND TBBPA, ON SECRETION OF TUMOR NECROSIS FACTOR ALPHA (TNFα) FROM HUMAN IMMUNE CELLS Sharia Yasmin*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Whalen
GR-P 37	SYNTHESIS, CHARACTERIZATION, AND X-RAY STRUCTURE DETERMINATION OF FLUORINATED 9-AMINO ACRIDONE DERIVATIVES Alexis Sledge*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Cosmos Okoro

UNDERGRADUATE POSTERS

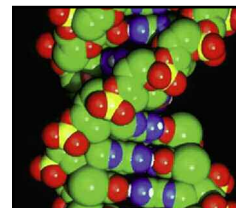
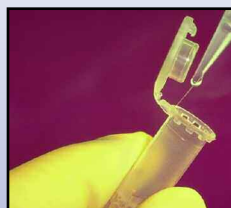
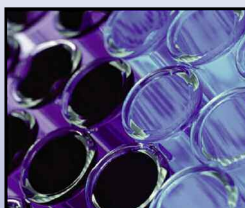
UNDERGRADUATE POSTER JUDGING THURSDAY APRIL 2, 2015

1:00 p. m. – 3:00 p. m. in Jane Elliott Hall Auditorium

UG-P 1	MEETING CONSUMER DEMAND FOR ORGANIC FOOD: AN INVESTMENT OPPORTUNITIES FOR NATURE BASED FOOD ENTERPRISES Beatrice Scalf*. <i>Agricultural Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Prabodh Illukpitiya
UG-P 2	ASSESSING VULNERABILITIES IN A NEAR FIELD COMMUNICATION SYSTEM Michael Alexander*. <i>Electrical and Computer Engineering</i> , College of Engineering. Advisor(s): Sachin Shetty
UG-P 3	TRIBUTYL TIN DECREASES SECRETION OF INTERLEUKIN 6 (IL-6) FROM HUMAN IMMUNE CELLS Wendy Wilburn*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Whalen
UG-P 4	THE RELATIONSHIP BETWEEN EDUCATIONAL EXPECTATIONS AND SOCIAL CLASS VERSUS PARENTAL EDUCATION AMONG STEM STUDENTS Elisabeth Stansberry*. <i>Psychology</i> , College of Education. Advisor(s): Marie Hammond
UG-P 5	ASSESSMENT OF SEA ANEMONE FEEDING BEHAVIOR Chase Richard*. <i>Biological Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Michael Ivy
UG-P 6	DISTRIBUTION OF CALCIUM BINDING PROTEINS IN THE PULVINAR OF THE MACAQUE MONKEY Chelsea Marlin* and Lisa de la Mothe. <i>Psychology</i> , College of Education. Advisor(s): Lisa de la Mothe
UG-P 7	CHOOSING SALIENT COLORS FOR ITEMS ON CLUTTERED MAP DISPLAYS. James Ellison* and Santos Santoni-Sanchez*. <i>Psychology</i> , College of Education. Advisor(s): Joshua Shive
UG-P 8	BRIDGING THE LEARNING GAP DIVIDE IN COMPUTER AND STATISTICAL ANALYSIS Marvis Denzel Epperson* and Upasna Paul*. <i>Agricultural and Environmental Sciences</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Enefiok Ekanem and Mary Mafuyai
UG-P 9	MECHANISM OF TRIBUTYL TIN-INDUCED SECRETION OF A PRO-INFLAMMATORY CYTOKINE, INTERFERON GAMMA, FROM HUMAN LYMPHOCYTES Margarita Peete*. <i>Chemistry</i> , College of Agriculture, Human and Natural Sciences. Advisor(s): Margaret Whalen

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NURSING DAY



Maria A. Revell, Ph.D., Speaker

Maria A. Revell, Ph.D.
**Associate Professor and Interim Director, Master of Science in Nursing
Program, Division of Nursing
Tennessee State University**

Dr. Revell received her bachelor's degree in nursing from Tuskegee Institute, her master's from the University of Alabama, Huntsville and her doctorate from the University of Alabama, Birmingham.

Her research experiences have focused on quantitative studies on topics that include education testing methodology, health care access for individuals residing in poor counties in rural southern Alabama and women living in squatter

communities in South Africa. She has more than 35 publications in areas of nursing including textbook author, national, and international refereed journals. Dr. Revell has worked with students in research projects for 10 years while promoting evidence based foundations for care delivery. Her professional career includes awards for teaching, grants and publications.

Schedule of Events

Monday, March 30, 2015 - James E. Farrell - Fred E. Westbrook Building, 118

8:30 a.m.	Occasion by Dr. Windia Wilbert, Chairperson
8:45 a.m.	Welcome - Dr. Stephanie Bailey, Dean - College of Health Sciences Dr. Kathy Martin, Associate Dean - College of Health Sciences and Executive Director - Division of Nursing
9:00 a.m. - 9:35 a.m.	MSN and BSN Poster Presentations
9:40 a.m. - 11:15 a.m.	Concurrent Sessions
11:20 a.m. - 12:05 p.m.	Lunch
12:10 p.m. - 12:45 p.m.	Speaker, Dr. Maria A. Revell
12:45 p.m. - 1:00 p.m.	Q & A

CLOSING THE GAPS IN CHRONIC DISEASE DISPARITIES: BEST PRACTICES FROM EVIDENCE- BASED RESEARCH AND PUBLIC HEALTH PRACTICE



Eleanor Fleming, Ph.D., D.D.S., *Speaker*

Eleanor Fleming, Ph.D., D.D.S.
Lieutenant, United States Public Health Service
N.C. Department of Health and Human Services
Epidemiologist, Chronic Disease and Injury Section
N.C. Division of Public Health

Dr. Eleanor Fleming is a dental officer in the United States Public Health Service. She works as a U.S. Centers for Disease Control and Prevention (CDC) chronic disease epidemiologist assigned to the North Carolina (NC) Division of Public Health. She provides key epidemiologic leadership in the Chronic Disease and Injury (CDI) Section, analyzing state population-based data, assessing statewide chronic disease prevention efforts, evaluating public health programs, and co-chairing the CDI Section's Health Equity Workgroup.

Prior to her assignment in NC, she was a CDC disease detective (Epidemic Intelligence Service Officer) assigned to the National Center for HIV/AIDS, Viral Hepatitis, STD and TB Prevention, Office of Health Equity. She conducted research on HIV/AIDS and STD related

disparities, applying social determinants of health theories and models to better understand health inequities. She also conducted domestic and international epidemiological investigations related to syphilis prevention and control. Her work has been published in peer-reviewed journals, presented at national and international conferences, and used to inform local public health policies.

A native of Franklin, Tennessee, Dr. Fleming received her undergraduate and doctoral training in Political Science at Vanderbilt University, her Doctor of Dental Surgery degree with a Health Policy Certificate from the Robert Wood Johnson Foundation Health Policy Center at Meharry Medical College, and in May will receive her Master of Public Health degree in Epidemiology from East Tennessee State University.

Schedule of Events

Wednesday, April 1, 2015 - Avon Williams Campus, Auditorium 3rd Floor

12:00 p.m. – 1:00 p.m.	Mounting of Posters
1:00 p.m. – 2:00 p.m.	Plenary Poster Session (for general public)
2:00 p.m. – 2:15 p.m.	Welcome, Dr. Stephanie Bailey, Dean – College of Health Sciences
2:15 p.m. – 3:00 p.m.	Speaker, Dr. Eleanor Fleming
3:00 p.m. – 4:00 p.m.	Research Day Special Recognition Awards , (faculty and students) <i>Poster Session continues</i>

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37
Years

**COLLEGE OF HEALTH
SCIENCES DAY**

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Years

PSYCHOLOGY DAY



Kevin Cokley, Ph.D., Speaker

THE MYTH OF BLACK ANTI-INTELLECTUALISM: A TRUE PSYCHOLOGY OF AFRICAN AMERICAN STUDENTS

**Kevin Cokley, Ph.D. Professor, Department of Educational Psychology
Department of African and African American Diaspora Studies
The University of Texas at Austin**

Dr. Kevin Cokley is a full professor in the Department of Educational Psychology as well as the Department of African and African American Diaspora Studies. His research focuses on the impact of the psychological contexts affecting racial and ethnic identity development and correlates of academic achievement. Dr. Cokley has over 50 publications, with articles appearing in *The Journal of Black Psychology*, *Journal of College Student Development*, *Measurement and Evaluation in Counseling and Development*, *Journal of Multicultural Counseling and Development*, *Journal of Counseling Psychology*, *Cultural Diversity and Ethnic Minority Psychology*, *Educational and Psychological Measurement*, and *Harvard Educational Review*, to name a few. His research and

scholarship have led him to challenge the notion that African American students are anti-intellectual in *The Myth of Black Anti-Intellectualism: A True Psychology of African American Students*. In addition to his extensive background in academic research, Dr. Cokley serves as the Editor-in-Chief for *The Journal of Black Psychology*. He is also an affiliate of the University of Texas at Austin Center for African and African American Studies.

Dr. Cokley received his B.A. in Psychology from Wake Forest University, his M.E. in Counselor Education from the University of North Carolina at Greensboro, and his Ph.D. in Counseling Psychology from Georgia State University.

Schedule of Events

Thursday, April 2, 2015 James E. Farrell - Fred E. Westbrook Building, 118

Time	Event
3:30 - 4:00 p.m.	Poster Setup
4:00 - 5:30 p.m.	Poster Session and Reception
5:30 - 6:00 p.m.	Awards Ceremony
6:00 - 7:00 p.m.	Speaker, Dr. Kevin Cokley
7:00 - 7:30 p.m.	Q & A Session

Amos Otis founded SoBran, Incorporated in 1987 after a distinguished 21-year career as an Air Force Officer. He has led SoBran from a lean start-up in the basement of his Fairfax County, Virginia home to a \$63 million dollar company with three divisions. Those divisions are: BioScience, Engineering and Logistics, and SafeMail® and Security. SoBran consistently appears on the Inc. Magazine "List of America's Fastest Growing Private Companies" and the Black Enterprise Top 100 "Industrial Service List". Throughout its growth, Otis has guided SoBran based on the foundation of Air Force values: Integrity, Service and Excellence.

SoBran's founder has been recognized for his management and entrepreneurial skills as well as his civic leadership. Otis was appointed to the Board of Directors of the Federal Reserve Bank of Cleveland, Cincinnati Branch in 2012. He is a member of the Board of Trustees of the Dayton Development Coalition and a life member of the NAACP. He has also been profiled in Black Enterprise magazine as an innovator in workforce readiness.

One of Otis's passions is educational opportunity for deserving youths. He has established a number of scholarships and endowments. Two significant ones are the SoBran/Scoman Educational Scholarship Endowment at Tennessee State University at Nashville, and he established the Brenda Faye Otis-Lee Educational Scholarship at the St. Jude Educational Institute in Montgomery, Alabama,

Otis has consulted for the National Research Council of the National Academy of Sciences for Post-Doctoral Programs and The National Association for Equal Opportunity in Higher Education. He is Treasurer of the Tennessee State University Education Foundation Board and chairs its Finance Committee.

In addition, Amos Otis chairs the Beta Nu Boule' Education Foundation of Sigma Pi Phi Fraternity, and he is a life member of Kappa Alpha Psi Fraternity.

While in the Air Force, Otis served as: Titan II ICBM Combat Crew Commander; USAF Plant Representative at Hughes Aircraft Corporation; cost analyst for the Aeronautical Systems Division (General Officer's staff); Comptroller for the 8th Tactical Fighter Wing (Kunsan, South Korea); Professor of Air Science for the District of Columbia's AFROTC Detachment at Howard University; and finally, Program Manager at the Air Force Office of Scientific Research's Special Programs.

Otis holds a Bachelor's Degree from Tennessee State University, an MBA from The California State University System, and a Masters of Military Art and Science from Air University.

He lives in northern Virginia with his wife, Brenda Wills Otis. They are the parents of two adult children, Soma' Otis-Martin (Tony), Noel Brandon Otis and two grandchildren Sydney and Seth Martin.

Program

Friday, April 3, 2015 12:00 P.M. – 2:00 P.M.

James E. Farrell - Fred E. Westbrook Bldg, 118

Mistress of Ceremonies, Ms. Valerie Williams

Prelude *(Instrumental Music)*

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

Invocation, Mr. John Barfield

The Luncheon

Presentation of Speaker, Lesia Crumpton-Young, *Chief Research Officer and Associate Vice President for Research and Sponsored Programs*

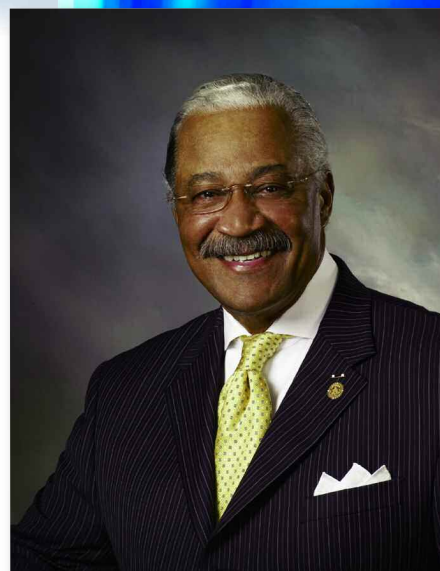
The Address - Amos L. Otis, MBA, MMAS

*Founder, President and Chief Executive Officer
SoBran, Inc.*

Presentation of Awards, Symposium Co-chairs, and Dr. Lesia Crumpton-Young

- *Speaker Award* • *Student Awards* • *Research Mentor Award*
- *Million Dollar Club for Research Induction and Award*

Acknowledgements and Closing Remarks, Dr. Tamara Rogers, *Symposium Co-Chair*



AMOS L. OTIS, MBA, MMAS
Speaker

*SoBran, Inc.
Founder, President, and Chief
Executive Officer*

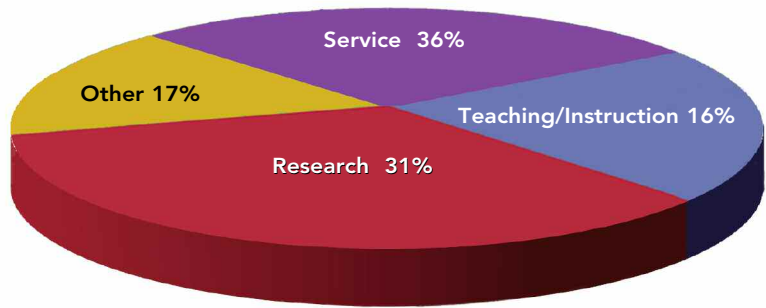
**AWARDS LUNCHEON
AND CLOSING CEREMONY**

AWARDS AND SUBMISSIONS

Fiscal Year 2014

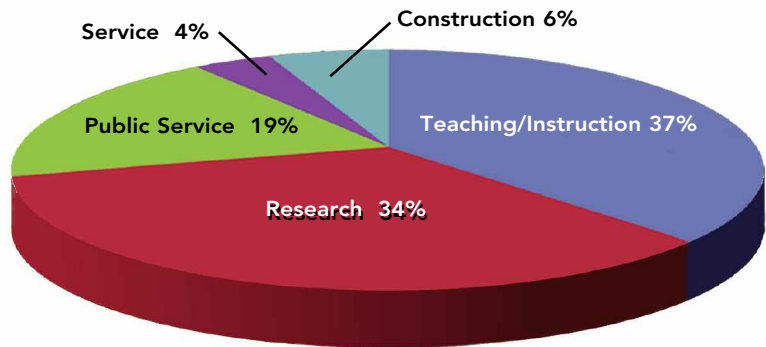
SUBMISSIONS BY PROJECT TYPE

Research	\$29,005,714 (93)
Service	32,968,428 (24)
Teaching/Instruction	14,878,404 (24)
Other	15,423,812 (12)
TOTAL	\$92,276,358 (153)



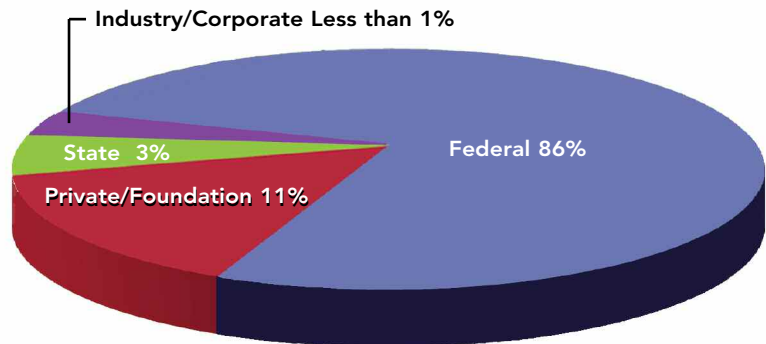
AWARDS BY PROJECT TYPE

Teaching/Instruction	\$14,210,576 (63)
Research	12,786,959 (66)
Public Service	7,016,498 (46)
Service	1,543,448 (6)
Construction	2,361,437 (2)
TOTAL	\$37,918,918 (183)



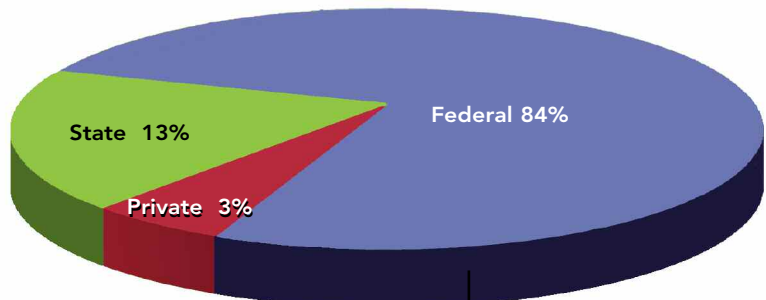
SUBMISSIONS BY SOURCE

Federal	\$79,056,229 (120)
Industry/Corporation	268,834 (2)
Private/Foundation	10,544,348 (15)
State	2,406,947 (16)
TOTAL	\$92,276,358 (153)



AWARDS BY SOURCE

Federal	\$31,933,854 (140)
Private	1,101,852 (19)
State	4,883,212 (24)
TOTAL	\$37,918,918 (183)



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Leslie Speller-Henderson, M.S.

*Interim, Family and Consumer Sciences Program Leader and Extension Specialist
Department of Family and Consumer Sciences Cooperative Extension Program
College of Agriculture, Human, and Natural Sciences
Tennessee State University*

Mrs. Speller-Henderson provides statewide Family and Consumer Sciences (FCS) leadership for Tennessee county agents and state faculty with the Tennessee State University (TSU) Cooperative Extension Program. She is principal investigator for the federally funded community nutrition education grant, "Supplemental Nutrition Assistance Program Education (SNAP-Ed)" at TSU. Additionally, Mrs. Speller-Henderson leads and coordinates the federally funded community nutrition program, "Expanded Food and Nutrition Education Program (EFNEP)" at TSU. She facilitates nutrition and food safety education outreach to help individuals, families, and communities identify and solve healthy lifestyle challenges.

Currently, Mrs. Speller-Henderson teaches undergraduate foods and nutrition courses at TSU and previously, she taught at Nashville State Community College. She has a Bachelor of Science degree in foods and nutrition from Tennessee State University and a Master of Science degree in nutrition and hospitality management from Alabama A&M University.

Million Dollar Club Members

Mr. Ronnie G. Brooks
Facilities Management

Dr. Michael Busby
*Center for Excellence in
Information Systems Engineering
and Management*

Dr. 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. Sandria Godwin
*College of Agriculture, Human,
and Natural Sciences*

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. Jeanetta W. Jackson
*College of Engineering
(Mathematical Sciences)*

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. Elaine D. Martin
*College of Agriculture, Human, and
Natural Sciences (Biological
Sciences)*

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. Landon Onyebueke
College of Engineering

Dr. Heraldo Richards
*College of Education
(Teaching and Learning)*

Dr. Edward L. Risby
*Graduate School and Office of
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Dr. Decatur B. Rogers
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Technology, and Computer Science*

Dr. Lonnie Sharpe
*Massie Chair of Excellence in
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Dr. Amir Shirkhodaie
*College of Engineering,
Technology, and Computer Science*

Dr. Marcus W. Shute
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Dr. Willard Smith
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and Management*

Mrs. Leslie Speller-Henderson
*Cooperative Extension Program
College of Agriculture, Human,
and Natural Sciences*

Dr. Jennifer Stewart-Wright
*Center of Excellence for
Learning Sciences*

Dr. Maria Thompson
*Division of Research and
Sponsored Programs*

Ms. Valerie Williams
*Center of Excellence for
Learning Sciences*

Dr. Artenzia Young-Seigler
*College of Agriculture, Human,
and Natural Sciences
(Biological Sciences)*

Congratulations to the 36 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 36 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.

JUDGES

Dr. Donald Alcendor, *Vanderbilt University*

Dr. Maria Teresa de Aquino,
Meharry Medical College

Dr. Vishwas N. Bedekar,
Middle Tennessee State University

Dr. Earl Britt, *Vanderbilt University*

Dr. Katari Coleman,
State of TN, Dept. of Human Services

Dr. Conrad Douglas, *Capital City Dentistry*

Dr. Christopher F. Cummings, *Vanderbilt University*

Dr. Steven Damo, *Fisk University*

Dr. Carl E. Darris, *Vanderbilt University*

Dr. Chandravanu Dash, *Meharry Medical College*

Dr. Edgar Diaz-Cruz, *Belmont University*

Ms. Amber J. Dorsey,
Middle Tennessee State University

Mr. Kelman Edwards,
Middle Tennessee State University

Dr. Eugene Eiland, *Vanderbilt University*

Dr. C. Scott English, *Vanderbilt University*

Ms. Nikki Fant, *ICON Clinical Research*

Dr. Pandu Gangula, *Meharry Medical College*

Dr. David Hatfield, *Middle Tennessee State University*

Dr. Robert Holt, *Meharry Medical College*

Dr. Justus Ike, *Fisk University*

Dr. Prem Kahlon,
Tennessee State University (emeritus)

Dr. Jeff Kent, *Volunteer State Community College*

Dr. Ewa A. Kowal, *Vanderbilt University*

Dr. Amanda R. Lowery, *Vanderbilt University*

Dr. Eun-Sook Lee, *Meharry Medical College*

Dr. Amanda Lowery, *Vanderbilt University*

Dr. Dana Marshall, *Meharry Medical College*

Dr. Patricia McCarroll, *Fisk University*

Dr. Natalie Michaels, *Belmont University*

Dr. Stephania Miller-Hughes,

Meharry Medical College

Dr. Amosy M'Koma, *Meharry Medical College*

Dr. Sekou Molette, *Top Flight Medical*

Dr. Susan Morley, *Lipscomb University*

Dr. Brittany Mortensen, *Vanderbilt University*

Dr. Vahid Motevalli, *Tennessee Technology University*

Dr. Shyamali Mukherjee, *Meharry Medical College*

Dr. Ahad S. Nasab, *Middle Tennessee State University*

Dr. Tultul Nayyar, *Meharry Medical College*

Dr. Brian Nelms, *Fisk University*

Dr. Robert F. Newkirk,
Tennessee State University (retired)

Mr. Marbin Pazos-Revilla,
Tennessee Technology University

Dr. Shelia Peters, *Fisk University*

Dr. Lei Qian, *Fisk University*

Dr. Girish Rachakonda, *Meharry Medical College*

Dr. Periasamy Rajan,
Tennessee Technology University

Dr. Aramandla Ramesh, *Meharry Medical College*

Dr. Tanu Rana, *Meharry Medical College*

Dr. Douglas Robinson, *Meharry Medical College*

Dr. Karim Salman,
Middle Tennessee State University

Dr. Maureen Sanderson, *Meharry Medical College*

Dr. Anil Shanker, *Meharry Medical College*

Dr. Akiko Shimamoto, *Meharry Medical College*

Dr. Ujjal Singha, *Meharry Medical College*

Dr. Angela Southwell,
Associated Children's Dentistry

Dr. LaMonica Stewart, *Meharry Medical College*

Dr. Thyneice Taylor, *Research Consultant*

Dr. Isi Tolliver, *Vanderbilt University*

Dr. Andrew Van Schaack, *Vanderbilt University*

Dr. Carlos Virgons,
Middle Tennessee State University

Dr. Paul Voziyan, *Vanderbilt University*

Dr. Bryan Kent Wallace, *Fisk University*

Dr. Catherine Wakeman, *Vanderbilt University*

Dr. Roslynn Webb, *State of Tennessee,*
Dept. of Disability Services

Dr. Ebony Weems, *Meharry Medical College*

Dr. Eugenia Yazlovitskaya, *Vanderbilt University*



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BOB HUGHES**

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LINDA SPEARS**

STUDENT AWARDS

36TH ANNUAL UNIVERSITY-WIDE RESEARCH SYMPOSIUM 2014

Congratulations to the Tennessee State University researchers and faculty advisors for their winning entries in the oral and poster presentation competitions during the Research Symposium for 2014. There were 149 student presentations (209 authors) and 20 faculty presentations (25 authors).

ORAL PRESENTATIONS

ORAL: GRADUATE ENGINEERING I

1st place	GR ENGR 2	Linda Emujakporue
2nd place	GR ENGR 5	Kimberly Gold
3rd place	GR ENGR 4	Husam Adas

ORAL: GRADUATE SCIENCES I

1st place	GR SCI 7	Zhujia Ye
2nd place	GR SCI 12	Khushikumari Patel
3rd place	GR SCI 8	Darnell Towns

ORAL: GRADUATE EDUCATION AND HEALTH SCIENCES

1st place	GR ED-HSCi 3	Beth Heringer
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ORAL: PRELIMINARY RESEARCH: GRADUATE ENGINEERING

1st place tie	PR:GR ENGR 1	Tonjanika Robinson
1st place tie	PR:GR ENGR 2	Olumide Bello

ORAL: GRADUATE SCIENCES II

1st place	GR SCI 26	Priya Saini
2nd place	GR SCI 15	Vanaja Kankarla
3rd place	GR SCI 25	Shanieek Lawrence

ORAL: GRADUATE ENGINEERING II

1st place	GR ENGR 12	Monzurul Alam
2nd place	GR ENGR 16	Waled Tayib
3rd place	GR ENGR 18	Yvette Tolliver

ORAL: GRADUATE SCIENCES III

1st place	GR SCI 37	Zinia Jaman
2nd place	GR SCI 31	Jacqueline Joshua
3rd place	GR SCI 30	Ankit Bansal

ORAL: UNDERGRADUATE ENGINEERING

1st place	UG ENGR 4	Jared Wagnac
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ORAL: UNDERGRADUATE SCIENCES

1st place	UG SCI 4	Rebecca Welch
2nd place	UG SCI 10	Natalia Johnson
3rd place	UG SCI 1	Derek Platt

ORAL: PRELIMINARY RESEARCH – GRADUATE EDUCATION AND SCIENCES

1st place	PR:GR Ed-Sc 3	Heidi Bender, Briana Brown, Nikki Patel, and Martine Twist
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ORAL: UNDERGRADUATE SOCIAL SCIENCES

1st place	UG SSCi 1	Martina Mitchell
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POSTER PRESENTATIONS

POSTER: GRADUATE PRELIMINARY RESEARCH

1st place	GR-P PR8	Taylor Barnes, Hillary Dow, Robert Felts, and Elizabeth Robbins
2nd place	GR-P PR7	Liz Fuhrhop

POSTER: GRADUATE SCIENCE

1st place	GR-P 39	Ikenna Okekeogbu
2nd place	GR-P 16	Ashley Payne
3rd place	GR-P 4	Peter Prestwich

POSTER: GRADUATE EDUCATION

1st place	GR-P 15	Jasmine Scott
2nd place	GR-P 11	Erica Brice

POSTER: GRADUATE ENGINEERING

1st place	GR-P 26	Manu Misra
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POSTER: GRADUATE SOCIAL SCIENCE

1st place	GR-P 32	Kenyatta Lovett
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POSTER: GRADUATE HEALTH SCIENCE

1st place	GR-P 35	Chelsea Whatley
2nd place	GR-P 34	Michael Trimble

POSTER: UNDERGRADUATE SCIENCE

1st place	UG-P 1	Sara Chrisman
2nd place	UG-P 14	Sean Tehrani

POSTER: UNDERGRADUATE EDUCATION

1st place	UG-P 4	Tiffany Scales
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POSTER: UNDERGRADUATE ENGINEERING

1st place	UG-P 13	Benjamin Morton
2nd place	UG-P 12	Sameer Lodhi

AWARDS

ORAL PRESENTATION:

First place = \$250
Second place = \$100
Third place = \$50

POSTER PRESENTATION:

First place = \$150
Second place = \$75
Third place = \$25



2014 RESEARCH MENTORSHIP AWARD WINNER SACHIN SHETTY, PH.D.

Congratulations to Dr. Sachin Shetty, Assistant Professor, Department of Electrical and Computer Engineering in the College of Engineering. Dr. Sachin Shetty was awarded this honor for serving as mentor and/or advisor to the greatest number of winning student research entries during the 36th Annual University-Wide Research Symposium, 2014. Eight (8) of Dr. Shetty's twenty-one student entries placed in the student research competitions. He received \$1,000 cash in recognition for his research mentorship.

LIST OF DR. SHETTY'S WINNING STUDENT RESEARCHERS

ORAL – GRADUATE ENGINEERING I

2nd place, Kimberly Gold*
3rd place, Husam Adas*

ORAL – GRADUATE ENGINEERING II

1st place, Monzurul Alam*
2nd place, Waled Tayib*

ORAL – UNDERGRADUATE ENGINEERING

1st place, Jared Wagnac*

POSTER – GRADUATE ENGINEERING

1st place, Manu Misra*

POSTER – UNDERGRADUATE ENGINEERING

1st place, Benjamin Morton*
2nd place, Sameer Lodhi*

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Academic Programs to Careers

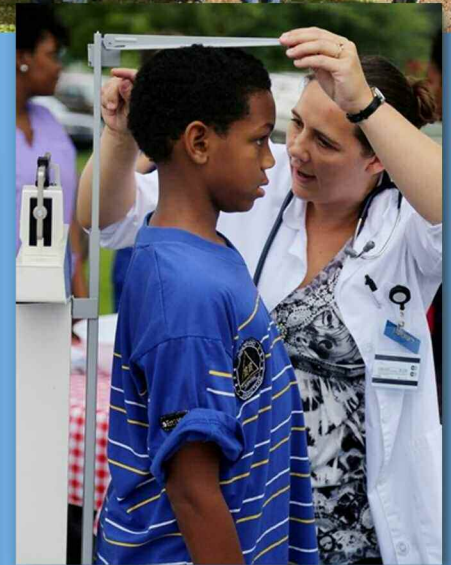
UNDERGRADUATE DEGREES PROGRAMS

- Cardio-Respiratory Care Sciences
- Health Information Management
- Dental Hygiene
- Nursing
- Human Performance Sport Sciences
- Health Sciences
- Speech Pathology and Audiology



GRADUATE DEGREE PROGRAMS

- Nursing
- Healthcare Administration and Planning
- Occupational Therapy
- Physical Therapy
- Public Health
- Speech Pathology and Audiology
- Human Performance Sport Sciences



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Bachelor of Science in Sociology
Bachelor of Science in Urban Studies (Also available online)
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Department of Public Administration

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Only Accredited one in Mid-Tennessee
Masters in Professional Studies (MPS) – Online program
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Graduate Certificate in Non-Profit Management
Graduate Certificate in Public Administration Executive Leadership
Graduate Certificate in Public Policy (Soon)

ACCREDITATIONS:



National Association of Schools of Public Affairs and Administration



Accredited by the Council on Social Work Education





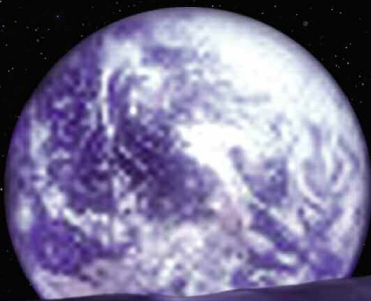
Qualified Students Welcome



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:

- Astrophysics
- Advanced Control Systems and System Identification
- Applied Mathematics

If you would like more information please call:
Dr. Matthew Muterspaugh, Director
Center of Excellence in Information Systems
(615) 277-1601
<http://coe.tsuniv.edu>





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(with or without instructional leadership licensure)

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(Curriculum Planning, Secondary School Instruction, Reading Specialist, Educational Technology, Teaching Non-English Background Students - NELB)

M.Ed. Elementary Education

M.Ed. Special Education (Mild/Moderate)

Ed.S. Administration & Supervision

Ed.D. Pre K-12 Administration

Ed.D. Higher Education Administration

Ph.D. Counseling Psychology

Ph.D. School Psychology

Ed.D. in Curriculum & Instruction

(Curriculum Planning, Elementary Education, Reading, Secondary Education, Special Education)

Accreditations and Professional Affiliations



www.tnstate.edu/teachered



School of Graduate Studies and Research

We offer Doctoral, Master and Graduate Certificate Programs

With a total enrollment of approximately 2,000 students, the School of Graduate Studies and Research at Tennessee State University's (TSU) offers twenty-two master degrees, seven doctoral programs, and six graduate certificate programs. In addition to our broad range of programs, many graduate courses at TSU are offered in the evenings and weekends. Other programs are offered entirely online. This long-standing practice allows us to accommodate the needs of working adults and non-traditional students. TSU students have access to high quality faculty who have acquired globally relevant research expertise, and are prepared and willing to share their experiences.

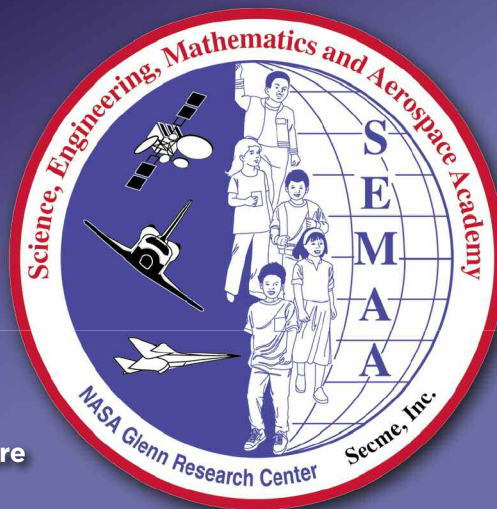
The Graduate School establishes high academic standards in pursuit of excellence. Our commitment is to drive effective recruitment and retention, and provide support for all students in order to improve graduation rates. The Graduate School is prepared to contribute to the land-grant mission and goal of the University through leveraging faculty resources for the effective and efficient delivery of academic programs and processes.

SALUTING THE 37TH ANNUAL UNIVERSITY-WIDE RESEARCH SYMPOSIUM



Science, Engineering, Mathematics and Aerospace Academy (SEMAA)

Sponsored by National Aeronautics and
Space Administration (NASA)



The Science, Engineering, Mathematics and Aerospace Academy (SEMAA) is a national leader in K-12 education; inspiring, engaging and educating K-12 students, parents, caregivers, and teachers. Since 2004, SEMAA has engaged more than 469,000 participants.

The Goals of the SEMAA Program are to:

- Inspire a more diverse student population to pursue careers in STEM-related fields
- Engage students, parents/adult family members and teachers by incorporating emerging technologies
- Educate students utilizing rigorous STEM curricula, designed and implemented as only NASA can

The Key Components of Service are:

- Hands-on, Inquiry-Based K-12 STEM Curricula
- Aerospace Education Laboratory (AEL)
- Family Café
- Professional Development
- Outreach

Tennessee Space Grant College and Fellowship Program

Sponsored by National Aeronautics and Space Administration (NASA)



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College of Engineering

S. Keith Hargrove, Ph.D., *Dean*

B.S. Degrees

Architectural Engineering

Civil Engineering

Electrical Engineering

Mechanical Engineering

Computer Science

Aeronautical and Industrial Technology

Mathematical Sciences

M.S. Degree

Computer and Information Systems Engineering

Computer Science

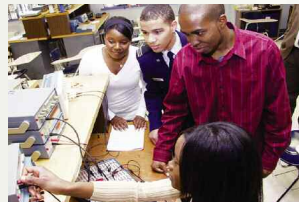
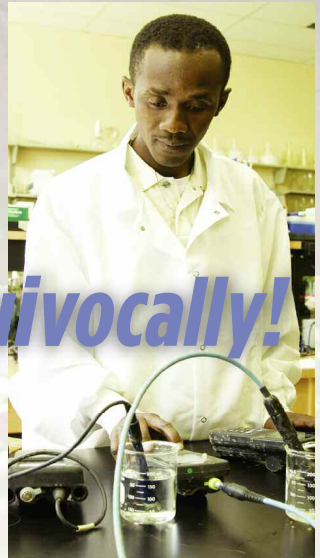
Master of Engineering (M.E.) Degree

Ph.D. Degree

Computer and Information Systems Engineering

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3500 John A. Merritt Blvd.

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TENNESSEE STATE UNIVERSITY

College of Liberal Arts

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PROGRAMS

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Criminal Justice

English

History

Intelligence Studies

Interdisciplinary Studies

International Affairs

Foreign Languages

Geography

Music

Philosophy

Political Science

Teacher Certification

Women's Studies

Major and minor programs in the College of Liberal Arts bring academic disciplines at the heart of a university education together with the challenges and opportunities facing today's students. By engaging with rich intellectual traditions, exploring global cultures, and developing vital career skills, Liberal Arts programs prepare their graduates for resilience and adaptability, lifelong learning, and leadership in a changing world.



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.
-Dean



The goals of the Annual Research Symposium, now in its 36th 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



College of Agriculture, Human and Natural Sciences

CHANDRA REDDY, PH.D. – DEAN, DIRECTOR OF RESEARCH, AND ADMINISTRATOR OF EXTENSION



ACADEMIC DEGREE OFFERINGS

DEPARTMENT OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES

- BACHELOR OF SCIENCE IN AGRICULTURAL SCIENCES WITH CONCENTRATIONS IN:
 - ▶ AGRIBUSINESS
 - ▶ AGRICULTURAL EDUCATION, LEADERSHIP AND EXTENSION
 - ▶ ANIMAL SCIENCE/PRE-VETERINARY MEDICINE
 - ▶ APPLIED GEOSPATIAL INFORMATION SYSTEMS (GIS)
 - ▶ BIOTECHNOLOGY
 - ▶ FOOD TECHNOLOGY
 - ▶ PLANT AND SOIL SCIENCE
- MASTER OF SCIENCE IN AGRICULTURAL SCIENCES WITH CONCENTRATIONS IN:
 - ▶ AGRIBUSINESS MANAGEMENT AND ANALYSIS
 - ▶ AGRICULTURAL EDUCATION, LEADERSHIP AND EXTENSION
 - ▶ ANIMAL SCIENCE
 - ▶ FOOD SUPPLY CHAIN MANAGEMENT
 - ▶ PLANT AND SOIL SCIENCE
- PROFESSIONAL SCIENCE MASTER'S (PSM) PROGRAM IN APPLIED GEOSPATIAL SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

- BACHELOR OF SCIENCE IN BIOLOGICAL SCIENCES WITH CONCENTRATIONS IN:
 - ▶ GENERAL BIOLOGY (Pre-Medicine, Pre-Dentistry, etc.)
 - ▶ CELLULAR AND MOLECULAR BIOLOGY
 - ▶ BIOLOGY WITH TEACHER CERTIFICATION
- MASTER OF SCIENCE IN BIOLOGICAL SCIENCES
- Ph.D. IN BIOLOGICAL SCIENCES THROUGH AN INTERDISCIPLINARY, JOINT PROGRAM

DEPARTMENT OF CHEMISTRY

- BACHELOR OF SCIENCE IN CHEMISTRY WITH CONCENTRATIONS IN:
 - ▶ PROFESSIONAL CHEMISTRY
 - ▶ BIOCHEMISTRY
 - ▶ CHEMISTRY WITH TEACHER CERTIFICATION
 - ▶ COOPERATIVE PROGRAM IN PRE-PHARMACY
- MASTER OF SCIENCE IN CHEMISTRY

DEPARTMENT OF FAMILY AND CONSUMER SCIENCES

- BACHELOR OF SCIENCE IN EARLY CHILDHOOD EDUCATION
- BACHELOR OF SCIENCE IN FAMILY AND CONSUMER SCIENCES WITH CONCENTRATION IN:
 - ▶ CHILD DEVELOPMENT and FAMILY RELATIONS
 - ▶ DESIGN
 - ▶ FASHION MERCHANDISING
 - ▶ FAMILY and CONSUMER SCIENCES EDUCATION
 - ▶ FOODS and NUTRITION (Dietetics)
 - ▶ FOOD SERVICE MANAGEMENT
- CERTIFICATE IN FAMILY FINANCIAL PLANNING

EXTENSION

Performing public service across Tennessee in areas of food, agriculture, environmental science, and consumer sciences through the Cooperative Extension Program.



TENNESSEE
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CONTACT INFORMATION

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RESEARCH

CONDUCTING A MULTI-MILLION DOLLAR RESEARCH PROGRAM:

- AGRICULTURE, BIOLOGY, AND CHEMISTRY PROJECTS IN RESEARCH LABORATORIES AT NASHVILLE
- THE RESEARCH AND EDUCATION CENTER AT NASHVILLE
- RESEARCH AND EDUCATION CENTER AT CHEATHAM COUNTY
- THE OTIS L. FLOYD NURSERY CROP RESEARCH CENTER AT MCMINNVILLE
- CENTER FOR PREVENTION RESEARCH, NASHVILLE
- INTERNATIONAL AGRICULTURAL PROGRAMS (IAP)

Agricultural Biotechnology Building erected in 2014. Supported by USDA-NIFA 1890 Facilities Grant Program.