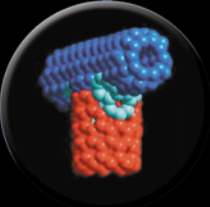
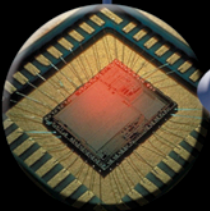


TENNESSEE STATE UNIVERSITY



**Research:**

**EXCELLENCE  
THROUGH  
COLLABORATION**

26<sup>TH</sup>

ANNUAL  
UNIVERSITY-WIDE  
RESEARCH SYMPOSIUM

DIVISION OF RESEARCH AND SPONSORED PROGRAMS



## Qualified Students Welcome



The Center of Excellence in Information Systems Engineering and Management is an interdisciplinary research facility located on the downtown TSU Williams Campus. At the Center, Tennessee State 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
- Management Information Systems

If you would like more information  
please call:  
Dr. Michael R. Busby, Director  
Center of Excellence in Information Systems  
(615) 963-7013  
<http://coe.tsuniv.edu>

**Research:**  
*E*XCELLENCE  
THROUGH COLLABORATION



26TH ANNUAL UNIVERSITY-WIDE  
RESEARCH SYMPOSIUM  
APRIL 5-8, 2004

T E N N E S S E E   S T A T E   U N I V E R S I T Y



**Office of the President**  
Tennessee State University  
3500 John A. Merritt Blvd.  
Nashville, TN 37209-1561

April 6, 2004

Dear Colleagues:

Welcome to the 26th Annual University-wide Research Symposium, "Research: Achieving Excellence through Collaboration." It is indeed exciting to anticipate the scholarly activities of the next few days, featuring posters and presentations by faculty and students from across the curriculum. Together, faculty and students have investigated problems and pursued theories that have led the university to greater levels of achievement, as this year's theme suggests.

As the president of Tennessee State University, I take great pride in the accomplishments we have made in the area of research and the tremendous potential for future success that we possess. TSU currently leads the Tennessee Board of Regents system in funding for sponsored research and I anticipate the same remarkable growth during the next decade, as granting agencies give us the recognition that counts: the receipt of yet more funding for yet more projects. I also look forward to increased participation in sponsored programs from all academic disciplines.

Congratulations to each of our distinguished researchers. We in the TSU community look forward to hearing about your discoveries and your contributions to a body of knowledge that will lead to a better life for us all.

Sincerely,

A handwritten signature in blue ink that reads "James A. Hefner". The signature is fluid and cursive.

James A. Hefner  
*President*



**Research and Sponsored Programs**  
Tennessee State University  
3500 John A. Merritt Blvd.  
Nashville, TN 37209-1561

Office of the Vice President

22 March 2004

Dear Colleagues:

It is an honor and a privilege to welcome you to the 26<sup>th</sup> Annual University-wide Research Symposium featuring technical presentations and posters by our distinguished researchers, faculty and students. The theme for this year's symposium, "Research: Excellence Through Collaboration," embodies the focus and commitment of the University to grow the research enterprise through new partnerships and collaboration.

Research at Tennessee State has experienced phenomenal growth during the past decade. In order to sustain this growth, the University must seek and exploit interdisciplinary collaborative relationships both internally and externally. Collaboration is critically important in continuing our success in research areas that represent our strengths as well as developing new research initiatives that will propel the research enterprise at TSU to new heights. We anticipate the development of new research programs in high-growth areas such as nanotechnology, biotechnology, learning sciences, and computational science through collaboration with various federal agencies, national laboratories, corporations and other universities. We look forward to increased participation in extramurally funded research and sponsored programs by all disciplines at the University.

On behalf of the Division of Research and Sponsored Programs, I commend the outstanding efforts of our researchers, faculty, students and staff in making new discoveries and significant contributions to human knowledge. At Tennessee State, we believe research is essential to excellence in education and enhances the learning experience of our students. We continue to be committed to excellence in every way!

As always, I remain

Sincerely,

Marcus W. Shute, P.E., Ph.D.  
Vice President

*The College of Education is  
pleased to give its full support  
to the 26th Annual  
University Wide Research  
Symposium.*



LESLIE DRUMMOND ED.D.  
INTERIM DEAN

JOHN MARK HUNTER, ED.D.  
ASSISTANT DEAN FOR PUBLIC SERVICE AND OUTREACH

JUDITH PRESLEY, PH.D.  
ASSISTANT DEAN FOR TEACHER EDUCATION

615.963.5478



## Overview Of Events

### Monday - April 5, 2004

---

<b>8:00 – 11:00</b>	REGISTRATION	<b>Humanities Auditorium</b>
<b>12:00 – 1:00</b>	OPENING SESSION, <i>Dr. Yvonne Freeman, Executive Director, SECME, Inc.</i>	<b>Humanities Auditorium</b>
<b>1:45 – 4:30</b>	GRADUATE STUDENTS - ENGINEERING - PRESENTATIONS	<b>Forum</b>

---

### Tuesday - April 6, 2004

---

<b>8:00 – 11:00</b>	REGISTRATION	<b>Forum</b>
<b>9:00 – 11:00</b>	UNDERGRADUATE STUDENTS - ENGINEERING - PRESENTATIONS	
<b>11:00 – 12:30</b>	POSTER SESSIONS	<b>Floyd Payne Campus Center</b>
<b>1:40 – 3:00</b>	KEYNOTE ADDRESS, <i>Dr. Wade Adams, Director, Nanoscale Science &amp; Technology, Rice University</i>	<b>Forum</b>
<b>3:30 – 4:30</b>	POSTER SESSIONS	<b>Floyd Payne Campus Center</b>

---

### Wednesday - April 7, 2004

---

<b>8:00 – 11:00</b>	REGISTRATION	<b>Forum</b>
<b>9:00 – 11:45</b>	GRADUATE STUDENTS - SCIENCE - PRESENTATIONS	
<b>12:30 – 1:45</b>	UNDERGRADUATE STUDENTS - SCIENCE - PRESENTATIONS	
<b>2:00 – 2:30</b>	GRADUATE STUDENTS - SOCIAL SCIENCES & EDUCATION - PRESENTATIONS	
<b>2:45 – 4:00</b>	UNDERGRADUATE STUDENTS - SOCIAL SCIENCES & EDUCATION - PRESENTATIONS	

---

### Thursday - April 8, 2004

---

<b>9:00 – 11:30</b>	FACULTY PRESENTATIONS	
<b>12:00 – 2:30</b>	STUDENT AWARDS LUNCHEON ( <i>By Invitation Only</i> ) <i>Dr. Calvin Mackie, Founder, Channel Zer0, Associate Professor, Mechanical Engineering, Tulane University</i>	<b>Women's Building</b>

---

All Posters Should Be Put Up By The End Of The Day Mon. April 5, 2004. Students should be present at their posters 11:00 -12:30 and 3:30-4:30 April 6. All Posters Should be Removed by 3:00 PM Thurs., April 8.

## Opening Session Speaker

**YVONNE B. FREEMAN, Ed.D.**

*Executive Director  
SECME, Inc.*

Dr. Yvonne B. Freeman is the Executive Director of SECME, Inc., one of the premier pre-college programs in science, technology, engineering and mathematics for teachers, educational leaders and students, in the nation. SECME currently links 44 member engineering universities, 117 school systems (including more than 900+ K-12 schools) in 18 states, the District of Columbia, and Bahamas, and 70 corporate and government investors. The SECME National Office is located on the campus of the Georgia Institute of Technology in Atlanta, GA. Dr. Freeman was previously Vice President and Chief Operations Officer of Integra Ventures, Inc., responsible for developing a corporate business base in educational research and program development, medical and health care management, and diagnostic technologies and training.



As a NASA Associate Administrator from 1993 to 1996, Dr. Freeman was the highest ranking African American female in NASA in the United States. She provided executive leadership in the development of equal employment opportunity and minority education programs and managed funding for research centers in Historically Black Colleges and Universities, Hispanic Serving Institutions, and Tribal Colleges and other institutions with a predominance of minority enrollment. She managed NASA enterprises with a \$120 million annual budget, of which \$80 million went toward education and research program allocations, including scholarship and fellowship programs to support research centers at seven minority institutions.

She received the BA degree from Fisk University, Master of Education from Loyola University at Los Angeles, and Doctor of Education from the University of Massachusetts, Amherst. She is also a graduate of the Executive Management in Business Administration Program at UCLA's John E. Anderson Graduate School of Management.

## Opening Session

---

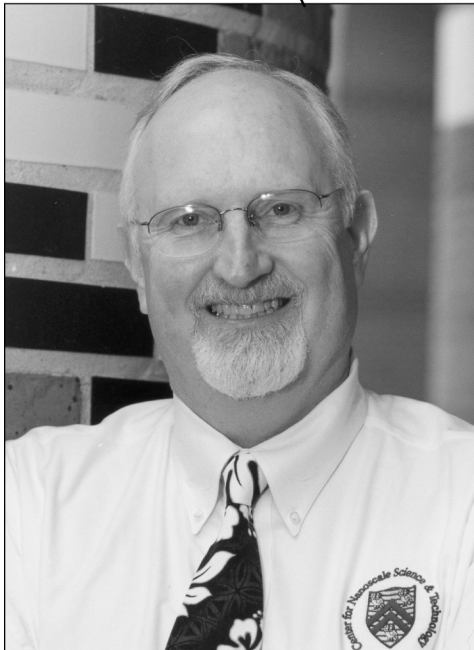
**MONDAY - APRIL 5, 2004    12:00 - 1:00    HUMANITIES AUDITORIUM**

---

<b>Master of Ceremonies</b>	DR. E. LEWIS MYLES, <i>Symposium Chair</i>
<b>Greetings</b>	DR. JAMES HEFNER, <i>President, Tennessee State University</i>
<b>Welcome</b>	DR. MARCUS W. SHUTE, <i>Vice President, Research and Sponsored Programs</i>
<b>Introduction of Speaker</b>	DR. TODD GARY, <i>COE:ISEM</i>
<b>Opening Speaker</b>	DR. YVONNE FREEMAN, <i>Executive Director, SECME, Inc.</i>

---





## Key Note Speaker

WADE ADAMS, Ph.D.

*Director, Center for Nanoscale Science and Technology  
Rice University*

Dr. Wade Adams is the Director of the Center for Nanoscale Science and Technology at Rice University, which coordinates and supports nanoscience and nanoengineering research of more than 80 faculty members. He has more than 190 research publications, four patents (one licensed), and has given more than 500 technical presentations. Prior to heading the world-class research team at Rice University, Dr. Adams served in the senior executive ranks of the U.S. Air Force as Chief Scientist of the Materials and Manufacturing Directorate of the Air Force Research Laboratory at Wright-Patterson Air Force Base. Dr. Adams was educated at the U.S. Air Force Academy, Vanderbilt University, and the University of Massachusetts. For the past 32 years he has conducted research in polymer physics,

concentrating on structure-property relations in high-performance organic materials. He is internationally known for his research in high-performance rigid-rod polymer fibers, X-ray scattering studies of fibers and liquid crystalline films, polymer dispersed liquid crystals, and theoretical studies of ultimate polymer properties. He is a Fellow of the American Physical Society and the Air Force Research Laboratory, and represents Rice University as the Chairman of the Board of the Texas Nanotechnology Initiative.

*Be a Scientist - Save the World*

### Presentation Overview

Energy is both the single most important problem facing humanity today and a magnificent scientific opportunity. We will need a minimum of ten terawatts (the equivalent of 150 million barrels of oil) per day from a new, clean energy source by 2050. Solving this problem will demand revolutionary breakthroughs in the physical sciences and engineering, and particularly in nanotechnology. This talk will discuss the magnitude of the problem, some enabling nanotechnology revolutions that will be needed to address the problem, the people/workforce issues that impinge on the problem, and some thoughts on how to organize to solve the problem.

## Keynote Address

---

**TUESDAY - APRIL 6, 2004    1:40 - 3:00    FLOYD-PAYNE CAMPUS CENTER FORUM**

---

<b>Welcome</b>	DR. MARCUS W. SHUTE, <i>Vice President, Research and Sponsored Programs</i>
<b>Introduction of Speaker</b>	DR. MARIA THOMPSON, <i>Director, Research and Sponsored Programs</i>
<b>Keynote Address</b>	DR. WADE ADAMS, <i>Director, Center for Nanoscale Science and Technology, Rice University</i>

---



## Awards Luncheon Speaker

**CALVIN MACKIE, Ph.D.**

*Co-founder, Channel ZerO*

*Associate Professor, Mechanical Engineering  
Tulane University*

After graduating from high school in New Orleans, LA in 1985, Calvin Mackie was conditionally accepted into Morehouse College where he began his college career in remedial reading after attaining a weak score on the SAT college entrance examination. Over the next eleven years, Mackie embarked on an unbelievable journey of academic and personal achievement that no man-made test could have predicted.

As an undergraduate, Mackie was a dual-degree achiever. In 1990, he earned a Bachelor of Mechanical Engineering degree from Georgia Tech and a Bachelor of Science in Mathematics from Morehouse College, where he graduated magna cum laude. Two years later, he earned a Master of Science in Mechanical Engineering

from Georgia Tech. In March 1996, he was conferred the Doctor of Philosophy degree in Mechanical Engineering.

A member of the Phi Beta Kappa, Pi Tau Sigma and Tau Beta Pi National Honor Societies, his passion for scholarship is well established. While pursuing his doctorate degree, he served as an instructor of mathematics at Morehouse College. Committed to community service, his involvements have included the High School Outreach Program, Big Brothers & Big Sisters and the NAACP. He is an active member of the National Speaker Association, 100 Black Men of Metro New Orleans and a former member of the Board of Directors of Big Brothers/Sisters of Southeast Louisiana.

In 1992, he co-founded Channel ZerO, an educational and motivational consulting company and has been active on the public speaking circuit for over ten years giving motivational presentations to numerous educational, civic and corporate institutions. In addition to his involvement with Channel ZerO, Mackie is a tenured associate professor of mechanical engineering at Tulane University in New Orleans, LA, specializing in heat transfer and fluid dynamics. Recently, Mackie received the 2002 Black Engineer of the Year Award for College Level Educator, 2002 New Orleans Daily News Weekly Trailblazer Award, 2003 National Title One Distinguished Graduate for Louisiana and the Pi Tau Sigma/ASME Excellence in Teaching Award in Mechanical Engineering for 2000 and 2002. In November 1999, he received a patent on a device to retrofit luggage stowbins on 737 and 757 Boeing commercial airliners. Furthermore, he authors a motivational column entitled, "Think About It!" for the Black Collegian Magazine and is married to the former Miss Tracy Ransom.

## Awards Presentation Luncheon (By Invitation Only)

**Thursday      April 8, 2004      12:00 Noon - 2:30 p.m.      Women's Building**

<b>Welcome</b>	<b>Dr. James A. Hefner, <i>President</i></b>
<b>Introduction of Speaker</b>	<b>Dr. Marcus W. Shute, <i>Vice President, Research and Sponsored Programs</i></b>
<b>Awards Luncheon Speaker</b>	<b>Dr. Calvin Mackie, <i>Founder, Channel ZerO, Associate Professor, Mechanical Engineering, Tulane University</i></b>
<b>Presentation of Awards</b>	<b>Dr. Maria Thompson, <i>Director, Research and Sponsored Programs</i></b>
<b>Acknowledgements and Closing Remarks</b>	<b>Dr. E. Lewis Myles</b>

1951-2004  
*Celebrating*  
*Over*  
**50**  
**YEARS**  
**OF**  
**SERVICE**

**Doctorate of Philosophy**  
programs

Computer and Information  
Systems Engineering  
Concentrations: Information and  
Computer Networks,  
Controls and Signal Processing,  
Robotics and Computer  
Integrated Manufacturing

**Master of Science Degree**  
program

Computer and Information  
Systems Engineering

**Master of Engineering Degree**  
programs

Civil Engineering,  
Electrical Engineering,  
Environmental Engineering,  
Manufacturing Engineering,  
and Mechanical Engineering

**Bachelor of Science Degree**  
programs

Architectural Engineering, Civil  
Engineering, Electrical  
Engineering, Mechanical  
Engineering, and Aeronautical  
Industrial Technology and  
Computer Science

TENNESSEE STATE UNIVERSITY  
COLLEGE OF  
ENGINEERING  
TECHNOLOGY AND  
COMPUTER SCIENCE  
A HALF CENTURY  
OF SERVICE



# Sessions

---

## ORAL PRESENTATION BY GRADUATE STUDENTS

### COMPUTER SCIENCE, ENGINEERING, PHYSICS AND MATH

SESSION CHAIR: *Ashiya Johnson, Department of Biological Sciences*

---

**Monday, April 5, 2004**

**FLOYD-PAYNE CAMPUS CENTER FORUM, ROOM 210**

---

1:45-2:00

A-1 REMOVAL OF DYNAMIC OFFSET SIGNAL FROM LOAD CELL INSTRUMENTED WHEELS

*\*Kevin R. Woods, W. Mark Richter, Russell Rodriguez, and Peter W. Axelson. Advisor: Mohammad Bodruzzaman, Department of Electrical and Computer Engineering*

---

2:00-2:15

A-2 TERRESTRIAL PLANETS IN OUR SOLAR SYSTEM

*\*Christopher Jett, Advisor: Geoffery Burks, Department of Physics and Mathematics and Center of Excellence in Information Systems and Engineering Management*

---

2:15-2:30

A-3 IMPLEMENTATION OF A REMOTE MONITORING SYSTEM TO AID IN THE PREVENTION OF SUDDEN INFANT DEATH SYNDROME (SIDS)

*\*Kimberly Gold. Advisor: Mohammad Bodruzzaman, Department of Electrical and Computer Engineering*

---

2:30 - 2:45

A-4 REDUCING VARIABILITY IN WHEELCHAIR PROPULSION OUTCOMES

*\*Russell Rodriguez, W. Richter, K. Woods, and P. Axelson. Advisor: Mohammad Bodruzzaman, Department of Electrical and Computer Engineering*

---

2:45-3:00

A-5 DETERMINING THE SPEED OF THE PULSE WAVE TRAVELING BETWEEN THE HEART AND FINGER USING DYNAMIC ECG SIGNALS

*\*Geminia Carey. Advisor: Mohammad Bodruzzaman, Department of Electrical and Computer Engineering*

---

3:00 - 3:15

A-6 INTELLIGENT PATTERN RECOGNITION SYSTEM FOR THE DIAGNOSIS OF NEUROMUSCULAR DISORDERS

*\*April D. Bush. Advisor: Mohammad Bodruzzaman, Department of Electrical and Computer Engineering*

---

3:15 - 3:30

A-7 MICROBIAL ADAPTATIONS AND CONTAMINANT-DEGRADATION STRATEGIES OF BACTERIA IN KARST AQUIFERS.

*\*Ryan Fitzwater, D. Metge. Advisor: Tom Byl, Department of Civil and Environmental Engineering, United States Geological Survey*

---

3:30 - 3:45

A-8 A TCP/IP COMMUNICATION SCHEME FOR TELEROBOTIC CONTROL OF MOBILE ROBOTS

*\*Navdeep S. Chawla. Advisor: Amir Shirkhodaie, Department of Mechanical & Manufacturing Engineering*

---

3:45 - 4:00

A-9 VISUAL SURFACE ASSESSMENT FOR TRAVERSABLE PATH PLANNING OF MOBILE ROBOTS

*\*Rachida Amrani. Advisor: Dr. Amir Shirkhodaie, Department of Mechanical & Manufacturing Engineering*

---

4:00 - 4:15

A-10 A TEXT-BASED PATTERN RECOGNITION SOFTWARE FOR AIRPLANE REPAIR DIAGNOSIS

*\*Yvette Rankin, Center of Excellence in Information Systems and Engineering Management. Advisor: Montanez Wade, Tennessee Space Grant Consortium*

---

4:15-4:30

A-11 NANOINDENTATION EXPERIMENTAL TECHNIQUE USING NANOTEST 550 FOR THE MECHANICAL CHARACTERIZATION OF ENGINEERING MATERIALS

*\*Olufemi Akinbola. Advisor: Landon Onyebueke, Department of Mechanical Engineering*

---

All Abstracts can be found at [www.tnstate.edu/research/RSP.htm](http://www.tnstate.edu/research/RSP.htm)

**ORAL PRESENTATION BY GRADUATE STUDENTS**  
**COMPUTER SCIENCE, ENGINEERING, PHYSICS AND MATH**  
*SESSION CHAIR: Ashiya Johnson, Department of Biological Sciences*

---

**Tuesday, April 6, 2004**

**FLOYD-PAYNE CAMPUS CENTER FORUM, ROOM 210**

9:00-9:15

- B-1 EVALUATING OXYGEN-RELEASING COMPOUNDS TO ENHANCE TOLUENE BIODEGRADATION BY FREE-LIVING BACTERIA  
*\*LyTreese Hampton, Lashun King, Khalid Woods. Advisor: Tom D. Byl, Department of Civil and Environmental Engineering, United States Geological Survey*
- 

9:15-9:30

- B-2 THE SEARCH FOR TERRESTRIAL PLANETS  
*\*Kitwana Carter. Advisor: Geoffrey Burks, Department of Physics and Mathematics and Center of Excellence in Information Systems and Engineering Management*
- 

9:30-9:45

- B-3 EXTREMOPHILES  
*\*Patrice Mitchell. Advisor: Geoffery Burks, Department of Physics and Mathematics and Center of Excellence in Information Systems and Engineering Management*
- 

9:45-10:00

- B-4 LIFE ON OTHER PLANETS  
*\*Tatiana N. Whitman. Advisor: Geoff Burks, Department of Physics and Mathematics and Center of Excellence in Information Systems and Engineering Management*
- 

10:00-10:15

- B-5 USING THE DEPARTMENT OF DEFENSE'S SMALL BUSINESS INNOVATION RESEARCH PROPOSALS TO ENHANCE AN UNDERGRADUATE RESEARCH EXPERIENCE  
*\*Joanita Gross, \*Dwaine Convington, Jason Ayers, Petiha Dawson, Yvette Rankin, Center of Excellence in Information Systems and Engineering Management. Advisor: Montanez A. Wade, Tennessee Space Grant Consortium*
- 

10:15-10:30

- B-6 TENNESSEE STATE UNIVERSITY'S ISOLATED GRAVITY EXPERIMENTAL REDUCTION SYSTEM (T.I.G.E.R.S)  
*\*Marcell L Pickens Jr., T. Bradford\*, S. McConis\*, M. Pickens Jr.\*, and L. Taylor\* Center of Excellence in Information Systems and Engineering Management. Advisor: Montanez Wade, Tennessee Space Grant Consortium*
- 

10:30-10:45

- B-7 SEARCHING FOR YOUNG PLANETARY SYSTEMS  
*\*Frank Alston. Advisor: Gregory W. Henry, Center of Excellence in Information Systems and Engineering Management*
- 

10:45-11:00

- B-8 UNCERTAINTY MEASUREMENT AND ANALYSIS OF COORDINATE MEASUREMENT MACHINES  
*\*Yashica Hunt. Advisor: Amir Shirkhodaie, Department of Mechanical and Manufacturing Engineering*
- 

**ORAL PRESENTATION BY SCIENCE GRADUATE STUDENTS**

*SESSION CHAIR: Jason Jordan, Department of Biological sciences*

---

**WEDNESDAY, April 7, 2004**

**FLOYD-PAYNE CAMPUS CENTER FORUM, ROOM 210**

9:00-9:15

- C-1 TRIBUTYL TIN EXPOSURE CAUSES A DECREASE IN GRANZYME B, PERFORIN AND PHOSPHORYLATED CREB LEVELS IN HUMAN NATURAL KILLER CELLS  
*\*LeeShawn Thomas, H. Shah, S. Green, A. Bankhurst, and M. Whalen. Advisor: M. Whalen, Department of Chemistry.*
- 

9:15 - 9:30

- C-2 BRIEF EXPOSURE TO THE AGRICULTURAL FUNGICIDE ZIRAM CAUSES PERSISTENT INHIBITION OF CYTOTOXIC FUNCTION IN NK CELLS  
*\*Thyneice Taylor, S. Wilson, and M. Whalen. Advisor: M. Whalen, Department of Chemistry*
- 

9:30 - 9:45

- C-3 EFFECTS OF BRIEF TRIBUTYL TIN EXPOSURE ON MAP KINASES p38 AND p44/42 IN HUMAN NATURAL KILLER CELLS  
*\*Aloice Orodo and M. Whalen. Advisor: M. Whalen, Department of Chemistry.*
-



# *Special Thanks*

## to the National Institute of Health

The Extramural Associates (EA) Program, now in its 25th year, was established at the NIH to assist women and under-represented minority institutions in their efforts to acquire and manage external resources in support of biomedical and behavioral research and research training. Since its inception more than 250 individuals have completed EA Program residency training and 70 schools have received the Extramural Associates Research Development Award (EARDA). Tennessee State University has been an EARDA institution for seven years.

EARDA sponsors mini-grants to encourage research by new investigators. The goals of these grants are to:

- Strengthen the research infrastructure in the Biomedical and Behavioral Sciences
- Increase the University's Biomedical capacity to conduct research.
- Generate more grants and contracts funding for the University

For More Information,  
Dr. Matthew A. Kinnard, Program Director  
(301) 435-2736  
kinnardm@mail.nih.gov

---

9:45-10:00

C-4 HOME REFRIGERATION PRACTICES OF CONSUMERS BY AGE, EDUCATION AND INCOME

\**Cynthia Agyemang. Advisor: Sandria L. Godwin, Department of Family and Consumer Sciences*

---

10:00-10:15

C-5 ETHANOL-INDUCED EXPRESSION OF PROTEIN KINASE C IN VASCULAR SMOOTH MUSCLE CELLS

\**Ashiya Johnson, Charlie Mtshali. Advisor: Benny Washington, Department of Biological Sciences*

---

10:15-10:30

C-6 VIOLACEIN AND THE ROLE IT PLAYS IN QUORUM SENSING IN CHROMOBACTERIUM VIOLACEUM

\**Antionette Gaston. Advisors: Anthony Ejiofor and Terrance Johnson, Department of Biological Sciences*

---

10:30-10:45

C-7 SOLAR BRIGHTNESS VARIABILITY AND THE EVOLUTION OF LIFE ON EARTH

\**Tanisha Taylor, Greg Henry, Todd Gary, E. Lewis Myles and Geoffery Burks. Advisors: Greg Henry and Todd Gary, Department of Physics and Mathematics and Center of Excellence in Information Systems and Engineering Management*

---

10:45-11:00

C-8 STRESS PROTEINS & CANCER

\**Carolyn Jackson. Advisors: Todd Gary and E. Lewis Myles, Center of Excellence in Information Systems and Engineering Management, Institute of Agricultural and Environmental Sciences and Department of Biological Sciences*

---

11:00-11:15

C-9 THE EFFECT OF ECHINACEA EXTRACT ON HEAT SHOCK PROTEINS IN CANCER CELL LINE BT549

\**Clifton Randell, Ugochi N. Ike, Todd Gary and E. Myles. Advisors: Todd Gary and E. Myles, Center of Excellence in Information Systems and Engineering Management, Institute of Agricultural and Environmental Sciences and Department of Biological Sciences*

---

1:15-11:30

C-10 THE ANTI-PROLIFIC EFFECT OF ECHINACEA PALLIDA ON BT549 CANCER CELL LINE

\**S. Nicole Driggins, Dr. E. Lewis Myles, Dr. Todd Gary, Biological Sciences, Center of Excellence in Information Systems and Engineering Management, Institute of Agricultural and Environmental Sciences. Biological Sciences and Center of Excellence in Information Systems and Engineering Management*

---

## ORAL PRESENTATIONS BY SCIENCE UNDERGRADUATE STUDENTS

SESSION CHAIR: *Monique McCallister, Department of Biological Sciences*

---

**WEDNESDAY, April 7, 2004**

**FLOYD-PAYNE CAMPUS CENTER FORUM, ROOM 210**

---

12:30-12:45

D-1 BIOCHEMICAL PROFILE OF BACTERIAL ISOLATES FROM THE TENNESSEE COPPER BASIN

\**Keesa Duke\* Advisors: Terrance L. Johnson and Anthony O. Ejiofor, Department of Biological Sciences*

---

12:45-1:00

D-2 FLUORESCENCE BIOLOGICAL ANALYSIS (FBA) FOR ASTROBIOLOGY EXPLORATION OF EUROPA

\**LaTasha Taylor, O. Prieto-Ballesteros, J. Gómez-Elvira, D. Fernández-Remolar, F. Gómez, V. Parro, and R. Amils. Advisor: Todd Gary and E. Lewis Myles Department of Biological Sciences / Center of Excellence in Information Systems and Engineering Management.*

---

1:00 - 1:15

D-3 THE INFLUENCE OF DAM GENOTYPE ON MEAT GOAT CARCASS TRAITS

\**Bridget Donnelly, R. Browning, Jr., S. H. Kebe, C. Chisley, O. Phelps, T. Payton, M. Byars.*

---

1:15 - 1:30

D-4 THE EXPRESSION OF C/EBP ALPHA AND C/EBP BETA IN THE CANCER CELL LINE BT549 AFTER EXPOSURE TO THE PLANT EXTRACT OF HYPERICUM ANTHOS

\**Alicia Cleveland. Advisors: Todd Gary, E. Lewis Myles, Department of Biological Sciences; Center of Excellence in Information Systems and Engineering Management, Institute of Agricultural and Environmental Sciences*

---

1:30-1:45

D-5 INVESTIGATIONS OF ANTI-CANCER COMPOUNDS FROM ROOT EXTRACTS OF ECHINACEA

\**Lakeshia N. Wright, Leslie Buggs, Amber Collins, Todd Gary and E. Lewis Myles, Advisor: Todd Gary and E. Lewis Myles, Center of Excellence in Information Systems and Engineering Management, Institute of Agricultural and Environmental Sciences and Department of Biological Sciences*

---

All Abstracts can be found at [www.tnstate.edu/research/RSP.htm](http://www.tnstate.edu/research/RSP.htm)

## ORAL PRESENTATIONS BY SOCIAL SCIENCES AND EDUCATION GRADUATE STUDENTS

SESSION CHAIR: *Aimee Williams*, CO-CHAIR: *Alicia Cleveland*, Department of Biological Sciences

---

**WEDNESDAY, April 7, 2004**

**FLOYD-PAYNE CAMPUS CENTER FORUM, ROOM 210**

---

2:00-2:15

E-1 APPLICATION OF THE TRANSTHEORETICAL MODEL IN DETERMINING PHYSICAL ACTIVITY PATTERNS IN AFRICAN AMERICAN COLLEGE STUDENTS

*\*Terry Davis, Advisor: Dean Roberts, Department of Teaching & Learning*

---

2:15-2:30

E-2 "THE RAW MATERIAL OF CONQUEST": THE MEANING OF LILY BART'S BODY IN EDITH WHARTON'S *THE HOUSE OF MIRTH*

*\*Dana Kennedy. Advisor: Emily Orlando, Department of Languages, Literature and Philosophy*

---

## ORAL PRESENTATIONS BY SOCIAL SCIENCES AND EDUCATION UNDERGRADUATE STUDENTS

SESSION CHAIR: *Aimee Williams*, CO-CHAIR: *Alicia Cleveland*, Department of Biological Sciences

---

**WEDNESDAY, April 7, 2004**

**FLOYD-PAYNE CAMPUS CENTER FORUM, ROOM 210**

---

2:45 - 3:00

F-1 SOCIOCULTURAL ATTITUDES, BODY IMAGE, AND SKIN COLOR SATISFACTION: AN EVALUATION OF AFRICAN AMERICAN COLLEGE WOMEN

*\*Jessica Chimere Bell. Advisor: Wendy Jordanov, Department of Psychology*

---

3:00-3:15

F-2 HEALTH-RELATED FACTORS EXERCISE, OBESITY, AND DEPRESSION

*\*Marico Settles. Advisor: Barbara Kilbourne, Department of Sociology*

---

## ORAL PRESENTATIONS BY FACULTY

SESSION CHAIR: *Nefeteria Coffee*, Department of Biological Sciences

---

**THURSDAY, April 8, 2004**

**FLOYD-PAYNE CAMPUS CENTER FORUM, ROOM 210**

---

9:00-9:15

G-1 PARACRYSTALLINE THEORY APPLIED TO LIQUID CRYSTAL ACCOUNTS FOR THE EXPERIMENTALLY UNDETECTED MESOPHASE FEATURE

*\*Moin Sarkar, Department of Physics and Mathematics.*

---

9:15 - 9:30

G-2 IMPROVING THE INCOME AND FOREST STEWARDSHIP OF MINORITY AND LIMITED RESOURCE LANDOWNERS IN TENNESSEE

*\*Nathaniel S. Appleton, Stephen H. Kolison Jr., Carter Catlin and Joshua Idassi, Institute of Agricultural and Environmental Research*

---

9:30 - 9:45

G-3 FROM BLUEPRINT TO HOUSE: USING METAPHORS TO TEACH OBJECT ORIENTED PROGRAMMING LANGUAGES: JAVA

*\*Montanez A. Wade, Tennessee Space Grant Consortium*

---

9:45 - 10:00

G-4 MIAC, THE FIRST "VIRTUAL COLLABORATION" OF MINORITY INSTITUTIONS FOCUSED ON ASTROBIOLOGY

*\*Judy Butler, Todd Gary, and E. Lewis Myles. Center of Excellence in Information Systems and Engineering Management, and Department of Biological Sciences*

---

10:00 - 10:15

G-5 ARE WE PREPARED FOR AGRICULTURAL BIOTERRORISM ON CROPS?

*\*Margaret T. Mmbaga and Frank A. Mrema. Institute of Agricultural and Environmental Research*

---

10:15 - 10:30

G-6 POINSETTIA CONSUMER SURVEY REVEALS PREFERRED CULTIVARS

*\*C. Catanzaro, H. Kamake and S. Bhatti, Institute of Agricultural and Environmental Research*

---

All Abstracts can be found at [www.tnstate.edu/research/RSP.htm](http://www.tnstate.edu/research/RSP.htm)



10:30-10:45

G-7 PERFORMANCE OF POINSETTIA CULTIVARS EVALUATED IN 2003

\*C. Catanzaro, H. Kamake, And S. Bhatti. *Institute of Agricultural and Environmental Research*

---

10:45-11:00

G-8 RATIONALES OF PARENTS' OPERATING HOME SCHOOLS IN DAVIDSON COUNTY, TN

\*Denise Dunbar, Tiyana Bullock, Erika Morton, Lendozia Edwards. *Department of Educational Administration*

---

All Posters Should Be Put Up By The End Of The Day Monday, April 5, 2004. Students Should Be Present At Their Posters 11:00 -12:30 and 3:30-4:30 April 6.

All Posters Should be Removed by 3:00 PM Thursday, April 8.

---

## FACULTY POSTER PRESENTATIONS

SESSION CHAIRS: Sarabjit Bhatti and Deborah Long, *Institute of Agricultural and Environmental Research*

### FLOYD-PAYNE CAMPUS CENTER

---

H-1 A SURVEY TRAP TO MONITOR ADULT FLATHEADED BORER ACTIVITY IN NURSERIES

\*Jason Oliver, D., Fare, N. Youssef, and W. Klingeman, *Institute of Agricultural and Environmental Research*

---

H-2 TRIBUTYL TIN EXPOSURE ALTERS THE PHOSPHORYLATION OF PROTEIN TYROSINE KINASES IN HUMAN NATURAL KILLER CELLS.

\*Margret Whalen and S. Ghazi, *Department of Chemistry*

---

H-3 SOUTHERN AGRICULTURAL BIOTECHNOLOGY CONSORTIUM PROJECT FOR UNDERSERVED COMMUNITIES : ON-FARM DEMONSTRATIONS AND RELATED ACTIVITIES

\*Fisseha Tegegne, A. Aziz, R. Sauve, S. Muhammad and E. Ekanem, *Institute of Agricultural and Environmental Research*

---

H-4 ASSESSING THE FEASIBILITY OF USING A RAPID DETECTION METHOD FOR MEASURING MICROBIAL CONTAMINATION IN HOME REFRIGERATORS

\*Fur-Chi Chen, S.L. Godwin, L. Speller-Henderson, and C. Thompson, *Institute of Agricultural and Environmental Research*

---

H-5 STUDENT PERCEIVED NEEDS IN CLINICAL SUPERVISION

\*Mary T. Fitzgerald and \*Niqueka S. Sims, *Department of Speech Pathology and Audiology*

---

H-6 EVALUATION OF CHICKEN MICROSATELLITE PRIMERS FOR POSSIBLE UTILITY AS GENETIC LINKAGE MARKERS FOR GUINEA FOWL

Samuel Nahashon, N. Adefope, A. Akuley-Amenyenu and D. Wright, *Institute of Agricultural and Environmental Research*

---

H-7 EFFECTS OF COLD STRESS ON THE ACTIVITY OF CATALASE IN LEUCANTHEMUM MAXIMUM 'SILVER PRINCESS'

\*Suping Zhou, and R. J. Sauve, *Institute of Agricultural and Environmental Research*

---

H-8 REGENERATION OF THE TENNESSEE CONEFLOWER IN VITRO

\*Roger Sauve, M. T. Mmbaga and S. Zhou, *Institute of Agricultural and Environmental Research*

---

H-9 TRICLOPYR LONGEVITY IN SOIL.

\*Desh. Duseja, Myung A. Suh, and B. Sheshachala, *Department of Agricultural Sciences, Institute of Agricultural and Environmental Research*

---

H-10 SHOOT REGENERATION FROM TISSUES OF PHLOX PANICULATA L. AND MONARDA DIDYMA

\*Sarabjit M. Bhatti and Roger Sauve, *Institute of Agricultural and Environmental Research*

---

All Posters Should Be Put Up By The End Of The Day Monday, April 5, 2004

Students Should Be Present At Their Posters 11:00 -12:30 and 3:30-4:30 April 6. All Posters Should be Removed by 3:00 PM Thursday, April 8.

---

## GRADUATE POSTER PRESENTATIONS

SESSION CHAIRS: Sarabjit Bhatti and Deborah Long, *Institute of Agricultural and Environmental Research*

### FLOYD-PAYNE CAMPUS CENTER

---

I-1 INTELLIGENT PATTERN RECOGNITION SYSTEM FOR THE DIAGNOSIS OF NEUROMUSCULAR DISORDERS

\*April D. Bush. \*Advisor: Mohammad Bodruzzaman, *Department of Electrical and Computer Engineering*

---

I-2 REDUCING VARIABILITY IN WHEELCHAIR PROPULSION OUTCOMES

\*Russell Rodriguez, W. Richter, K. Woods, and P. Axelson. Advisor: Mohammad Bodruzzaman, *Department of Electrical and Computer Engineering*

---

I-3 DESIGN OF AN INTELLIGENT CONTROL SYSTEM FOR AN UNMANNED AERIAL VEHICLE

\*Charles D. McCurry. Advisor: Zein-Sabato, *Department of Electrical and Computer Engineering*

---

All Abstracts can be found at [www.tnstate.edu/research/RSP.htm](http://www.tnstate.edu/research/RSP.htm)

- 
- I-4 INTELLIGENT HUMAN ROBOT INTERACTION USING BAYESIAN NETWORKS  
*\*Haraha Maitreya, \*Santosh Marepally. Advisor: Ali Sekmen, Department of Electrical and Computer Engineering*
- 
- I-5 COMPARISON OF BIOLUMINESCENT BACTERIA AND OXYGEN CONSUMPTION AS INDICATORS OF WATER QUALITY  
*\*Dominic Anako, Janique Suber, and Paul Frymier (UT, Knoxville). Advisor: Tom D. Byl, Department of Civil and Environmental Engineering*
- 
- I-6 COUNTERACTING PROCRASTINATION THROUGH THE USE OF SELF-REGULATION STRATEGIES  
*\*Linda S. Burks and W. Jordanov. Advisor: Wendy Jordanov, Department of Psychology*
- 
- I-7 SOCIOCULTRAL ATTITUDES, BODY IMAGE, AND SKIN COLOR SATISFACTION: AN EVALUATION OF AFRICAN AMERICAN COLLEGE WOMEN  
*\*Jessica Chimere Bell and W. Jordanov. Advisor: Wendy Jordanov, Department of Psychology*
- 
- I-8 EFFECT OF ORGANOCHLORINE PESTICIDES ON INTERLEUKIN SECRETION BY HUMAN LEUKOCYTES.  
*\*Tarra Beach, A. Reed and M. Whalen. Advisor: Margaret Whalen, Department of Chemistry*
- 

All Posters Should Be Put Up By The End Of The Day Monday, April 5, 2004. Students Should Be Present At Their Posters 11:00 -12:30 and 3:30-4:30 April 6.  
All Posters Should be Removed by 3:00 PM Thursday, April 8

---

## UNDERGRADUATE POSTER PRESENTATIONS

Session Chairs: Sarabjit Bhatti and Deborah Long, Institute of Agricultural and Environmental Research

### FLOYD-PAYNE CAMPUS CENTER

---

- J-1 SUPPLEMENTS TO ENHANCE GROUNDWATER-MICROBIAL GROWTH AND BIODGRADATION PROCESSES  
*\*LeMiracle Hendking and Patricia Burton. Advisor: Tom D. Byl, Department of Civil and Environmental Engineering*
- 
- J-2 THE IMPORTANCE OF HIGH-DISPERSION OPTICAL SPECTROSCOPY TO THE ANALYSIS OF STELLAR DATA  
*\*Brent Eugene Wright Sr. Advisors: O.N. Bignall and J.A. Eaton, Department of Physics and Mathematics*
- 
- J-3 DIFFERENT METHODS OF PLANET FINDING  
*\*Benjamin Simmons. Advisor: Geoffrey Burks, Department of Physics and Mathematics and Center of Excellence in Information Systems and Engineering Management*
- 
- J-4 COUNTERACTING PROCRASTINATION THROUGH THE USE OF SELF-REGULATION STRATEGIES  
*\*Linda S. Burks, and W. Jordanov. Advisor: Wendy Jordanov, Department of Psychology*
- 
- J-5 SOCIOCULTRAL ATTITUDES, BODY IMAGE, AND SKIN COLOR SATISFACTION: AN EVALUATION OF AFRICAN AMERICAN COLLEGE WOMEN  
*\*Jessica Chimere Bell, and W. Jordanov. Advisor: Wendy Jordanov, Department of Psychology*
- 
- J-6 IMMUNOMODULATION OF HUMAN NATURAL KILLER CELL CYTOTOXIC FUNCTION BY ORGANOCHLORINE PESTICIDES  
*\*Adrian Reed, L. Dzon, B. Loganathan, and M. Whalen. Advisor: M. Whalen, Department of Chemistry*
- 
- J-7 EFFECTS OF COMBINATIONS OF ORGANOCHLORINE COMPOUNDS ON THE CYTOTOXIC FUNCTION OF HUMAN NATURAL KILLER CELLS.  
*\*Marilyn Pruitt, A. Reed, B. Loganathan and M. Whalen. Advisor: Margaret Whalen, Department of Chemistry*
- 
- J8 EFFECT OF THE COMBINATION OF LOW DOSES OF NICKEL AND COPPER IONS ON GLUTATHIONE LEVELS HUMAN PROGENITOR U937 CELLS  
*\*Shalandus Harris. Advisor: William Y. Boadi, Department of Chemistry*
- 
- J9 EFFECT OF LOW DOSES OF AN ANALOG OF PARAQUAT ON U937 CELLS  
*\*Tionanatasha Newell Brooke Henderson, Justin Anderson, Peter Iyere, Lonnie Sharpe, Samuel E. Adunyah. Advisor: William Y. Boadi, Department of Chemistry*
- 
- J10 TRICLOPYR LONGEVITY IN SOIL.  
*\*Desh. Duseja, Myung A. Suh, and B. Sheshachala, Department of Agricultural Sciences, Institute of Agricultural and Environmental Research*
- 
- J11 PERFORMANCE OF POINSETTIA CULTIVARS EVALUATED IN 2003  
*C. Catanzaro, H. Kamake, And S. Bhatti, Institute of Agricultural and Environmental Research*
- 
- J12 IMMUNOTOXIC EFFECT OF PENTACHLOROPHENOL ON HUMAN NATURAL KILLER (NK) CELLS CAN BE DIMINISHED BY NK STIMULATORY INTERLEUKINS  
*\*Telpriore Tucker, A. Reed, B. Loganathan, and Margaret Whalen. Advisor: M. Whalen, Department of Chemistry*
- 

All Abstracts can be found at [www.tnstate.edu/research/RSP.htm](http://www.tnstate.edu/research/RSP.htm)

Visit us on the Web!

<http://chicaserver.tsuniv.edu>



# The Research and Policy Center On Basic Skills

A Tennessee Center of Excellence

The Research and Policy Center (RPC) at Tennessee State University is one of Tennessee's accomplished Centers of Excellence. The RPC's mission is to conduct multi-disciplinary research and demonstrations concerning the practices, policies and programs of institutions and communities that influence the educational, social, physical and psychological well-being of children and families. The RPC produces and disseminates research and information to support the formation of public policy and the programmatic decisions of schools, agencies and communities in Tennessee and the nation.

The RPC is organized in three units: Academic and Basic Skills (ABS), Child and Family Studies (CFS), and School and Community Partnerships (SCP). Grant awards from agencies such as the National Science Foundation, Department of Health and Human Services, Tennessee Higher Education Commission, individual schools and others, allow the Research and Policy Center to promote innovation, enhance collaboration, train personnel in education and human services agencies and to administer projects and programs of a research, service and academic nature. Annual conferences, institutes and symposia, such as the School Facilitators Leadership Conference on Science Education, the Assessment Conference and the Institute for Science Inquiry: The Art of Questioning and Inquiry Teaching are sponsored by the RPC.

For information on the RPC's Tennessee Early Childhood Training Alliance, Social Services Competency Based Training, Hands on Science Professional Development Training and more, please visit the RPC Web site.

**Dr. Barbara A. Nye**

*Executive Director and Principal Investigator*

Tennessee State University  
Center for Research & Policy on Basic Skills  
330 Tenth Avenue North, Box 141  
Nashville, TN 37203-3401  
Main Office: 615.963.7231

**Web Site:**

<http://chicaserver.tsuniv.edu>

# Symposium Layout

Time	5-April Monday	6-April Tuesday	7-April Wednesday	8-April Thursday
8:00	Registration	Registration	Registration	Registration
8:15				
8:30				
8:45				
9:00		B1	C1	G1
9:15		B2	C2	G2
9:30		B3	C3	G3
9:45		B4	C4	G4
10:00		B5	C5	G5
10:15		B6	C6	G6
10:30		B7	C7	G7
10:45		B8	C8	G8
11:00		POSTER	C9	
11:15		POSTER	C10	
11:30		POSTER		
11:45		POSTER		
12:00	<b>OPENING SESSION</b> Dr. Yvonne Freeman Speaker	POSTER		<b>STUDENT AWARDS LUNCHEON</b> Dr. Calvin Mackie, Speaker <i>(By Invitation Only)</i>
12:15		POSTER		
12:30			D1	
12:45			D2	
1:00			D3	
1:15			D4	
1:30			D5	
1:45	A1	<b>KEYNOTE ADDRESS</b> Dr. Wade Adams Speaker		
2:00	A2		E1	
2:15	A3		E2	
2:30	A4			
2:45	A5		F1	
3:00	A6		F2	
3:15	A7			
3:30	A8	POSTER		
3:45	A9	POSTER		
4:00	A10	POSTER		
4:15	A11	POSTER		
4:30				
4:45				
5:00				

A= Grad Students: Computer Science, Engineering, Physics and Math  
 B= Undergrad Students: Computer Science, Engineering, Physics and Math  
 C= Grad Students: Sciences  
 D= Undergrad Students: Sciences

E= Grad Students: Social Sciences and Education  
 F= Undergrad Students: Social Sciences and Education  
 G=Faculty



# Judges

■ Dr. Eugene Collins	<i>Fisk University</i>	■ Mrs. Anne Ilvarsonn	<i>Tennessee State University</i>
■ Dr. George Hull, Jr., <i>Prof. Emeritus</i>	<i>Fisk University</i>	■ Dr. Jeanetta Jackson	<i>Tennessee State University</i>
■ Dr. Sanjutka Hota	<i>Fisk University</i>	■ Dr. Mohammad R. Karim	<i>Tennessee State University</i>
■ Dr. Justus Ike	<i>Fisk University</i>	■ Dr. Gregory Komives	<i>Tennessee State University</i>
■ Mrs. Patricia McCarro	<i>Fisk University</i>	■ Dr. Makonnen Lema	<i>Tennessee State University</i>
■ Dr. Robert Wingfield	<i>Fisk University</i>	■ Dr. Brenda McAdory	<i>Tennessee State University</i>
■ Dr. Mukherjee	<i>Meharry Medical College</i>	■ Dr. Oscar Miller	<i>Tennessee State University</i>
■ Dr. Evangeline Motley	<i>Meharry Medical College</i>	■ Dr. Cosmos O. Okoro	<i>Tennessee State University</i>
■ Dr. Daryl Hood	<i>Meharry Medical College</i>	■ Dr. Tamara Rogers	<i>Tennessee State University</i>
■ Dr. Carlotta Berry	<i>Tennessee State University</i>	■ Ms. Elizabeth A. Shute	<i>Tennessee State University</i>
■ Dr. Orville Bignal	<i>Tennessee State University</i>	■ Dr. Surendra P. Singh	<i>Tennessee State University</i>
■ Dr. Richard Browning, Jr.	<i>Tennessee State University</i>	■ Dr. William Spencer	<i>Tennessee State University</i>
■ Dr. Anthony Ejiolor	<i>Tennessee State University</i>	■ Dr. Artenzia Young-Seigler	<i>Tennessee State University</i>
■ Dr. Johannanna Grimes	<i>Tennessee State University</i>	■ Dr. Jennifer Stewart-Wright	<i>Tennessee State University</i>
■ Dr. Lois W. Harlston	<i>Tennessee State University</i>	■ Dr. Celeste C. Williams	<i>Tennessee State University</i>
■ Dr. Liang Hong	<i>Tennessee State University</i>	■ Dr. Marsha Williams	<i>Tennessee State University</i>

# 2004 Research Symposium Committee

Dr. Ann Blackshear, <i>Biological Sciences</i>
Mr. Derek Burnett, <i>Research And Sponsored Programs</i>
Dr. Carolyn Caudle, <i>Biological Sciences And Research And Sponsored Programs</i>
Dr. Todd Gary, <i>COE-ISEM</i>
Dr. Elaine Martin, <i>Biological Sciences</i>
Ms. Nanette Martin, <i>IAGER</i>
Dr. E. Lewis Myles, <i>Biological Sciences, Chair</i>
Ms. Robbi Nash, <i>Research And Sponsored Programs</i>
Dr. John T. Robinson, <i>Biological Sciences</i>
Dr. Moinuddin M. Sarkar, <i>Physics And Mathematics</i>
Dr. Maria Thompson, <i>Research And Sponsored Programs</i>
Ms. Sonya Williams, <i>Research And Sponsored Programs</i>

## Ex-Officio Members

Dr. Augustus Bankhead, <i>Vice President, Student Affairs</i>
Dr. William Lawson, <i>Dean, College Of Arts And Sciences</i>
Dr. Marcus W. Shute, <i>Vice President, Research And Sponsored Programs</i>

# ACADEMIC COLLEGES, SCHOOLS AND PROGRAMS

*"Committed to  
Excellence in Teaching, Research  
and Community Service"*

- COLLEGE OF ARTS AND SCIENCES
- COLLEGE OF BUSINESS
- COLLEGE OF EDUCATION
- COLLEGE OF ENGINEERING,  
TECHNOLOGY AND COMPUTER  
SCIENCE
- SCHOOL OF AGRICULTURE AND  
CONSUMER SCIENCES
- COLLEGE OF HEALTH SCIENCES
- SCHOOL OF NURSING
- THE SCHOOL OF GRADUATE  
STUDIES
- ACADEMIC ENRICHMENT,  
ADVISEMENT  
AND ORIENTATION
- UNIVERSITY HONORS PROGRAM
- CENTER FOR EXTENDED EDUCATION
- ACADEMIC INTERVENTION CENTER

**Augustus A. Bankhead**  
**Vice President**  
**615-963-5301**





## 2003 Presentation Winners

1st Place	Undergraduate Oral Presentation	Lashun King
2nd Place	Undergraduate Oral Presentation	Marcell L. Pickens II & La Tasha D. Taylor
1st Place	Graduate-I Oral Presentation	Thomas Heffernan
2nd Place	Graduate-I Oral Presentation	Ramona Darlington
1st Place	Graduate-II Oral Presentation	Valetta Watson
2nd Place	Graduate-II Oral Presentation	Koushik Chakaraborti
3rd Place	Graduate-II Oral Presentation	Sumedha Namuduri
1st Place	Undergraduate Oral Presentation	Erica Lane
2nd Place	Undergraduate Oral Presentation	Tunisha Kuykindall
3rd Place	Undergraduate Oral Presentation	Chazile Maseko
1st Place	Graduate Oral Presentation	Michelle Reece
2nd Place	Graduate Oral Presentation	Stephanie Kraft
2nd Place	Graduate Oral Presentation	Tammy Hickey
1st Place	Graduate Oral Presentation	LeeShawn D. Thomas
2nd Place	Graduate Oral Presentation	Roderick L. Rolle
3rd Place	Graduate Oral Presentation	Corey Jones
1st Place	Graduate Poster Presentation	Sabah O. Odman-Ghazi
1st Place	Undergraduate Poster Presentation	Omari Bandele
2nd Place	Undergraduate Poster Presentation	Allyson M. Morgan
3rd Place	Undergraduate Poster Presentation	Alicia Cleveland

## Million Dollar Club Members

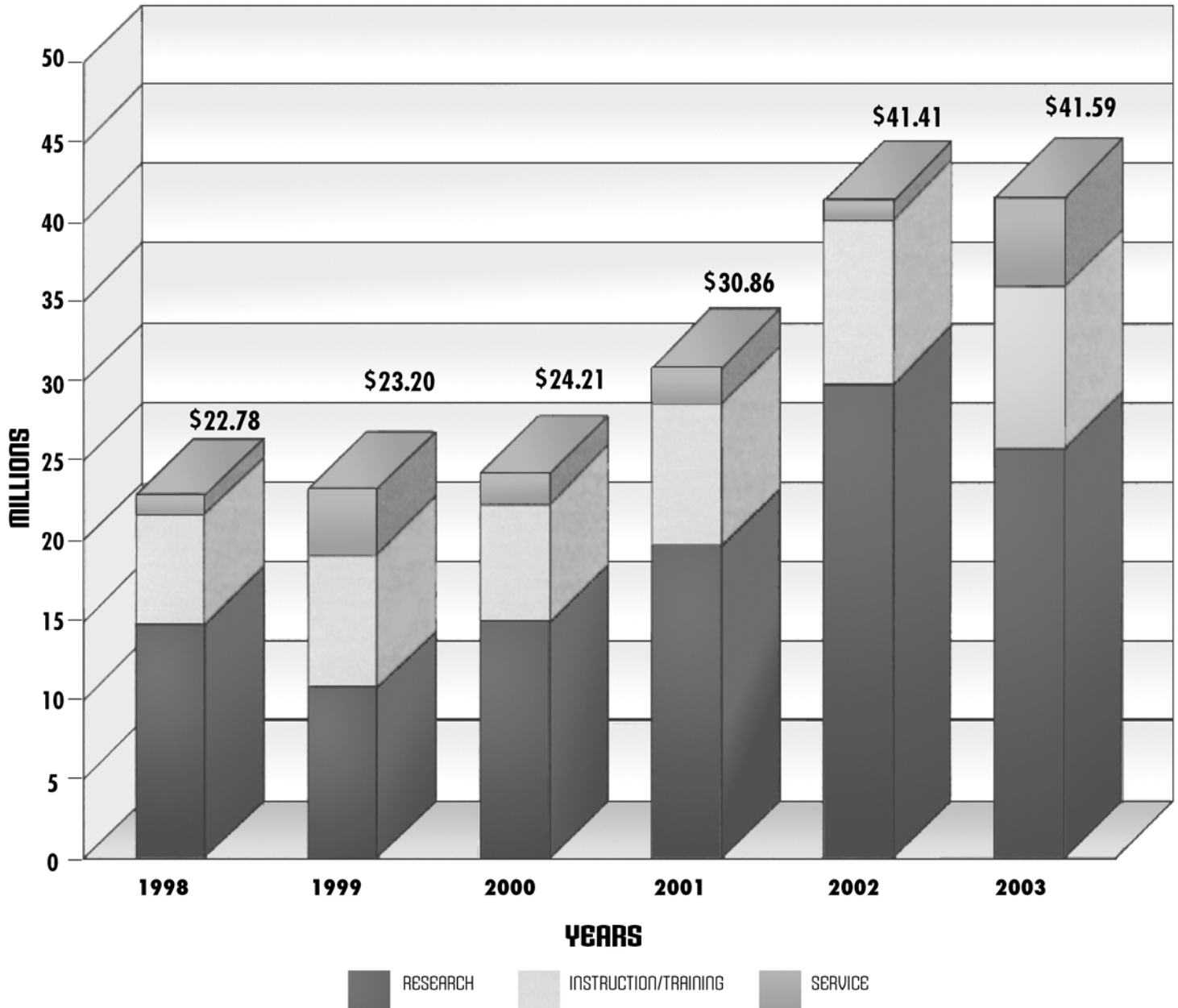
Dr. Michael R. Busby	Center of Excellence in Information Systems Engineering and Management
Dr. Satinderpaul Degvan	College of Engineering, Technology and Computer Science
Dr. Baqar A. Husaini	Center for Health Research
Dr. Prem S. Kahlon	Department of Biological Sciences
Dr. Lee-Hyun Keel	Center of Excellence in ISEM
Mrs. Mary Love	TRIO Program
Dr. Mohan Malkani	College of Engineering, Technology, and Computer Sciences
Dr. Robert F. Newkirk	Department of Biological Sciences
Dr. Barbara A. Nye	Center of Excellence – RPC
Dr. Chinyere Onwubiko	College of Engineering, Technology, and Computer Sciences
Dr. Edward L. Risby	Graduate School and Division of Research and Sponsored Programs
Dr. Decatur B. Rogers	College of Engineering, Technology, and Computer Sciences
Dr. Lonnie Sharpe	Massie Chair of Excellence in Environmental Engineering
Dr. Willard Smith	Center of Excellence- ISEM

*Congratulations to the fourteen charter members of the Million Dollar Research 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 14 distinguished scientists, engineers and educators. Their efforts, although measurable in dollars, are immeasurable in terms of positive impact their work has had on the University's ability to achieve its mission.*



## RESEARCH AND SPONSORED PROJECT AWARDS

FISCAL YEAR 1998 TO FISCAL YEAR 2003





# School of Agriculture and Family & Consumer Sciences

## Tennessee State University



Proudly Supports the 26th Annual University-Wide  
Research Symposium

### Degree Programs

Agricultural Sciences, B.S. & M.S.

Family & Consumer Sciences, B.S. & M.A.ED.

Hospitality & Tourism Administration, B.S.

Agriculture

One Of The Green Environments

Troy Wakefield, Jr., Ph.D., Dean  
(615) 963-7620

## Tennessee State University

# PHYSICAL THERAPY DEPARTMENT

## College of Health Sciences

# Salutes The 26th Annual Research Symposium

### FACULTY

David Lehman, PT, Ph.D.

Deborah Edmondson, PT, Ed.D.

Rosalyn Pitt, PT, PE, Ed.D.

Patricia King-Baker, PT, MA, MTC

Jill Chabot, PT, MPT

For information, contact the Department at 615-963-5881

Proud  
Supporters

of the 26th Annual University-Wide  
Research Symposium

# THE SCHOOL OF NURSING

## *Programs Offered*

ASSOCIATE  
DEGREE  
LPN TO AAS  
CAREER MOBILITY

BACHELOR OF  
SCIENCE DEGREE  
RN TO BSN  
CAREER MOBILITY

MASTER OF  
SCIENCE DEGREE  
FAMILY NURSE PRACTITIONER  
HOLISTIC NURSING

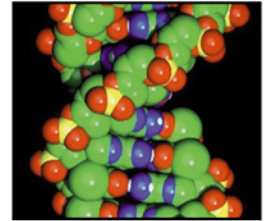
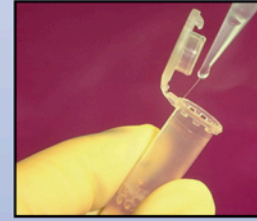
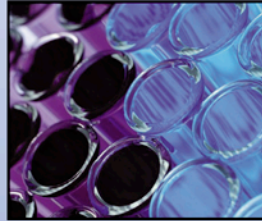
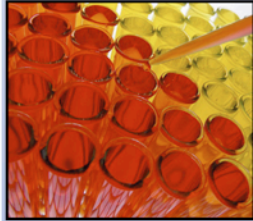
**Mary Ella Graham, Dean**  
963-5251



# THE SCHOOL OF GRADUATE STUDIES & RESEARCH

**Helen R. Barrett, Ph.D., Dean**  
963-5901

# THE DEPARTMENT OF BIOLOGICAL SCIENCES



PREPARING SCHOLARS  
FOR THE  
PURSUIT OF  
RESEARCH CAREERS  
IN ACADEMIA,  
GOVERNMENT  
AND  
INDUSTRY

**The Department of Biological Sciences  
offers B.S., M.S. and Ph.D. degrees**

To inquire about Graduate or Undergraduate Programs, contact:  
Dr. Terrance Johnson, Department Head  
Email address: [TJohnson@tnstate.edu](mailto:TJohnson@tnstate.edu) • Telephone: (615) 963-5681

## The Chemistry Department Supports the 26th Annual University-Wide Research Symposium

The Chemistry Department Offers New General Chemistry Courses for Non-science Majors



**General Chemistry for non-science majors I & II and Laboratory Courses satisfy the general education natural science requirements for TSU students. Please visit our Chemistry sessions and posters: C1, C2, C3, D3, H2, I5, I8, J6, J7, J8, J9, J12**

[www.tnstate.edu/chemistry](http://www.tnstate.edu/chemistry)

615.963.5321



# College of Business

TENNESSEE STATE UNIVERSITY



## Undergraduate Programs

Accounting  
Business Administration  
Business Information Systems  
Economics & Finance

## Research Centers

Office of Business & Economic Research  
Frist Chair of Excellence in Business-Entrepreneurship

## Graduate Program

Master of Business Administration

## International Programs

Office of International Business  
Minor in International Business  
International Internships & Exchange  
International Linkages



## External Outreach

Nashville Business Incubation Center  
Tennessee Small Business Development Center  
Small Business Resource Center

## New Initiatives

Chair of Excellence in Banking & Financial Services  
E-Business



*“Educating People for Better Living”*



The Cooperative Extension Program helps educate and provide information for limited-resource urban and rural families, small farmers, individuals and other groups and organizations. We use research-based information and technology to focus on priorities and needs which help improve quality of life.



***Program Areas:***

- Agriculture and Natural Resources
- Small Farmer Assistance Program
- Family, Youth and Community
- National Extension Leadership Development (NELD)

***Other Areas:***

Communications  
& Information Technology

DocuTech Printing Service  
615-963-7432



*Clyde Chesney*  
*Administrator*

*For more information about Cooperative Extension and its programs, call 615-963-1351, or visit our website at [www.tnstate.edu/cep](http://www.tnstate.edu/cep)*

# College of Arts & Sciences

## PROGRAMS

**Africana Studies**

**Art**

**Biological Sciences**

**Chemistry**

**Communications**

**Criminal Justice**

**History**

**Geography and Political  
Science**

**Languages, Literature,  
and Philosophy**

**Music**

**Physics and Mathematics**

**Social Work**

**Sociology**

**Interdisciplinary Studies**

**Teacher Certification**

The College of Arts and Sciences is committed to excellence in teaching and advising, research and creative activity, and public service. The College aims to provide students with a solid academic foundation upon which to pursue lifelong learning and build successful lives and careers.



We believe that the promotion of active, inquiry-based learning communities, revolving around faculty and student research is paramount in the preparation of students for careers in the 21st century. In building these learning communities, we are proud of the work of our faculty in securing external funds to support their research and to provide research training opportunities for students.

As the College of Arts and Sciences continues to build on a legacy of scholarly excellence and service, we are indebted to the faculty and students who present research papers to scholarly audiences, publish books and journal articles and apply research findings to advance public policy. The scholarly contributions of these faculty and students will help to sustain this University for future generations.



**William D. Lawson, Ph.D.**  
*Dean*

Degrees Offered

B.A. • B.S.

M.A. • M.S. • M.C.J.

Ph.D.

# INSTITUTE OF AGRICULTURAL AND ENVIRONMENTAL RESEARCH TENNESSEE STATE UNIVERSITY



*Building Partnerships To Pursue New Frontiers In Agricultural and Environmental Research*

## SALUTES the University-Wide Research Symposium on the 26th Anniversary

[Institute Information](#)

[Otis L. Floyd Nursery Research Center](#)

[Events and News](#)

[Employee Resources](#)

[Research Teams](#)

Animal and Alternative Livestock

Economics and Policy

Environmental Protection and Enhancement

Food Safety, Nutrition and Family Well-Being

Nursery, Medicinal, and Alternative Food Crops

TSU-UT Collaborative Research Teams

[Training](#)

[Web Resources](#)

[Site Policies and Information](#)



Visit the Institute of Agricultural & Environmental Research Online— <http://www.tnstate.edu/iager>



**Dr. Marcus W. Shute, Vice President**

Phone: 615-963-7631

FAX: 615-963-5068

Web Site: [www.tnstate.edu/research](http://www.tnstate.edu/research)