45TH ANNUAL TENNESSEE STATE UNIVERSITY-WIDE RESEARCH SYMPOSIUM

Presentation Winners

GRADUATE ORAL

Agriculture and Natural Sciences

1st	GO-AGNS-10	**EFFECT OF PLANT DEFENSE ELICITOR IN PREVENTING AMBROSIA BEETLE ATTACKS IN FLOWERING DOGWOODS EXPOSED TO SIMULATED FLOOD STRESS CONDITION**
		Madhav Parajuli*. *Otis L. Floyd Research Center*, College of Agriculture. Advisor(s): Fulya Baysal-Gurel, Jason B. Oliver, Karla Addesso
2nd	GO-AGNS-07	**EVALUATION OF DIFFERENT GROWTH MEDIA AND FORMULATION METHODS FOR ECONOMIC PRODUCTION OF BIOLOGICAL CONTROL AGENTS FOR TOMATO PRODUCTION**
		Peter Eyegheleme*. *Agricultural and Environmental Science*, College of Agriculture. Advisor(s): Margaret Mmbaga
3rd	GO-AGNS-18	**MUNG BEAN AS AN ALTERNATE CROP FOR SMALL AND MID-SIZED FARMERS. A COMPARATIVE ECONOMIC ANALYSIS**
		Satya Tiwari*, Fisseha Tegegne, Dafeng Hui. *Agricultural and Environmental Sciences*, College of Agriculture. Advisor(s): Prabodh Illukpitiya

Engineering and Computer Science

1st	GO-ENGR-16	**DEVELOPING NEW POLLEN GRAIN COUNT METHOD USING MACHINE LEARNING TO EVALUATE HEAT TOLERANCE OF TOMATOES**
		Priya Thapa*, Shourav Bin Rabbani, Kajol Pradhan, Jun Guo, Dibya Thapa Magar. *Agricultural and Environmental Sciences*, College of Agriculture. Advisor(s): Suping Zhou, Manar D. Samad, Hui Li, Sonali Roy
2nd	GO-ENGR-15	**THE GROWTH OF GALLIUM OXIDE NANOWIRES**
		Geordan Dorsey*, Antonio Moore. *TIGER Institute*, College of Engineering. Advisor(s): Richard Mu, Akira Ueda, Eugene Collins
3rd	GO-ENGR-09	**PHYSICS BASED DATA PREPROCESSING TO INCREASE THE ACCURACY OF DEEP LEARNING BASED TRAFFIC STATE ESTIMATION**
		Daryl Mupupuni*. *Electrical and Computer Engineering*, College of Engineering. Advisor(s): Liang Hong, Kamrul Hasan, Leehyun Keel

Life and Physical Sciences

1st	GO-LPS-06	**RESISTANCE PROFILE OF PATHOGENIC BACTERIA IN GOAT AND SHEEP FECAL SAMPLES FROM TENNESSEE AND GEORGIA**
		Basnet Ashesh*. *Agricultural and Environmental Sciences*, College of Agriculture. Advisor(s): Basnet Ashesh, Agnes Kilonzo-Nthenge

2nd	GO-LPS-08	**INACTIVATION OF FOODBORNE PATHOGENS ON SURFACES BY ULTRAVIOLET LIGHT EMITTING DIODE SYSTEMS** Aakash Sharma*. *Agricultural and Environmental Sciences*, College of Agriculture. Advisor(s): Ankit Patras, Housyn Mahmoud
3rd	GO-LPS-05	**MOLECULAR DIVERSITY AND FUNCTIONAL IMPLICATION OF AMPHIBIAN INTERFERON COMPLEX: REMARKING IMMUNE ADAPTATION IN VERTEBRATE EVOLUTION** Oluwaseun Adeyemi*. *Agricultural and Environmental Sciences*, College of Agriculture. Advisor(s): Sang Yongming

UNDERGRADUATE ORAL

Interdisciplinary

1st	UGO-03	**REVERSING THE ENTREPRENEURIAL CURSE: ASSESSING ISSUES FACED AS A SELF-EMPLOYED BUSINESS OWNER** Anarra Williams*. *Family and Consumer Sciences*, College of Agriculture. Advisor(s): LaPorchia Davis
2nd	UGO-01	**HARVESTING SOLAR ENERGY USING PEROVSKITE PHOTOVOLTAIC CELLS FOR IMPROVED APPLICATIONS IN PORTABLE DEVICES** Elijah Rachell*, Alexis Bell*. *Mechanical and Manufacturing Engineering*, College of Engineering. Advisor(s): Mohammad Habibi
3rd	UGO-02	**COMPUTATION OF PER ATOM STRAIN IN CLASSICAL MOLECULAR DYNAMICS SIMULATIONS** Andrew Mikhaeil*. *Civil and Architectural Engineering*, College of Engineering. Advisor(s): Ranganathan Parthasarathy

GRADUATE POSTER

Agriculture and Natural Sciences

1st	GP-GSA-02	**GENOME-WIDE ASSOCIATION STUDY FOR ROOT SYSTEM ARCHITECTURE TRAITS IN FIELD SOYBEAN [GLYCINE MAX (L.) MERR.]** Pallavi Rathore*. *Agricultural and Environmental Sciences*, College of Agriculture. Advisor(s): Ali Taheri, Korsi Dumenyo
2nd	GP-GSA-01	**IDENTIFICATION OF PROTEINS AND BIOLOGICAL PROCESSES AFFECTED BY USE OF ESSENTIAL OIL ON FRESH STRAWBERRIES** Kajol Pradhan*. *Agricultural and Environmental Sciences*, College of Agriculture. Advisor(s): Suping Zhou
3rd	GP-GSA-05	**SCREENING AND RESPONSE OF COMMERCIAL COWPEA [Vigna unguiculata (L.) Walp.] CULTIVARS TO LOW pH AND ALUMINUM TOXIC** Max Miller*. *Agricultural Sciences and Environmental*, College of Agriculture. Advisor(s): Matthew Blair, Hui Li

Engineering and Computer Science

1st	GP-GSE-01	**DEVELOPMENT OF RECHARGEABLE CEMENT CONCRETE-BASED BATTERIES USING IRON AND NICKEL AS ANIDE AND CATHODE MATERIALS** Mercy Sammy*. *Civil and Architectural Engineering* , College of Engineering. Advisor(s): Lin Li, Shihui Liu

Health Sciences

1st	GP-GSH-24	**RETURN TO SPORTS ACL REHABILITATION IN MEN VS WOMEN: WHAT WORKS AND WHAT DOESN'T? A SYSTEMATIC REVIEW** Megan Tidwell*, Miranda Harmon*, Zack Hillis*, Maxwell Maloney*, James Young*. *Physical Therapy* , College of Health Sciences. Advisor(s): Richard Clark
2nd	GP-GSH-28	**PAIN ATTITUDES AND BELIEFS OF DOCTORATE OF PHYSICAL THERAPY STUDENTS** Maxwell Ashcroft*, Zachary Richard*, Benjamin Sisco*. *Physical Therapy* , College of Health Sciences. Advisor(s): David Lehman
3rd	GP-GSH-14	**THE IMPORTANCE OF OCCUPATIONAL THERAPY IN CAREGIVERS' OCCUPATIONAL BALANCE AND GRIEF PROCESSING IN END-OF-LIFE CARE** Chardea Harrison*, Emily Bailor*, Jusin Brown*, Keyuna Bufford*. *Occupational Therapy* , College of Health Sciences. Advisor(s): Lisa Porter

UNDERGRADUATE POSTER

Interdisciplinary

1st	UP-05	**DESCRIPTIVE STATISTICS OF THE IMPACT OF CABLE RAILS SYSTEMS** Aaron Lamson*. *Civil and Architectural Engineering* , College of Engineering. Advisor(s): Deo Chimba
2nd	UP-09	**TRIBUTYLTIN-INDUCED PRODUCTION OF TUMOR NECROSIS FACTOR A IN HUMAN IMMUNE CELLS INVOLVES TOLL-LIKE RECEPTOR 1/2** Sophia Fisher*, Meaghan Lewis. *Chemistry* , College of Life and Physical Sciences. Advisor(s): Margaret Whalen
3rd	UP-10	**TOLL-LIKE RECEPTOR 4 CONTRIBUTES TO TRIBUTYLTIN STIMULATION OF TUMOR NECROSIS FACTOR A PRODUCTION BY HUMAN IMMUNE CELLS** Meaghan Lewis*. *Chemistry* , College of Life and Physical Sciences. Advisor(s): Margaret Whalen