

## STUDENT PRESENTATION AWARDS AT THE 113TH MEETING OF THE TENNESSEE ACADEMY OF SCIENCE

### Oral presentations

#### Botany

- First Place—Stephanie M. Gunn. Floristic Studies Within the Duck River Unit of the Tennessee National Wildlife Refuge, Humphreys County, Tennessee. *Austin Peay State University, Clarksville, Tennessee*
- Second Place—Leah Lavoie. The Evolution of Terminal Inverted Repeats of Rice (*Oryza sativa* ssp. *Indica*) Miniature Inverted-Repeat Transposable Elements (MITES). *Bryan College, Dayton, Tennessee*
- Third Place—Colin Plank. Development of a Computerized Herbarium Catalogue for the Henning Museum, Bryan College. *Bryan College, Dayton, Tennessee*

#### Cell and Molecular Biology

- First Place—Marcia M. Schilling. Initial Protocol for Isolating Chicken Liver Phosphatase Involving a Prototype Gradient Maker. *Austin Peay State University, Clarksville, Tennessee*
- Second Place—T. Justin Durham. Protein Modeling of Ribose-1,5-Bisphosphate Carboxylase Oxygenase Using Razmol. *Tennessee Technological University, Cookeville, Tennessee*

#### Chemistry

- First Place—Barath Baburao. Thermodynamic Modeling of Aqueous-Hydrogen Fluoride Systems. *Tennessee Technological University, Cookeville, Tennessee*
- Second Place—Ian Romaine. Synthesis of Novel Analogs of epi-Podophyllotoxin. *Middle Tennessee State University, Murfreesboro, Tennessee*
- Third Place—Anthony J. Zuccherro. Metallogels: Artificial Glutamate Lipids with Lewis-Basic Sites and Their Metal Complexes. *The University of the South, Sewanee, Tennessee*

#### Engineering and Engineering Technology

- First Place—Vikram Kollurm. Automated Arteriolar Diameter Measurements from Video Recording. *University of Memphis, Memphis Tennessee*
- Second Place—Carl Parnham. Using X-Ray Diffraction to Measure Applied Strains in Cement-Based Materials. *Tennessee Technological University, Cookeville, Tennessee*
- Third Place—Derick Weis. Developing Novel Hydrofluoroethers Using the Inverse-QSR Technique with Signature. *Tennessee Technological University, Cookeville, Tennessee*

#### Health and Medical Sciences

- First Place—Kip Phillips. Probe-DNA Hybridization: How Many Mismatches Will a Probe Tolerate? *Middle Tennessee State University, Murfreesboro, Tennessee*
- Second Place—Adam Farmer. Fluorescence Based Detection of Biomolecules Bound to Glass Substrate. *Middle Tennessee State University, Murfreesboro, Tennessee*

#### Mathematics and Computer Science

- First Place—Yun Ye. Robust estimation for the Extreme value Distribution. *Tennessee Technological University, Cookeville, Tennessee*
- Second Place—Saravanan Swaminathan. Are Pure Component Parameterization Procedures Important in Mixture Property Prediction? *Tennessee Technological University, Cookeville, Tennessee*
- Third Place—Qiang Zhang. Matrix Operator on Some *lp* Spaces. *Tennessee Technological University, Cookeville, Tennessee*

#### Microbiology

- First Place—Jeremy L. Dahmen. Lipid Composition of Members of the Algal Class Chlorarachniophyceae. *Middle Tennessee State University, Murfreesboro, Tennessee*
- Second Place—Jerry L. Trageser. Isolation and Identification of Diazinon-Degrading Bacteria. *Middle Tennessee State University, Murfreesboro, Tennessee*
- Third Place—Rebecca. D. McWhirter. Antimicrobial and Allelopathic Properties of *Ludwigia* sp. *Middle Tennessee State University, Murfreesboro, Tennessee*

#### Zoology

- First Place—Jason Jennings. Proximity to Edge and Predation Risk on Artificial Nests of Northern Bobwhites. *The University of Memphis, Memphis, Tennessee*

- Second Place—Heidi L. LaMountain. Measures of Biodiversity of Small Mammals in Three Habitat Types Using Sherman Live Traps. *The University of Memphis, Memphis, Tennessee*
- Third Place (tie)—James B. Akins. An Assessment of Species Richness in Mammals Using Scent-Station Procedures in Three Habitats. *The University of Memphis, Memphis, Tennessee*
- Third Place (tie)—Malabika Laha. Effects of Water Temperature on the Growth of Barrens Topminnow and Western Mosquitofish. *Tennessee Technological University, Cookeville, Tennessee*

## Poster presentations

## Chemistry

- First Place—Justin B. Anderson. Effect of 4,4'-Bipyridin-1-ium Bromide Monohydrate on Glutathione Levels in Human Monocytic Progenitor (U937) Cells. *Tennessee State University, Nashville, Tennessee*
- Second Place—Stephen Brandon Naquin. A Study of Bidi Cigarette Smoke on *Salmonella typhimurium* Strains TA97a and TA98. *Middle Tennessee State University, Murfreesboro, Tennessee*

## Geology and Geography

- First Place—Carl Alexander. Pollution Loading and Land Use Pattern Modeling in Geographic Information Systems. *Tennessee Technological University, Cookeville, Tennessee*
- Second Place—B. Cosky. Geochemical Investigation of the Mechanisms of Magma Formation Beneath the Northern Oregon Cascades. *Middle Tennessee State University, Murfreesboro, Tennessee*
- Third Place—Claiborn L. Phillips. Quantitative Crime Analysis with Geographic Information Systems. *Tennessee Technological University, Cookeville, Tennessee*

## Health and Medical Sciences

- First Place—Jared P. LeBoeuf. The Effects of the Inflammatory Cytokine TNF- $\alpha$  on Transformed Rat Pancreatic Beta-Cells. *Middle Tennessee State University, Murfreesboro, Tennessee*

## Mathematics and Computer Science

- First Place—Sanjay Dube. Insights to Phase Equilibrium Calculations Via Equations of State. *Tennessee Technological University, Cookeville, Tennessee*

## Microbiology

- First Place—Nicholas S. Zeger. Antimicrobial Properties of *Humulus lupulus*. *Middle Tennessee State University, Murfreesboro, Tennessee*

## Physics and Astronomy

- First Place—Dustin Rapp. The Impact of High Wind Events on the Central Business District of Oklahoma City. *Union University, Jackson, Tennessee*

## Science and Math Teaching

- First Place—Linda Hendrickson. Research and Development of Physical Science Laboratories with Connections to Everyday Activities. *Middle Tennessee State University, Murfreesboro, Tennessee*

## Zoology

- First Place—Erica Hessen. An Assessment of Sex-biased Response of Raccoons (*Procyon lotor*) to Live Traps in Western Tennessee. *The University of Memphis, Memphis, Tennessee*
- Second Place (tie)—Joshua Bright. Predation on Internal Organs of Field-dressed Deer. *The University of Memphis, Memphis, Tennessee*
- Second Place (tie)—Philip Johnson. Estimating Population Density of White-tailed Deer on Milan Army Ammunition Plant. *The University of Memphis, Memphis, Tennessee*
- Third Place—Matthew L. Neimiller. A Survey of the Herpetofauna of the Duck River Watershed Within Coffee County, Tennessee. *Middle Tennessee State University, Murfreesboro, Tennessee*