

## BEST STUDENT PRESENTATION AWARDS AT THE 2000 ANNUAL MEETING OF THE TENNESSEE ACADEMY OF SCIENCE

### Oral presentations

#### Botany

- First place—Meredith L. Moore. Distribution of Alkaloid-Containing Plant Species in a Mixed Mesophytic Forest. *Tennessee Technological University, Cookeville, Tennessee*
- Second place—Lorna L. Morris. A Comparative Study of the Invasive *Ligustrum sinense* and the Native *Forestiera ligustrina* (Oleaceae) in Cedar Glade/Woodland Habitats of Middle Tennessee: Growth Characteristics. *Middle Tennessee State University, Murfreesboro, Tennessee*
- Third place—Tamara Berthel. Observations on the Use of Medicinal Plants by the Kuna Indians of Panama. *Middle Tennessee State University, Murfreesboro, Tennessee.*

#### Cell and Molecular Biology

- First place—Amisha Gandhi. Activation of MDR1 Genes by Mutant p53 Requires Interaction with a Cellular Protein. *Christian Brothers University, Memphis, Tennessee*
- Second place—Ben A. Ingersoll. The Effectiveness of Zinc Omadine® as a Fungistat. *Tennessee Technological University, Cookeville, Tennessee*
- Third place—Penny L. Vestal. Detection of Human DNA from United States Currency. *Middle Tennessee State University, Murfreesboro, Tennessee*

#### Chemistry

- First place—Stephen W. Glover. The Development of a New Extractive Scintillation Cocktail for the Analysis of Actinides. *Tennessee Technological University, Cookeville, Tennessee*

#### Engineering and Engineering Technology

- First place—Soondeuk Jeung. Study of the Properties of Low Density Poly(ethylene) Composites Filled With Starch. *Tennessee Technological University, Cookeville, Tennessee*
- Second place (tie)—Balachandhar Krishnamurthi. Mechanical Properties of High Density Rigid Polyurethane Foam Filled With Different Types of Fillers. *Tennessee Technological University, Cookeville, Tennessee*
- Second place (tie)—Sathyam Bharadwaj-Somaskandan. Production and Study of the Properties of Low Density Flexible Polyurethane Foam Filled With Wood Flour. *Tennessee Technological University, Cookeville, Tennessee*

#### Geology and Geography

- First place—Gregory A. Shofner. Sinkholes and Caves in Tennessee: A Quantitative Comparison of Geographic Distribution. *Tennessee Technological University, Cookeville, Tennessee*

#### Math and Science Teachers

- First place—Nyanguila Kakolesha. Instrumental Analysis Feedback Approach to Student Preparation of Solutions: An Interim Report. *Middle Tennessee State University, Murfreesboro, Tennessee*

#### Medical Science

- First place—Dara L. Grieger. Glyceraldehyde-3-Phosphate Dehydrogenase in the Nuclei of Acute Lymphoblastic Leukemia Cell Lines. *University of Tennessee, Memphis, Memphis, Tennessee*

#### Microbiology

- First place—Jennifer Krepp. Detection of Coxsackie A9 Virus in *Amblyomma americanum*. *Middle Tennessee State University, Murfreesboro, Tennessee*
- Second place—Nathan D. Bryant. Characterization of a Novel *Legionella*-Like Amoebal Pathogen in Human Macrophages. *Middle Tennessee State University, Murfreesboro, Tennessee*
- Third place—Amanda Wagner. Lipopolysaccharide-Induced Protein Expression in *Acanthamoeba polyphaga*. *Middle Tennessee State University, Murfreesboro, Tennessee*

#### Physics and Astronomy

- First place—Scott A. Renkes. Micromachined Si-Tips With Low Access Resistance for the Patch-Clamping of a Single Cell. *Vanderbilt University, Nashville, Tennessee*
- Second place—Candice Jackson. Spherical Cavity Ring-Down Spectroscopy of Water. *University of Tennessee, Chattanooga, Chattanooga, Tennessee*

#### Zoology

- First place—Brian D. Carver. An Assessment of Interspecific Association Between Opossums and Raccoons in Western Tennessee. *The University of Memphis, Memphis, Tennessee*

Second place—Kurt J. Regester. Plethodontid Salamanders: Detection of Snake Cues, Activity Change, Refuge Use, and the Role of Predator Diet. *Middle Tennessee State University, Murfreesboro, Tennessee*

Third place—L. Michelle Gilley. A Comparison of Small Mammal Capture Success in Untreated and Lysol-Treated Sherman Live Traps. *The University of Memphis, Memphis, Tennessee*

#### Poster presentations

##### Botany

First place—Alex S. Flynt, M. Crockett Bone, and Maria H. Bailey. Continued Evaluation of the Effects of Water Quality in the Sulphur Fork Creek Watershed on Periphyton Production and Photoautotroph Photochemistry. *Austin Peay State University, Clarksville, Tennessee*

Second place—Daniel R. French. A Quadrat Survey Concurrent with the Development of a Nature Trail at Mid-South Youth Camp in Chester County, Tennessee. *Austin Peay State University, Clarksville Tennessee, and Freed-Hardeman University, Henderson, Tennessee*

Third place—Lorenzo E. Altman, Greg R. Harris, Kellie L. Wallace, and Amanda R. Wilding. A Method to Evaluate the Effects of Aquatic Pollution on the Development of Thylakoid Proton Motive Force. *Austin Peay State University, Clarksville, Tennessee*

##### Chemistry

First place—William Duvall. The Purification of Wild Type and Selenomethionyl Pyrrolidone Carboxyl Peptidase (PYRase) for Stability Studies. *Tennessee Technological University, Cookeville, Tennessee*

Second place—Carley Chandler. The Purification of Wild Type and Selenomethionyl Dihydrofolate Reductase (DHFR) for Structural and Enzymatic Studies. *Tennessee Technological University, Cookeville, Tennessee*

Third place—C. Ashley Loflin. Activity Coefficients for the Dot Com Generation. *Middle Tennessee State University, Murfreesboro, Tennessee*

##### Mathematics and Science Teachers

First place—Virginia L. Mattie. Serial Dilutions of Solutions in Quantitative Analysis with Instrument Feedback: An Update. *Middle Tennessee State University, Murfreesboro, Tennessee*

Second place—Dara L. Grissom. Bringing Science to Life: Research and Development of Applied Labs for Physical Science. *Middle Tennessee State University, Murfreesboro, Tennessee*

##### Zoology

First place—Rebecca Houtman. Among Riffle Variance of Bioassessments Using Macroinvertebrate Community Assemblages in Streams of Roberston County, Tennessee. *Austin Peay State University, Clarksville, Tennessee*

Second place—Kurt J. Regester. Intra-dermal Mite, *Hannemania sp.* (Acarina: Trombiculidae), Infestations Differ in Populations of Syntopic Plethodontids. *Middle Tennessee State University, Murfreesboro, Tennessee*

Third place—Theodore T. Ives Jr. Comparative Study of Capture Efficiency and Mortality of Five-Lined Skink, *Eumeces fasciatus*, Using Pitfall, Funnel, and Modified Glue Traps. *Austin Peay State University, Clarksville, Tennessee*