

BEST STUDENT PRESENTATION AWARDS AT THE 1998 ANNUAL MEETING OF THE TENNESSEE ACADEMY OF SCIENCE

Oral Presentations

Cell and Molecular Biology

First Place—Samira Rafiq. Cloning of an *Escherichia coli* Inosine-Uridine Nucleoside Hydrolase Gene. *Middle Tennessee State University, Murfreesboro, Tennessee*

Chemistry

First Place—Xiaoming Wang. Aldol Condensation Products Produced During the Static Drying of Acetone over 4A Molecular Sieve. *Middle Tennessee State University, Murfreesboro, Tennessee*

Second Place—Donald I. Carman. Microwave Digestion Techniques in Forensic Gunshot Residue Analysis. *Middle Tennessee State University, Murfreesboro, Tennessee*

Third Place—Mark T. Orr. Production of Hydrogen from Sucrose via an Enzymatic Pathway. *Tennessee Technological University, Cookeville, Tennessee*

Honorable Mention—Ming Lien. The Effects of Analgesic Drugs on the Surface Tension of Emu Oil and Other Commercially Available Oils: A Comparative Study. *Middle Tennessee State University, Murfreesboro, Tennessee*

Engineering and Engineering Technology

First Place—Richard Pasley. Monitoring Traumatic Brain Injury: Application of Spectral Analysis to Detection of B Waves. *The University of Memphis, Memphis, Tennessee*

Second Place—Tapan Patel. Development of Pressure Shear Pulverization Process for Mechanical Recycling of Polyethylene-Based Scrap. *Tennessee Technological University, Cookeville, Tennessee*

Third Place—Phaneendra Kondapi. Evaluation of Effective Diffusion Coefficients of CO₂ in Closed-Cell Polyurethane Foam Specimens. *Tennessee Technological University, Cookeville, Tennessee*

Geology and Geography

First Place—Katrina Hunter. Scanning Electron Microscopy of Unusual Surface Features of Well Preserved Hollinellid Ostracods from the Finis Shale (Pennsylvanian) of Texas. *Tennessee Technological University, Cookeville, Tennessee*

Second Place—Jeremy L. Bramblett. New Late Pleistocene and Holocene Microinvertebrate Localities from Lookout Mountain, Tennessee. *The University of Tennessee, Chattanooga, Tennessee*

Mathematics and Computer Science

First Place—Kay Anthony. An Interactive Web-Based Laboratory Manual for CS1. *Middle Tennessee State University, Murfreesboro, Tennessee*

Second Place—April Rice. Computational Aspects of Green's Function Method for Potential Problems. *Middle Tennessee State University, Murfreesboro, Tennessee*

Third Place—George Mitchell. Time Discrepancies in Array Processing With Respect to Compiler Optimization. *East Tennessee State University, Johnson City, Tennessee*

Math and Science Teachers

First Place—Jessica Claire Shamblin. Expanding Your Horizons in Science and Mathematics, A Hands-on Conference for Middle School Girls. *Middle Tennessee State University, Murfreesboro, Tennessee*

Second Place—Jennifer Conner. An Environmental Application of the Scientific Method. *The University of Tennessee, Chattanooga, Tennessee*

Third Place—Kerry Carrigan. A Peer Tutor and Mentoring Model for Science in the Undergraduate Curriculum. *Volunteer State Community College, Gallatin, Tennessee*

Medical Science/Cell and Molecular Biology

First Place—Kimberly Myers. Characterization of Reovirus Infection in a Human Monocyte Cell-line. *Middle Tennessee State University, Murfreesboro, Tennessee*

Second Place—Mandy L. Carter. The Endocrine Disrupting Effects of Atrazine on the Development of the Domestic Chicken (*Gallus gallus*). *Middle Tennessee State University, Murfreesboro, Tennessee*

Third Place—Allen R. Hunter. The Hematologic Effects of Low to Moderate Levels of Exercise. *Pellissippi State Technical Community College, Knoxville, Tennessee*

Microbiology

First Place—Mary McReynolds. Tetracycline Resistant *Enterococcus* sp. in the Sulphur Fork Creek Watershed, Robertson County, Tennessee. *Austin Peay State University, Clarksville, Tennessee*

First Place—Teresa Stegall. Detection of *Borrelia burgdorferi* in *Amblyomma americanum* by the Polymerase Chain Reaction. *Middle Tennessee State University, Murfreesboro, Tennessee*

Physics and Astronomy

First Place—John L. Britt III. Characterizing Soot Particles from Diesel Exhaust from Polarized Light Measurements. *Tennessee State University, Nashville, Tennessee*

Second Place—Paul John Rivera. Sonoluminescence in an Acoustically Levitated Water Filled Shell. *Tennessee State University, Nashville, Tennessee*

Zoology

First Place—Mark L. Odum. Divalent Metal Toxicology to the Japanese Medaka (*Oryzias latipes*) Embryo in Single Embryo Culture. *Tennessee Technological University, Cookeville, Tennessee*

Second Place—Richard T. Stevens. An Evaluation of Three Relative Abundance Indices for Red Squirrels in the Southern Appalachians. *The University of Memphis, Memphis, Tennessee*

Third Place—Kim Myers. Posture as a Signal in Aggression of Male Three-spined Sticklebacks. *Middle Tennessee State University, Murfreesboro, Tennessee*

Poster Presentations

Chemistry

First Place—Teresa McMahon. Determination of the Acid Constants of a Diphosphoric Ligand. *Tennessee Technological University, Cookeville, Tennessee*

Second Place—Matthew Finn and Timothy Cofer. Investigation of the Dinitrosalicylate Reducing Sugar Reaction. *Tennessee Technological University, Cookeville, Tennessee*

Third Place—Pavan Marpaka. Secondary Structure Analysis of Wild Type and Selenomethionyl Dihydrofolate Reductase. *Tennessee Technological University, Cookeville, Tennessee*

Honorable Mention—Natalie C. Parks. Spectroelectrochemistry of Free Radicals. *Austin Peay State University, Clarksville, Tennessee*

Geology and Geography

First Place—Frederick C. Barrell IV. Geomorphology of Creeks in the Tennessee Valley and Ridge: Interaction of Geological, Topographic and Sedimentologic Factors. *Tennessee Technological University, Cookeville, Tennessee*

Math and Science Teachers

First Place—Nyanguila Kakolesha. Go Figure! Spreadsheets and Simulations in Freshman Chemistry. *Middle Tennessee State University, Murfreesboro, Tennessee*

Medical Science/Cell and Molecular Biology

First Place—Kellie Wallace. Allergies, Antihistamines and Cardiac Arrhythmia: A Review. *Austin Peay State University, Murfreesboro, Tennessee*

Zoology

First Place—Brant T. Smith. Habitat, Hibernacula and Seasonal Occurrence of the Western Cottonmouth (*Agkistrodon piscivorus leucostoma*) at Mark's Creek Wildlife Management Area. *Austin Peay State University, Clarksville, Tennessee*

Second Place—Jamie E. Mells. A Protein Analysis of *Daphnia magna* after Chronic Exposure to Zinc Chloride. *Austin Peay State University, Clarksville, Tennessee*

Third Place—Christine Hinton. Frequency of Tail Autonomy in Age and Sex Classes of the Five-lined Skink, *Eumeces fasciatus*. *Austin Peay State University, Clarksville, Tennessee*