

**Tennessee Academy of Science**

*TAS*

**Program  
of the  
116<sup>th</sup> Meeting**

**Austin Peay State University  
Clarksville, Tennessee  
November 16-17, 2006**

### **Institutional Sustaining Members of the Tennessee Academy of Science**

Austin Peay State University

Middle Tennessee State University

Rhodes College

Tennessee Technological University

The University of Tennessee at Martin

### **Affiliated Societies of the Tennessee Academy of Science**

American Association for the Advancement of Science

Barnard Astronomical Society

Clarence T. Jones Memorial Observatory

National Association of Academies of Science

Tennessee Association of Science Department Chairs

Tennessee Entomological Society

Tennessee Psychological Association

Tennessee Junior Science and Humanities Symposium

Tennessee Science Teachers Association

### **TAS Home Page Information**

For information about TAS, including information for the annual and collegiate division meetings, the Tennessee Visiting Scientist Program, the membership list, and more, visit the TAS website at:

**<http://www.mtsu.edu/~tnacadsc/>**

### **TAS Future Meeting Sites**

2007 Volunteer State Community College

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## ANNOUNCEMENTS

**Registration:** Meeting attendees may register by mail (see previous mailing) or onsite in the Sundquist Science Complex (8<sup>th</sup> and College St) on November 17, 7:30 AM–1:00 PM

**Luncheon Tickets.** Extra tickets may be available for \$10 at the Registration Desk.

**Membership:** Application forms for membership in the Tennessee Academy of Science will be available at the Registration Desk. A completed application accompanied by first year dues may be left for the TAS Treasurer at the Registration Desk or mailed to:

Dr. Steven Murphree, Department of Biology, Belmont University, 1900 Belmont Blvd., Nashville, TN 37212-3758. Current annual dues by category are: Regular \$30; Sustaining, \$35; Supporting, \$40; Life, single payment \$300; Student or Emeritus, \$10. Membership includes a subscription to the TAS Journal.

## MEETING SCHEDULE

### Thursday, November 16

5:30 - 10:00.                    **Executive Committee Meeting and Dinner**  
President's Reception, Archwood, 5:30-6:30.  
Dinner and meeting, Univ. Center, Iris Room, 6:30

### Friday, November 17

7:30 -                                **Registration and Continental Breakfast**  
Sundquist Science Complex (SSC) Atrium

8:30 - 12:00                        **2006 TAS General Assembly and Business Meeting**  
SSC E106 A&B

8:30 - 10:00                        **TAS Symposium: Science and Global Security**  
SSC E106 A&B

8:30 - 2:00                         **Poster Session** (attended 11:30-12:00)  
SSC Atrium 1<sup>st</sup> and 2<sup>nd</sup> Floors

9:00 - 10:30                        **Science Chairs Meeting**  
SSC, D126 (Biology Conference Room)

10:00 - 10:30                       **Break**

10:30 - 11:30                       **TAS Plenary Session: Gov. Phil Bredesen**  
SSC E106 A&B

11:30 - noon                        **TAS Business Meeting**  
SSC E106 A&B

Noon - 1:00                         **Luncheon**  
University Center, Ballroom, 2nd Floor

1:10 - closing                       **Section Business and Technical Sessions**  
Locations as listed in the program

**2006 TAS GENERAL ASSEMBLY  
8:30-12:00 SCC E106 A&B**

**WELCOME**

**Dr. George E. Webb, 2006 TAS President-Elect**  
**Dr. Bruce Speck, Provost, Austin Peay State University**  
**Dr. Susan Calovini, Dean, College of Science and Mathematics**

**TAS SYMPOSIUM  
SCIENCE AND GLOBAL SECURITY**

**Col. Greg Kaufmann, Presiding**

Director, Institute for Global Security Studies, Austin Peay State University

**Global Security – A Frontier of Science?** Maj. Gen. John C. Doesburg, Director, Homeland Security Programs and Executive Director, University of Tennessee-Oak Ridge National Laboratories Center for Homeland Security

**Ecoterrorism: Real-time Event Detection Challenges.** Dr. Andrew N. Barrass, Center of Excellence for Field Biology, Austin Peay State University.

**GIS and Rural Counties.** Mr. Michael W. Wilson, Manager, Geographic Information Systems, Austin Peay State University.

**2006 TAS PLENARY ADDRESS  
10:30-11:30**

**Hon. Phil Bredesen, Governor**  
**Science Education and the State of Tennessee**

**BUSINESS MEETING**

**11:30-noon**

**Dr. John W. Harris, 2006 TAS President, Presiding**

**BOTANY**  
**SSC-E303**  
**Claude Bailey, Presiding**  
**Jackson State Community College**

- 1:10 **Section Business Meeting: Election of Officers for 2007**
- 1:15 **Development And Applications Of Georeferenced Herbarium Specimens.** R. Miller, A. Carroll and J. Shaw, University of Tennessee at Chattanooga.
- 1:30 **Edgar Evins State Park ATBI Forest Composition Update.** R. Barber, Volunteer State Community College.
- 1:45 **Effect Of Inter- And Intra-Specific Competition On Growth And Fecundity Of *Microstegium vimineum*.** S. B. Franklin and C. A. Henson\*#, University of Memphis.
- 2:00 **Fitness Consequences Of Varying Crossing Schemes In *Helianthus verticillatus*.** J. Ellis\*, Vanderbilt University.
- 2:15 **Phylogenetic Relationships Of The Monotypic Genus *Amphianthus* (Plantaginaceae Tribe Gratioloae) Inferred From Chloroplast DNA Sequences.** D. Estes\* and R.L. Small, University of Tennessee.
- 2:30 **A Review Of The *Carex crinita* Lam. Complex (Cyperaceae Sect. Phacocystis) In Tennessee.** D. Estes\*, University of Tennessee.
- 2:45 **The Status Of *Prenanthes barbata*, Barbed Rattlesnake Root, In Kentucky And Tennessee.** E. W. Chester, Austin Peay State University.
- 3:00 **Break**
- 3:15 **The Discovery And Status Of *Quercus margarettae* (Sand Post Oak) In Southwest Tennessee.** C. Bailey, Jackson State Community College.
- 3:30 **Ecology Of American Chestnut At Mammoth Cave National Park, An Update.** J. Schibig, J. Tinsley \*#, A. Osborne\*, and L. Fly\*, Volunteer State Community College.
- 3:45 **Ecology Of Flowering American Chestnut Trees In Kentucky And Tennessee.** J. Schibig, Volunteer State Community College.
- 4:00 **Monitoring Rare Plant Species In Tennessee.** D. Lincicome, Tennessee Department of Environment and Conservation, Division of Natural Areas, Nashville, Tennessee.

\* student author

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CELL and MOLECULAR BIOLOGY

SSC-E206

D. Grant Willhite, presiding

Tennessee Wesleyan College

- 1:10 **Section Business Meeting: Election of Officers for 2007**
- 1:15 **Demonstration Of Cell Proliferation In Estrogen Receptor Positive Human Breast Cancer Cell Line T47D By Synthetic Food Colorants.** P. Datta\* and S. Lundin-Schiller, Austin Peay State University.
- 1:30 **Incorporation Of HA Into H5N1 Vaccine Virus Is Independent Of M1 Gene Origin.** Sheharyar Minhas\*, Department of Biology, Christian Brothers University, and Department of Infectious Diseases, St. Jude Children's Research Hospital.
- 1:45 **Characterization Of The Lysophosphatidic Acid 3 Receptor Via Computationally-Guided Site-Specific Mutagenesis.** S.Mujahid\*, Y.Fujiwara and G.Tigy, Christian Brothers University, University of Tennessee-Memphis.
- 2:00 **MRF4: The Skeletal Muscle Transcription Factor With Potential.** A.L. Thompson, Austin Peay State University.
- 2:15 **Altered Lipid Composition Affects The Membrane Distribution Of A Model GPCR, Ste2p, In *Saccharomyces cerevisiae*.** S. Morgan\*, J. Phillips\*, and D.G. Willhite, Tennessee Wesleyan College.

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**CHEMISTRY**  
**SSC-E306**  
**Martin V. Stewart, presiding**  
**Middle Tennessee State University**

- 1:10 **Section Business Meeting: Election of Officers for 2007**
- 1:15 **Progress Report For The 2008 Southeastern Regional Meeting Of The American Chemical Society (SERMACS) To Be Hosted By The Nashville ACS Section.**
- 1:20 **Regioselectivity In The Coupling Of Polyhaloheteroaromatics.** S. T. Handy, D. M. Mayi\*, and A. T. Piala\*, Middle Tennessee State University.
- 1:35 **Regioselective Double Couplings Of Dihaloheteroaromatics.** T. H. Wilson\* and S. T. Handy, Middle Tennessee State University.
- 1:50 **Aging Of PBX 9501: Hydrolysis And Free-Radical Oxidation.** M. R. Salazar, J. D. Kress, B. K. Kendrick, R. T. Pack, D. K. Pauler, J. M. Lightfoot, W. A. Rodin, L. Woods, and B. G. Russell, Union University (MS), Los Alamos National Laboratory, Los Alamos, New Mexico (JK, BK, RP), Cornell University, Ithaca, New York (DP), and BWXT Pantex, LLC, Amarillo, Texas (JL, WR, LW).
- 2:05 **Application Of Remote Access And Control Of FT-IR Spectrometers For Teaching And Collaborative Research.** Ngee-Sing Chong, B. G. Ooi, D. Miles, and J. Shibata, Middle Tennessee State University (NSC, BGO) and University of the South (DM, JS).
- 2:20 **Blooming In The Classroom: HOTS In, LOTS Out.** E. L. Brown, Lee University
- 2:35 **Break**
- 2:50 **Using Spreadsheet Cell Transfer Equations To Emulate Diffusion And Thermal Conductivity.** H. F. Blanck, Austin Peay State University.
- 3:05 **A Computational Study Of Bridged Organosilylmagnesium Compounds.** W. H. Ilsley, Middle Tennessee State University.
- 3:20 **Comparison Of GC-MS Response Factors With Both Experimental And Calculated GC-FID Response Factors For Dimers And Trimers Formed During The Aldol Condensation Of Acetone.** T. M. Thorburn\* and M. V. Stewart, Middle Tennessee State University.
- 3:35 **High-Throughput Detection And Characterization Of Glycopeptides And Glycoproteins Using Advanced Structural Mass Spectrometry.** Larissa S. Fenn\* and John A. McLean, Vanderbilt University.
- 3:50 **Closing Remarks**

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**ENGINEERING and ENGINEERING TECHNOLOGY  
SSC-E310**

**Chin-Zue Chen, presiding  
Austin Peay State University**

- 1:10 **Section Business Meeting: Election of Officers for 2007**
- 1:15 **Hydrologic Impacts From A Landslide In The Tennessee Coal Fields.** R. Liddle, U.S. Department of the Interior, Office of Mining Reclamation and Enforcement, Knoxville, Tennessee.
- 1:30 **A Reconstituted And Improved HEC-RAS Model Of Cane Creek, Martin, TN.** G. H. Nail and B. T. White\*, University of Tennessee at Martin.
- 1:45 **Automated Method For Measurement Of Cerebral Pial Arteriolar Diameter.** B. Hamilton\* and M. L. Daley, University of Memphis.
- 2:00 **Regulation of Cerebral Blood Flow in Stroke Patients with Subarachnoid Hemorrhage.** N. Narayanan\* and M. L. Daley, University of Memphis.
- 2:15 **Design of Fluid Percussion Device for Studies on Head-Injury.** O. Furxhi\* and M. L. Daley, University of Memphis.
- 2:30 **Gas Diffusion in Polystyrene Foam: a Multi-scale Approach.** D. M. Kirby\*, P. Kannan\*, J. J. Biernacki, and D. P. Visco. Tennessee Technological University.
- 2:45 **Break**
- 3:00 **Changes In Service Requirements as Evidence of Improvements In Design of Automotive Systems.** J. W. Blake, Austin Peay State University.
- 3:15 **Senior Capstone Design Experiences for Undergraduate Electrical and Computer Engineering Education.** A. Salama and A. Saad, Austin Peay State University and Armstrong Atlantic State University, Savannah, Georgia.
- 3:30 **Web-based Tools for Online Conferencing.** A. Saad and A. Salama, Armstrong Atlantic State University, Savannah, Georgia and Austin Peay State University.
- 3:45 **Web-Based Collaborative Design and Rapid Prototyping.** Chin-Zue Chen, Austin Peay State University.

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**GEOLOGY and GEOGRAPHY and HISTORY of SCIENCE  
SSC-E305**

**Peter Li, presiding, Geology and Geography  
Tennessee Technological University  
Brother Kevin Ryan, presiding, History of Science  
Christian Brothers University**

- 1:10 **Section Business Meetings: Election of Officers for 2007**
- 1:15 **Evolution Visits Tennessee, 1873-1878.** George E. Webb, Tennessee Technological University.
- 1:30 **Keplerian Motion.** Brother Kevin Ryan, FSC, Christian Brothers University.
- 1:45 **Tennessee's Geology Textbook War 1873-1881.** R. G. Stearns, Vanderbilt University, and J. X. Corgan, Austin Peay State University.
- 2:00 **Pathologic Geology Of Tennessee, J.C. Shapard's Research In The 1850s.** J. X. Corgan, Austin Peay State University.
- 2:15 **Analysis Of Urban Sprawl In Cookeville, TN Using GIS Technology.** B. O'Neil Whitworth, Tennessee Technological University.
- 2:30 **Effect Of Land Use On Water Chemistry And Macroinvertebrates In Three Watersheds.**  
R Lee, C. Li., P. Li, J. Harwood, and B. Cook, Cookeville High School (RL), Harvard University (CL), and Tennessee Tech University (PL, JH, BC).
- 2:45 **What Is The Title Of This Talk?** P. Li, Tennessee Technological University.

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MATH and COMPUTER SCIENCE  
SSC-B107

Matt Jones, presiding  
Austin Peay State University

- 1:10 **Section Business Meeting: Election of Officers for 2007**
- 1:15 **Euler Methods And Error Analysis.** A. Parker\*#, J. Kinnard\*#, J. A. Traviero\*#, and S. Jator, Austin Peay State University.
- 1:30 **Solution For The Time-Independent Schrodinger Equation Using The Runge-Kutta Method.** N. Lardizabal\*#, C. Cox\*#, R. Rylee\*#, and S. Jator, Austin Peay State University.
- 1:45 **Numerical Solutions Of Higher-Order Differential Equations.** D. Purcell\*#, A. Vinson\*#, P. Wilkerson\*#, and S. Jator, Austin Peay State University.
- 2:00 **Repeated Sampling And Pascal's Triangle.** J. Ridenhour, Austin Peay State University.
- 2:15 **Limiting Behavior For A Class Of Particle-Survivor Models.** M. Jones, Austin Peay State University.
- 2:30 **Solving Differential Equations Using Predictor-Corrector Methods.** J. A. Savage\*#, C. Casha\*#, and S. Jator, Austin Peay State University.
- 2:45 **Approximating Solutions Of Second Order Boundary-Value Problems Using Finite Difference And The Shooting Methods.** C. Druyor\*#, B. Hall\*#, C. Leffel\*#, and S. Jator, Austin Peay State University.
- 3:00 **An Algorithm For Computing The Nearest Doubly Stochastic Matrix To A Given Matrix.** B. Glunt, Austin Peay State University.

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**MICROBIOLOGY  
SSC-E208**

**Michael Thompson, presiding, Microbiology**  
Middle Tennessee State University

- 1:10 **Section Business Meeting: Election of Officers for 2007**
- 1:15 ***Matricaria recutita* : Antimicrobial And Allelopathic Properties.** E. O. Adetona \* and J.M. Zamora, Middle Tennessee State University.
- 1:30 **Antimicrobial And Allelopathic Properties Of Muscadine Grape Extract.** N. S. Zeger\* and J. M. Zamora, Middle Tennessee State University
- 1:45 **Antimicrobial And Allelopathic Properties Of *Yucca schidigera*.** A. Overcast \*and J. M. Zamora, Middle Tennessee State University
- 2:00 **Endemicity Of *Borrelia burgdorferi*, The Bacterial Agent Of Lyme Disease, In Middle Tennessee.** D. LeBlanc\*, J. McMahan, and C. Brooks, Austin Peay State University
- 2:15 **Interaction Of Tryptophan<sup>356</sup> And Asparagine<sup>362</sup> With Tyrosine<sup>244</sup> In The Proteolytic Mechanism of *Saccharomyces cerevisiae* Leukotriene A<sub>4</sub> Hydrolase.** E. D. Archer\*, R. L. Seipelt, and M. W. Thompson<sup>#</sup>, Middle Tennessee State University
- 2:30 **Prodigiosin-Production And Lipid-Degradation Analysis Of *Serratia marcescens* In The Presence Of Motor Oil.** P. Patel \* and J. M. Zamora, Middle Tennessee State University
- 2:45 ***Caenorhabditis elegans* As A Model System for *Streptococcus pneumoniae* Infection.** K Sorensen\* and N. Ragsdale, Belmont University

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**PHYSICS and ASTRONOMY**  
**Lionel Crews, Section Chair**  
**The University of Tennessee at Martin**

**A paper by Lu et al. submitted to this Section appears in Chemistry. There will be no business meeting for this Section in 2006.**

**SCIENCE and MATH TEACHING**  
**SSC-B111**  
**Kim Cleary Sadler, presiding**  
**Middle Tennessee State University**

1:10 **Section Business Meeting: Election of Officers for 2007**

**Titles submitted to this Section will be listed on the Program Addendum.**

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**ZOOLOGY - I**

**SSC-E203**

**H. Dawn Wilkins, presiding  
The University of Tennessee at Martin**

- 1:10 **Section (Zoology I and II) Business Meeting: Election of Officers for 2007**
- 1:15 **Woodpecker Community Structure In A Bottomland Hardwood Forest In Northwest Tennessee.** J. M. Mathenia\* and H. D. Wilkins, University of Tennessee at Martin.
- 1:30 **Biodiversity Measures Of Small Mammals In Induced Edge Habitat: Is There An Edge Effect?** H. L. LaMountain\*, The University of Memphis, H. L. Hopkins, Department of the Interior, Bureau of Land Management, 5100 Winnemucca Blvd., Winnemucca, NV, USA, and M. L. Kennedy, The University of Memphis.
- 1:45 **Association Of Selected Climatic Variables And Capture Success Of *Didelphis virginiana* In Western Tennessee.** J. B. Akins\*, R. A. Baldwin, A. E. Houston, and M. L. Kennedy, The University of Memphis, New Mexico State University, Las Cruces, NM, The Ames Plantation.
- 2:00 **An Estimate Of Population Abundance Of White-tailed Deer (*Odocoileus virginianus*) Utilizing Infrared-triggered Cameras.** A. K. Featherston\*, M. L. Kennedy, and S. W. Stephenson, The University of Memphis (AF, MK), and Milan Army Ammunition Plant (SS), Milan, TN.
- 2:15 **An Estimate Of Winter Density For White-tailed Deer (*Odocoileus virginianus*) In Western Tennessee.** A. N. McBride\* and M. L. Kennedy, The University of Memphis.
- 2:30 **Break**
- 2:45 **Geographic Variation In The Black Bear (*Ursus americanus*) In Western North America.** J. E. Fender\*, M. L. Kennedy, and P. K. Kennedy, The University of Memphis.
- 3:00 **The Effects Of A Transmission Line Right-Of-Way On The Relative Distributions Of Mammalian Predators (Orders Carnivora And Didelphimorphia).** M. Smith\*, T. Gaudin, and D. Aborn, The University of Tennessee at Chattanooga.
- 3:15 **Monitoring Of Site Fidelity Of *Pipistrellus subflavus* And Other Bat Species: Trends And Current Status In Dunbar Cave State Natural Area, Montgomery County, Tennessee.** S. J. Jenkins\* and A. N. Barrass, Austin Peay State University.
- 3:30 **Using Macroinvertebrates To Determine Impacts Of Nonpoint Source Pollution On Twelve Wetlands In Tennessee And Kentucky.** L. D. Mills,\* S.W. Hamilton and J.R. Schiller, Austin Peay State University
- 3:45 **Reconsidering Phylogeny Within Sphyrriidae (Siphonostomatoida, Copepoda).** A. McElwain\* and G. Benz, Middle Tennessee State University.

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**ZOOLOGY - II**  
**SSC-E205**  
**Cindy Taylor, presiding**  
**Austin Peay State University**

- 1:10 **Section (Zoology I and II) Business Meeting: Election of Officers for 2007 (in SSC-E203)**
- 1:15 **Hatching Strategies In Teleost Fishes.** J.D. Shardo, Middle Tennessee State University.
- 1:30 **Effects Of Confinement On Plasma Levels Of Corticosterone In The Northern Watersnake (*Nerodia sipedon*).** K. Sykes\* and M. Klukowski. Middle Tennessee State University.
- 1:45 **Over-Winter Survival Rates Of Four Litters Of Timber Rattlesnake, *Crotalus horridus*, From An Artificial Hibernaculum.** D. L. Bryan, Cumberland University.
- 2:00 **Recent Invasion Of The Green Treefrog, *Hyla cinerea*, Into Upland Regions Of Southeastern United States.** N. Parker\* and A. F. Scott, Austin Peay State University.
- 2:15 **Occurrence Records For Reptiles In Tennessee: Sources, Historical Development, And Geographic Distribution.** A. F. Scott and W. H. Redmond, Austin Peay State University (AFS) and Dog Hill Farm (WHR)
- 2:30 **Break**
- 2:45 **Stream Salamander Diversity And Abundance In Urban And Rural Streams: A Preliminary Study.** D. C. Henley\*, J. R. Mawhiney\*, and C. L. Taylor, Austin Peay State University.
- 3:00 **A Study Of Amphibian Populations Inside And Outside A Combined Sewage Overflow Drainage In Montgomery County, Tennessee.** J. L. Maloney\* and A. F. Scott, Austin Peay State University.
- 3:15 **Is There A Golden Toad In Tennessee's Future?** B. B. Rothermel, Austin Peay State University.
- 3:30 **A Preliminary Survey Of Amphibians In Middle Tennessee For The Chytrid Fungus.** J. L. McMahan\*, D. V. LeBlanc, C. S. Brooks, C. L. Taylor, and B. B. Rothermel, Austin Peay State University.

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**POSTERS ON DISPLAY  
SSC 1<sup>st</sup> and 2<sup>nd</sup> Floor Atrium**

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**BOTANY**

**Determination Of Soil Nutrients, Microbial Diversity, And Levels Of Herbivory To Assess The Impact Of Vinca On A Goldenseal Population.** A. Simpson\* and D. Panvini, Belmont University.

**Ecological Impact Of *Lonicera maackii* As Determined By Soil Nutrients, Functional Microbial Diversity, Light, And Herbivory.** N. Osteen\* and D. Panvini, Belmont University.

**Correlation Of *Lonicera maackii* Density With Soil Nutrients, Microbial Diversity, Light, Herbivory, And Population Growth.** R. Wells\* and D. Panvini, Belmont University.

**Can Fescue or Zucchini Be Employed Effectively to Phytoremediate Polycyclic Aromatic Hydrocarbons from the Flood Plains of the Chattanooga Creek?** J. Simpson\*#, E. Cohen\*#, D. Percy\*#, S.J. Halperin, The University of Tennessee at Chattanooga

**Genetic Variability Of The Rare Cedar Glade Endemic *Astragalus bibullatus*: Comparing Estimates Based On AFLP Markers And Isozymes.** C. J. Baskauf and J. M. Burke, Austin Peay State University and University of Georgia, Athens, Georgia.

**Photoinhibition-Induced Heterogeneity of Quinone<sub>B</sub> Reduction In Photosystem II.** J. Lebkuecher and B. Hopkins\*, Austin Peay State University.

**CELL AND MOLECULAR BIOLOGY**

**Higher Order Organization Of The *Ifng* Gene In Functionally Different CD4<sup>+</sup> Th Cell Subsets.** E.R. Eivazova and Y.S. Vassetzky<sup>o</sup>, Vanderbilt University School of Medicine, <sup>o</sup>UMR-8126 Institut Gustave Roussy, Villejuif, France.

**The Role Of Metal Ions On The Bioactivation Of Benzidine And 4-Aminobiphenyl.** P. Makena\* and K.-T. Chung, The University of Memphis.

**CHEMISTRY**

**Catalysts For The Preparation Of Biodiesel. Part 1.** Jia Zhu,\* Sally Millsap, Cassandra N. Boller\*#, N. Tyler Walker\*#, and Scott T. Handy, Middle Tennessee State University.

**Catalysts For The Preparation Of Biodiesel. Part 2.** Sally Millsap, Cassandra N. Boller\*#, N. Tyler Walker\*#, Jia Zhu\*#, and Scott T. Handy, Middle Tennessee State University.

**Use Of The Glycerol By-Product From Biodiesel Preparation In Fine Chemical Synthesis.** N. Tyler Walker\*, Jia Zhu\*#, Sally Millsap, Cassandra N. Boller\*#, and Scott T. Handy, Middle Tennessee State University.

**Progress Toward Lamellarin/Camptothecin Hybrids.** Cassandra N. Boller\* and Scott T. Handy, Middle Tennessee State University.

**Caffeine Determination Of Folgers, Maxwell House, And Starbucks Coffee By HPLC: Does Preparation Change The Amount Of Caffeine Present?** Kelly Major\* and Rachel Rigby, Belmont University.

## POSTER PRESENTATIONS (cont.)

### CHEMISTRY (cont.)

**Leaching And Adsorption Of Contaminants Associated With Fly Ash Amended Pervious Concrete.** Jessie Weatherly\*, Heather Brown, and John DiVincenzo, Middle Tennessee State University.

**Synthesis And Characterization Of Air-Sensitive Manganese Complexes.** Mary C. Clay\* and Rebecca M. Jones, Austin Peay State University.

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**Facile Route To C2-Substituted Imidazolium Cations.** Elliot G. Ennis\* and Scott T. Handy, Middle Tennessee State University.

**The Lightsticks, They Are A-Changin'.** Tobey Schultz\* and Gary D. White, Middle Tennessee State University.

**It's Easy Being Green.** Ryan Parsons\*, Taylor Barnes\*#, Samantha Chesak\*#, Matthew Brandon\*#, and The Chemistry Club of MTSU, Middle Tennessee State University.

**Rapid Methods Of Detecting Flavonoids In Wine Using Raman And Infrared Spectroscopy.** Beng G. Ooi, Lijie Zhao\*#, Laura E. Wanamaker\*, Tony V. Johnston, and Ngee-Sing Chong, Middle Tennessee State University.

**Chemical Combinations For Curing Of Marine Mussel Adhesives.** L. Hight\*, A. Moore, and J. Wilker, Belmont University (LH, AM) and Purdue University (JW), West Lafayette, Indiana.

**Synthesis Of Peptidomimetics Of D-Ala-D-Ala.** N. K. Dunlap, T. A. Pegram\*#, L. Waldrop\*#, and J. Lamb\*#, Middle Tennessee State University.

**Overloading Of The Ce(IV)/SiO<sub>2</sub> Solid-Supported Reagent.** K. J. Stanislav\*, A. L. Newsome, and M. V. Stewart, Middle Tennessee State University.

**Supported Nucleophilic Catalysts.** K. L. Porter\* and S. T. Handy, Middle Tennessee State University.

**Synthesis Of 1-Amino-2,3,4-butanetriol.** N. K. Dunlap, A. Martin\*#, and J. Drake\*#, Middle Tennessee State University.

**Surface Morphology And Electrical Properties On Silicon Carbide Oxidized At 1400 °C With Oxygen And Carbon Dioxide Gases.** Tatijana Radmilovich\*, India Cartmen\*#, Tiffany Crenshaw, and Weijie Lu, Trevecca Nazarene University (TR) and Fisk University (TR, IC, TC, WL).

**Oxidation Of SIC By Carbon Dioxide.** Darlene Gunther\*, Calissia Britton, Stephanie Turner, Senthil Sambandam, and Weijie Lu, Austin Peay State University (DG) and Fisk University (DG, CB, ST, SS, WL).

## ENGINEERING AND ENGINEERING TECHNOLOGY

**Changes in Pial Arteriolar Resistance during Vasoconstrictive and Vasodilative Challenge.** S. W. Richardson\*, T. Vu\*, L. Washington\*, and M. L. Daley; the University of Memphis.

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## GEOLOGY AND GEOGRAPHY

**Waste Water Treatment Plant Site Analysis Along Cane Creek In Putnam County.** Mark Ziska, Tennessee Technological University

**Analysis Of Microcrack Density In Folded Quartz Arenite Near Keyser, West Virginia.** Brian O'Neil Whitworth, Tennessee Technological University

## HEALTH AND MEDICAL SCIENCES

**Food Security And The Utilization Of Leftover Rice.** L. Girsch\*, C. Webb\*, R. Bolton\*, A. Johnson\*, L. Owen\*, A. Richmond\*, and T.L. Smith#, The University of Memphis.

## MICROBIOLOGY

**A Comparison Of The Antimicrobial Activity of Natural and Commercial Disinfectants.** Sana Shaikh\* and John M. Zamora, Middle Tennessee State University

**The Identification Of A Novel Amoeba-Associated Microorganism By 16S rDNA Sequencing And *In Situ* Hybridization.** J. M. Lewis\* and M. B. Farone, Middle Tennessee State University.

**Sequencing And Phylogenetic Comparisons Of The *rpoB* Gene of a Novel Bacterium.** M. Carver\*, A. L. Farone, M. B. Farone, Middle Tennessee State University

**Hydrogen Production by Purple Nonsulfur Bacterium in a Hollow-fiber Bioreactor.** S. Markov, Austin Peay State University

## SCIENCE AND MATH TEACHING

Posters presentations for this Section will be listed in the Program Addendum

## ZOOLOGY

**Differences In Muscle Alignment Affect Mobility In Quadrupedal And Bipedal Mammals.** J. Hailey\* and J. Shardo, Middle Tennessee State University.

**Comparative Analysis Of Pastured Vs. Forested Soil With Respect To Soil Fauna, Nutrients, And Abiotic Factors.** K. L. Pollard II\*, O. B. Robinson#, and W. D. S. Burton, Austin Peay State University

**The Diversity And Distribution Of Leaf Litter At APSU EEC: A Comparison Of The Cave And Surrounding Areas.** J. Leach\*#, L. Reynolds\*#, W.D.S. Burton and D. Sudbrink, Austin Peay State University.

## **TAS Standing Committees 2006**

### **Auditing and Financial Oversight Committee**

Dr. Robert Grammer, Chair, Belmont University

Dr. Jon Lowrance, Lipscomb University

Dr. John Harris (advisory), Tennessee Technological University

### **Fellows Committee**

Dr. Charles R. McGhee, Chair, Middle Tennessee State University

Dr. Gladius Lewis, University of Memphis

Brother Kevin Ryan, Christian Brothers College

### **Long Range Strategic Planning Committee**

Dr. Stephen M. Wright, Chair, Middle Tennessee State University

Dr. Jeff Boles, Tennessee Technological University

Teresa Fulcher, Pellissippi State Community College

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### **Education Committee**

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Dr. Michael L. Daley, University of Memphis

Dr. Robert L. Hartshorn, University of Tennessee at Martin

Dr. Linda Jordan, Tennessee Department of Education

Dr. Robert Marlowe, University of Tennessee at Chattanooga

Dr. Jack Rhoton, East Tennessee State University

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### **Membership Committee**

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Dr. Gary Hall, David Lipscomb University

Dr. Jeffrey Lebkeucher, Austin Peay State University

### **Necrology Committee**

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Dr. George Murphy, Middle Tennessee State University

Dr. Wilburn A. Sliger, The University of Tennessee at Martin

### **Nominating Committee**

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Dr. John W. Harris, Tennessee Technological University

Dr. George E. Webb, Tennessee Technological University

### **Publicity and Research Committee**

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Dr. Jeff Boles, Tennessee Technological University

Dr. Patricia Hull, Tennessee State University

Dr. Lewis Myles, Tennessee State University

Dr. Kim Cleary Sadler, Middle Tennessee State University

### **Resolutions Committee**

Ms. Sallie Noel, Chair, Austin Peay State University

Ms. Betty Davis, East Tennessee State University

Dr. David Pitts, University of Tennessee - Martin

## **2006 TAS Executive Committee**

- Dr. John W. Harris, President**  
Tennessee Technological University
- Dr. George E. Webb, President-Elect**  
Tennessee Technological University
- Dr. Stephen M. Wright, Past-President**  
Middle Tennessee State University
- Ms. Sarah H. Swain, Secretary**  
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Austin Peay State University
- Dr. James Howard, Director - Electronic Communications**  
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- Dr. Jack Rhoton, Director - Junior Academy of Science**  
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- Dr. Michael Daley, Director-Visiting Scientist Program**  
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- Dr. Cindi Smith-Walters, Chair, Education Committee**  
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Middle Tennessee State University
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Columbia State Community College
- Dr. Linda Jordan, State Science Consultant**  
Tennessee Department of Education
- Dr. J. Michael Redding, Annual Meeting Coordinator**  
Tennessee Technological University
- Dr. Al Hazari, Member-at-large, 2004-2006**  
The University of Tennessee at Knoxville
- Dr. Steven Hamilton, Member-at-large, 2005-2007**  
Austin Peay State University
- Dr. Jeffrey O. Boles, Member-at-large, 2006-2008**  
Tennessee Technological University

## **2006 Local Arrangements Committee**

- Dr. John Foote**  
**Dr. Steven Hamilton**

### **Driving Directions**

A campus map and driving directions for APSU may be found at the <http://www.apsu.edu/map/>. The meeting will be held at the Sundquist Science Complex situated on the corner of 8<sup>th</sup> and College Streets (Highway 79). Parking instructions will be posted on the TAS website <http://www.mtsu.edu/~tnacadsc/> and signs will be posted near the Complex on the day of the meeting.

**From Nashville:** I-24 W to Clarksville Exit 4; west onto Hwy 79 Wilma Rudolph Blvd. (becomes College St.) to 8<sup>th</sup> Street. Sundquist Science Complex on the right.

**From Memphis:** I-40 E approximately 140 miles to Exit 143; north on Hwy 13 about 53 miles; north on Hwy 41A Bypass (Riverside Drive) to Clarksville; east on College Street to 8<sup>th</sup> Street. Sundquist Science Complex on the left.