

Tennessee Academy of Science

TAS

Program

of the

114th Meeting

**Columbia State Community College
Columbia, Tennessee
November 18-19, 2004**

Institutional Sustaining Members of the Tennessee Academy of Science

Austin Peay State University

East Tennessee State University

Middle Tennessee State University

Tennessee Technological University

The University of Tennessee at Chattanooga

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.tnacadsci.org/>

TAS Future Meeting Sites

2005 The University of Tennessee at Martin

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ANNOUNCEMENTS

Registration: Meeting attendees may register by mail (see previous mailing) or onsite in the Lobby of the Hickman Building on November 19, 2004, 7:30 A.M. –1:00 P.M.

A Limited Number of Luncheon Tickets may be available for \$10.00 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 with the TAS Treasurer at the Registration Desk or mailed to: Dr. Steven Murphree, Dept. Biology, Belmont University, 1900 Belmont Blvd., Nashville, TN 37212-3758. Current annual dues (and proposed rate in 2005), which include a subscription to the Journal, are, by category: Regular \$20 (30); Sustaining, \$25 (35); Supporting, \$30 (40); Life, single payment \$200 (300); Student or Emeritus, \$10.

MEETING SCHEDULE

Thursday, November 18, 2004

6:00 p.m.

Executive Committee Meeting
Jones Student Center, Napier 157

Friday, November 19, 2004

7:30 a.m.-1:00 p.m.

Registration
Hickman Lobby

8:00 a.m.-8:30 a.m.

Annual Science Chairs Meeting
Hickman 122

8:30 a.m.-1:00 p.m.

Posters Session (attended 10:30-noon)
Hickman 146

8:35 a.m.-9:15 a.m.

TAS General Assembly and Business Meeting
Hickman Cherry Theater

9:15 a.m.-10:15 a.m.

TAS Plenary Session
Hickman Cherry Theater

10:15 a.m.-10:30 a.m.

Break
Hickman Lobby

10:30 a.m. - noon

TAS Symposium – Public Health Issues in Tennessee
Hickman Cherry Theater

10:30 a.m. - noon

TAS Symposium – Regents On-Line Degree Program
Hickman 123

Noon - 1:00 p.m.

Luncheon
Student Center

12:45 p.m.-1:00 p.m.

Section Chairs Meeting
Warf 106

1:15 p.m.-

Section Business and Technical Sessions
Warf and Clement Buildings

TAS GENERAL ASSEMBLY AND BUSINESS MEETING

Friday, November 19, 2004
8:35 a.m., Hickman Cherry Theater

Welcome:

Dr. O. Rebecca Hawkins, President, Columbia State Community College

Business Meeting:

J. Michael Redding, President TAS, Presiding

TAS PLENARY SESSION

9:15 a.m., Hickman Cherry Theater
Keynote Address

“Avian Influenza”

Jacqueline Katz, Ph.D.
Centers for Disease Control and Prevention

Dr. Katz received her Ph.D. in microbiology from the University of Melbourne. She is currently Chief of the Immunology and Viral Pathogenesis Section in the Influenza Branch, Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases, Centers for Disease Control and Prevention in Atlanta.

Her work focuses on the avian influenza A viruses, in particular the highly pathogenic H5N1 subtype.

TAS SYMPOSIA

PUBLIC HEALTH ISSUES IN TENNESSEE

10:30-noon, Hickman Cherry Theater

Dr. Stephen Wright, moderator
Middle Tennessee State University

Bioterrorism: Is Tennessee Prepared?

Allen Craig, MD

Dr. Craig received his M.D. from Albert Einstein College of Medicine. His career has included working as a Clinician, a hospital Medical Director, and an Epidemic Intelligence Service Officer with the Centers for Disease Control and Prevention. He currently is the State Epidemiologist and Director of Communicable and Environmental Disease Services at the Tennessee Department of Health.

Foodborne Illness and FoodNet in Tennessee

Timothy Jones, MD

Dr. Jones completed medical school at Stanford University. He worked as a Clinician prior to joining the CDC's Epidemic Intelligence Service. He is currently the Deputy State Epidemiologist for the Tennessee Department of Health and the director of the Tennessee FoodNet program.

Update: West Nile Virus

Gary Swinger, DVM, MPH

Dr. Swinger is Director of the Infectious Disease Program, Tennessee Department of Health. He also serves as the coordinator for the West Nile Virus Surveillance Program in the state.

REGENTS ON-LINE DEGREE PROGRAM

10:30-noon, Hickman 123

Dr. Robbie Kendall-Melton

Associate Vice Chancellor for Academic Affairs and Educational Technology
Executive Director, Renaissance Center, Tennessee Board of Regents
Coordinator, Regents Online Degree Programs

Panel

Dr. Margaret Hicks, moderator

Pellissippi State Technical Community College

Dr. John Harris

Tennessee Technological University

Dr. Paul Ramp

Pellissippi State Technical Community College

David Stanislawski

Chattanooga State Community College

BOTANY
Warf 106
Dwayne Estes, presiding
University of Tennessee, Knoxville

- 1:10 pm **Section Business Meeting: Election of Officers for 2005**
- 1:15 **A Synopsis Of The Woody Flora Of Tennessee.** E. Chester and B. Wofford, Austin Peay State University and The University of Tennessee.
- 1:30 **Boyd Barrens: A Significant Botanical Site On The Eastern Highland Rim.**
R. McCoy and C. Bailey, Jr., Tennessee Division of Natural Heritage.
- 1:45 **Historical And Present Distribution Of *Desmodium ochroleucum* In Tennessee.**
C. Bailey, Jr., Tennessee Division of Natural Heritage.
- 2:00 **Gametophytic And Sporophytic Responses Of *Pteris* Species To Arsenic.**
T. Durham*, H. Andrews, and T. Barger, Tennessee Technological University.
- 2:15 **Table Mountain Pine (*Pinus pungens* Lamb.) Regeneration Following A Wildfire In The Cherokee National Forest/Foothills Parkway, Tennessee.** N. Welch, D. Coleman*, and C. Meyer*, Middle Tennessee State University.
- 2:30 **Seasonal Changes In Biomass And Species Composition In Table Mountain Pine (*Pinus pungens* Lamb.) Forests Of The Great Smoky Mountains National Park, Tennessee.** D. Coleman*, C. Meyer*, and N. Welch, Middle Tennessee State University.
- 2:45 **Ecology Of *Castanea dentata* In Kentucky And Tennessee.** J. Schibig, R. Barber, M. Hill*, C. Neel, J. Torkelson, and M. Vance*, Volunteer State Community College, Austin Peay State University, and Tennessee Technological University.
- 3:00 **Break**
- 3:15 **Ecology Of *Castanea dentata* At Mammoth Cave National Park.** M. Vance* and J. Schibig, Tennessee Technological University and Volunteer State Community College.
- 3:30 **The Vascular Flora Of Fall Creek Falls State Park, Van Buren And Bledsoe Counties, Tennessee.** C. Fleming and B. Wofford, Breedlove, Dennis, Young & Associates, Inc. and The University of Tennessee.
- 3:45 **A Report On Tennessee State Parks All Taxa Biodiversity Inventory; Update At Edgar Evans State Park.** R. Barber, W. Hesson*, and J. McFarland*, Volunteer State Community College.
- 4:00 **The Vascular Flora Of Giles County, Tennessee.** D. Estes*, The University of Tennessee.
- 4:15 ***Clematis morefieldii* (Ranunculaceae), A Federally Endangered Species Discovered In Tennessee.** D. Estes* and C. Fleming, The University of Tennessee and Breedlove, Dennis, Young, and Associates, Inc.

* student author

presenting author, if not first author

**CELL and MOLECULAR BIOLOGY,
HEALTH and MEDICAL SCIENCES, and
MICROBIOLOGY**

Warf 204

**Dr. Stephen R. Karr, presiding, Cell and Molecular
Carson-Newman College**

**Dr. Anthony Farone, presiding, Health and Medical
Middle Tennessee State University**

**Dr. Mary Farone, presiding, Microbiology
Middle Tennessee State University**

- 1:10 pm **Section Business Meeting: Election of Officers for 2005**
- 1:15 **Tributyltin-Induced Effects On MAP Kinases p38 And p44/42 In Human Natural
Killer Cells.** A. Aluoch* and M. Whalen, Tennessee State University
- 1:30 **Localization Of Ste2p, A G Protein-Coupled Receptor, To Lipid Microdomains In
Saccharomyces cerevisiae.** M. Murphy*#, J. Smith*#, and G. Willhite, Tennessee
Wesleyan College
- 1:45 **Phospholipid Modification In Yeast And Its Effects On a G Protein Coupled
Receptor.** B. Helms*, B. Dalton*, and S. Wright, Carson-Newman College
- 2:00 **The Detection of *Borrelia* Species in Non-Migratory Avians in Tennessee.**
B.E. Jordan*, S.E. Hayslette, S.W. Hamilton, and S.M. Wright, Middle Tennessee State
University (BJ, SW), Tennessee Technological University (SH), Austin Peay State
University (SH)
- 2:15 **Evaluation of Fluorescence-Based Antigen-Antibody Binding Through Microarray
Confocal Scanning.** K.R. Onks* and S.M. Wright, Middle Tennessee State University.
- 2:30 **The Evaluation of Selected Teas for Antiviral Activity Using the T4 Bacteriophage
Neutralization Assay.** Daniel P. Lawrence* and John M. Zamora. Middle Tennessee
State University.
- 2:45 **Alleopathic and Antimicrobial Properties of *Taebuia impetiginosa*.** Stacie N.
Jefferson* and John M. Zamora. Middle Tennessee State University.
- 3:00 **Lipid Composition of Chlorarachniophytes (Chlorarachniophyceae) from the
Genera *Bigelowiella*, *Gymnochlora*, and *Lotharella*.** Jeremy L. Dahmen*, Jeffrey D.
Leblond, Rebecca L. Seipelt, Matthew J. Elrod-Erickson, A. Bruce Cahoon, Rodney
Kincaid, James C. Howard, Terence J. Evens, and Peter J. Chapman. Middle Tennessee
State University (JLD, JDL, RLS, MJE, ABC, JCH), United States Horticultural
Research Laboratory, Ft. Pierce FL (RK), United States Environmental Protection
Agency, Gulf Breeze, FL (PJC).

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CHEMISTRY
Warf 205
Dr. Martin V. Stewart, presiding
Middle Tennessee State University

- 1:10 pm **Section Business Meeting: Election of Officers for 2005**
- 1:30 **Hands-On NMR In The Physical Chemistry Laboratory At MTSU: Conformation Of 5'-AMP.** J. C. Howard, N. K. Dunlap, J. M. Iriarte-Gross, and A. C. Friedli, Middle Tennessee State University.
- 1:45 **Optimized Geometries Of Several Organosilylmagnesium Compounds.** William H. Ilsley, Middle Tennessee State University.
- 2:00 **Diurnal Changes Of Dissolved Gaseous Mercury (DGM) Levels In A Southern Reservoir Lake: Cane Creek Lake, Cookeville, Tennessee.** H. Zhang, C. Dill*, T. Kuiken*, and M. Ensor*, Tennessee Technological University (HZ, CD, TK) and The University of the South (ME).
- 2:15 **Estimation Of Emission Of Dissolved Gaseous Mercury (DGM) In A Southern Reservoir Lake Using Two-Thin Film Model.** C. Crocker*, H. Zhang, and T. Kuiken*, Tennessee Technological University.
- 2:30 **The Role Of Ergosterol And Long-Chain Fatty Acids Of Pytosphingolipids As Membrane Raft Components In Yeast, *Saccharomyces cerevisiae*.** T. A. Bunde, G. Willhite, and S. E. Wright, Maryville College (TAB), Tennessee Wesleyan College (GW), and Carson Newman College (SEW).
- 2:45 **Break**
- 3:00 **Using Water Flow Through A Plastic Model To Emulate Diffusion And Thermal Conductivity – Part II.** Harvey F. Blanck, Austin Peay State University.
- 3:15 **Do Students Perform As Well In An Intensive Course Format?** Linda A. Wilson and Mildred V. Hall, Middle Tennessee State University (LAW) and Clark State Community College, Springfield, Ohio (MVH).
- 3:30 **Conquer Without Dividing: Volume Rendering Of Intact Molecular Charge Densities Effectively Illustrates Key Concepts In Bonding And Reactivity.** Preston J. MacDougall, Middle Tennessee State University.
- 3:45 **Characterization Of Solid-Supported Reagents.** Martin V. Stewart, Eric M. Larsen*, and Anthony L. Newsome, Middle Tennessee State University.

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ENGINEERING and ENGINEERING TECHNOLOGY

Clement 122

Dr. Ismail Fidan, presiding

Tennessee Technological University

- 1:10 pm **Section Business Meeting: Election of Officers for 2005**
- 1:15 **Long-Term Thermal Resistance Of Cellular Plastic Insulations.** David W. Yarbrough, R&D Services, Inc. Cookeville, TN.
- 1:30 **The Role Of Cross-Association In Aqueous-HF Mixtures And Its Effect On The Thermodynamic Properties.** B. Baburao* and D. P. Visco, Jr., Tennessee Technological University.
- 1:45 **Geometrical Effect In The Traslocation Transport In Nanocavities and its Role in the Separation Efficiency of Macromolecules.** Ryan O'Hara* and Pedro Arce, Tennessee Technological University.
- 2:00 **Protein Degradation By Pulsed-Cold Plasma High Oxidation Methods: Analysis And Trends.** Maria F. Ibanez* and Pedro Arce, Tennessee Technological University.
- 2:15 **Internet-Based Knowledge Generation For The Complex Forming Part Features.** Ismail Fidan, Tennessee Technological University.
- 2:30 **Effect Of Position Of The Cross-Member In A Model Of A Spinal Implant On Engineering Performance.** Gladius Lewis and Raghuvveer Vejerla*, The University of Memphis.
- 2:45 **Effect Of The Microchannel Geometry On The Electrohydrodynamics Of Microelectrophoretic Separation Devices.** H. Pridemore* and P. Arce, Tennessee Technological University.
- 3:00 **Break**
- 3:15 **Animation Of The Remote Center Compliance (RCC) Device.** Chin-Zue Chen, Austin Peay State University.
- 3:30 **Functional-Based Approach: An Effective Model To Team Member Selection.** Pedro E. Arce, Tennessee Technological University and Sharon Sauer, Rose Hulman Institute of Technology, Terre Haute, Indiana.
- 3:45 **Using Smith Chart That Enhance Students Of Electrical Engineering/Engineering Technology To Understand Transmission-Line Theory.** Adel Salama, Austin Peay State University.

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ETHICS in SCIENCE and TECHNOLOGY

Warf 203

Dr. Rubye Prigmore-Torrey, presiding
Tennessee Technological University

- 1:10 pm **Section Business Meeting: Election of Officers for 2005**
- 1:15 p.m. **Teaching Ethics in the Academy: Its Application in Research Training and Practice**
Participants to be arranged.

GEOLOGY and GEOGRAPHY / PHYSICS and ASTRONOMY

Clement 112

**Dr. Mark Simpson, presiding, Geology/Geography
The University of Tennessee at Martin**

**Dr. Lionel Crews, presiding, Physics/Astronomy
The University of Tennessee at Martin**

- 1:10 pm **Section Business Meeting: Election of Officers for 2005**
- 1:15 **Fabrication And Characterization Of TiO₂ NanoRods.** D. Jowhar*, A. Ueda, and R. Mu, Fisk University.
- 1:30 **A Mathematical Model To Compute The Optimal Intensity Of The HIV/AIDS Virus.** J. Lewis* and S. Hota, Fisk University.
- 1:45 **Raman Spectra Of The Interaction of Antifreeze Glycoprotein And Ice.** A. Sease*, A. Burger, M. Guo, and Y. Cui, Fisk University.
- 2:00 **Thermal And Optical Study Of Yttrium Aluminum Borate Glasses And Glass-Ceramics.** M. Hays*, S. Morgan, and Z. Pan, Fisk University.
- 2:15 **The Basics of Mathematica.** B Richardson* and W. Collins, Fisk University.
- 2:30 **Mobility – Lifetime Of An IMARAD Cadmium Zinc Telluride (CZT) Crystal.** O. Paul*, M. Groza, U. Roy, and A. Burger, Fisk University.
- 2:45 **Study Of Mobility – Lifetime On A IMARAD Cd_{1-x}Zn_xTe Radiation Detector.** E. Woodard*, M. Groza, U. Roy, A. Burger, M. Babalola, Fisk University.
- 3:00 **Use Of LabVIEW In Creating A Dynamic Light Scattering Autocorrelator.** M. Axente* and R. Marlowe, UT Chattanooga.
- 3:15 **Break**
- 3:30 **Coalsack Globule B and CB180 – Modeling Large-Scale Distribution And Properties Of Dust Grains In Dark Nebular Cores.** L. Crews, B. Stiles*, T. Huard, K. Pershell*, C. Lada, and P. Myers, UT Martin and Harvard-Smithsonian Center for Astrophysics.
- 3:45 **The Grand Canyon: A Look At The 1983 And 1996 Flood Sands.** R. Seago* , The University of Memphis.
- 4:00 **Preliminary Field Research Of Stromatolites In Laguna Bacalar, Mexico.** Elizabeth Rhenberg* and Michael Gibson, University of Tennessee at Martin.
- 4:15 **An Exercise In Forensic Paleontology: Establishing The Authenticity Of The “Kirkland Dinosaur Eggs”.** M. Gibson and E. Rhenberg*, University of Tennessee at Martin.
- 4:30 **Preliminary Results Of A Field Study Of Bryzoam Thickets From The Tanosawa Formation Of Japan.** Y. Takishita* , K. Kamada, and M. Gibson, University of Tennessee at Martin.
- 4:45 **Precipitation In Tennessee: Teleconnection Relationships.** R. M. Simpson, University of Tennessee at Martin.

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HISTORY of SCIENCE
Clement 200
Dr. C. Steven Murphree, presiding
Belmont University

- 1:10 pm **Section Business Meeting: Election of Officers for 2005**
- 1:15 **A Belated Review Of Thomas B. Springs. 1852. Epidemic Dysentery, As It Occurred In Warren County, Tennessee During The Summer And Fall Of 1851. Unpublished M.D. Dissertation, University Of Nashville.** James X. Corgan, Austin Peay State University
- 1:30 **O.C. Marsh In Nashville, 1877.** George Webb, Tennessee Technological University
- 1:45 **The Trial Of Galileo: Disobedience, Not Heresy.** Brother Kevin Ryan, Christian Brothers University
- 2:00 **British Surgeon John Hunter's Irish Giant Obsession, 1783.** C. Steven Murphree, Belmont University

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**MATH and COMPUTER SCIENCE
Clement 110
Dr. Michael R. Allen, presiding
Tennessee Technological University**

- 1:10 pm **Section Business Meeting: Election of Officers for 2005**
- 1:15 **Second order interval approximations of Small Area Means.** David Smith,
Tennessee Technological University.
- 1:30 **Evaluation Of The Integrate Method In Mixture Phase Equilibrium
Calculations Using Equations of State.** S. Dube* and D. P. Visco, Jr.,
Tennessee Technological University
- 1:45 **Effect Of Pure Component Parameterization Procedures In Mixture Phase
Predictions Via Equations of State.** S. Swaminathan* and D. P. Visco,
Jr., Tennessee Technological University

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SCIENCE and MATH TEACHING
Warf 104
Dr. Kim Cleary Sadler, presiding
Middle Tennessee State University

- 1:10 pm **Section Business Meeting: Election of Officers for 2005**
- 1:15 **Comparing student performance in online and traditional sections of an introductory biology course for nonscience majors.** Nicole Turrill Welch, Middle Tennessee State University.
- 1:30 **A Modest Proposal For Leaving No Child Behind In Science And No Biology Teacher Fired For Teaching Evolution In Tennessee: Why Not Teach Darwin's Argument As An Argument?** J. Angus Campbell, University of Memphis.
- 1:45 **Improving Student Cognitive Development As Measured By Galt Through Molecular Modeling In The College Classroom.** M. Hicks, Pellissippi State Technical Community College.
- 2:00 **Eight Years of Expanding Your Horizons in Science and Mathematics in Middle Tennessee.** Judith M. Iriarte-Gross, Middle Tennessee State University.
- 2:15 **Women In Science and Engineering: A Student Organization For All Women in Science, Technology, Engineering and Mathematics.** C. Bishop* and J. Iriarte-Gross, Middle Tennessee State University.
- 2:30 **Inquiry-based Curriculum and Resources for Preservice Teacher Biology Education Course.** Y. Sankey, Pellissippi State Technical Community College.
- 2:45 **Defining Chemistry: A Student Perspective.** A. Phelps, Middle Tennessee State University.
- 3:00 **A Preliminary Study of Linked Learning Communities and Introductory College Biology Classes.** K. Sadler and S. Johnson, Middle Tennessee State University.

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ZOOLOGY - I
Warf 101
Danny L. Bryan, presiding
Cumberland University

- 1:10 pm **Section Business Meeting: Election of Officers for 2005**
- 1:30 **Historical And Present Distribution Of *Anguispira picta* In Tennessee: Adventures On The Snail Trail In Franklin County.** David Ian Withers, Tennessee Division of Natural Heritage.
- 1:45 **Variation In Early Neuromasts Of Teleost Fish.** J. Shardo, Middle Tennessee State University.
- 2:00 **Foraging Behavior By Young Of Year Timber Rattlesnakes.** D. Bryan, Cumberland University.
- 2:15 **Thermal Effects On Green Lynx Spider Egg Sacs And Hatching.** C. Hanna* and V. Cobb, Middle Tennessee State University.
- 2:30 **New and Previously Reported Ixodid Ticks of Rutherford County, Tennessee.** Tracey A. Ludyjan-Ybarra*. C. McGhee, Middle Tennessee State University.
- 2:45 **Break**
- 3:00 **Distribution Of The Tennessee Cave Salamander, *Gyrinophilus pallescens*,** In Middle Tennessee. B. T. Miller and M. L. Niemiller*, Middle Tennessee State University.
- 3:15 **Demography Of The Tennessee Cave Salamander *Gyrinophilus pallescens*,** In Middle Tennessee. M. L. Niemiller* and B. T. Miller, Middle Tennessee State University.
- 3:30 **Body Temperatures Of Free-Ranging Timber Rattlesnakes In Middle Tennessee.** J. Pruett* and V. Cobb. Middle Tennessee State University.
- 3:45 **Daily Body Temperature Selection Of Black Racers (*Coluber constrictor*) In Middle Tennessee.** J. Jeffrey Green* and V. A. Cobb, Middle Tennessee State University.

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ZOOLOGY - II
Warf 103
Steven E. Hayslette, presiding
Tennessee Technological University

- 1:10 pm **Section Business Meeting: Election of Officers for 2005 (N.B., in Warf 101)**
- 1:30 **Dietary Overlap And Foraging Competition Between Mourning Doves And Eurasian Collared-Doves.** T. Poling* and S. Hayslette, Tennessee Technological University.
- 1:45 **Movements, Home Range, and Food Habits of Fishers (*Martes pennanti*) Reintroduced Into Tennessee at Catoosa Wildlife Management Area.** E. Copas*, T. Roberts, Tennessee Technological University.
- 2:00 **Population Density Of Small Mammals In Western Tennessee.** Heidi L. LaMountain*, Heidi L. Hopkins* and Michael L. Kennedy, University of Memphis.
- 2:15 **Predation By Mammalian Mesopredators On Artificial Nests Of Northern Bobwhites.** Jason B. Jennings,* Michael L. Kennedy, Allan E. Houston, Brian D. Carver, University of Memphis (JBJ, MLK), Ames Plantation (AEH) and Freed-Hardeman University (BDC).
- 2:30 **Age And Sex-Specific Demography Of Raccoons, *Procyon lotor*, On A Southwestern Tennessee Site.** J. Hisey*, M. Kennedy, T. Ladine, and S. Maris-Danley, Lee University (JH) and University of Memphis (MK, TL, and SMD).
- 2:45 **Break**
- 3:00 **An Assessment Of Population Abundance Of White-Tailed Deer, *Odocoileus virginianus*.** Philip L. Johnson*, Michael L. Kennedy and Steve W. Stevenson, University of Memphis (PLJ, MLK) and Milan Army Ammunition Plant (SWS).
- 3:15 **Association Of Temperature And Capture Of Mammalian Mesopredators In Western Tennessee.** James B. Akins*, Josh K. Bright*, Allen E. Houston and Michael L. Kennedy, University of Memphis (JBA, JKB, MLK) and The Ames Plantation (AEH).
- 3:30 **Temporal Variation In Sex Bias Response of Raccoons, *Procyon lotor*, To Live Traps.** Erica Hossen* and Michael L. Kennedy, Brian D. Carver and John R. Hisey*, University of Memphis (EH, MLK), Freed-Hardeman University (BDC), and Lee University (JRH).

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presenting author, if not first author

POSTERS ON DISPLAY

Hickman 146

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BOTANY

Plant And Soil Differences On A Topographic Sequence In Rutherford County, Tennessee.

C. Hancock* and W. Anderson, Middle Tennessee State University. Poster.

CELL AND MOLECULAR BIOLOGY

Tributyltin Exposure Causes Decreased Granzyme B And Perforin Levels In Human Natural Killer Cells. L. Thomas*, S. Green, M. Whalen, H. Shah and A. Bankhurst, Tennessee State University (LT, SG, MW), University of New Mexico School of Medicine, Albuquerque, New Mexico (HS, AB).

CHEMISTRY

Synthesis Of Trisphat Anion For Use With A Catalyst For Olefinic Polymerization Reactions.

P. Marella*, S. Downs*, and G. Wulfsberg, Middle Tennessee State University.

ENGINEERING AND ENGINEERING TECHNOLOGY

Modeling Polyol + Blowing Agent Mixtures Using The SAFT-VR EOS. V. Challa*[#] and D. P. Visco, Jr. Tennessee Technological University.

Integration of 3D Printing Technology Into 2D Design And Production: Assessment Studies. Michael D. Russell*[#], Ismail Fidan and Robert J. Clougherty, Jr. Tennessee Technological University.

Modeling Cerebrovascular Pressure Transmission. S. K. Modhamad-Abdul*[#], P. Arora*[#], C. Liu*[#], T. Reddy*[#], and M. L. Daley, Department of Electrical and Computer Engineering, The University of Memphis.

Changes In Cerebrovascular Pressure Transmission Of Adult Brain-Injured Patients. S. Yalamanchili*[#], S. Ramakrishnan*[#], S. Dusa*[#], and M. L. Daley, Department of Electrical and Computer Engineering, The University of Memphis.

Changes In Cerebrovascular Pressure Transmission Of Pediatric Brain-Injured Patients. D. Bommera*[#], S. Kodimela*[#], S. Kollabathula*[#], S. Parvathaneni*[#], and M. L. Daley, Department of Electrical and Computer Engineering, The University of Memphis.

Role Of Geometry On The Effective Diffusivity And Mobility In Microdevices For Electrophoretic Separation. H. Pridemore*[#] and P. Arce, Tennessee Technological University.

POSTERS ON DISPLAY

HEALTH AND MEDICAL SCIENCES

Pathogenic Effects of Three Novel Bacterial Isolates on Human Macrophages. M. B. Farone, J. K. Alexander and A.L. Farone#. Middle Tennessee State University

Reovirus Serotype-Dependent Replication Differences in a Human Monocyte Cell Line. T. E. Guess*, A. L. Farone, and M. B. Farone. Middle Tennessee State University

MICROBIOLOGY

Evaluation of the Bacterial Levels of the Stones River and J. Percy Priest Lake. Elizabeth G. Reed* and John M. Zamora. Middle Tennessee State University.

The Herbicide Roundup™ Has an Inhibitory Effect on Microorganisms. Allison Cummings* and John M. Zamora. Middle Tennessee State University.

The Isolation and Identification of *Escherichia coli* Strains Responsible for Calfhood Scours. Wesley Skelton*, Jessica G. Gentry, and Mary B. Farone. Middle Tennessee State University.

The Isolation and Identification of Novel Bacterial Amoebal Pathogens from Manmade Water Sources. Witold Skolasinski*, B. Jason Hayes*#, Katherine Redding*, Mary B. Farone, John H. Gunderson, Sharon G. Berk, and Anthony L. Farone. Middle Tennessee State University (WS, BJH, MBF, ALF), Tennessee Technological University (KR, JHG, SGB).

The Isolation, Enumeration, and Identification of Fecal Coliforms from Guacamole. Nathan Wyeth* and Mary B. Farone. Middle Tennessee State University.

SCIENCE AND MATH TEACHING

May the Force Be With You: Laboratory Activities on Magnetism for Non-Science Majors. R. Darnell* and J. Iriarte-Gross, Middle Tennessee State University

From the Laboratory to the Health Care Consumer: Explaining the Physical Science Behind an MRI (NMR). L. Hendrickson* and J. Iriarte-Gross, Middle Tennessee State University.

Women In Science and Engineering: A Student Organization For All Women in Science, Technology, Engineering and Mathematics. C. Bishop* and J. Iriarte-Gross, Middle Tennessee State University

PHYSICS AND ASTRONOMY

Are “Natural” Fluorescent Lights Really Natural? J. Hunt* and L. Crews, UT Martin.

A Study Of The Coupled Pendulum. D. Comer* and L. Crews, UT Martin.

POSTERS ON DISPLAY

ZOOLOGY

Valley Brook Park Stream Water Quality. A. Archer*, C. Baugher*, L. Burt*, J. Gatewood*, C. Glasner*, T. Green*#, P. Lawson*, M. Lietz*, W. McClain*, E. Mitchell*, C. Moreland*, M. Pearson*, J. Perez*#, G. Shaw*, J. Spurlock*, M. Stanaford*, J. Warden*, D. Williams*, and W. D. S. Burton, Austin Peay State University.

An Assessment Of Species Richness In Mammals Using Scent-Station Procedures. James B. Atkins, Brian D. Carver and Michael L. Kennedy, University of Memphis (JBA, MLK), and Freed-Hardeman University (BDC).

Seasonal And Yearly Differences In A Fish Assemblage Of A Permanently Flooded Forest At Reelfoot Lake, TN. T. Blanchard, T. Pratt*#, S. Einaga*, and C. Taylor, University of Tennessee at Martin.

Demography Of Two Sympatric Turtles From An Urban Setting In Rutherford County, Tennessee, B.M. Glorioso*, M.L. Niemiller*, G.R. Wyckoff*, and B.T. Miller, Middle Tennessee State University.

A Look Into A Diverse Reptile And Amphibian Community Of A Wetland At Arnold Air Force Base. George R Wyckoff, B.T. Miller, Middle Tennessee State University.

Herpetofauna of Fort Donelson National Battlefield, Stewart County, Tennessee: A Preliminary Report. Jon M. Davenport* and A. Floyd Scott, Austin Peay State University.

Home Range, Diel Activity, and Habitat Preferences of *Sternotherus minor peltifer* (Stripe-necked Musk Turtle) in Whiteoak Creek, Houston and Humphreys Counties, Tennessee. Josh R. Ennen* and A. Floyd Scott. Austin Peay State University.

Amphibians of Springs and Spring-fed Bodies of Water in the Western Pennyroyal Karst Ecoregion in North Central Tennessee. Timothy D. Brown* and A. Floyd Scott, Austin Peay State University.

NOTES

Insert map of CSCC here, page 20 of booklet

Driving Directions from I-65 (traveling from the north)

- Take I-65 South toward Huntsville
- Take the TN-396/Saturn Pkwy exit, exit number 53 towards Columbia/Spring Hill
- Take US 31 south exit toward Columbia
- Turn right onto US 412/43 By-Pass
- Turn left onto Hwy 412 Hohenwald/Columbia ramp
- Turn right onto Hwy 412
- Columbia State Community College will be on the right

Driving Directions from I-65 (traveling from the south)

- Take I-65 North toward Nashville
- Take the Columbia/Chapel Hill exit, exit number 46
- Turn left onto Hwy 99
- Hwy 99 will become Hwy 412/43 By-Pass
- Turn left onto Hwy 412 Hohenwald/Columbia ramp
- Turn right onto Hwy 412
- Columbia State Community College will be on the right

Driving Directions from I-40 (traveling from the west)

- Take I-40 East towards Nashville
- Take the Turney Center exit, exit number 148
- Turn right onto Hwy 50
- Stay on Hwy 50 until you reach Columbia
- Turn right onto Cayce Lane
- Turn right onto Hampshire Pike
- Columbia State Community College will be on the left

Driving Directions from I-40 (traveling from the east)

- Take I-40 West toward Nashville
- Take I-24 East exit toward Chattanooga/Memphis I-440 West
- Take I-440 West toward Memphis
- Take I-65 South toward Huntsville (see above, I-65 from North)

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