

NINETY-FIFTH ANNUAL TECHNICAL MEETING
OKLAHOMA ACADEMY OF SCIENCE
ROGERS STATE UNIVERSITY

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GENERAL INFORMATION

Name Badges: Name badges, provided upon registration, must be worn at all times by all individuals attending Academy sectional programs, business meetings, and luncheon. If your badge is not visible, you may be asked to leave by the persons in charge. Lost badges may be replaced at the registration desk upon verification of your registration documents. **All presenters must register and wear an official name badge.**

Parking: Free parking is located north of the Health Sciences building.

On-site Registration Fees: Members - \$20.00; Non-members - \$25.00;
Student members - \$10.00; Student non-members - \$15.00;
Luncheon tickets (if available) - \$20.00

2006 and 2007 Dues are Payable: The OAS registration desk will accept dues payments.
Regular - \$25.00; Graduate Student - \$15.00; Collegiate Student - \$15.00;
Family - \$30.00; Life - \$500.00

Guidelines for Paper Publication: Papers may be published in the *Proceedings of the Oklahoma Academy of Science*, subject to the editorial policies as stated in *POAS*, Volume 82 and review of the Editorial Board. OAS members are charged \$30-\$35 per page and non-members are charged \$90-\$105 per page.

Executive Secretary-Treasurer: Inquiries concerning upcoming OAS activities and membership may be directed to Dr. David Bass, OAS Executive Secretary-Treasurer, Campus Box 90, University of Central Oklahoma, Edmond OK 73034, 405-974-5772, dbass@ucok.edu.

No Smoking: Please, no smoking in any of the buildings on the campus. Also, food and drink are not permitted in any meeting room. Thank you.

Refreshments: Food and drink will be available during registration in the Health Sciences building from 8:00-10:00 a.m. and in designated areas of the Stratton Taylor Library during the morning session break.

Assistance or Information: Look for individuals with OAS badges or host ribbons. These are faculty and staff assigned to assist you.

Room Abbreviations:

HH	Herrington Hall
HS	Health Sciences Building
TL	Stratton Taylor Library
LH	Loshbaugh Hall

SPECIAL NOTES

Lifetime Achievement Award. At the Academy Luncheon, **Dr. Paul Buck** will receive the Academy's Lifetime Achievement Award for his significant contributions to the discipline of botany. A symposium on the Natural History of Oklahoma has been organized in his honor and will be held in Room 135 of the Health Sciences Building in the afternoon..

Oklahoma Scientist of the Year. At the Academy Luncheon, **Dr. Ziad El-Rassi** will be recognized as the Academy's Scientist of the Year. A Professor of Chemistry at Oklahoma State University, his research is in the discipline of analytical chromatography.

POAS Editor. Beginning January 1, 2007, **Dr. Kurtis Koll** will serve as the new editor of the POAS. His degrees include: 1970 B.S. Botany, Iowa State University; 1978 M.Ed. Biology Education, Southwestern Oklahoma State University; 1993 Ph.D. Environmental Sciences, University of Oklahoma. He currently is Professor of Physical Sciences at Cameron University, where he teaches geology, astronomy, general chemistry, environmental chemistry, and general sciences. He is actively involved in NSTA, NSTA-CST (College Science Teaching) editorial board, OSTA (OK Sciences Teachers Assoc.), OAS, SWAN, and OKADE (OK Assoc. for Developmental Education). Dr. Koll's research interests are water quality issues and classroom pedagogy for the sciences.

The **Rogers State University Conservation Education Reserve** is a 120-acre outdoor classroom collaboratively managed by the Rogers County Conservation District, Natural Resource Conservation Service, and RSU. The reserve will be open and fully staffed during the OAS meeting. The reserve consists of walking interpretive trails, wetland/woodland/grassland systems, amphitheater, an aquatics laboratory and a terrestrial laboratory.

Special thanks are extended to the **site coordinator Dr. Keith Martin**, Associate Professor of Mathematics and Science at Rogers State University, who coordinated all aspects of the meeting, including room arrangements, projectors, luncheon, and symposium.

Upcoming Meetings:

2007 Oklahoma Junior Academy of Science, East Central University, March 29-31

2007 Spring Field Meeting, tba

2007 Fall Technical Meeting, tba

**SECTION A: BIOLOGICAL SCIENCES – BOTANY
TL 115**

**Morning Session – Moderator: Bruce Smith
McLoud High School**

- 9:00 **Aquatic Biofouling: Why Aren't the Shells of Pond Snails Covered with Algae?**
Elizabeth A. Bergey, Lindsey L. Abbott, University of Oklahoma.
- 9:15 ***Asplenium X kentuckiense* in Oklahoma?** Bruce A. Smith, McLoud High School.
- 9:30 **Comparative Plant Usage Among the Comanche, Kiowa and Plains Apache in SW Oklahoma.** Wayne Elisens, University of Oklahoma.
- 9:45 Break
- 10:00 **Flora of Oklahoma Board Meeting**
- 11:00 **Section A Business Meeting, TL 106**
- 11:30 **Academy Business Meeting, Room 146, Herrington Hall**
- 12:00 **Academy Luncheon, Atrium, Herrington Hall**

**SECTION A: BIOLOGICAL SCIENCES – BOTANY
HS 135**

**Afternoon Session – Moderator: Connie Murray
Tulsa Community College**

**The Natural History of Oklahoma: a Symposium
Honoring Dr. Paul Buck**

- 1:45 **Connie Murray, Moderator**
Welcome and Introduction
- 2:00 **Charles Carpenter, University of Oklahoma**
*The Oklahoma Academy of Science and the Beginnings of
Natural History in Oklahoma*
- 2:30 **Bruce Hoagland, University of Oklahoma**
From Mountains to Plains, Gradients in Oklahoma Vegetation
- 3:00 Break
- 3:15 **George Diggs, Austin College**
Cross Timbers Natural History Provides Clues to the Past
- 3:45 **Estelle Levetin, University of Tulsa**
Cedar Pollen in Oklahoma: A 25 year Perspective
- 4:15 **Alan Prather, Michigan State University**
Plant Collecting, Our Dynamic Flora, and the Known Unknowns in the War on Terra
- 4:40 **Connie Murray, Moderator**
Closing Remarks

SECTION A: BIOLOGICAL SCIENCES – ZOOLOGY
TL 106

Moderator: Kenneth R. Hobson
University of Oklahoma

- 8:30 ***Flock Size Choice and Site Fidelity in Wintering Dark-Eyed Juncos (*Junco hyemalis*).** Valerie A. O'Brien, Charles R. Brown, University of Tulsa.
- 8:45 ***Population Genetic Structure of the Texas Mouse, *Peromyscus attwateri*, as Inferred by Cytochrome b Sequence Data.** Justin B. Lack, Russell Pfau, Gregory M. Wilson, University of Central Oklahoma, Tarleton State University.
- 9:00 ***Intraspecific Phylogeography of the Texas Mouse, *Peromyscus attwateri*, in North America.** Vagan Mushegyan, B. Hall, R. Pfau, G. M. Wilson, University of Central Oklahoma, Tarleton State University.
- 9:15 ***An Experimental Field Study of Energy Allocation Trade-Offs in Female Collared Lizards.** Rory S. Telemeco, Troy A. Baird, University of Central Oklahoma.
- 9:30 Break
- 10:00 ***Helminth Parasites of *Trachemys scripta elegans* of Southern Oklahoma.** Carol L. Bratt, LeeAnn Bowerman, Don Lee, Kenneth D. Andrews, East Central University.
- 10:15 ***Variation in Sample Size and Decalcification Time to a Nuclear DNA Extraction Protocol from Testudine Osseous Tissues.** Jonathan M. Isaacs, Micah D. Isaacs, Kenneth D. Andrews, East Central University.
- 10:30 ***Non-Invasive Seasonal Monitoring of Bone Density in Red-Eared Sliders Using Dual-Energy X-Ray Absorptiometry.** Leann Fiore, M. Stone, M. Lovern, Oklahoma State University.
- 10:45 ***Evaluating the Effectiveness of Dual-Energy X-Ray Absorptiometry (DXA) as a Non-Invasive Technique for Predicting Bone Mineral Content and Body Composition in Turtles.** Lindsay B. Pascal, Oklahoma State University.
- 11:00 **Section A Business Meeting, TL 106**
- 11:30 **Academy Business Meeting, Room 146, Herrington Hall**
- 12:00 **Academy Luncheon, Atrium, Herrington Hall**

*Collegiate Academy, Undergraduate Competition

**SECTION A: BIOLOGICAL SCIENCES – ZOOLOGY
TL 106**

(continued)

Poster:

Digital Atlas of Oklahoma Mammals: Data Capture and Georeferencing for Museum Records of Oklahoma Mammals. K. McBee, J. G. Freund, W. L. Fisher, K. A. Hays, Z. P. Roehrs, J. K. Braun, Oklahoma State University, Carroll College, Oklahoma Cooperative Fish and Wildlife Research Unit, Sam Noble Oklahoma Museum of Natural History.

SECTION B: GEOLOGY
(Meeting jointly with Social Sciences Section D and Geography Section F)
TL 116

Section Chair: William Lyon
East Central University

- 11:00 **Sections B, D & F Joint Business Meeting**, TL 116
11:30 **Academy Business Meeting**, Room 146, Herrington Hall
12:00 **Academy Luncheon**, Atrium, Herrington Hall

SECTION C: PHYSICAL SCIENCES
TL 207

Moderator: Weldon J. Wilson
University of Central Oklahoma

- 9:30 ***Silver Dihydrogen Citrate: Determination of Analytical Methodologies and Chemical Stability.** Callie J. Thomas, Oklahoma Christian University.
- 9:45 ***Synthesis and Characterization of Co²⁺-doped Cd_{1-x}Zn_xSe Diluted Magnetic Semiconductor Quantum Dots.** Eric Hinds, Stephen Santangelo, Daniel Gamelin, Oklahoma Christian University, University of Washington.
- 10:00 **An Introductory Investigation Using an Ultrasonic Echoscope.** K.A. Williams, V. Jacome, East Central University.
- 10:15 **Short "Derivations" of Key Formula of Modern Physics.** W. J. Wilson, University of Central Oklahoma.
- 11:00 **Section C Business Meeting, TL 207**
- 11:30 **Academy Business Meeting, Room 146, Herrington Hall**
- 12:00 **Academy Luncheon, Atrium, Herrington Hall**

Poster:

***Computational Study of Catalysis of the 3-Aza-Cope Rearrangement in a Ga₄L₆ 12- Supramolecular Host.** C. Denise Enekwa, Charles Edwin Webster, Oral Roberts University, University of Memphis.

*Collegiate Academy, Undergraduate Competition

SECTION D: SOCIAL SCIENCES
(Meeting jointly with Geology Section B and Geography Section F)
TL 116

Section Chair: Lois Albert
Oklahoma Archeological Survey

- 11:00 **Sections B, D & F Joint Business Meeting**, TL 116
11:30 **Academy Business Meeting**, Room 146, Herrington Hall
12:00 **Academy Luncheon**, Atrium, Herrington Hall

**SECTION E: SCIENCE EDUCATION
LH 107**

**Moderator: Kurtis Koll
Cameron University**

- 9:30 **Should Collegiate and High School Laboratories and Research Centers be OSHA Compliant?** Kurtis J. Koll, Cameron University.
- 10:00 **Field Studies in High School Biology.** Richard Butler, Bruce A. Smith, McLoud High School.
- 11:00 **Section E Business Meeting,** LH 107
- 11:30 **Academy Business Meeting,** Room 146, Herrington Hall
- 12:00 **Academy Luncheon,** Atrium, Herrington Hall

SECTION F: GEOGRAPHY
(Meeting jointly with Geology Section B and Social Sciences Section D)
TL 116

Section Chair: Greg Plumb
East Central University

- 11:00 **Sections B, D & F Joint Business Meeting, TL 116**
- 11:30 **Academy Business Meeting, Room 146, Herrington Hall**
- 12:00 **Academy Luncheon, Atrium, Herrington Hall**

**SECTION G: FISH AND WILDLIFE CONSERVATION
TL 108**

**Morning Session – Moderator: Dan Shoup
Oklahoma State University**

- 8:30 **Surveys for River Otter (*Lontra canadensis*) Distribution and Status in Oklahoma.** Dominic A. Barrett, David M. Leslie, Jr, Oklahoma State University, Oklahoma Cooperative Fish and Wildlife Research Unit.
- 8:45 **Seasonal and Habitat-Specific Length Bias of Electrofishing for Blue Catfish.** K. A. Bodine, D. E. Shoup, Oklahoma State University.
- 9:00 **Space Use, Movements, and Survival of Texas Horned Lizards in the Black Mesa Ecoregion.** T. S. Periard, S. F. Fox, D. M. Leslie, R. C. Stark, Oklahoma State University, Oklahoma Cooperative Fish and Wildlife Research Unit, United States Fish and Wildlife Service (Tulsa).
- 9:15 **Status and Habitat Affinity for Cerulean Warbler (*Dendroica cerulea*) and Other Forest Birds in Oklahoma.** Vince Cavalieri, Tim O'Connell, Oklahoma State University.
- 9:30 Break
- 9:45 **Age Structure and Morphometrics of Black Bears in Southeastern Oklahoma.** Angela G. Brown, Eric C. Hellgren, David M. Leslie, Jr., Oklahoma Cooperative Fish and Wildlife Research Unit, Oklahoma State University, Cooperative Wildlife Research Lab, Southern Illinois University.
- 10:00 **Effects of Thinning on Diversity and Abundance of Bats in the Bankhead National Forest in Northwestern Alabama.** A. J. Hart, K. McBee, W. E. Stone, Oklahoma State University, Alabama A&M University.
- 10:15 **Feeding Ecology of Female Grassland Songbirds in Sand-Sage Prairie Managed with Patch-Burn Techniques: Preliminary Results.** Elizabeth D. Doxon, Craig A. Davis, Oklahoma State University.
- 11:00 **Section G Business Meeting, TL 108**
- 11:30 **Academy Business Meeting, Room 146, Herrington Hall**
- 12:00 **Academy Luncheon, Atrium, Herrington Hall**

**SECTION G: FISH AND WILDLIFE CONSERVATION
TL 108**

**Afternoon Session – Moderator: Dan Shoup
Oklahoma State University**

- 2:00 **Two Years of a Small Mammals Survey of Western Oklahoma Wildlife Management Areas.** Z. P. Roehrs, R. A. Van Den Bussche, M. J. Hamilton, D. M. Leslie, Jr., D. J. Schmidly, Oklahoma State University, Oklahoma Cooperative Fish and Wildlife Research Unit.
- 2:15 **Angler Attitudes, Harvest Rates, and Channel Catfish Population Sizes at Close-to-Home-Fishing-Program Ponds.** Dane M. Balsman, Daniel E. Shoup, Oklahoma State University.
- 2:30 **Application of Patch-Burning to Sand-Sage Vegetation.** Steven L. Winter, Samuel D. Fuhlendorf, Oklahoma State University.

**SECTION H: MICROBIOLOGY
TL 113**

**Moderator: David Nagle
University of Oklahoma**

- 9:00 **An Analysis of Selected Bar Soaps as Anti-Bacterial Agents, In Vitro.** W. D. Butron, Oral Roberts University.
- 9:15 **Pectin Degrading Enzymes Within a Population of *Fusarium oxysporum*.** Charles L. Biles, Benny Bruton, Jessica Clark, East Central University, USDA-ARS (Lane, OK).
- 9:30 **Quorum Sensing in the Serratiae.** D. Sue Katz, Rogers State University.
- 9:45 **Structure-Based Site-Directed Mutagenesis of the Key Reaction Center Protein of the Photosynthetic Mechanism.** Brittany Snider, Robert Burnap, Oklahoma State University.
- 10:00 **Monitoring Effect of Light Stress on the Photosynthetic Genetic Regulatory Circuit Using Microarray Analysis and zRT-PCR.** Sara Lehman, Robert Burnap, Oklahoma State University.
- 10:15 **How Do You Spell Von Leeuwenhoek? 200-Odd Ways of Looking at a Name.** David P. Nagle, University of Oklahoma.
- 11:00 **Sections H Business Meeting, TL 113**
- 11:30 **Academy Business Meeting, Room 146, Herrington Hall**
- 12:00 **Academy Luncheon, Atrium, Herrington Hall**

**SECTION I: ENGINEERING SCIENCES
TL 117**

**Moderator: Evan Lemley
University of Central Oklahoma**

- 9:00 **Error Detection and Concealment for Corrupted JPEG Images Using Edge Information.** M. Bingabr, Tarik Sourelah, Neal Harvey, University of Central Oklahoma.
- 9:20 **Preliminary Study of Scatter Radiation Effect on Interventional Device Visualization in X-Ray Fluoroscopy.** Y. Jiang, D. L. Wilson, University of Central Oklahoma.
- 9:40 **High Voltage Diode Tester Design.** Chadd Fleming, Baha Jassemnejad, University of Central Oklahoma.
- 10:00 **Tissue Temperature Distribution during Laser-Immunotherapy for Metastatic Cancers.** Surya C. Gnyawali, Yichao Chen, Kenneth E. Bartels, Jerry W. Ritchey, James P. Wicksted, Kandace Metcalf, Wei R. Chen, Oklahoma State University, University of Central Oklahoma.
- 10:20 **Effect of Laser Immunotherapy in Cancer Treatment Using Immunological Assays.** Abdul Mohamed, Jennifer Ellis, Wei R. Chen, University of Central Oklahoma.
- 10:40 **Computer Simulation on a Three-Dimensional Cemented Hip Arthroplasty. Part I: Thermal Osteonecrosis Analysis.** Mauricio Sanchez, University of Central Oklahoma.
- 11:00 **Section I Business Meeting, TL 117**
- 11:30 **Academy Business Meeting, Room 146, Herrington Hall**
- 12:00 **Academy Luncheon, Atrium, Herrington Hall**

SECTION J: BIOCHEMISTRY & BIOPHYSICS
LH 112

Moderator: Adam Zlotnick
University of Oklahoma Health Sciences Center

- 8:45 ***Reconstitution of Cytochrome P450 3A4 Activity in a Lipid Free System.**
Christina M. Lindsey, H. Fernando, D. R. Davydov, J. R. Halpert, University of
Central Oklahoma, University of Texas Medical Branch.
- 9:00 **Consequences of Plectroviral Inserts in Spiroplasma Genomes.** Ulrich Melcher,
Oklahoma State University.
- 9:15 ***E. coli* Mismatch Repair Does Not Destabilize the (GAA TTC)_n Repeat Sequence.**
R. L. Bourn, S. I. Bidichandani, University of Oklahoma Health Sciences Center.
- 9:30 **Replication in Mammalian Cells Recapitulates the Locus-Specific Differences in
Somatic Instability of Genomic GAA Triplet-Repeats.** Paul M. Rindler, Rhonda
M. Clark, Sanjay I. Bidichandani, University of Oklahoma Health Sciences Center.
- 9:45 **A Bioinformatic Analysis of Paralogous Regulatory Proteins (sll1594, sll0998
and sll0030) within *Synechocystis* sp. PCC6803.** Shawn Daley, Robert L. Burnap,
Oklahoma State University.
- 10:00 ***The Role of Bcl-2 in the Inhibition of Apoptosis during Endoplasmic Reticulum
Stress.** Lindsey J. Long, Oklahoma Christian University, Pepperdine University.
- Break
- 10:15 ***Effects of Hydrogen Peroxide on Mitochondria of Skeletal and Cardiac Muscles.**
Tara McComas, Oklahoma Christian University.
- 10:30 **Engineered Cysteines as a Probe to Investigate the Dynamics of Photosystem II
D1 Protein Structure.** Hong Hwang, Oklahoma State University.
- 10:45 **Thermodynamic Markers of Conformational Change in Hepatitis B Capsid
Protein.** Sarah Katen, Adam Zlotnick, University of Oklahoma Health Sciences
Center.
- 11:00 **Affinity Based Protein Purification of CcmR-A Member of the LysR Family of
Transcriptional Regulators.** Marla Carrick, Oklahoma State University.
- 11:15 **Section J Business Meeting, LH 112**
- 11:30 **Academy Business Meeting, Room 146, Herrington Hall**
- 12:00 **Academy Luncheon, Atrium, Herrington Hall**

*Collegiate Academy; Undergraduate Competition

**SECTION K: MICROSCOPY
TL 118**

**Morning Session – Moderator: Greg Strout
University of Oklahoma**

- 9:00 *Keynote Address: Considerations for EM Labs Contemplating Surveillance of Bioterrorism Agents*, Sara Miller, Duke University Medical Center.
- 10:15 Break
- 10:30 †**Dislocation Filtering by $Al_xIn_{1-x}Sb/Al_yIn_{1-y}Sb$ Heterostructures Grown on GaAs (001) Substrates.** Madhavie Edirisooriya, Tetsuya D. Mishima, Michael B. Santos, University of Oklahoma.
- 10:45 †**Study on Vertically Aligned Single Walled Carbon Nanotube Arrays: Growth Mechanism, Interaction with Polarized Photon and Transfer for Applications.** Liang Zhang, Daniel E. Resasco, University of Oklahoma.
- 11:00 †**Characterization of the Flagella in the LF4 Mutant of *Chlamydomonas reinhardtii*.** K. Pargeter, B. Meek, N. Wilson, Oklahoma State University College of Osteopathic Medicine.
- 11:15 †**Near-Infrared Fluorescence of the NBT/BCIP Chromogenic Stain and its Application to Fluorescence Microscopy.** Marshall D. McCutchen, Le A. Trinh, Marianne Bonner-Fraser, Scott E. Fraser, David W. McCauley, Lloyd A. Bumm, University of Oklahoma, California Institute of Technology.
- 11:30 **OMS Business Meeting**
- 12:00 **Lunch**
Ugly Bug Judging – Be Sure to Vote

†OMS Timpano Competition

SECTION K: MICROSCOPY
TL 118

Afternoon Session – Moderator: Dean Phillips
ConocoPhillips

- 2:00 **Scanning Electron Microscopic (SEM) Studies of Seed Surface Morphology in the Subtribe Gratiolinae (Tribe Gratioleae - Plantaginaceae) and its Taxonomic Significance.** Adjoa Richardson Ahedor, Wayne Elisens, University of Oklahoma.
- 2:15 **Fruit and Leaf Examination of the Genus *Agrimonia* (Rosaceae) Using Scanning Electron Microscopy.** Kyong-Sook Chung, Wayne J. Elisens, Gregory W. Strout, University of Oklahoma.
- 2:30 ***Parvalbumin-Containing Amacrine Cells of the Monkey Retina.** Kathryn Klump, David W. Marshak, Oral Roberts University, University of Texas at Houston Medical School.
- 2:45 ***Environmental and Potassium Chlorate Effects on the Growth of *Chaetomium globosum*.** Desiree D. Wright, C. Biles, East Central University.
- 3:00 **Highly Ordered Langmuir Films of Amphiphilic Poly(propylene imine) Dendrimers at the Water-Air Interface.** Susheng Tan, Aihua Su, Warren T. Ford, Oklahoma State University.
- 3:15 **A Brief Update of the OSU Microscopy Lab and Travel Photos from South Africa.** Charlotte Ownby, Oklahoma State University.

Posters:

***Pollen and Spore Collections from Domestic Home Environments Compared to Quantities Collected from the External Environment Surrounding the Domestic Home.** Shayla S. Palmer, Oral Roberts University.

A Statistical Analysis for Variance of Pollen Strains in Tulsa, Oklahoma for Possible Use in Forensic Palynology. Talitha Jacobs, Oral Roberts University.

*Collegiate Academy Undergraduate Competition paper

**SECTION L: MATHEMATICS & COMPUTER SCIENCE
TL 303**

**Moderator: John Goulden
Oklahoma City University**

- 9:00 **Adapting the Software Easter Egg to Class Webpages.** Clay B. Carley III, East Central University.
- 9:15 **An Architecture for the Restaurant of the Future.** Art Kazmierczak, Oklahoma City University.
- 9:30 **Web Programming and Design.** Nicola Gvozdiev, Debby Tice, Oklahoma City University.
- 11:00 **Section L Business Meeting,** TL 303
- 11:30 **Academy Business Meeting,** Room 146, Herrington Hall
- 12:00 **Academy Luncheon,** Atrium, Herrington Hall

**SECTION M: ENVIRONMENTAL SCIENCES & PLANNING
LH 111**

**Moderator: Charles Crittell
East Central University**

- 8:30 ***George Hargreaves: Contemporary Works of Landscape Architecture.** Cody Klein, Oklahoma State University.
- 8:45 ***Thomas Church: Master Landscape Architect.** Ryan Cameron, Oklahoma State University.
- 9:00 ***Current Landscape Architecture in India.** Cody Greene, Oklahoma State University.
- 9:15 ***Wolfgang Oehme: Grass in the Landscape.** Zach Perkins, Oklahoma State University.
- 9:30 **Sofetil Park in Uman, Ukraine: A Splendid Landscape.** Charles L. Leider, Oklahoma State University.
- 9:45 Break.
- 10:00 **Septic Tank Influence on Lake Quality.** Joe Bidwell, Kevin Burgess, Oklahoma State University.
- 10:15 ***The Interaction of Nitrogen and Base Cations in Subalpine Forest Soils East and West of the Continental Divide in Colorado's Rocky Mountains.** K. E. Williams, Oral Roberts University.
- 10:30 ***Analysis of Bacteroidales 16S rRNA Gene Sequences from Chicken Feces.** J. Hatley, T. Akiyama, L. Arney, C. R. Cisar, Northeastern State University.
- 11:15 **Section M Business Meeting, LH 111**
- 11:30 **Academy Business Meeting, Room 146, Herrington Hall**
- 12:00 **Academy Luncheon, Atrium, Herrington Hall**

Poster:

Monitoring of Total Coliform and *Escherichia coli* Levels for a Third Order Stream in Western Oklahoma. Steven W. O'Neal, David Hollrah, Southwestern Oklahoma State University.

*Collegiate Academy; Undergraduate Competition

**SECTION N: BIOMEDICAL SCIENCES
HS 135**

**Moderator: Jennifer Xiao
Oklahoma Christian University**

- 8:30 ***Mechanisms of Chloroform Induced Hepatotoxicity: Role of Oxygen/Nitrogen Stress in Hepatocytes.** Mary A. Pennington, University of Arkansas for Medical Sciences, Oral Roberts University.
- 8:45 ***Keratinocyte Senescence Affects Cell Migration, Morphology Degradation, but not Differentiation of In Vitro Skin Equivalents.** M. S. Skaley, M. V. Vaughan, University of Central Oklahoma.
- 9:00 **Effects of Channels Interactions on Speech Intelligibility for Cochlear Implant Users.** M. Bingabr, University of Central Oklahoma.
- 9:15 ***Purification of Rab7 Antibody from Rabbit Serum.** Lacey J. Adams, University of Oklahoma Health Sciences Center.
- 9:30 ***LPS-Mediated Chronic Inflammation Increases Circulating RANKL Coincident with Bone Losee in C57BL/6 Mice.** Meagan Johnson, Oklahoma Christian University.
- 9:45 ***Flow Cytometry Analysis of Myeloid Populations Associated with a Model of Chronic Inflammation-Induced Osteopenia.** Ann Evans, Oklahoma Christian University.
- 10:00 Break
- 10:15 ***Targeted Disruption of Tpst1 or Tpst2 Genes Causes an Increase in Leukocyte Levels.** E. A. Schinnerer, Oklahoma Christian University.
- 10:30 ***Changes in Choroid Gene Expression Associated with the Recovery from Induced Myopia.** Gabe Griffin, Jody Rada, Oral Roberts University, University of Oklahoma Health Sciences Center.
- 10:45 ***Mutagenic Testing of Silver Dihydrogen Citrate Through Microbial and Murine Models.** Sarah Manley, Callie Thomas, William Luttrell, Oklahoma Christian University.
- 11:00 **Section N Business Meeting, HS 135**
- 11:30 **Academy Business Meeting, Room 146, Herrington Hall**
- 12:00 **Academy Luncheon, Atrium, Herrington Hall**

*Collegiate Academy; Undergraduate Competition

**SECTION N: BIOMEDICAL SCIENCES
HS 135**

(continued)

Poster:

Observations of Two Uncommon Variations for Proximal Branches of the Femoral Artery. Christina A. Evans, Oklahoma State University Center for Health Sciences.

Paul Buck
Lifetime Achievement Award

Dr. Paul Buck is an individual who typifies each and every facet of the Academy's Statement of Purpose that appears on the inside cover of this program. He has had a profound influence on students, fellow scientists, and the general public. As a teacher, he has given countless students an appreciation of botany and the environment. He has inspired many to become field biologists, teachers, or researchers in other disciplines. With respect to the public, he was instrumental in the formation of the Oklahoma Native Plant Society, which has now grown to more than 500 members across the state, and for years, has made botanical phenomena meaningful to all via his quarterly column titled "Botany Bay" in the *Gaillardia*, the newsletter of the Society, as well as his many lectures/presentations on Oklahoma's ecogeography and flora. As a scientist, his book *Distribution and Identification of Woody Plants of Oklahoma in the Winter Condition* has been a resource used by countless individuals becoming acquainted with the woody flora. He was instrumental in the formation of the consortium of state botanists presently writing a manual for identification of the state's vascular flora. In addition, as a field trip leader, section chair, President, and Executive-Treasurer, he has been an active participant in the Academy for decades. It is most appropriate that his work to advance scientific endeavors in Oklahoma be formally recognized in the form of the Academy's Lifetime Achievement Award.

Ziad El-Rassi
Outstanding Oklahoma Scientist

Presently Professor of Chemistry at Oklahoma State University, Dr. El-Rassi earned his BS from Lebanese University in Beirut and his PhD from Claude-Bernard University in Lyon, France. Prior to his arrival at OSU in 1988, he was a research Scientist at Yale University. His research focuses on furthering the development of modern liquid phase separation techniques such as high performance liquid chromatography, capillary electrophoresis, and capillary electrochromatography. The author of numerous publications that have garnered him national and international recognition, Dr. El-Rassi has received almost \$1.5 million in research support, been research advisor to more than 30 graduate and undergraduate students, and served as Editor-in-Chief of the journal *Electrophoresis*. In recognition of his contributions to his discipline, he received the OSU Regents Distinguished Research Award in 2005.

Ron Tyrl
Luncheon Speaker

A plant taxonomist by training, Ronald J. Tyrl, Professor of Botany and Curator of the Herbarium at Oklahoma State University, teaches undergraduate and graduate courses in taxonomy, field botany, plant diversity, and agrostology. His teaching activities also have included Elderhostels on Oklahoma's wildflowers and grasses and wildflower tours of England and Scotland. Dr. Tyrl has been at OSU for 34 years and his research focuses on the flora of Oklahoma. He is Coordinating Editor of the Flora of Oklahoma project, which produces *Identification of Oklahoma Plants*, a manual used in taxonomy and field botany courses throughout the state. In addition, he is the coauthor of *Toxic Plants of North America*, *Field Guide to Oklahoma Plants*, *Dyes from American Native Plants*, and *Handbook of Toxic Plants of North America*. A long-time member of the Academy, Dr. Tyrl served as President in 1998 and 1999.

OKLAHOMA ACADEMY OF SCIENCE PRESIDENTS

1910	H. L. Lane, OU	1955	R. E. Olson, OU
1911	D. W. Othorn, Oklahoma City	1956	A. M. Stebler, OAMC
1912	S. W. Reaves, OU	1957	D. E. Howell, OAMC
1913	C. W. Shannon, OU	1958	G. J. Goodman, OU
1914	No meeting	1959	E. Lucas, OU
1915	C. W. Shannon, OU	1960	P. E. Smith, OUMS
1916	C. N. Gould, OU	1961	E. M. Hodnett, OSU
1917	L. C. Raiford, ISU	1962	H. G. Barclay, TU
1918	No meeting	1963	G. A. Moore, OSU
1919	No meeting	1964	A. D. Buck, NOJC
1920	M. M. Wickham, Norman	1965	J. E. Webster, OSU
1921	A. F. Reiter, PU	1966	C. R. Williams, PU
1922	J. B. Thoburn, Oklahoma City	1967	C. D. Riggs, OU
1923	R. O. Whitenton, OAMC	1968	E. A. Reynolds, SWSC
1924	S. Weidman, OU	1969	L. V. Scott, OUHSC
1925	(spring) C. E. Sanborn	1970	C. C. Carpenter, OU
1925	(fall) H. L. Dodge, OU	1971	P. Buck, TU
1926	J. H. Could, OAMC	1972	W. A. Carter, ECSU
1927	C. N. Gould, OU	1973	C. J. Mankin, OU
1928	O. M. Smith, OAMC	1974	N. N. Durham, OSU
1929	A. Richards, OU	1975	B. Shirley, TU
1930	L. Long, Ok. City	1976	G. W. Todd, OSU
1931	A. O. Weese, OU	1977	D. E. Kizer, Noble Foundation
1932	H. Patterson, OAMC	1978	G. Odell, OSU
1933	J. E. Knowles, PU	1979	R. Couch, ORU
1934	F. G. Brooks, OCU	1980	G. Wolgamott, SWSU
1935	C. E. Decker, OU	1981	E. Rice, OU
1936	H. J. Harper, OAMC	1982	E. Grigsby, NSU
1937	B. D. Barclay, TU	1983	J. Sokatch, OUHSC
1938	C. M. Perry, OU	1984	M. Whitmore, OU
1939	H. D. Chase, TU	1985	J. Black, OBU
1940	G. L. Cross, OU	1986	J. Wilhm, OSU
1941	R. W. Jones, OAMC	1987	M. K. Patterson, Noble Foundation
1942	H. I. Featherly, OAMC		
1943	O. F. Evans, OU	1988	M. P. Carpenter, OU
1944	V. G. Heller, OAMC	1989-1990	K. E. Conway, OSU
1945	J. R. Nielsen, OU	1991-1992	J. K. McPherson, OSU
1946	O. C. Dermer, OAMC	1993	J. R. Estes, OU
1947	J. T. Self, OU	1994-1995	J. D. Tyler, CU
1948	L. S. McLeod, TU	1996-1997	C. Taylor, SEOSU
1949	J. C. Shirley, PU	1998-1999	R. J. Tyrll, OSU
1950	H. Taylor, OCW	2000-2001	D. Bass, UCO
1951	H. W. Larsh, OU	2002-2003	C. Clifford, NSU
1952	V. B. Monnett, OAMC	2004-2005	S. Young, SNU
1953	S. P. Massie, LU	2006-2007	S. Barber, OCU
1954	A. N. Murray, TU		