

**103rd ANNUAL TECHNICAL MEETING
OKLAHOMA ACADEMY OF SCIENCE
NORTHEASTERN STATE UNIVERSITY
Broken Arrow Campus**

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**103rd ANNUAL TECHNICAL MEETING
OKLAHOMA ACADEMY OF SCIENCE
NORTHEASTERN STATE UNIVERSITY
Broken Arrow Campus**

PROGRAM SUMMARY

Thursday, 6 November 2014

6:30 p.m. Executive Council Dinner/Meeting Room 281
VCI Conference Room
Education Bldg. (BAED)

Friday, 7 November 2014

7:30 a.m. Registration for Technical Meeting Room 167
- 10:00 a.m. Liberal Arts Bldg. (BALA)

8:30 a.m. Concurrent Scientific Paper Sessions
- 2:30 p.m.

Section A	Biological Sciences – Botany	BALA 124
Section A	Biological Sciences – Zoology	BALA 126
Section B	Geology	BALA 214
Section C	Physical Sciences	BALA 214
Section D	Social Sciences	BALA 212
Section E	Science Communication and Education	BALA 216
Section F	Geography	BALA 220
Section G	Applied Ecology and Conservation	BALA 112
Section H	Microbiology	BALA 226
Section I	Engineering Sciences	BALA 224
Section J	Biochemistry and Biophysics	BALA 212
Section K	Microscopy	BALA 232
Section L	Mathematics	BALA 210
Section M	Environmental Sciences	BALA 214
Section N	Biomedical Sciences	BALA 212
	SCIENCE EDUCATION SYMPOSIUM	BALA 212
	Posters (9-11 am)	BALA 211
	Vendors	BALA 211
	Refreshments	BALA 211

PROGRAM SUMMARY
(Cont.)

- 11:00 a.m. **Section Meetings** Presentation Rooms
Election of Section Vice-Chair.
[Provide this information to Dr. David Bass at the check-in desk
before leaving.]
- 11:30 a.m. **Academy Business Meeting** BALA 112
All OAS members are encouraged to attend. Liberal Arts Bldg.
Visitors are welcome.
- 12:00 p.m. **Academy Luncheon** BAAS 235
& Plenary Address Administrative Services Bldg.
Admission by ticket only.

Dr. Bruce A. Carnes
Donald W. Reynolds Dept. of Geriatric Medicine
University of Oklahoma Health Sciences Center

Evolution of Human Aging

GENERAL INFORMATION

Name Badges: Name badges, provided upon registration, must be worn at all times by all individuals attending Academy section 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: Use the north parking lot.

On-site Registration Fees:

Members	- \$20.00
Non-members	- \$25.00
Student members	- \$10.00
Student non-members	- \$15.00
Luncheon tickets (if available)	- \$18.00

2014 and 2015 Dues are Payable: The OAS registration desk will accept dues payments.

Professional	- \$30.00
Graduate/Undergraduate Student	- \$20.00
Family	- \$35.00
Library	- \$40.00
Life	- \$600.00

Guidelines for Abstract Publication: Abstracts may be published in the *Proceedings of the Oklahoma Academy of Science*, subject to the editorial policies as stated in the most recent issue of the *POAS* and the review of the Editorial Board. Specific formatting instructions for abstracts may be found at <http://biosurvey.ou.edu/oas/publications.html>. Abstract publication fee is \$35. *POAS* editor is Dr. Mostafa S. Elshahed, mostafa@okstate.edu.

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

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

Official Meeting Hotel:

Best Western Kenosha Inn Broken Arrow

1200 East Lansing Street, Broken Arrow, OK 74012

<http://hotelguides.com/hotels/oklahoma/broken-arrow/104365.html>

SPECIAL THANKS

Craig Clifford and Erik Terdal, OAS Meeting Coordinators

Dr. Christee Jenlink, President of Northeastern State University-Broken Arrow
Campus

Dr. Mark Arant, Provost and Vice President for Academic Affairs

Dr. Pam Hathorn, Dean of the College of Science and Health Professions

UPCOMING MEETINGS

2015 Spring Field Meeting, tba

2015 Fall Field Meeting, tba

2015 Annual Technical Meeting, Nov. 13, Oklahoma City University

Science Communication and Education
SYMPOSIUM

BALA 212

Update on Science-Based Issues in Oklahoma

Moderators:

Dr. Stanley Rice, Southeastern Oklahoma State University

Dr. Elizabeth Bergey, University of Oklahoma

- 1:30 **Introduction**
- 1:40 **Update on Recent Legislative Bills Affecting Evolution and Climate Change Education in Oklahoma.** Dr. Vic Hutchison, George Lynn Cross Professor Emeritus, Department of Biology, University of Oklahoma.
- 2:00 **The Physical Implications of Climate Change in Oklahoma.** Monica Deming, Service Climatologist, Oklahoma Climatological Survey.
- 2:20 **Update on Conservation Efforts for Natural Areas in Oklahoma.** Jona Tucker, Arbuckle Plains Blue River Project Manager, The Nature Conservancy.
- 2:40 **The Potential for Seismic Activity as a Result of Fracking.** Austin Holland, Seismologist, Oklahoma Geological Survey.
- 3:00 **Update on Water Resource Issues in Oklahoma.** Amy Ford, President, Citizens for the Protection of the Arbuckle-Simpson Aquifer.
- 3:20 **Discussion**

SECTION A: BIOLOGICAL SCIENCES - ZOOLOGY
BALA 126

Moderator: Jonathan Fisher
Northeastern State University

- 8:30 ****An Integrative Study of Diatoms on Turtles in Natural History Collections.** S. C. Wu. University of Oklahoma.
- 8:45 ****Local Adaptation to Temperature in Daphnia, a "Resurrection Ecology" Approach.** A. Yousey. University of Oklahoma.
- 9:00 ***Does Fire in Dry Wetlands Affect Aquatic Invertebrate Hatching?** A. Barrientes. University of Oklahoma.
- 9:15 **Swarming of *Polistes* Paper Wasp (Hymenoptera: Vespidae) Sexuals Atop Tall Structures.** H. C. Reed, E. Edwards, J. Pandian, E. Kreamsreiter. Oral Roberts University.
- 9:30 Break
- 9:45 **Response to Predator Odor by the Lizard *Scincella lateralis*.** M. Paulissen, A. Hatzembuehler. Northeastern State University.
- 10:00 ***Do Starlings Talk? The Evidence Suggests Maybe.** R. Smedley. Northeastern State University.
- 10:15 ***Nest Box Reproductive Usage, Success, and Habitat Preference of 3 Species of Secondary Cavity Nesting Birds.** S. Legg. Oklahoma City University.
- 10:30 **Predation Rates and Predators of Scissor-Tailed Flycatchers: Variation Among Habitats and Years.** M. S. Husak, D. V. Landoll. Cameron University, University of Oklahoma.
- 10:45 **Testing the Insulation of Different Nest Materials Used by the Scissor-Tailed Flycatcher.** M. Van Sant, A. Puente. Cameron University.
- 11:00 **Section A Business Meeting** BALA 126
(combined with Botany)

*Undergraduate Competition

**Graduate Competition

SECTION A: BIOLOGICAL SCIENCES - ZOOLOGY
(cont.)

- 1:30 ***Microhabitat Preferences of a Small Mammal Assemblage in Canadian County, Oklahoma.** S. Hackney. Oklahoma City University.
- 1:45 ***Small Mammal Niche Overlap in Southeast Canadian County, Oklahoma.** D. Smith-Sutton. Oklahoma City University.
- 2:00 ***Survey of Bats on Tinker Air Force Base.** Bailey Vinsant.

Posters

- *Barcoding the CO1 Gene in Biting Midges (Diptera: Ceratopogonidae: Culicoides).** J. Nichols.
- *A Review of Pycnoxylic Lyginopterids of the Upper Paleozoic.** R. Lawler. Cameron University.
- *A New Pycnoxylic Lyginopterid from the Fayetteville Formation (Upper Mississippian) of Arkansas.** P. McAnerney. Cameron University.
- *Equisetum of the Grandfield Mammoth.** M. Shultz. Cameron University.
- *Mississippian Palynomorphs of the Pride Mountain Formation of Tuscumbia, Alabama.** K. Parsley. Cameron University.

*Undergraduate Competition

**SECTION B: GEOLOGY
BALA 214**

**Moderator: Kurtis Koll
Comanche Nation College, Lawton**

11:00 **Section B Business Meeting**

**SECTION C: PHYSICAL SCIENCES
BALA 214**

**Moderator: James S. Meyer
St. Gregory's University**

- 9:45 **Variability in Near Field Measurements of Ultrasound Transducers.** K. Williams. East Central University.
- 10:00 **An Intrinsically Relativistic Quantum System.** W. J. Wilson, Shilan I. Abo. University of Central Oklahoma, University of Duhok.
- 11:00 **Section Business Meeting**

Posters

A Computational Study of 1,4,6,9-tetrasubstituted Phenazines.

D. McInnes, K. DeNike. East Central University.

Theoretical Studies of Transition Metal Hydroxides. Cerina Styles, Laura

Asaro, Dwight Myers. East Central University.

**SECTION D: SOCIAL SCIENCES
BALA 212**

**Moderator: Thomas Hancock
University of Central Oklahoma**

11:00 **Section D Business Meeting**

Posters

Naïve Narcissists or Affable Altruists? Personality Characteristics of the Millennial Generation. Leah Tecele, Jennifer L. Kisamore. Rogers State University, Oklahoma University-Tulsa.

Factors Associated with Work-Family Conflict Among Working Parents with Dependent Children. Elena Munoz, Jennifer L. Kisamore. University of Oklahoma-Tulsa.

**SECTION E: SCIENCE COMMUNICATION & EDUCATION
BALA 216**

**Moderator: Elizabeth Bergey
University of Oklahoma**

- 8:45 **No Child Left Inside? Are You Nuts! - How and Why it is Important to Conduct Field Studies with High School (and All) Students.** Shannon Chatwin. Owasso High School.
- 9:00 **Biodiversity Education: Using the BioBlitz! Concept to Educate and Inspire Local Biodiversity Interest and Conservation.** Priscilla H. C. Crawford. University of Oklahoma.
- 9:15 **Oklahoma Collegiate Academy of Science - Past, Present and Future.** Nicholas J. Cheper. East Central University.
- 9:30 Break
- 10:00 ****Using Graphical Representations in Course Design.** Eric Bright. University of Oklahoma.
- 10:15 **Encouraging Students to Submit Letters to Corporations as Part of Science Classes.** Stanley Rice. Southeastern Oklahoma State University.
- 10:30 **Facilitating the Incorporation of Green Chemistry Principles in the Organic Chemistry Laboratory.** Lois Ablin. Oral Roberts University.
- 10:45 **Bibliographic Software – Not Just for Faculty.** Elizabeth Bergey. University of Oklahoma.
- 11:00 **Section E Business Meeting**

**Graduate Competition

**SECTION F: GEOGRAPHY
BALA 220**

**Morning Session – Moderator: Mark Micozzi
East Central University**

- 8:30 **A Methodology for Creating Seamless Digital Topographic Maps.** Gregory A Plumb. East Central University.
- 8:45 ***Mapping Urban Materials in Cedar Falls, Iowa Using Very High Resolution Thermal and Hyperspectral Imagery.** Clarissa Everly, Dr. Bingqing Liang. University of Central Oklahoma, University of Northern Iowa.
- 9:00 **Labyrinths: History and Typology.** Robert E. Newcomer. East Central University.
- 9:15 ***The Changing Landscape of Arcadia, Oklahoma.** Katie Kerns, Erin McGregor, Gloria Stadlbauer. University of Central Oklahoma.
- 9:30 Break

Illustrated Poster Presentations

- 9:45 ***Creating Parcel Polygons from Historical Land Records.** Chesni McCurtain. East Central University.
- 9:50 ***GIS Analysis of Street Sign Compliance for Ada Using New Federal Mandates.** Caleb Wren. East Central University.
- 9:55 ***Building a Municipal Hydrologic Database: Shawnee, Oklahoma.** David Traxler. East Central University.
- 10:00 ***Municipal Hydrologic Mapping: Shawnee, Oklahoma.** Darilynn Jalufka. East Central University.
- 10:05 ***Preparatory Work Toward Conducting an Onsite Survey.** Ryan Hicks. East Central University.

*Undergraduate Competition

SECTION F: GEOGRAPHY
(cont.)

- 10:10 ***Creating a Geodatabase of Lands Allotted within the Chickasaw Nation through 1909.** Cohen McKinzie. East Central University.
- 10:15 Break
- 10:30 ***Editing Territorial Boundary Agreements for People's Electric Company Service Area.** Ryan Kinder. East Central University.
- 10:35 ***Competitor Data Automation and Analysis.** Kolton Howry. East Central University.
- 10:40 ***Creating an Enterprise Geographic Information System for the Noble Foundation, Ardmore, Oklahoma.** Clayton Howard. East Central University.
- 10:45 ***Internship in Energy GIS.** Lance Wren. East Central University.
- 10:50 ***TBA.** Cale Russell. East Central University.
- 11:00 **Section Business Meeting**

*Undergraduate Competition

**SECTION G: APPLIED ECOLOGY & CONSERVATION
BALA 112**

**Moderator: Richard Butler
Northeastern State University-Broken Arrow**

- 8:30 ***Snoopy: Portable Software for Capture-Recapture Surveys.**
R. Smedley. Northeastern State University.
- 8:45 ***The Effect of Watermilfoil Weevils (*Euhrychiopsis lecontei*) in
Controlling the Invasive Aquatic Macrophyte Eurasian
Watermilfoil (*Myriophyllum spicatum*) in Manistee Lake,
Kalkaska County, Michigan.** C. Wolfe, N. Goelzer. Oral Roberts
University.
- 9:00 **GIS-Based Predictive Habitat Modeling for Black-Tailed
Prairie Dog Colonies (*Cynomys ludovicianus*) in Southwestern
North Dakota.** M. Shaughmussy, M. Jakubauskas, A. Shreders.
Northeastern State University, University of Arkansas.
- 9:15 ***Ecological Correlates of Biting Midge (Diptera:
Ceratopogonidae *Culicoides* spp.) Distribution in Two
Oklahoma Wildlife Management Areas.** N. Keithline. Tulsa
Community College.
- 9:30 Break
- 9:45 ***Abundance and Activity Patterns of the Margay (*Leopardus
weidii*) and Ocelot (*Leopardus pardalis*) in the Mountain Pine
Ridge of Belize.** K. Ross. Northeastern State University.
- 10:00 ****What Habitat Characteristics Influence Monarch Butterfly
Densities?** S. L. Andreoli, K. A. Baum. Oklahoma State
University.
- 10:15 **Status of the Jaguar (*Panthera onca*) in the Mountain Pine
Ridge Forest, Belize.** S. Eaton, E. Terdal. Northeastern State
University.

*Undergraduate Competition

**Graduate Competition

SECTION G: APPLIED ECOLOGY & CONSERVATION
(cont.)

- 10:30 ***The Effects of the 2013 Rim Fire on White Fir Seedlings in the Sierra Nevada Range.** L. Pennington. Oklahoma City University.
- 10:45 ****Macroinvertebrate Assemblages and Water Quality Analysis of Spring Systems Associated with the Pontotoc Ridge Nature Preserve, Oklahoma.** K. Brown, D. Bass. University of Oklahoma, University of Central Oklahoma.
- 11:00 **Section G Business Meeting**

*Undergraduate Competition
**Graduate Competition

SECTION H: MICROBIOLOGY
BALA 226

Moderators: . Tahzeeba Frisby, Boris Wawrik
East Central University

- 8:30 ****Evaluating the Utility of Anaerobic Fungi in Sugar Extraction and Biofuel Production from Lignocellulosic Biomass.** Abhaya Ranganathan. Oklahoma State University.
- 8:45 ****Protein Kinase Regulation of the Phosphodiesterase RegA in *Dictyostelium discoideum* During cAMP Signaling.** Nick Kuburich. Oklahoma State University.
- 9:00 ****Cultivation Studies on the Gastrointestinal Tract From an Indigenous Peruvian Community Yields Several Novel Bacterial Taxa.** Nisha Patel. University of Oklahoma.
- 9:15 ****Exploring the Genomic and Metabolic Characteristics of the Candidate Phylum, Latescibacteria (Candidate Phylum WS3) Using Single Cell Genomics.** Ibrahim F. Farag. Oklahoma State University.
- 9:30 ****The Role of Calcium in Animal Infectivity of Human Pathogen *Pseudomonas aeruginosa*.** Allison Lawson. Oklahoma State University.
- 9:45 **Anaerobic Hydrocarbon and Fatty Acid Metabolism by Ayntrophic Bacteria and Their Impact on Carbon Steel Corrosion.** Dr. Christopher N. Lyles. University of Oklahoma.
- 10:00 ****How Fuel Instability and Biocorrosion Impact Navy Ships.** Christopher R. Marks. University of Oklahoma.
- 10:15 **The Proteome of *Methanospirillum hungatei*, New Insights for Syntrophy and Biological Methane Production.** Brian Crable. Oak Ridge National Laboratory.
- 10:30 ****Identification of the Molecular Mechanism of Ca²⁺ Induced Tobramycin Resistance in *Pseudomonas aeruginosa*.** Khanam Sharmily. Oklahoma State University.

**Graduate Competition

SECTION H: MICROBIOLOGY
(cont.)

- 10:45 ****A putative Ca-Binding Protein PA0327 Mediates *Pseudomonas aeruginosa* Response to Ca.** Michelle King. Oklahoma State University.
- 11:00 ****Study of Interaction Between Phosphodiesterase RegA and MAP Kinase Protein ERK2 in Developmental Stage of *Dictyostelium discodium*.** Niraka Adhikari. Oklahoma State University.
- 11:15 **Section H Business Meeting**

Posters

***Soil Microflora of Great Salt Plains Lake.** Kimberly Condry. East Central University.

***Soil Microflora of the Great Salt Plains Lake.** Asha Rana Magar. East Central University.

***Soil Microflora of Great Salt Plains Lake.** Sabina Shrestha. East Central University.

***iGEM Compliant Shuttle Vector for Clostridial Chassis Organisms.** Sam Jones. University of Oklahoma.

*Undergraduate Competition
**Graduate Competition

**SECTION I: ENGINEERING SCIENCES
BALA 224**

**Moderator: Abdellah Ait moussa
University of Central Oklahoma**

- 8:30 ***Particle Image Velocimetry for Developing Flow.** Aric Gillispie, Evan Lemley. University of Central Oklahoma.
- 8:45 ***Aerodynamic Drag Reduction for a Generic Truck Using Bump-Shape Vortex Generators.** Justin Fischer, Abdellah Ait moussa. University of Central Oklahoma.
- 9:00 ***Smart Electrical Switching for Voice Switch System.** Jonathan Adams , Baha Jassemnejad. University of Central Oklahoma.
- 9:15 ****Effect of Temperature on the Fracture Strength of Titanium/PMMA Interfaces.** Yanling Li, Shahram Riahinezhad, Morshed Khandaker. University of Central Oklahoma.
- 9:30 Break
- 9:45 ***Mapping Viscous Dissipation and Entropy Generation for Laminar Flow in Square Ducts.** James Stewart , Evan Lemley. University of Central Oklahoma.
- 10:00 ***Aerodynamic Drag Reduction for a Generic Sport Utility Vehicle Using Continuous Rear Suction.** Rohan Yadav, Abdellah Ait moussa. University of Central Oklahoma.
- 10:15 ****Effect of Electrospin Fiber Materials on the Fracture Strength of Metal/Cement Interfaces.** Shahram Riahinezhad, Yanling Li, Morshed Khandaker. University of Central Oklahoma.
- 10:30 ****Modeling of the Human Trachea With and Without a Stenosis Using CFD and Experimental Validation.** Grant Armstrong, Evan Lemley. University of Central Oklahoma.
- 10:45 ***Data Acquisition for Fluid Dynamics Research.** Lillian Seay, Evan Lemley. University of Central Oklahoma.

*Undergraduate Competition

**Graduate Competition

SECTION I: ENGINEERING SCIENCES
(cont.)

- 11:00 ***A Punch on Collagen Punch: Induced Wound Reveals Tension in Human Dermal Equivalents.** Cory Anderson, Lauren Tinnin, Melville Vaughan ,Gang Xu. University of Central Oklahoma.
- 11:15 **Section I Business Meeting**

Posters

***Preconcentration of Protein by Isotachophoresis on a Microfluidics Device.** Loren Tucker Teigland, Jennie Allen, Thiago Omena, Regina Smith, Steven Karpowicz, Mohammad Hossan. University of Central Oklahoma.

***Analysis of DC Dielectrophoretic Particle-Particle Interactions and Dynamics.** Matthew Benton, Mohammed Hossan. University of Central Oklahoma.

*Undergraduate Competition

**SECTION J: BIOCHEMISTRY AND BIOPHYSICS
BALA 212**

**Moderator: Bill Luttrell
Oklahoma Christian University**

- 9:00 ***Cisplatin Induces Acquired Resistance to Paclitaxel in Ovarian Cancer.** M. Street, S. Naz, S. B. Mustafi, R .Bhattacharya. Oklahoma Christian University, University of Oklahoma Health Sciences Center.
- 9:15 ***Liver Microsomal Aniline Hydroxylase Activity Following Pretreatment of Mice with a Series of Ketone Compounds.** G. Umutesi, W. Luttrell. Oklahoma Christian University.
- 11:00 **Section J Business Meeting**

*Undergraduate Competition

**SECTION K: MICROSCOPY
BALA 232**

**Moderator: Jin Nakashima
S. R. Noble Foundation**

- 9:00 † **Three-Dimensional Visualization of the Female Gametophytes of *Oryza Sativa* and *Arabidopsis thaliana* Using Multiphoton Microscopy.** Daniel S. Jones, Joshua M. Chesnut, Benjamin E. Smith, Greg Strout, Scott D. Russell. University of Oklahoma.
- 9:20 † **Photobleaching-Coupled Fluorescent Lifetime Imaging: Detecting Forster Resonance Energy Transfer to Identify Protein Interactions.** Zachary Myers, Roderick Kumimoto, Benjamin Smith, Ben Holt. University of Oklahoma.
- 9:40 Break
- 10:00 **Scientific Digital Imaging and Digital Image Formats.** Jay Jerome. Vanderbilt University.
- 11:00 **Section K Business Meeting and Election**
Ugly Bug Contest during Academy Luncheon

† OMS Timpano Award Competition

**SECTION L: MATHEMATICS
BALA 210**

**Moderator: Patrick Harrington
Northeastern State University**

- 8:30 **Game Theory to Improve Security.** P. Harrington. Northeastern State University.
- 8:45 **Sabre - An Intrusion Avoidance System for Linux.** B. Walker. East Central University.
- 9:00 **The Problem of Pursuit Redux, Relatively Speaking.** J. Meyer. St. Gregory's University.
- 9:15 **A Quadratic Duck.** A. Walker. East Central University.
- 9:30 Break
- 9:45 **Determining if an Integer is a Highly Composite Number.** C. Carley III. East Central University.
- 10:00 ***Roman Numeral Calculator and Converter: An Android App.** A. Cloutier, A. Walker. East Central University.
- 10:15 ***Practice Makes Perfect in Manufacturing Operations.** K. Collins, A. Walker. East Central University.
- 10:30 ***Excuse You!! -- Effective Scheduling Practices Allowing for Unpredictable Interruptions.** B. Pinley, A. Walker. East Central University.
- 10:45 ***Do You Want This Job or Does This Job Want You?** B. Wood, A. Walker. East Central University.
- 11:00 ***Mobile Attendance Tracker.** M. Stewart. Northeastern State University.
- 11:15 **Section L Business Meeting**

*Undergraduate Competition

**SECTION M: ENVIRONMENTAL SCIENCES
BALA 214**

**Moderator: Charles Crittell
East Central University**

- 10:30 ****The Effect of Methane on Heterotrophic and Coliform Bacteria with Hydraulic Fracturing Implications.** Sara Cheek, Jonathan Fisher. Northeastern State University
- 10:45 ***Occurrence of Typical Antibiotics in Huai River and Hongze Lake, Eastern China.** Linzi Thompson, Wei Li, Malinda Gilmore, Elica Moss. East Central University.
- 11:00 **Section M Business Meeting**

Poster

***UV Photoactivation of Titanium Dioxide Nanoparticles: Enhanced Photo-Oxidation of Natural Organic Matter in Aqueous Systems.** Linzi Thompson, Scott Huling. East Central University.

*Undergraduate Competition
**Graduate Competition

**SECTION N: BIOMEDICAL SCIENCES
BALA 212**

**Moderator: Eric Phelps
Oklahoma Christian University**

- 9:45 **Mcm10: Potential target for anti-cancer treatment.** Brandy Fultz, C. Hendrix, S. Das-Bradoo. Northeastern State University.
- 10:00 ***CRISPR Mediated Amot Deletion in Breast Cancer.** L. Wood, W. Ranahan. Oral Roberts University
- 10:15 ***Nanoceria Are Not Toxic at Maximum Dosage in the Retina.** Marie Claire Mukashyaka, X. Cai, J. F. McGinnis. Oklahoma Christian University, University of Oklahoma Health Sciences Center.
- 10:30 ***A Correlation Between Amot Expression and IL8 in Mammary Epithelia.** S. Reynolds. Oral Roberts University.
- 10:45 ***Diabetes is Associated with the Development of Staphylococcus Aureus Endogenous Endophthalmitis.** A. LaGrow, P. Coburn, B. Wiskur, Michelle C. Callegan. Oklahoma Christian University, University of Oklahoma Health Sciences Center, Oklahoma Center for Neuroscience.
- 11:00 **Section N Business Meeting**

Posters

- *Activation of AMPK α 1 Attenuates Arterial Aging in Klotho-Deficient Mice Fed on High Fat Diet.** J. Harley, Y. Lin, Z. Sun. Oral Roberts University, University of Oklahoma Health Sciences Center.
- *Story of Two Cancer-Critical Genes: Mcm10 and Polymerase Epsilon.** Daniel Tinervia, J. Pourier, S. Das-Bradoo. Northeastern State University.
- *A New Role of Mcm10 in the DNA Damage Checkpoint Pathway.** Dawn Bender, B. Fultz, S. Das-Bradoo. Northeastern State University.

*Undergraduate Competition

Bruce A. Carnes
Luncheon Speaker

Dr. Carnes received a B.S. in biology from the University of Utah in 1973, an M.S. in Population Biology from the University of Houston in 1975, an M.A. in Statistics and a Ph.D. in Theoretical Ecology from the University of Kansas in 1980.

He is interested in why organisms die, why they die when they do, and why they die of the things they do. To pursue these questions, he has melded his training in biology and statistics into an approach to research that he calls the biodemography of aging – a field of scientific study now recognized around the world. Dr. Carnes has used his biodemographic approach to reveal mathematical properties of the age pattern of death that are shared by all species, to identify factors that influence longevity as well as their relative importance, and to estimate upper limits for both the longevity of individuals and the life expectancy of populations.

In an effort to reach beyond the scientific community, Dr Carnes has written a book for the general public, published articles in widely read magazines like Scientific American, given numerous interviews to National Public Radio as well as to local and national television networks, was the subject of a feature documentary on the Discovery Health channel that was based on his research, and gives talks on the science of aging at a variety of community venues. Dr Carnes hopes that his research will contribute to a better understanding of the health and mortality consequences of aging for both individuals and populations..

OKLAHOMA ACADEMY OF SCIENCE PRESIDENTS

1910	H. L. Lane, OU	1956	A. M. Stebler, OAMC
1911	D. W. Othern, Okla. City	1957	D. E. Howell, OAMC
1912	S. W. Reaves, OU	1958	G. J. Goodman, OU
1913	C. W. Shannon, OU	1959	E. Lucas, OU
1914	No meeting	1960	P. E. Smith, OUMS
1915	C. W. Shannon, OU	1961	E. M. Hodnett, OSU
1916	C. N. Gould, OU	1962	H. G. Barclay, TU
1917	L. C. Raiford, ISU	1963	G. A. Moore, OSU
1918	No meeting	1964	A. D. Buck, NOJC
1919	No meeting	1965	J. E. Webster, OSU
1920	M. M. Wickham, Norman	1966	C. R. Williams, PU
1921	A. F. Reiter, PU	1967	C. D. Riggs, OU
1922	J. B. Thoburn, Okla. City	1968	E. A. Reynolds, SWSC
1923	R. O. Whitenton, OAMC	1969	L. V. Scott, OUHSC
1924	S. Weidman, OU	1970	C. C. Carpenter, OU
1925	(spring) C. E. Sanborn	1971	P. Buck, TU
1925	(fall) H. L. Dodge, OU	1972	W. A. Carter, ECSU
1926	J. H. Could, OAMC	1973	C. J. Mankin, OU
1927	C. N. Gould, OU	1974	N. N. Durham, OSU
1928	O. M. Smith, OAMC	1975	B. Shirley, TU
1929	A. Richards, OU	1976	G. W. Todd, OSU
1930	L. Long, Okla. City	1977	D. E. Kizer, Noble Fdn
1931	A. O. Weese, OU	1978	G. Odell, OSU
1932	H. Patterson, OAMC	1979	R. Couch, ORU
1933	J. E. Knowles, PU	1980	G. Wolgamott, SWOSU
1934	F. G. Brooks, OCU	1981	E. Rice, OU
1935	C. E. Decker, OU	1982	E. Grigsby, NSU
1936	H. J. Harper, OAMC	1983	J. Sokatch, OUHSC
1937	B. D. Barclay, TU	1984	M. Whitmore, OU
1938	C. M. Perry, OU	1985	J. Black, OBU
1939	H. D. Chase, TU	1986	J. Wilhm, OSU
1940	G. L. Cross, OU	1987	M. K. Patterson, Noble Fdn
1941	R. W. Jones, OAMC	1988	M. P. Carpenter, OU
1942	H. I. Featherly, OAMC	1989	K. E. Conway, OSU
1943	O. F. Evans, OU	1991	J. K. McPherson, OSU
1944	V. G. Heller, OAMC	1993	J. R. Estes, OU
1945	J. R. Nielsen, OU	1994	J. D. Tyler, CU
1946	O. C. Dermer, OAMC	1996	C. Taylor, SEOSU
1947	J. T. Self, OU	1998	R. J. Tyrl, OSU
1948	L. S. McLeod, TU	2000	D. Bass, UCO
1949	J. C. Shirley, PU	2002	C. Clifford, NSU
1950	H. Taylor, OCW	2004	S. Young, SNU
1951	H. W. Larsh, OU	2006	S. Barber, OCU
1952	V. B. Monnett, OAMC	2008	U. Melcher, OSU
1953	S. P. Massie, LU	2010	K. R. Hobson, OU
1954	A. N. Murray, TU	2012	C. Clifford, NSU
1955	R. E. Olson, OU	2014	S. Rice, SEOSU