# TABLE OF CONTENTS

OAS Statement of Purpose and Sponsored Activities .................................................. Front Cover

Program Summary ............................................................................................................. 2

General Information .......................................................................................................... 4
  Parking
  Registration
  Membership Dues
  Guidelines for Submitting Manuscripts to *POAS*
  Assistance
  Future Meetings

Special Notes ...................................................................................................................... 5

Sectional Meeting Programs
  Biological Sciences - Botany ....................................................................................... 6
  Biological Sciences - Zoology .................................................................................... 8
  Geology ....................................................................................................................... 10
  Physical Sciences ....................................................................................................... 11
  Social Sciences .......................................................................................................... 12
  Science Education ...................................................................................................... 13
  Geography .................................................................................................................. 14
  Fish and Wildlife Conservation .................................................................................. 15
  Microbiology .............................................................................................................. 16
  Engineering Sciences ................................................................................................. 17
  Biochemistry and Biophysics ...................................................................................... 18
  Microscopy .................................................................................................................. 19
  Mathematics, Computer Science, and Statistics ......................................................... 20
  Environmental Sciences and Planning ....................................................................... 21
  Biomedical Sciences .................................................................................................. 22

Special Guests .................................................................................................................. 23

OAS Presidents Past and Present .................................................................................... 24

Map of NSU-Broken Arrow Campus ................................................................. Inside Back Cover
# PROGRAM SUMMARY

**Thursday, 4 November 2010**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 p.m.</td>
<td>Executive Council Dinner and Meeting</td>
<td>Bldg. C, Room 230</td>
</tr>
</tbody>
</table>

**Friday, 5 November 2010**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 a.m. - 10:00 a.m.</td>
<td>Registration for Technical Meeting</td>
<td>Bldg. G lobby</td>
</tr>
<tr>
<td>8:30 a.m. - 11:00 a.m.</td>
<td>Concurrent Scientific Paper Sessions</td>
<td>Building G</td>
</tr>
</tbody>
</table>

Section A: Biological Sciences – Botany (I)
Section A: Biological Sciences – Zoology
Section B: Geology (for section meeting only)
Section C: Physical Sciences
Section D: Social Sciences
Section E: Science Education
Section F: Geography
Section G: Fish and Wildlife Conservation
Section H: Microbiology
Section I: Engineering Sciences (for section meeting only)
Section J: Biochemistry and Biophysics
Section K: Microscopy
Section L: Mathematics, Computer Science, and Statistics
Section M: Environmental Sciences and Planning
Section N: Biomedical Sciences
Posters
Ugly Bug Contest

Room 110
Room 112
Room 220
Room 220
Room 126
Room 114
Room 124
Room 120
Room 224
Room 220
Room 220
Room 226
Room 210
Room 214
Lobby
Room 232
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**  Building G, Room 112
    All OAS members are encouraged to attend.
    Visitors are welcome.

12:00 - 1:30 p.m.  **Academy Luncheon & Plenary Address**  Building A
    Admission by ticket only.
    Banquet Room (2nd floor)

**Dr. James Tomasek**
Dean of Graduate College/Professor of Cell Biology
University of Oklahoma Health Science Center

*Stem Cells: The Hope and the Hype*
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: Lots next to Building G are available.

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

2010 and 2011 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 - $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 the most recent issue of the *POAS*, Volume 89, 2009, and the review of the Editorial Board. Abstract publication fee is $35. *POAS* editor is Kurtis Koll, kurtisk@cameron.edu.

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@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.

Refreshments: Food and drink will be available in the gallery on the south side of Building G during registration and breaks.

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

Special thanks are extended to the site coordinators Dr. Erik Terdal, Associate Professor of Biology, and Dr. Craig Clifford, Professor of Biology, at Northeastern State University-Broken Arrow, who coordinated all aspects of the meeting, including room arrangements, multimedia, and the luncheon.

A special thanks is extended to President Don Betz for sponsoring the OAS Executive Council dinner meeting Thursday evening.

Upcoming Meetings:

2011 Oklahoma Junior Academy of Science Meeting, East Central University, March 24-26
2011 Spring Field Meeting, Lake Murray State Park, April 8-10
2011 Fall Field Meeting, Robber’s Cave State Park, Sept. 23-25
2011 Annual Technical Meeting, Nov. 4
SECTION A: BIOLOGICAL SCIENCES – BOTANY
Bldg. G, Room 110

Moderator: Brooke Stabler
University of Central Oklahoma


9:30  Break

9:45  **The Positive Effects of Mowing on Prairie Bryophytes. Channing Richardson. Oklahoma State University.


11:00  Section A Business Meeting, Building G, Room 112 (combined with Zoology)

**Graduate Competition
Posters

*Essential Genes with Unresolved Cellular Functions in *Arabidopsis thaliana*. Nicole Bryant, David Meinke. Oklahoma State University.

*Genetic Variability in the Mexican Milkweeds of the *Asclepias pringlei* Complex. Wyatt V. Sharber, Mark Fishbein. Oklahoma State University


*Undergraduate Competition
The Differential Effect of Tail Autotomy on Sprint Speed and Stride Length Between the Sexes in the Lizard *Uta stansburiana*. Matthew L. Anderson, Cybil N. Cavaliere, Stanley F. Fox, Felipe Rodriguez-Romero. Oklahoma State University, Universidad Autonoma del Estado de Mexico.

Refuging Ecology of *Crotaphytus collaris*. E. Santoyo-Brito, S. Fox. Oklahoma State University.


Why is the Bluebird Blue? Alesia Hallmark-Sharber, Jay Burtka, Jennifer Grindstaff. Oklahoma State University.


Section A Business Meeting
(combined with Botany)

*Undergraduate Competition

**Graduate Competition
Posters


*Undergraduate Competition
SECTION B: GEOLOGY

Section Chair: Kurtis Koll
Cameron University

11:00  **Section B Business Meeting – Bldg. G, Room 220**
  Shared with Physical Sciences, Engineering Sciences, and Biochemistry and Biophysics
  You may go to another location, if you wish.
SECTION C: PHYSICAL SCIENCES
Bldg. G, Room 220

(shared with Biochemistry and Biophysics)

Moderator: David Martin
University of Central Oklahoma


11:00  Section C Business Meeting
SECTION D: SOCIAL SCIENCES
Bldg. G, Room 126

Moderator: Robert Mather
University of Central Oklahoma


9:30  Break


10:00 Dynamical Systems Applied to Psychology. Ashalee C. Hurst, Robert D. Mather. University of Central Oklahoma.


11:00  Section D Business Meeting

Posters

Effect of Power on Moral Thinking Style. Victoria Gaetan, Brittney Becker, University of Central Oklahoma.

“Hitting the Wall” in Rowing. Nicole Gibbon, University of Central Oklahoma.

*The Effect of Frustration on Implicit Self-Esteem. James Rose, University of Central Oklahoma.

Investigating the Role of Encoding and Retrieval in Source Monitoring Processes. T. W. Hancock, W. Huffman, University of Central Oklahoma.

Evaluative Organization of Self- and Partner Knowledge In Relationships Formed Online, P.B. Mayfield, A. Limke, University of Central Oklahoma

*Undergraduate Competition
SECTION E: SCIENCE EDUCATION
Bldg. G, Room 114

Moderator: Erica Corbett
Southeastern Oklahoma State University

8:30 Using Projects to Increase Student Learning and Participation in a Lecture-Based Course. E. A. Bergey. University of Oklahoma.

8:45 Plagiarism: Is It a Growing Problem? What Can We Do? Erica Corbett. Southeastern Oklahoma State University.

9:00 Improving Oklahoma Science Education by Outsourcing. Aaron Elmer. Murray State College.

9:15 Laboratory Project to Study Root Foraging Behavior. Stan Rice. Southeastern Oklahoma State University.

9:30 Break

9:45 OK Green Schools: Where STEM Meets EE. Christina Stallings, Beth Landon, Jyoti Abraham. Oklahoma Forestry Services, Oklahoma City University, Bacone College.

10:00 “Doing Science” as Service/Learning. Beth Landon. Oklahoma City University.


11:00 Section E Business Meeting

AFTERNOON SESSION

2:00 OJAS Regional Directors Meeting. Rahmona Thompson.
SECTION F: GEOGRAPHY
Bldg. G, Room 124

Moderator: Brad Watkins
University of Central Oklahoma

9:00  Barn Types of Southwestern Oklahoma. Brad A. Bays. Oklahoma State University.


Illustrated Papers

9:30  Photomap of the National Park System. Gregory Plumb. East Central University.


10:00  *Utilizing GPS for Data Collection of Low Rent Facilities. Matt Stephens. East Central University.


10:30  Poster Viewing

11:00  Section F Business Meeting

*Undergraduate Competition
SECTION G: FISH AND WILDLIFE CONSERVATION
Bldg. G, Room 120

Moderator: Michael Reiskind
Oklahoma State University

9:00 Characteristics of a Feral Pig Population in the Cross Timbers Ecoregion: An Assessment of Select Habitat Variables on Relative Abundance. J. M. Howard, K. A. Baum. Oklahoma State University.


10:00 The Effects of Herbicide Application on Bee Communities and Floral Resource Availability within Rangelands. Kenny Wallen. Oklahoma State University.

10:15 Break


10:45 Section G Business Meeting

*Undergraduate Competition*
**SECTION H: MICROBIOLOGY**
Bldg. G, Room 224
Moderator: Terry Cluck
East Central University

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td><strong>Antibacterial Activity of Carvacrol Against Select Nosocomial Infection Causing Bacteria.</strong></td>
<td>S. K. V. Guda. Oral Roberts University.</td>
</tr>
<tr>
<td>9:30</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>9:45</td>
<td>**Hormetic Effect of Propamocarb on the Radial Growth of <em>Pythium aphanidermatum</em> In Vitro.</td>
<td>Francisco Flores, Carla Garzon. Oklahoma State University.</td>
</tr>
<tr>
<td>10:00</td>
<td>*Salt Tolerance of <em>Chaetomium globosum</em>.</td>
<td>Cody Griffin, Charlie Biles. East Central University.</td>
</tr>
<tr>
<td>10:30</td>
<td>Location Comparison of Fungal Populations in Grasshoppers, Plants, and Air.</td>
<td>C. Baldinger, L. Charqueno, T.Cluck, C. Biles. East Central University.</td>
</tr>
<tr>
<td>11:00</td>
<td><strong>Filling Phylogenetic Gaps in Virus Trees.</strong></td>
<td>Ulrich Melcher. Oklahoma State University.</td>
</tr>
<tr>
<td>11:15</td>
<td>Section H Business Meeting</td>
<td></td>
</tr>
</tbody>
</table>

*Undergraduate Competition
**Graduate Competition
SECTION I: ENGINEERING SCIENCES

Section Chair: Alaeddin Abu-Abed
University of Central Oklahoma

11:00  Section I Business Meeting – Bldg. G, Room 220
Shared with Geology, Physical Sciences, and Biochemistry and Biophysics
You may go to another location, if you wish.
SECTION J: BIOCHEMISTRY AND BIOPHYSICS  
Bldg. G, Room 220  
(shared with Physical Sciences)  
Moderator: Wouter D. Hoff/Charles Crittell  
Oklahoma State University/East Central University

9:00  Seed to Seed Variation in Peanut Fatty Acid Composition. C. Jerry Bowen, Robin D. Madden, Anita L. Smith, Matthew P. Smith, Hassan A. Melouk, Jack W. Dillwith. Rogers State University, Oklahoma State University.

9:15  *Novel Interactions of the Sumoylation Pathway with Microtubule Associate Proteins. Jacob Keeling, Rita Miller. Oklahoma State University.


9:45  Modulation of Cell Death by Carvacrol on Tumor and Primary Cells. Joel Gaikwad, Julie Marino, Kent Teague. Oral Roberts University, Oklahoma University College of Medicine.

11:00  Section J Business Meeting

Poster


Impact of Hsp90 Inhibition by Geldanamycin, on the Proteome of Leukemia Cells. Sudhakar Voruganti, Steve Hartson. Oklahoma State University.

*Undergraduate Competition

Break – Ugly Bug Judging


OMS Business Meeting

† OMS Timpano Competition
9:00  **You Expect Me to Remember THAT??** Anita Walker. East Central University.

9:15  **Different Faces of Parallel Programming.** Clay Carley. East Central University.

9:30  Break

9:45  **Illusions in Optical Illuminance.** Brad Paddock, Anita Walker. East Central University.

10:00 **Measuring Cardiac Output: The Analysis of Dye Dilution Data.** Whitney McDaniel, Anita M. Walker. East Central University.

10:15 **Linear Algebra and Buffaloes.** Sarah Morris, Anita Walker. East Central University.

10:30 **Program Derivation of Matrix Operations in GF.** Charles Southerland, Anita Walker. East Central University

10:45  **Discrete Event Simulation in Perl.** Bill K. Walker. East Central University

11:00 **Section L Business Meeting**

*Undergraduate Competition*
SECTION M: ENVIRONMENTAL SCIENCES AND PLANNING
Bldg. G, Room 210

Moderator: Daniel McInnes
East Central University

8:30 *Contrasting Sustainable Landscape Architecture in China. Chase Lee.
Oklahoma State University.

8:45 *Landscape Architecture Beautifies Connecticut Water Treatment Facility.
Christina Bivens. Oklahoma State University.

Oklahoma State University.

9:15 *Catalina Foothills vs. Transformative Water in Landscape Architecture. James
Riter. Oklahoma State University.

9:30 *Comparison of Dilution Media’s Enumeration Efficacy and Percent Recovery
for Heterotrophic Bacteria in Natural Waters. C. Love, A. Mikell. Oklahoma
Christian University.

9:45 *Seattle Green Factor in Landscape Architecture. Eric Humphreys. Oklahoma
State University.

10:00 *The High Line – Unique Landscape Architecture. Clark Bockham. Oklahoma
State University.

10:15 *Social Philosophy and Urban Planning: The Influence of Thomas More and
Philip II. Steve Eilers. Oklahoma State University.

10:30 Contrasting the Landscapes of Runnymede, England. C. Leider. Oklahoma State
University.

Roberts University.

11:00 *Host-Specific Sequences Used to Identify Fecal Pollution Sources in Manistee

11:15 Section M Business Meeting

*Undergraduate Competition
SECTION N: BIOMEDICAL SCIENCES
Bldg. G, Room 214

Moderator: Bill Luttrell
Oklahoma Christian University

9:00  Techniques to Express and Purify Insoluble Recombinant Proteins in Prokaryote Expression Systems. E. L. Blewett. Oklahoma State University Center for Health Sciences.


9:30  Break


11:00  Section N Business Meeting

Posters


*Undergraduate Competition
James Tomasek
Luncheon Speaker

James Tomasek completed his Bachelor of Science degree at the University of Illinois and his Ph.D. in Biology at the State University of New York in Albany. After a post-doc at Harvard Medical School he took his first faculty position at New York Medical College.

Dr. Tomasek came to Oklahoma as an Associate Professor of Anatomical Sciences at OU-Health Sciences Center in 1988. He currently serves as a David Ross Boyd Professor in the Department of Cell Biology and became Dean of the Graduate School at OUHSC in 2003.

At OUHSC, Dr. Tomasek has been nominated or selected for awards in teaching over a dozen times and was awarded the Stanton L. Young Master Teaching Award in 1994. He has also been a prolific scientist with almost 50 published research articles, about the same number of invited lectures, and a successful well-funded research program in wound healing and elements of cell biology.
<table>
<thead>
<tr>
<th>Year</th>
<th>President, Institution</th>
<th>Year</th>
<th>President, Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1910</td>
<td>H. L. Lane, OU</td>
<td>1956</td>
<td>A. M. Stebler, OAMC</td>
</tr>
<tr>
<td>1911</td>
<td>D. W. Othern, Oklahoma City</td>
<td>1957</td>
<td>D. E. Howell, OAMC</td>
</tr>
<tr>
<td>1912</td>
<td>S. W. Reaves, OU</td>
<td>1958</td>
<td>G. J. Goodman, OU</td>
</tr>
<tr>
<td>1913</td>
<td>C. W. Shannon, OU</td>
<td>1959</td>
<td>E. Lucas, OU</td>
</tr>
<tr>
<td>1914</td>
<td>No meeting</td>
<td>1960</td>
<td>P. E. Smith, OUMS</td>
</tr>
<tr>
<td>1915</td>
<td>C. W. Shannon, OU</td>
<td>1961</td>
<td>E. M. Hodnett, OSU</td>
</tr>
<tr>
<td>1916</td>
<td>C. N. Gould, OU</td>
<td>1962</td>
<td>H. G. Barclay, TU</td>
</tr>
<tr>
<td>1917</td>
<td>L. C. Raiford, ISU</td>
<td>1963</td>
<td>G. A. Moore, OSU</td>
</tr>
<tr>
<td>1918</td>
<td>No meeting</td>
<td>1964</td>
<td>A. D. Buck, NOIC</td>
</tr>
<tr>
<td>1919</td>
<td>No meeting</td>
<td>1965</td>
<td>J. E. Webster, OSU</td>
</tr>
<tr>
<td>1920</td>
<td>M. M. Wickham, Norman</td>
<td>1966</td>
<td>C. R. Williams, PU</td>
</tr>
<tr>
<td>1921</td>
<td>A. F. Reiter, PU</td>
<td>1967</td>
<td>C. D. Riggs, OU</td>
</tr>
<tr>
<td>1922</td>
<td>J. B. Thoburn, Oklahoma City</td>
<td>1968</td>
<td>E. A. Reynolds, SWSC</td>
</tr>
<tr>
<td>1923</td>
<td>R. O. Whitenton, OAMC</td>
<td>1969</td>
<td>L. V. Scott, OUHSC</td>
</tr>
<tr>
<td>1924</td>
<td>S. Weidman, OU</td>
<td>1970</td>
<td>C. C. Carpenter, OU</td>
</tr>
<tr>
<td>1925</td>
<td>(spring) C. E. Sanborn</td>
<td>1971</td>
<td>P. Buck, TU</td>
</tr>
<tr>
<td>1925</td>
<td>(fall) H. L. Dodge, OU</td>
<td>1972</td>
<td>W. A. Carter, ECSU</td>
</tr>
<tr>
<td>1927</td>
<td>C. N. Gould, OU</td>
<td>1974</td>
<td>N. N. Durham, OSU</td>
</tr>
<tr>
<td>1928</td>
<td>O. M. Smith, OAMC</td>
<td>1975</td>
<td>B. Shirley, TU</td>
</tr>
<tr>
<td>1929</td>
<td>A. Richards, OU</td>
<td>1976</td>
<td>G. W. Todd, OSU</td>
</tr>
<tr>
<td>1931</td>
<td>A. O. Weese, OU</td>
<td>1978</td>
<td>G. Odell, OSU</td>
</tr>
<tr>
<td>1932</td>
<td>H. Patterson, OAMC</td>
<td>1979</td>
<td>R. Couch, ORU</td>
</tr>
<tr>
<td>1933</td>
<td>J. E. Knowles, PU</td>
<td>1980</td>
<td>G. Wolgamott, SWSU</td>
</tr>
<tr>
<td>1934</td>
<td>F. G. Brooks, OCU</td>
<td>1981</td>
<td>E. Rice, OU</td>
</tr>
<tr>
<td>1935</td>
<td>C. E. Decker, OU</td>
<td>1982</td>
<td>E. Grigsby, NSU</td>
</tr>
<tr>
<td>1937</td>
<td>B. D. Barclay, TU</td>
<td>1984</td>
<td>M. Whitmore, OU</td>
</tr>
<tr>
<td>1938</td>
<td>C. M. Perry, OU</td>
<td>1985</td>
<td>J. Black, OBU</td>
</tr>
<tr>
<td>1939</td>
<td>H. D. Chase, TU</td>
<td>1986</td>
<td>J. Wilhm, OSU</td>
</tr>
<tr>
<td>1940</td>
<td>G. L. Cross, OU</td>
<td>1987</td>
<td>M. K. Patterson,</td>
</tr>
<tr>
<td></td>
<td>R. W. Jones, OAMC</td>
<td></td>
<td>Noble Foundation</td>
</tr>
<tr>
<td>1941</td>
<td>R. W. Jones, OAMC</td>
<td>1988</td>
<td>M. P. Carpenter, OU</td>
</tr>
<tr>
<td>1944</td>
<td>V. G. Heller, OAMC</td>
<td>1993</td>
<td>J. R. Estes, OU</td>
</tr>
<tr>
<td>1945</td>
<td>J. R. Nielsen, OU</td>
<td>1994-1995</td>
<td>J. D. Tyler, CU</td>
</tr>
<tr>
<td>1946</td>
<td>O. C. Dermer, OAMC</td>
<td>1996-1997</td>
<td>C. Taylor, SEOSU</td>
</tr>
<tr>
<td>1949</td>
<td>J. C. Shirley, PU</td>
<td>2002-2003</td>
<td>C. Clifford, NSU</td>
</tr>
<tr>
<td>1950</td>
<td>H. Taylor, OCW</td>
<td>2004-2005</td>
<td>S. Young, SNU</td>
</tr>
<tr>
<td>1951</td>
<td>H. W. Larsh, OU</td>
<td>2006-2007</td>
<td>S. Barber, OCU</td>
</tr>
<tr>
<td>1952</td>
<td>V. B. Monnett, OAMC</td>
<td>2008-2009</td>
<td>U. Melcher, OSU</td>
</tr>
<tr>
<td>1953</td>
<td>S. P. Massie, LU</td>
<td>2010-2011</td>
<td>K. Hobson, OU</td>
</tr>
<tr>
<td>1954</td>
<td>A. N. Murray, TU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1955</td>
<td>R. E. Olson, OU</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>