

# KAS BULLETIN



## NEWSLETTER OF THE KANSAS ACADEMY OF SCIENCE

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February, 2011

## 143<sup>rd</sup> ANNUAL MEETING OF THE KANSAS ACADEMY OF SCIENCE

April 8<sup>th</sup> & 9<sup>th</sup>

Baker University  
Baldwin City, Kansas

### MEETING ANNOUNCEMENT

The 143<sup>rd</sup> annual meeting of the Kansas Academy of Science is scheduled for Friday, April 8<sup>th</sup>, and Saturday, April 9<sup>th</sup>, at Baker University.

The deadline for submitting abstracts and for on-time registration is Friday, March 25<sup>th</sup>, 2011. Photo, oral, and poster abstracts must be submitted online by emailing the appropriate submission form to KAS@BakerU.edu.

#### Friday's Events:

- Baker Wetlands Tours (3pm & 4pm)
- KU Natural History Museum Tours (3pm)
- KU Electron Microscope Lab Tour (3pm)
- KAS Banquet at Maceli's in Lawrence, KS (7pm)
- Banquet Keynote Speaker Dr. Mark Moffett presents: **"Adventures Among Ants"**

#### Saturday's Events:

- 12<sup>th</sup> Annual KAS Paleontology Symposium: *Paleontology in the Midwest*
- Presentations (8:30 am & 11:30am)
- Awards Luncheon at Harter Union (1:30 pm)
- Luncheon Keynote Speaker Dr. Mark Moffett presents: **"The High Frontier: The Canopy"**

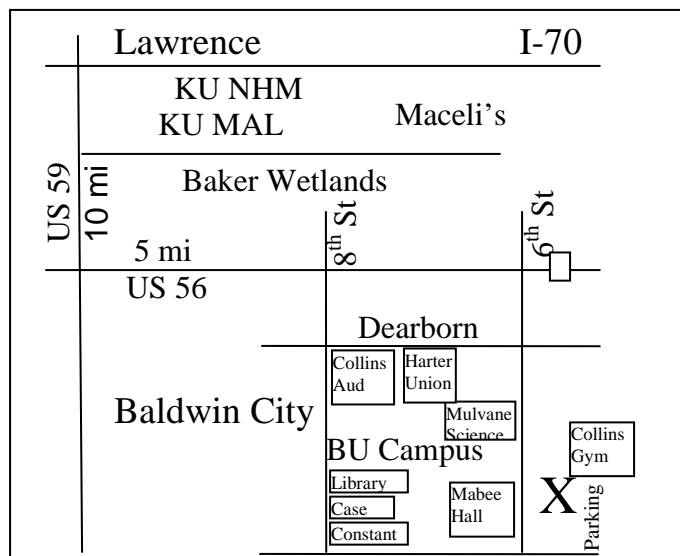
### NEW KAS Photo Contest!

See the KAS website for information regarding the new *Science in Kansas* photo contest with categories of Kansas:

- Plants
- Chemistry, Physics, & Geology
- Scientists at Work
- Animals
- Microscopy
- Environments

### ORAL & POSTER PRESENTATIONS

First, second, and third place presentation winners will receive \$200, \$150, and \$100, respectively. Oral presentations are limited to 15 minutes. Posters may not exceed 110 x 110 cm (42 x 42 inches).



## **ABSTRACT SUBMISSION**

The completed abstract form may be submitted by e-mail to [KAS@BakerU.edu](mailto:KAS@BakerU.edu). Include "KAS Abstract Submission" in the e-mail subject line. Please direct questions to Randy Miller at [William.Miller@BakerU.edu](mailto:William.Miller@BakerU.edu).

The abstract should be no more than 250 words (excluding title, authors, departments, and affiliation) and be single-spaced. Indicate the presenter with an asterisk (\*). Do not abbreviate department and institution names. Do not give city, state, or zip code. Punctuate as shown in the example below. The title in ALL CAPITALS, with no abbreviations, should begin two spaces following the institution name.

If the presenter is a student and is competing for an award, please include a number corresponding to the competition level after the student's name in the abstract:

(1) = B.S., (2) = M.S., (3) = Ph.D.

Example of an abstract:

\*Cook, N.H., E. Blackwell, A.D. Gasking and J.T. Clay, Department of Natural Sciences and Mathematics, Lincoln University. IN VITRO EFFECTS OF METHOXYETHYL CARBAMATE ON CHINESE HAMSTER FIBROBLASTS. Our previous studies have revealed the mutagenic potential of methoxyethyl carbamate (MEC)...

## **NOTICE FROM THE TRANSACTIONS EDITORS**

Dear Board and Members of the Kansas Academy of Science,

After five years of editing the Transactions of the Kansas Academy of Science, we intend to resign our positions within the next 12 months. This decision is not one we make lightly; the job has been rewarding and enjoyable, but we both find ourselves wishing to spend more time on our own research activities. We signed on initially planning a three year stint and have been on the job now for five years.

We feel that we have played a small part in bringing the Transactions to a new level of excellence, and we know that there are members out there who can take it even further. We encourage any interested members to make themselves known to the KAS board or either of us as soon as possible. An overlap of two issues was very helpful in our making the transition and would allow us to help the new editors make theirs. Having co-editors who split the job has helped immensely; we worked this by having one person do the peer review and the other do manuscript preparation and printing.

If you have any questions, please get in touch; your Academy needs you.

Sincerely,

Mike Everhart, [mike@oceansofkansas.com](mailto:mike@oceansofkansas.com)

Roy Beckemeyer, [royb@southwind.net](mailto:royb@southwind.net)

## 2011 KAS ANNUAL OFFICERS ELECTION BALLOT

### Vice-President (Vote for one)

\_\_\_\_\_ Brian R. Maricle  
\_\_\_\_\_ Write-in-Candidate

### Treasurer (Vote for one)

\_\_\_\_\_ Shaun E. Schmidt  
\_\_\_\_\_ Write-in-Candidate

### Secretary (Vote for one)

\_\_\_\_\_ Sam Leung  
\_\_\_\_\_ Write-in-Candidate

### Council Members (Vote for two)

\_\_\_\_\_ Jonathan Conard  
\_\_\_\_\_ William E. Jensen  
\_\_\_\_\_ Erin Morris  
\_\_\_\_\_ Leland Russell  
\_\_\_\_\_ Write-in-Candidate

Mail Completed Ballots, **postmarked on or before March 10, 2011**, to:

Hank Guarisco  
P.O. Box 4692  
Lawrence, Kansas 66046

## KAS ELECTION CANDIDATE BIOGRAPHIES

**Brian R. Maricle** earned a B.S. in Biology from the University of Nebraska at Kearney, and an M.S. and Ph.D. in Botany from Washington State University. "I am now an Assistant Professor in the Department of Biological Sciences at Fort Hays State University. My primary responsibilities are centered on teaching botany courses and related research and service. My training is in plant physiology and plant ecology. My students and I study ways that plants respond to the environment, especially conditions of drought, salinity, and flooding. I am interested in anatomical, physiological, and biochemical responses of plants to these conditions, and relating these properties to ecological questions."

**Shaun E. Schmidt** is currently an Associate Professor of Chemistry at Washburn University. He completed his BS in Chemistry at Florida Southern College in 1991. In 1995 he completed an MS in Chemistry followed by a Ph.D. in Inorganic Chemistry in 1999, both at the University of South Florida. Shaun has been a member of the Kansas Academy of Science since 2002 and has been serving as a Council Member at Large since 2005. Shaun has also served as KAS Student Research Grant Coordinator from 2005-2009 and chaired the Organizing Committee for the 141st Annual Meeting of the KAS in 2009.

**Sam Leung** is an Associate Professor of Chemistry at Washburn University. He earned his B.S. in Chemistry from the California State University at Stanislaus and his Ph.D. in Organic Chemistry from the University of California at Davis. He was a post-doctoral research fellow at Wesleyan University for two years before starting teaching at Washburn University in 1997. Dr. Leung's research interests include the chemistry of porphyrins and related compounds. He has served as the Webmaster for the Kansas Academy of Science since 1999 and was involved in the organization of the 141st KAS Annual Meeting in 2009 at Washburn University.

**Jonathan Conard** is currently a faculty member at Sterling College and enjoys teaching a variety of courses as part of the biology department. The favorite part of my job is seeing undergraduates get excited about ecological research and natural history as part of the biology curriculum. My educational background includes graduating with a B.S. in biology from Southwestern College in Winfield, Kansas and completing my graduate studies at Kansas State University for both my M.S. and Ph.D. programs.

“My scientific interests include landscape ecology, demographic methods, and spatial analysis. I am particularly interested in applied ecology and conservation biology in grassland systems. I have studied groups of species ranging from small mammals to elk in Kansas and really enjoy the opportunity to conduct field research.”

**William E. Jensen** has been a resident and biologist in Kansas for 14 years. He earned his undergraduate degree in Fisheries and Wildlife from the University of Missouri-Columbia in 1996, where he developed an interest in habitat fragmentation effects on birds while working with the MU Avian Ecology Lab. Bill moved to Emporia, Kansas in the same year to pursue an MS in Biological Sciences at Emporia State University. At ESU, Bill examined edge effects on grassland-nesting birds. After a couple seasonal field jobs, including employment with the Kansas Department of Wildlife and Parks, Bill began his doctorate program in Biology at Kansas State University where he explored density-dependent distribution in the brown-headed cowbird across the Flint Hills, and demographic sensitivity in the northern bobwhite. As a post-doctoral research associate, he coordinated a study on responses of grassland birds to grassland management in the Flint Hills. After a temporary position with the Important Birds Areas Program at the Missouri office of the National Audubon Society, Bill returned to the Department of Biological Sciences at ESU as wildlife biology faculty, where he also serves as Director of Natural Areas and Director of the Schmidt Museum of Natural History. He teaches Wildlife Management, Conservation Biology, Natural Resource Policies, Mammalogy, Ornithology, and Field Ecology at ESU, and is currently advising MS students in avian and mammalian ecology. Bill's research has resulted in 16 peer-reviewed publications in scientific journals. Bill has served on the Kansas Nongame Wildlife Advisory Council, on the Board of the Kansas Ornithological Society, and as President-Elect of the Central Plains Society of Mammalogists.

**Erin Morris** attended Drury University as an undergraduate and then earned her Ph.D. in Biology from the University of Missouri-Columbia in 2004. She has taught at St. Lawrence University and Monmouth College, and has been a faculty member of the biology department at Baker University in Baldwin City, Kansas since 2007. “My research currently focuses on understanding signal transduction pathways that control *Arabidopsis* development.”

**Leland Russell** is a plant population ecologist in the Biology Department at Wichita State University. “The primary foci of my research are 1) explaining spatial and temporal variation in the amount of damage that herbivores do to their host plants, 2) examining herbivores' impacts on plant population growth rates and spatial distributions and 3) exploring population and community processes that underlie understory plant recovery in savanna restorations. In much of my work on plant-herbivore interactions, I have used tall thistle (*Cirsium altissimum*) and its suite of insect herbivores as my study system. I have on-going projects in restored grasslands of south-central Kansas and oak savannas and woodlands in the Chautauqua Hills of southeastern Kansas. My teaching interests include ecology, plant-animal interactions, conservation biology and vascular plant diversity. Before coming to Wichita State in 2005, I was a post-doc at the University of Nebraska-Lincoln and I earned my Ph.D. at University of Texas-Austin. I have served as a manuscript reviewer for Transactions of the Kansas Academy of Science since 2005. In 2010, an undergraduate researcher in my lab and I published our results on beaver foraging patterns in south-central Kansas riparian zones in Transactions of the Kansas Academy of Science.”

## FLORIDA KEYS DECLARE OPEN SEASON ON THE INVASIVE LIONFISH

Excerpts from Erik Olsen, The New York Times, November 22, 2010



Photo by Erik Olsen

KEY WEST, Fla. — Crawling through turquoise murk on the ocean floor near Tea Table Key, Rob Pillus glances at a half dozen lobsters that twirl their antennae in the fast-moving current. Mr. Pillus, an avid spear fisherman, would normally stuff the crustaceans into his mesh bag for dinner, but today he is after more exotic quarry: an invasive species called the lionfish that threatens to wreak havoc on this ecologically sensitive marine system.

Mr. Pillus is team captain of the Lion Hunters, one of 18 groups of divers armed with nets or sharp spears who are here to compete in the final stage of a newly created lionfish derby in the Florida Keys.

Derbies like this are one way that officials and scientists are seeking to bring attention to the potential damage caused by this voracious, rapidly breeding fish and to control its spread, which in the Florida Keys has been so quick that wildlife managers are having a hard time adapting. The first fish wasn't discovered until January 2009, when a single female was found and immediately removed by scientists from a reef in Key Largo. Now the lionfish is plentiful enough to have multiple derbies.

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A native of the Indo-Pacific Ocean and the Red Sea, the lionfish has no known predators. It is believed to have been released by aquarists sometime in the 1990s and has since spread up the East Coast to North Carolina and through the Caribbean.

Scientists say the fish can produce 30,000 eggs in a single spawning event, and can spawn as frequently as every four days. "That means we're looking at annual output of two million eggs per female," says Lad Akins, a research diver and the director of operations with the Reef Environmental Education Foundation, or Reef.

Scientists and policy makers are at a loss as to how to eradicate the fish, a goal that a 2003 report from the National Oceanic and Atmospheric Administration says is "nearly impossible." The only hope, say officials, is some form of local control.

Which is where the derbies come in. On Nov. 13, 18 teams competed from sunrise to sundown to kill as many fish as they could with hopes of sharing \$3,350 in prize money.

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# ONE REASON LIZARDS HAVE EARS: TO EAVESDROP

By Henry Fountain, The New York Times, March 4, 2010

Lizards are not the most loquacious of animals. Aside from the geckos, they don't vocalize to communicate with other members of the same species.

Yet most lizards have well-developed ears. So that raises the obvious question: if they don't use sounds to communicate, what do they use the ears for?

Ryo Ito and Akira Mori of Kyoto University in Japan supply one answer: to eavesdrop on other animals. Writing in *The Proceedings of the Royal Society B*, they describe how the Madagascan spiny-tailed iguana overhears the alarm calls of nearby birds to protect itself from predators.



Illustration by Chris Gash

The researchers studied iguanas in a dry deciduous forest in northwestern Madagascar, an area teeming with vertebrate species, including the Madagascar paradise flycatcher. The iguana and the flycatcher live in proximity but have no real ecological interaction — one doesn't feast on the other, and they don't share parasites or compete for food. They are, however, hunted by the same predators, raptors like hawks and buzzards.

Unlike the iguanas, the flycatchers are very vocal, particularly when a predator is nearby. They exhibit “mobbing” behavior, approaching and harassing the enemy bird and shifting from their normal songs to alarm calls that alert other birds of the danger.

In a series of experiments, the researchers tested whether iguanas in the field responded to recorded flycatcher alarm calls. They found that an iguana becomes more vigilant — most often moving its head while keeping the rest of the body still.

The researchers found that the flycatcher alarm calls were the same no matter which predator species was present. So by moving only its head, an iguana might be able to further identify the predator and evaluate the risk while avoiding other movements that might make the predator take notice.

The Madagascan iguana is only the second iguana known to eavesdrop like this, joining a marine species on the Galápagos Islands that was the subject of a study several years ago. The two findings suggest that the behavior may be widespread in these kinds of lizards.

# REGISTRATION FORM

143<sup>rd</sup> ANNUAL MEETING OF THE KANSAS ACADEMY OF SCIENCE

APRIL 8 and 9, 2011



Mabee Hall, Baker University, Baldwin City, KS 66006

Contact: Department of Biology, Mulvane Science Hall  
785-594-8419, fax: 785-594-8360, e-mail: [KAS@BakerU.edu](mailto:KAS@BakerU.edu)

Deadline for Abstracts: March 25, 2011

Deadline for On-Time Registration: March 25, 2011

## CONTACT INFORMATION: (PLEASE REGISTER ONLY ONE PERSON PER FORM)

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_ Initial: \_\_\_\_\_  
Mailing address: \_\_\_\_\_ Affiliation: \_\_\_\_\_  
Mailing address: \_\_\_\_\_ Phone: \_\_\_\_\_  
City, State, Zip: \_\_\_\_\_ E-mail address: \_\_\_\_\_

KAS: T-shirt size: (1 Included): Small \_\_\_\_\_, Medium \_\_\_\_\_, Large \_\_\_\_\_, Extra Large \_\_\_\_\_ . Extra T-shirt \$12 \_\_\_\_\_

I am willing to Judge Talks & Posters Saturday Morning: \_\_\_\_\_ I am willing to moderate a Presentation Session: \_\_\_\_\_

## REGISTRATION: (Check Only One Box and Enter Total) Late: after March 25, 2011

\_\_\_\_ KAS Member: \$40    \_\_\_\_ Non-Member: \$50    \_\_\_\_ Late Registration (both): \$60  
\_\_\_\_ KAS Student: \$20    \_\_\_\_ Student Non-Member: \$30    \_\_\_\_ Late Registration (both): \$40    Total \$ \_\_\_\_\_

## MEALS: (Check Desired Meals and Enter Total)

\_\_\_\_ Friday Evening Banquet at Maceli's    \$18    \_\_\_\_ Vegetarian    \_\_\_\_ Regular  
\_\_\_\_ Saturday Awards Luncheon at Baker Union    \$15    \_\_\_\_ Vegetarian    \_\_\_\_ Regular    Meal Total \$ \_\_\_\_\_

## 2011 KAS - MEMBERSHIP: Dues include a subscription to the *Transactions*

KAS Membership:    \_\_\_\_ Student \$15    \_\_\_\_ Regular \$25    Membership \$ \_\_\_\_\_

**PRESENTATIONS:** check all that apply    \_\_\_\_ Poster    \_\_\_\_ Photos    \_\_\_\_ Talk  
E-mail one Abstract Form (found at [kansasacademyscience.org](http://kansasacademyscience.org)) per Presentation to [KAS@BakerU.edu](mailto:KAS@BakerU.edu)

## SPECIAL Events: (Check One Box)

\_\_\_\_ 2:00 pm, Baker Wetland Tour with Roger Boyd.    \_\_\_\_ 4:00 pm, Baker Wetland Tour with Roger Boyd.  
\_\_\_\_ 3:00 pm, Behind the Displays Tour of the KU Natural History Museum. Limit 30.  
\_\_\_\_ 3:00 pm, Tour & demonstration at KU MAI Laboratory, including TEM, SEM, and Confocal Microscopes. Limit 20

## PAYMENT OPTIONS: (Check One Box)

Check \_\_\_\_\_ Purchase Order \_\_\_\_\_ Credit Card \_\_\_\_\_ Payment Total \$ \_\_\_\_\_

Make Checks Payable to Department of Biology – KAS. Mail Payment to: Department of Biology, PO Box 65,  
Baker University, Baldwin City, KS 66006    785-594-8419, Fax: 785-594-8360, e-Mail: [KAS@BakerU.edu](mailto:KAS@BakerU.edu)

**Cancellations & Refunds:** All cancellations and refunds must be made in writing to the address or e-mail above. No refunds after April 2, 2011.

**Notice of Access ability:** The Kansas Academy of Science is committed to making programs accessible to people of disabilities. If you wish to volunteer information regarding any special assistance you may need, please contact the Department of Biology office at 785-594-6451.

**Notice of Non-Discrimination:** Baker University does not discriminate in its programs and activities on the basis of race, religion, color, sexual orientation, national origin, gender, age, or disability.



KANSAS ACADEMY OF SCIENCE  
Kansas Geological Survey  
University of Kansas,  
Lawrence, KS 66047

Don't miss this year's keynote speaker:

## Doctor Bugs



From the top of the world's tallest tree, to deep in unexplored caves, Mark Moffett has discovered new species and behavior while risking life and limb to find stories that make people fall in love with the unexpected in nature.

With a Ph.D. from acclaimed conservationist Edward O. Wilson, Mark remains active in science, with over 80 peer-reviewed publications. He has penned more than 20 articles for National Geographic Magazine, which has featured nearly 500 of his images, and he has appeared on Conan O'Brien, the Colbert Report, and NPR.

<http://www.doctorbugs.com/>

## MARK W. MOFFETT