

# *The Alumnidae*

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## *Delta Dental of Oklahoma establishes new scholarship*

The Delta Dental of Oklahoma Oral Health Foundation recently established the “Delta Dental Scholarship in Integrative Biology Fund”. The \$25,000 endowment will allow an annual scholarship to be awarded to a sophomore or junior student with the career goal of entering dental school. The student must be majoring in one of the three departmental majors, Biological Science, Physiology, or Zoology and have at least a 3.5 grade point average on a 4.0 scale. The student should have documented financial need and other evidence of campus leadership and community involvement. The Delta Dental of Oklahoma Oral Health Foundation is a nonprofit, charitable organization established and funded by Delta Dental of Oklahoma, the state’s only not-for-profit dental benefits company. The Department of Integrative Biology sincerely thanks Delta Dental of Oklahoma for supporting pre-dental students. The first scholarship will be awarded in Spring 2018.

## *Greetings from the Department Head*

Hope you are all having a great fall season. This is going to be one of those “good news – bad news” updates from the Integrative Biology Department. I’ll get the bad news out of the way first. Unfortunately, two of our faculty are leaving at the end of this semester to take jobs at the University of Tennessee, Mona Papes and Arpi Nyari. We certainly wish them well and will miss them. However, as a result of college cuts we are not being allowed to replace those positions until Fall 2018. On top of that our departmental operating budget was cut 25%. It remains to be seen how this will affect the momentum the department has been building over the last few years since these cuts and position changes just went into effect.

Now on to the good news. We hit a record undergraduate enrollment of 678 students this fall! That’s a jump of 65 students. The University, for the same time period, had a total increase of 70 students. This departmental increase is due to the dedicated efforts of our undergraduate advisers, faculty-student interactions, and the addition of new degree options in our major degree programs. Moreover, our faculty brought in \$2.3 million in grants this year! Thanks to our alumni and friends we also saw a fantastic increase in gifts and donations to the department in 2016, the highest on record. There is much more good news to share in the following pages. We hope you will enjoy the articles. Finally, the Integrative Biology Banquet will be held April 19, 2017. We hope to see you there and until then please feel free to stop by the office in 501 Life Sciences West for a visit.

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Department Head  
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*Dr. G. Michael Steelman chosen Integrative Biology Distinguished Alumnus for 2016*

Every year the College of A & S chooses a representative from each of its 24 departments to receive the prominent College of A & S Distinguished Alumnus Award. Distinguished Alumni are recognized for bringing distinction to Oklahoma State through extraordinary achievements in their fields of discipline and demonstrating records of outstanding service. Dr. G. Michael Steelman (right) is the 2016 Integrative Biology Distinguished Alumnus.



Dr. Steelman was raised in Haskell, Oklahoma. He attended OSU from 1965-1969, graduating with a B.S. in Zoology. After completing medical school at the University of Oklahoma and post-graduate clinical training, he joined a general practice clinic in Holdenville, OK. In 1979 he relocated to Oklahoma City and became interested in the treatment of eating disorders and obesity. He was medical director of the State's first inpatient eating disorder program. Later, he restricted his practice to the medical management of obesity until his retirement in 2015. He was Board Certified in Family Practice and the first Oklahoma physician to be Board Certified in Bariatric Medicine. He served as President of the American Society of Bariatric Physicians (ASBP), and acted as a consultant to former Surgeon General, C. Everet Koop, in producing the nation's first guidelines for the treatment of adult obesity. He has published several articles in medical journals and is one of only two physicians to be twice named Bariatrician of the Year by the ASBP. Dr. Steelman is co-editor of a textbook on the evaluation and treatment of obesity.

In 2007, Dr. Steelman created the first endowed named scholarship for an undergraduate to be awarded annually to a deserving student in the Department of Integrative Biology.

*Integrative Biology undergraduate is Udall nominee*



Lindsey Hancock (left), a pre-med physiology major is a current nominee for the prestigious Udall Scholarship. The United States Congress established the Udall Scholarship Foundation in 1992 to honor Congressman Morris K. Udall and his legacy of public service. In 2009, the foundation chose to honor Stewart Udall (Morris' brother) as well by adding his name to the Scholarship. The Foundation is authorized to award one-year scholarships of \$7,000 to undergraduate students who are committed to careers related to the environment, or Native American and Alaska Native undergraduates who intend to pursue careers in native health care or tribal public policy.

Lindsey was recently awarded the first place underclassman prize for the 2016 Undergraduate Library Research Award. The award of \$1,500 recognizes excellence in research, critical thinking, and self-reflection and is awarded by the Oklahoma State Library. The criteria for this award focus more on the scientific process involved in research and how the library played a role in the successful completion of the project, rather than the research project itself. Lindsey's research, completed in collaboration with Dr. Gilbert John of the Microbiology and Molecular Genetics Department, involved exploring what makes *Pseudomonas aeruginosa* (a common disease-causing bacterium) resistant to many current antibiotics.

## *Dr. Mary Towner receives funding from NSF*

Dr. Mary Towner (right), Department of Integrative Biology, was recently awarded a \$203,000 grant from the National Science Foundation. Along with her collaborator, Dr. Kermyt Anderson (Department of Anthropology, University of Oklahoma), Dr. Towner and her students will study the impact of migration, access to resources, and ethnicity on fertility across American Indian women in historical Oklahoma. Between 1828 and 1887, the United States Government relocated tens of thousands of American Indians to Indian Territory (present-day Oklahoma). It is well documented that this relocation resulted in high mortality rates and drastic reductions in population size. One aspect that has not been explored is how women's fertility, defined by demographers as number of live births, varied with social and ecological conditions during this tumultuous period. Using data from the 1910 United States Federal Census and records from archives at the Oklahoma Historical Society and elsewhere, Towner's lab group will study how the hardships associated with relocation impacted fertility, including how fertility patterns varied, depending on tribal nation and place of residence within Oklahoma. This project will also provide undergraduates an opportunity to engage in STEM research.



## *Three Integrative Biology faculty receive University Awards*

During the recent University Awards Convocation held 30 November, three Integrative Biology faculty members were honored for their accomplishments.

### **President's Cup for Creative Interdisciplinarity: Dr. Donald French, Team Leader.**

The President's Cup team competition recognizes creative interdisciplinary research, instruction, and/or service. For this competition, interdisciplinary is defined as a project that crosses, at minimum, two academic departments or schools within a college. Each team must include at least two OSU faculty members. The seven-member team directed by Dr. French included faculty from the College of Educational Studies, College of Arts and Sciences, and College of Agricultural Sciences and Natural Resources. Their project on STEM Persistence Through Flexible Authentic Research Opportunities received the Third place prize.

### **Award for Excellence in the Advancement of the Land-Grant Mission of OSU: Dr. Kristen Baum**

The purpose of this award is to recognize a faculty member whose exemplary contributions promote the land-grant mission. The criteria for selection include, among other things, contributions towards the land-grant mission of instruction, research, outreach, and creative activities. Awardees must advance the land-grant mission and represent OSU to the state, the nation, and the world and promote learning within and outside the university setting. Dr. Baum was also recognized for an additional award (College of Arts and Sciences Advising Excellence Award) at the convocation.

### **OSU Sigma Xi Young Investigator Award - Dr. Monica Papes**

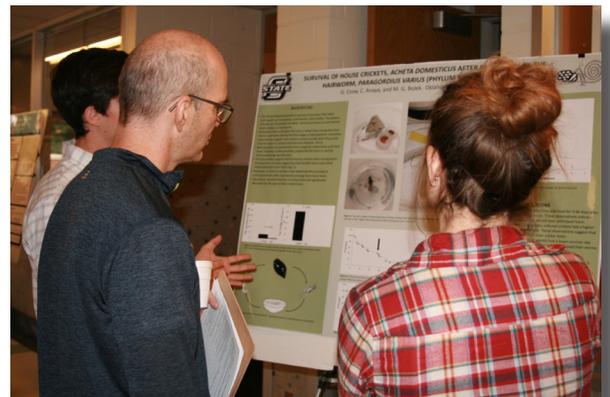
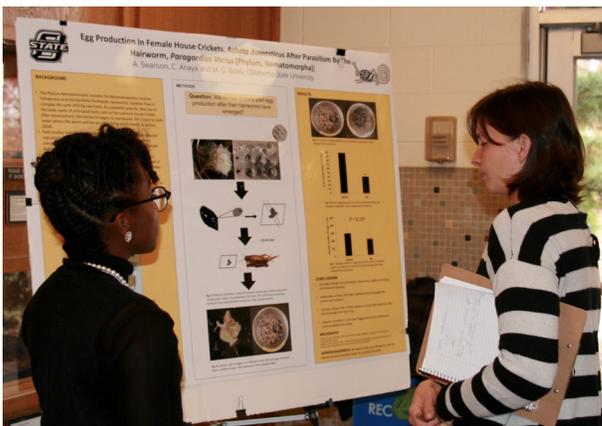
Sigma Xi, the Scientific Research Society, established the Young Investigator Award in 1998. The Oklahoma State Chapter of Sigma Xi recognizes each year one member of the OSU community that is in the early stages of his or her career and has begun to establish a notable research program.

### *Dr. Kristen Baum and Dr. Monica Papes receive funding from U.S. Fish and Wildlife Service*

Drs. Baum and Papes recently received funding (\$250,000) from U.S. Fish and Wildlife Service for their part of a collaborative project to examine the restoration of native pollinator habitat in Oklahoma and Texas grasslands. They will collaborate with Dr. Shalene Jha of the University of Texas at Austin, state wildlife officials in Oklahoma and Texas, the Oklahoma Tribes Monarch Habitat Project, and the Gulf Coast Prairie Landscape Conservation Cooperative to select habitats vital to threatened pollinators in the two states. Once sites have been selected, restoration efforts, including prescribed burning of rangelands and seeding with native plants that are vital to these pollinators, will begin. Seeding efforts will include both pollen plants (right) and host plants, such as milkweed (left). The project also includes the development of models to predict current and future distributions for pollinator species that are of conservation concern - primarily monarch butterflies (right) and bees.



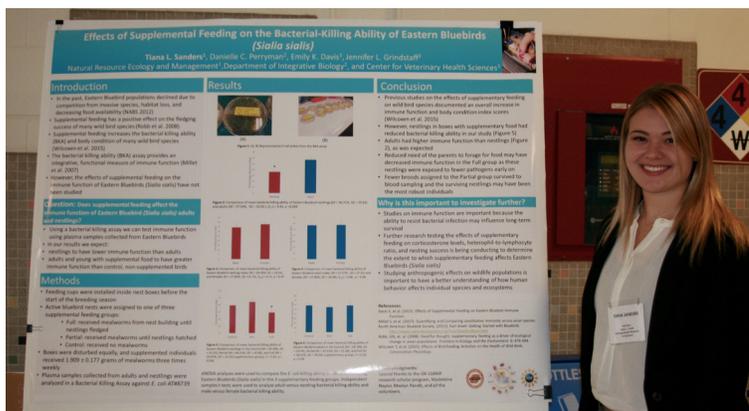
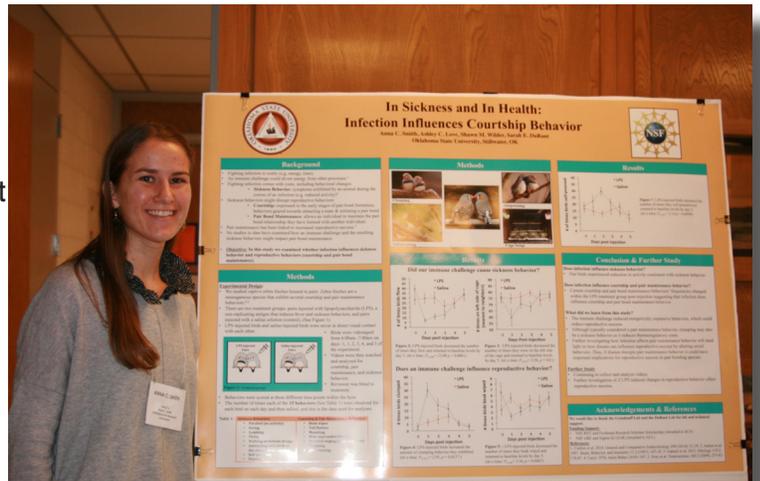
### *Integrative Biology faculty and students participate in the Fall Karen L. Smith Undergraduate Research Symposium*



On 2 December 2016, the Integrative Biology Department held the Fall Karen L. Smith Undergraduate Research Symposium. Karen, who passed away on 2 November 2012 was the senior academic counselor in the Department of Zoology. The symposium was established in November 2012 in recognition of Karen's tireless efforts to enhance the undergraduate experience - especially those in the Department of Integrative Biology. The symposium provides professional development opportunities for undergraduates in the department. See page 5 for more photos and information from the symposium.

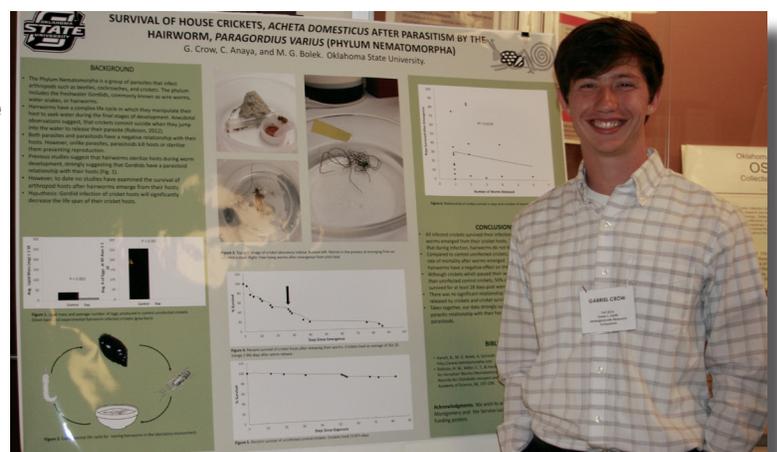
## Karen L. Smith Undergraduate Research Symposium

Anna Smith (right) is the recipient of the Karen L. Smith Undergraduate Research Excellence Award for her research on the influence of sickness on courtship behavior in Zebra Finches. Her collaborators were Ashley Love (Ph.D student), Dr. Shawn Wilder, and Dr. Sarah E. DuRant. This award given for the best student presentation at the symposium includes \$250 and is made possible by the Karen L. Smith Undergraduate Research Symposium Fund. Anna was one of 11 undergraduates to present the results of their research projects. Students were judged on the content as well as flow and readability of their posters.



Tiana Sanders (left) presented results of her study examining the effects of supplemental feeding on bacterial killing ability of Eastern Bluebirds. Tiana worked with Danielle Perryman (M.S. student) and Dr. Jennifer Grindstaff, Department of Integrative Biology.

Gabriel Crow (right) presented a poster on the results of his study on survival of house crickets after parasitism by the hairworm *Paragordius varius*. His collaborators were Christina Anaya (Ph.D. student) and Dr. Matthew Bolek, Department of Integrative Biology.



# The Alumnidae

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