



Prairie Rattlesnake, T. Towers

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Department of Biological Sciences, Fort Hays State University, Hays, KS

Biology and Nursing Professor of 29 Years Retires

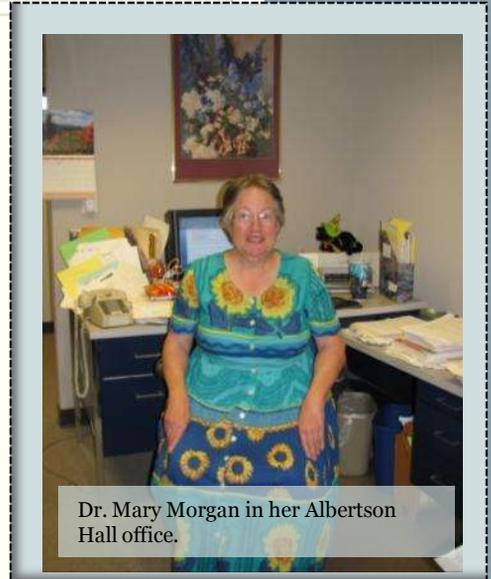
Dr. Mary Morgan was born in Louisville, KY, and was raised in Davenport, Iowa and Manhattan, KS where her father worked as an athletic trainer for Kansas State University. Her life and interests took a fascinating, and somewhat winding, path to her current position as Professor in the Departments of Biological Sciences and Nursing at FHSU.

Dr. Morgan is interested in all things biology, and will devour books relating to any branch of the discipline. The centrality of physiology to all of biology, as well as her interest in medical research, informed her decision to major in physiology at Michigan State. Upon completion of her BS, she continued her education with a PhD program in physiology. Her first professional position as an assistant professor at West Virginia University in Morgantown taught her that, while she was interested in research, she had a strong affinity for teaching. She was strongly influenced by Masters of Nursing students who were learning biology and making a difference. After a brief stint as a postdoctoral fellow at University of Colorado Medical Center in renal research, she decided to move forward with an interest in nursing. Dr. Morgan acquired a second BS in nursing from Wichita State University and began teaching in the nursing department at FHSU in 1980. She was; however, still a biologist at heart, and through the collaboration of many individuals, and joint appointment between biology and nursing was established.

After 29 years of teaching in nursing and biology at FHSU, Dr. Morgan has decided to retire. She will miss her colleagues, excellent students and the automatic intellectual stimulation. She is very well traveled, has seen much of the world, and looks forward to more adventures following her retirement. Her current plans are a trip to Italy and Greece this summer, Antarctica or the Sea of Cortez (to scratch the whales) soon thereafter, and St. Lawrence Estuary, Tasmania, South Africa, Botswana, and New Zealand in the more distant future. She also looks forward to more time for reading and attending seminars and thesis defenses.

When asked for advice for students and professionals, she stated, "Be socialized into your position, choose a major professor that is publishing and going to meetings, go to meetings, attend at least two different schools at the graduate level to get experience in many different research techniques, and most of all, meet people and develop a network." This is sage advice from an amazing woman, colleague, teacher, nurse, physiologist and friend who has seen and done much, both personally and professionally.

While we are excited for Dr. Morgan and look forward to hearing about her retirement adventures, she will be greatly missed by the both the Departments of Biological Sciences and Nursing. Thank you, Dr. Morgan, for all you have done for your students, your colleagues, your departments and FHSU!



Dr. Mary Morgan in her Albertson Hall office.

Inside:

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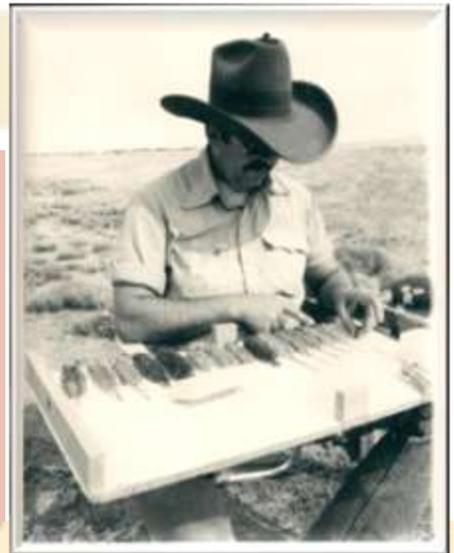
Undergraduate Student Feature:
Heath Owens

Graduate Student Features

Much more!

In Memoriam ~ Dr. Jerry R. Choate (1943-2009)

Dr. Jerry R. Choate, recently retired professor of biology, former director of the Sternberg Museum of Natural History, and curator of mammals, died following an eight-month battle with cancer on December 9th, 2009. A beautiful, well-attended memorial service celebrating Dr. Choate's life was held at the Sternberg Museum in Hays, KS on April 18th, 2010. Dr. Choate is survived by his wife, Fi, his son and daughter-in-law, Judd and Lyn Kathlene, and a granddaughter, Mahlon.



Dr. Judd Choate recalls his father telling him, "The greatest gift you could give yourself is a job you enjoy." Dr. Jerry Choate not only gave this advice to his son, but he followed it himself with vigor. His love and enthusiasm for his work is memorialized in his numerous accomplishments, awards, and graduates.

He belonged to and served numerous professional organizations, including the Southwestern Association of Naturalists, for which he served on the Board of Governors, President, Board of Trustees, several committees and Associate Editor of the *Southwest Naturalist*. He was so integral to the society that the name of the Service Award was recently changed to the "Jerry R. Choate Meritorious Service Award." He served in similar capacities with the American Society of Mammalogists, attended every meeting from 1966 to 2009, and will be remembered at a memorial at the annual meeting in Laramie, WY on June 12th, 2010. Both societies, and many others, honored Dr. Choate's accomplishments and contributions as an organizer, advocate and scientist with many awards throughout his lifetime including the ASM Honorary Member Award, Joseph Grinnell Award, and the C. Hart Merriam Award (for outstanding contribution to the society, teaching, and outstanding research, respectively).

During his nearly forty year career at FHSU, Dr. Choate injected his enthusiasm into everything he did. In an interview shortly before his retirement in May, 2009, he listed the career accomplishments of which he was most proud:

- ◆ His graduate students, of which there are 54, working all over the US and the world,
- ◆ The Museum of the High Plains, which eventually formed an alliance with the Sternberg Museum of Natural History, and under his direction, grew and moved to its current location,
- ◆ His active research program and contribution to the scientific community in the form of nearly 200 publications including books, peer-reviewed and technical publications,



- ◆ And, the Kansas Mammal Atlas. Department of Biological Sciences Chair, Dr. Elmer Finck, summarizes how Dr. Choate contributed and will be missed. "Jerry was a consummate scientist, who supported students in their quest for knowledge. He was able to draw the best out of students. He was a recognized expert with several different species of mammals. His reputation in mammalogy is internationally known. It was his drive to excel that lives in all of us who had contact with him. We miss him and his down to earth realism."

Department Outreach and Professional Presentations

•Eight Annual K-INBRE Symposium in Kansas City Missouri, January

- Attended by Dr. Eric Gillock, Shingo Ishihara and Holly Miller.
- H.A. Miller and E.T. Gillock. 2010. Analysis of invertebrate organisms for the presence of PrP prion genes.
- S. Ishihara, H.A. Miller, and E.T. Gillock. 2010. Genetic analysis of vancomycin-resistant gram positive cocci isolated from wild songbirds.

•Kansas Natural Resource Conference, Wichita, KS, February

- Attended by: Dr. Elmer Finck, Dr. Bill Stark, Justin Anderson, Wes Flemming, Alex Galt, Chasen Gann, Jordan Hofmeier, Justin Hamilton, Ryan Pinkall and Bryan Sowards
- Justin Anderson and E.J. Finck. Effects of burning and grazing on small mammals in the Central Platte River Valley, Nebraska
- Alex Galt and E.J. Finck. Effects of Wetland Restoration Techniques on Avian Communities and Vegetational Attributes in Small Prairie Pothole Wetlands.**
- Graduate Student Presentation Award Winner**

•2010 Joint Meeting of the Minnesota Chapters of The Wildlife Society, American Fisheries Society, Society of American Foresters, and Society for Conservation Biology in Brainerd, MN.

- Alex Galt and E.J. Finck. Effects of Wetland Restoration Techniques on Avian Communities and Vegetational Attributes in Small Prairie Pothole Wetlands.

•Annual Meeting of the Missouri Valley Branch of the American Society of Microbiology, Manhattan, KS, April.

- Shingo Ishihara and E. Gillock. Genetic Analysis of Vancomycin-Resistant Gram Positive Cocci Isolated from Wild Songbirds

•Black Hills Area Botanists and Ecologists Workshop VIII, Rapid City, SD

- S.A. Thomasson, R.J. Packauskas & J. R. Thomasson, Scanning Electron Microscopy of Mycorrhizae of Coralroot Orchids (*Corallorhiza*)
- J. R. Thomasson, Scanning Electron Microscopy of *Botrychium campestre* and *Botrychium lineare* from the Black Hills, South Dakota

•142nd Kansas Academy of Sciences, Hays, KS, April

•**Alex Galt and E.J. Finck. Effects of Wetland Restoration Techniques on Avian Communities and Vegetational Attributes in Small Prairie Pothole Wetlands.**

•**1st place, Graduate Student Oral Presentation Competition**

•Kristen Polacik and B.R. Maricle. Effects of flooding and soil type on photosynthesis in saltcedar (*Tamarix ramosissima*), an invasive riparian shrub.

•**Elizabeth Waring and B.R. Maricle. Mechanisms of chilling tolerance in C₄ plants.**

•**3rd place Graduate Student Oral Presentation Competition**

- Stephanie Kane and G. Farley. The effect of prescribed burning on the presence of black rails (*Laterallus jamaicensis*) in central Kansas.
- Chasen Gann and E.J. Finck. Use of survey stations on two small public land wildlife areas.
- J. R. Thomasson, Scanning Electron Microscopy of *Botrychium campestre* and *Botrychium lineare* from the Black Hills, SD
- J. R. Thomasson, Evidence of Seed Predation on Anthoecia of *Berriochloa tuberculata* from Miocene Sediments in Scott County, KS



Lizz Waring, Alex Galt and Justin Anderson presenting research at the Society for Range Management Meeting

Joint Society for Range Management-Weed Science Society Annual Meeting, Denver, CO, February

•Attended by: Dr. Jodge LaFantasie, Dr. Elmer Finck, Justin Anderson, Alex Galt, Stephanie Kane, Kristen Polacik, Elizabeth Waring, Chasen Gann, Jessica Casey, Zachary Roth, Keanan Kroetsch and Chelsea Hawk.

•Jessica Casey, Zachary Roth, Keanan Kroetsch and Chelsea Hawk competed on the Plant Identification and Undergraduate Range Management Exam Contests

Presentations/Posters:

• Stephanie Kane and G. Farley. The effect of prescribed burning on the presence of black rails (*Laterallus jamaicensis*) in central Kansas.

•Justin Anderson and E.J. Finck. Effects of burning and grazing on small mammals in the Central Platte River Valley, Nebraska

•Kristen Polacik and B.R. Maricle. Response to flooding in invasive saltcedar (*Tamarix*).

•Elizabeth Waring and B.R. Maricle. Effects of flooding on photosynthesis and respiration in native and invasive wetland grasses of central Kansas.

•Alex Galt and E.J. Finck. **Effects of Wetland Restoration Techniques on Avian Communities and Vegetational Attributes in Small Prairie Pothole Wetlands.**

•**2nd place, Master's Student Presentation Competition Winner**



Rangeland Plant ID team smiles after a tough contest (top). Attendees of SRM meeting in Denver relax and enjoy the Superbowl (below).

Southwestern Association of Naturalists, Junction, TX, April

Mark Eberle completed his first year of two as President of the Southwestern Association of Naturalists (SWAN) at the annual meeting in Junction, Texas, attended by 356 professionals and students. In addition to pre-meeting tasks, he presided over the meeting of the Board of Governors and the general Business Meeting. He will serve one more year, through the 2011 meeting in Tyler, Texas. Elmer Finck also served on the Board of Governors, and Bill Stark was elected to a three-year term to the Board at the meeting in Junction. The Board of Governors renamed the association's Meritorious Service Award the Jerry R. Choate Meritorious Service Award in honor of Fort Hays State University former faculty member and Director of the Sternberg Museum of Natural History, who passed away in December 2009. Dr. Choate was a long-time member of SWAN, and he and his wife, Fi, managed the SWAN endowment for many years, restoring the association to a strong financial condition. Fi Choate continues to work with the current Board of Trustees to manage SWAN assets.

Attended by: Mark Eberle, Dr. Bill Stark, Dr. Robert Channell, Dr. Elmer Finck, Eilata Baldrige, Megan Hughes, Georgina Jacquez, Sarah Rages, Kristen Polacik, Ashley Inslee, Elizabeth Waring, Katie Talbott, Brian Sowards, Trey Towers, Zachary Schwenke.

Papers/posters presented:

• Baldrige, Elita and R. Channell. Nested subset analysis: Examining geographic scale and abundance.

• Polacik, Kristen A. and B.R. Maricle. Effects of flooding on photosynthesis in saltcedar (*Tamarix ramosissima*), an invasive riparian shrub.

• Hughes, Megan and Robert Channell. Effects of productivity, heterogeneity, and human density on bird species richness of the central great plains.

• Waring, Elizabeth F. and B.R. Maricle. Changes in photosynthesis caused by flooding in native and nonnative wetland grasses of Central Kansas.

• Talbott, Katie, H. York and K. Marley. Population genetics of *Cicindela punctulata*.

• Inslee, Ashley and W. Stark. Habitat associations and diet of Texas horned Lizard (*Phrynosoma cornutum*) on Matagorda Island, TX

• Jacquez, Georgina and R. Channell. Climate change: Implications for montane mammals of the Great Basin

• Rages, Sarah, G. Arratiina and M. Coburn. Cypriniformes tree of life: Morphology of the dorsal and anal fins of North American Cypriniformes and their potential phylogenetic importance

• Farley, Greg. In memory of Dr. Jerry R. Choate



SWAN attendees enjoy the meeting and the company (photos courtesy G. Jacquez)

Congratulations Spring 2010 Biology MS Graduates!



Georgina Jacquez.

Thesis title: Climate change: implications for montane mammals of the great basin

I earned my bachelor of science from New Mexico State University in the fall of 2007. I joined the Channell lab and started my research project in the fall of 2008. I am interested in biogeography and conservation. For my research project, I examined the effects of climate change on the distributions of montane mammals in the Great Basin. I will be working as a guide at Carlsbad Caverns National Park.



Georgina with her major advisor, Dr. Robert Channell

Elita Baldrige.

Thesis title: Nested subsets, scale, and the distribution of abundance: A macroecological approach

I received my bachelor of science from Kansas State University in the fall of 2007, and joined the Channell lab to work on my masters in Fall 2008. Working with Dr. Channell, I became interested in large-scale ecological patterns. For my thesis research, I examined how patterns of distribution and abundance influence the nested subset pattern, a pattern of community structure, at different spatial scales. In the fall, I will begin working on my Ph.D. at Utah State University with Dr. Ethan White. My current research interests are exploring biogeographic and macroecological patterns of commonness and rarity and the distribution of abundance.



Elita with her major advisor, Dr. Robert Channell

Off campus at the time of publication:

Ryan Schmitz

Thesis title: Bald eagle (*Haliaeetus leucocephalus*) winter habitat use along the Upper Mississippi River corridor as determined by satellite telemetry

Scott Thomasson

Non-thesis option

Ashley Inslee

Thesis title: Herpetofaunal Response to Prescribed Burning on Matagorda Island, Texas: With Emphasis on the Texas Horned Lizard (*Phrynosoma cornutum*)

I earned my B.S. degree in biology at Fort Hays State University in May, 2007. In 2008, I began working with Dr. Stark evaluating the effects of prescribed burning on the herpetofauna of Matagorda Island, TX, with emphasis on the Texas horned lizard. I was accepted into the Student Career Experiences Program with the U.S. Fish and Wildlife Service, and will be working at a National Wildlife Refuge upon graduating.



Ashley with her major advisor, Dr. Bill Stark

Elizabeth Waring

Thesis title: Flooding tolerance of native and nonnative grasses: variation in photosynthesis, transpiration, respiration, and carbon isotope discrimination

I grew up all around the Great Lakes; however, Wisconsin is where I consider home. I HATED science after high school and wanted nothing to do with biology. But I had to get some natural science credits in order to graduate. I took a class for non-biology majors called Plants in Today's World. I found out that I was much better at biology than I was at studying the humanities.



Elizabeth with her major advisor, Dr. Brian Maricle

When it came time to go to pharmacy school, I realized I would be much happier studying plants. I graduated from the University of Wisconsin-Milwaukee in 2007. Through a series of events involving a wedding, I ended up at FHSU. It was not a direct path that got me to graduate school, but in the end, it was the right path. I am starting my PhD program at Texas Tech University in June to work on making quantitative predictions about invasive and native wetland species under future environmental conditions like increased N and increased temperature.

Jennifer O'Neill.

Thesis title: Variation in the southern short-tailed shrew, *Blarina carolinensis*

I earned my Bachelor of Science degree from the University of Minnesota (Twin Cities) in 2003. While at the University of Minnesota I worked in the research collections of the J. F. Bell Museum of Natural History. This is where I first became interested in the behind-the-scenes aspect of museums. I really enjoyed the challenge of "keeping order" in the research collections. In 2006, I came to Fort Hays State University to earn my Master of Science degree. As part of my assistantship, I was fortunate to be the Assistant Curator of mammals for the Sternberg Museum of Natural History. Working with Dr. Choate, and later Dr. Finck, I studied the geographic variation in the southern short-tailed shrew (*Blarina carolinensis*).



Jennifer with her major advisor, Dr. Elmer Finck

Graduate Student News

FHSU Graduate Student Awards

Congratulations to the awardees!

Outstanding Thesis Award

•Elizabeth Waring •Ryan Schmitz

Graduate Teaching Assistant Award

•Lloyd (Trey) Towers III

•Special Teaching Award for Non-TA

•Andree Brisson

Research and Creative Activities

Week Poster

•Stephanie Kane, 1st place



Graduate Students accepting awards: Andree Brisson (upper left), Trey Towers (right, far right) and Elizabeth Waring (lower left)
Photos courtesy L. Pando.

**Bryan Sowards
and Stephanie
Kane were both
awarded a
Chickadee
Checkoff Grant
Congratulations!**

Fleharty Fellows Presentations

Elizabeth Waring: Mechanisms of chilling-tolerance in C4 plants

Jason Black: Waterfowl Hunter Attitudes and the Effects of Avian Influenza on Waterfowl Hunting

Elita Baldrige: The Abundant Center Hypothesis: Niche Position, Range Position, and the Distribution of Abundance

Oral Examinations

Congratulations to graduate students successfully passing their oral examinations this spring!

Ashley Inslee
Kristen Polacik

Stephanie Kane
Chasen Gann

Publications

Pfeifer, A.M., R.W. Lee, and B.R. Maricle. 2010. Effects of diet, drugs, and activity levels on $\delta^{13}\text{C}$ of breath and hair of humans. *Transactions of the Kansas Academy of Science* 113:91-102

Polacik, K.A. and B.R. Maricle. 2009. Response to flooding in invasive saltcedar (*Tamarix ramosissima*). *Grassland Heritage Foundation Newsletter*, December 2009, pp. 4-5

Faculty News

Mark Eberle and alumnus Joe Tomelleri signed a contract in April 2010 with the University Press of Kansas in Lawrence to prepare an expanded revision of their 1990 book on the "Fishes of the Central United States", which is no longer in print. The book provides natural history and anecdotes for most types of fish occurring between the Rocky Mountains and Rio Grande in the west and the upper Great Lakes and Mississippi River in the east. The text for each species or group of similar species of fish will be substantially updated and several new accounts will be added. The color images will be expanded from 52 plates to 80 plates. The book should be published in 2011.

Congratulations to Dr. Brian Maricle!

He was recently awarded the Graduate School's prestigious **Outstanding Graduate Faculty Advisor Award** for the 2009-2010 Academic Year!



Dr. Maricle with his graduate student advisees, Lizz Waring and Kristen Polacik (photo courtesy L. Pando)

Alumni News

FHSU alumnus Lance Thurlow (B.S. 2003, M.S. 2005) completed his Ph.D. in microbiology at Kansas State University in the fall of 2009. Lance is currently working as a post-doctoral research fellow at the University of Nebraska at Omaha Medical Center. Congratulations Dr. Thurlow!

Justin Hamilton, soon-to-be MS alum (~September, 2010) is currently working as a Wildlife Biologist Technician with the Kansas Department of Wildlife and Parks in Garden City, Kansas. His duties include working with the Walk In Hunting Program, the Wildlife Habitat Incentive Program, and the Upland Gamebird Habitat Initiative Program in the counties of Gray, Finney, Scott, Lane, Wichita, Hamilton, Kearney and Greeley. He also assists with wildlife population monitoring and animal damage complaints.



Justin Hamilton at his research field sites in Gove County, KS

"Nothing in biology makes sense except in the light of evolution."
~ Theodosius Dobzhansky



Ryan Schmitz presenting his MS thesis research

FHSU alum, **Ryan Schmitz** (MS 2010) moved back to southwest Wisconsin in February and is employed as a biological technician at Eagle Valley Nature Preserve, a 1450-acre privately owned preserve on the bluffs of the Mississippi River. He is currently involved in satellite tracking bald eagles, raptor migration counts, and prairie and forest management. In addition, Ryan is collaborating on a manuscript for the Journal of Raptor Research. He and his wife, Jen, are glad to be back home and are currently shopping for a house.

Undergraduate Student Feature: Heath Owens



Heath Owens conducting (below) and presenting (left) his research on mycorrhization rates of two grasses following alterations in precipitation regimes



“take the opportunity to do research. It will give you a deeper respect for the classes you take, and allows you to see how everything you learn fits together eventually.”

Originally from St. Francis, KS, I have always been interested in Biology and even as early as middle school I wanted to be a marine biologist, zoologist, or work as a vet. After being at Fort Hays for a year, I decided I wanted to pursue a degree in Biology and a degree in Secondary Education. My goal as a teacher is not simply just to teach a subject, but to instill a desire in my future students to want to actively pursue knowledge. My research on mycorrhization rates of

little bluestem and hairy grama really opened my eyes to the world of research. I had always been interested in research, just due to the fact I believed it would make me feel like what I was doing was contributing to advancing a body of knowledge. The research process was very educational. I definitely learned patience after tediously mounting and remounting slides and looking through a microscope or at a computer screen for hours on end. The reward was how all the work came together in the end, and actually learning something useful from the hours of research that were put in.

After graduation, I plan to get a teaching job at a high school, ideally around Hays, but I will probably go wherever the job takes me. I hope to continue research in some form after I graduate.

My advice for incoming students is to take the opportunity to do research. It will give you a deeper respect for the classes you take, and allows you to see how everything you learn fits together eventually.

Undergraduate Student News

Undergraduate Holly Miller and Dr. Eric Gillock received a grant from the Kansas Idea Network of Biomedical Research Excellence for Holly’s proposal entitled “Analysis of invertebrate organisms for the presence of PrP prion genes”

Holly Miller was accepted into the prestigious Summer Undergraduate Research Fellowship program at the Mayo Clinic. She will spend 10 weeks (expenses paid) at the Mayo Clinic conducting cancer research using a yeast model system. Congratulations Holly!

Biology Practical (and fun!) Experiences

Students trek through wetlands and admire reptiles on the Herpetology field trip with Dr. Bill Stark (photos courtesy K. Talbott)



“Play is the beginning of knowledge.”



Soil Ecology and Biogeochemistry students investigate soil micro and macro properties and organisms in the field and the lab with Dr. Jorge LaFantasie



Students, Staff, Faculty and Families celebrate a semester of hard work and three birthdays!

