



Bioluminescence



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Editors: Brooke Stabler and Gloria Caddell

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<http://biology.ucok.edu/biodream/newsletter.htmf>

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Chairman's Corner



Another year has gone by and the Biology Department is still growing. At this time we have close to 800 biology majors. First let me tell you what we accomplished in the last year. In the fall of 2007, we completed the Herbarium Preparation Room, the Museum and the Advanced Vertebrate Laboratory. All Biology rooms in the "new" Science Laboratory Annex are now completed. As many of you may recall, the building was built in 1997, but the bottom floor was left as shell space. Over the last few years with the help of Dr. William Beasley, the Inasmuch Foundation and others of our alumni, we have completed the Biology rooms that were originally shell space. Thanks to everyone who supported us in this undertaking. As often happens in a project that has taken so long to complete, we needed more space before we even moved into the new laboratories. We are now in the process of building an extension for the Museum Alcohol Collections on the west side of the Annex. We actually have the money for this, and the project will start in the fall of 2008. Dr. Bill Caire has written an NSF grant proposal to help us supply the new museum with storage cabinets and other supplies as well as a curator. It looks like the grant will be funded, so we will have a curated collection with excellent storage facilities for the Herbarium and Museum specimens.

The Council on Undergraduate Research (CUR) visited our campus in the fall of 2007. The purpose for their visit was to evaluate our programs and give us some ideas for how we can develop our undergraduate research program. At this time, we are giving a research experience to a limited number of students, but we believe a research experience would be valuable to all our students. It was a very informative visit. The CUR evaluation has given us suggestions on how to incorporate research into our classrooms as well as faculty research laboratories. To that end, we will be looking at our core curriculum and other courses with the idea of incorporating research experiences for all our students.

In the coming year we plan to not only incorporate research into the curriculum but also look at the Biology core courses. These are courses required by all biology majors. The core curriculum has served us well for many years, but we wish to examine the possibility that changes in the core may serve our students better. We also will look at the possibility of adding programs or tracks such as a Biology Forensics double major.

What's happening?

Status of the Selman Living Laboratory

The Selman Living Lab continues to develop. As can be seen in the image below, the new signage for the lab is now complete. Recently high winds and severe storms in northwestern Oklahoma took their toll on the lab for the second time in the last few years. Siding was blown off the doublewide trailer, porch railings were blown down and one of the small classroom buildings was shifted off its support blocks. A grant proposal has been submitted to the National Science Foundation for funds to add a permanent concrete building. It will serve as a safe room, a kitchen, a classroom and as lab space.

Dell Computers of Oklahoma City has donated 13 computers to the SLL. Per Selman's Director, **Dr. Bill Caire**, the Dell computers will be used to meet the teaching and research needs of K-12 students, graduate, and undergraduate students using the lab.

Research, teaching and public activities continue at the SLL. Considerable effort by the Central Oklahoma Grotto has gone into mapping the second of two major gypsum caves located on the SLL. *Trichobius major*, a parasitic bat fly, has been studied at the SLL site for years and recently several students under the direction of Dr. Wilson examined the population genetics of these flies. A long term collaborative study initiated in 2007 by Dr. Caire and the Oklahoma Biological Survey is documenting invertebrates in the SLL gypsum caves for the first time in over 35 years. The data suggest that the cave system might be one of the most biologically diverse in Oklahoma.



An undergraduate student at UCO, Clint Quisenberry, compared invertebrate diversities on gypsum outcrops with those in the adjacent grassland. An undergraduate, Lisa Pham, studied the efficacy of different size pollinators of gayfeather. Ryan Shipley is involved in a research project to survey the herps at the SLL. Mixed-grass prairie communities on the SLL are unique in that they occur on gypsum soils and outcrops. An earlier MS project conducted by Robin Buckallew and Dr. Caddell recorded 226 plant species at the SLL. These data were made available online through the Oklahoma Vascular Plants Database. Kristi Rice, a graduate student, and Dr. Caddell conducted an analysis of gypsum outcrop species assemblages in relation to environmental and grazing factors. Dr. Butler and his students continue to survey avian diversity in grassland habitats and band birds at the SLL. A former UCO student, Roger Astley, now at the OKC Dean McGee Eye Institute, has continued his interest in field research and published a significant paper (with Dr. Wilson and Dr. Caire) documenting for the first time in North America the presence of conjunctival lymphoid follicles in New World rodents. The Selman Cave System is the largest hibernaculum for the cave myotis in Oklahoma. An important conservation project spanning 15 years has involved estimating the bat population size each year. The UCO TriBeta Biology Honor Society regularly conducts service-learning projects at the SLL. It is used by civic groups in addition to K-12, charter schools, UCO classes in mammalogy, plant taxonomy, aquatic biology, ecology, and others. The UCO Geography Department will be using the SLL for GIS courses this year.



Dr. Butler and his students continue to survey avian diversity in grassland habitats and band birds at the SLL. A former UCO student, Roger Astley, now at the OKC Dean McGee Eye Institute, has continued his interest in field research and published a significant paper (with Dr. Wilson and Dr. Caire) documenting for the first time in North America the presence of conjunctival lymphoid follicles in New World rodents. The Selman Cave System is the largest hibernaculum for the cave myotis in Oklahoma. An important conservation project spanning 15 years has involved estimating the bat population size each year. The UCO TriBeta Biology Honor Society regularly conducts service-learning projects at the SLL. It is used by civic groups in addition to K-12, charter schools, UCO classes in mammalogy, plant taxonomy, aquatic biology, ecology, and others. The UCO Geography Department will be using the SLL for GIS courses this year.



Examples of some SLL activities over the years:

- Field trip site for Fall Field Meetings of the Oklahoma Academy of Science.
- Oklahoma City Sierra Club, UCO Sorority, Oklahoma City K-12 Charter School, Master Naturalists of Oklahoma & Boy & Girl Scouts— outdoor experience

- A Natural Heritage Site and a site on the Bats & Bluffs loop of the Great Plains Trail of the Oklahoma
- Newspaper articles written for the Woodward Newspaper—"Nature at the Selman Living Lab"
- The SLL Astronomy facility led by Steve Maier of NWOSU provides public star shows

Donations to support the Selman Living Lab may be sent to: Dr. William Caire, University of Central Oklahoma, 100 N. University Dr., Box 89, Edmond, OK 73034. Make checks payable to UCO.

You are all invited out to the SLL –contact Dr. Caire. E-mail: wcaire@ucok.edu.

Adopt-a-Bat Program

Dr. Bill Caire and Ms. Beverly Endicott, Grants Director for the College, have set up an "Adopt-a-Bat" program to help raise funds for the Selman Living Lab. Species up for adoption include Big Brown Bats, Cave Myotis, Eastern Pipistrelle, Hoary Bats, Mexican Free-tailed Bats, Pallid Cave Bats, Red Bats, and Townsend's Big Eared Bats. To date, \$3000 has been raised through this program. For a look at these beauties or to make a donation, visit the adopt a bat web page at <http://cms.ucok.edu/cmsdo/adoptabat.donor.form.pdf>

First-floor Laboratories Dedicated

A laboratory open house and dedication ceremony was held in November to celebrate completion of the nine biology laboratories on the first floor of the Howell Hall annex and to thank those who contributed to the success of that project. Provost Bill Radke and CMS Dean John Barthell made brief statements reminiscing about the history of the project and the days prior to development of that space. Guests at the event were given guided tours of the facilities and refreshments were served.

Faculty News

Recent Publications

Astley, R. A., J. Chodosh, **W. Caire**, and **G. M. Wilson**. 2007. Conjunctival lymphoid follicles in New World rodents. *Anatomical Record* 290:1190-1194.

Baird, T. A. 2008. A growth cost of experimentally induced conspicuous coloration in first-year collared lizard males. *Behavioral Ecology*. Published on-line; doi10.1093/beheco/arn014.

Baird, T.A. 2008. *Crotaphytus collaris* (eastern collared lizard). Homing across a flowing aquatic barrier. *Herpetological Review*. In press.



*Curtis, J.L. and **T.A. Baird**. 2008. Within-population variation in free-living adult and ectoparasitic larval trombiculid mites on collared lizards. *Herpetologica* 64: 189-199.

*Curtis, J.L. and **T.A. Baird**. 2007. *Crotaphytus collaris*. Communal hibernation; dispersal. *Herpetological Review* 38: 76-77.

Baird, T.A., Hranitz, J.M., *Timanus, D.K., and *Schwartz, A.M. 2007. Dynamic behavioral attributes influence annual male mating success more than static morphological attributes in collared lizards, *Crotaphytus collaris*. *Behavioral Ecology* 18: 1146-1154.

Baird, T.A., and Hews, D.K. 2007. Hormone levels in territorial and non-territorial male collared lizards. *Physiology and Behavior* 92: 755-763.



Bidlack, J.E., C.T. MacKown, and S.C. Rao. 2007. Dry weight and nitrogen content of chickpea and winter wheat grown in pots for three rotations. *Journal of Plant Nutrition* 30:1541-1553.

Bass, D. 2007. Freshwater macroinvertebrates and their habitats in Dominica. Living World, J. Trinidad and Tobago Field Naturalists' Club.

Bass, D. Freshwater macroinvertebrates and their habitats in Saba. Living World, J. Trinidad and Tobago Field Naturalists' Club. **In press.**

Butler, C. 2008. California Gull. World Book Encyclopedia.

Butler, C. 2008. Whooping Crane. World Book Encyclopedia.



Butler, C., D. Ledbetter, N. Batchelder and G. Batchelder. 2007. Black-chinned Hummingbirds breed in Grady County. *Bulletin of the Oklahoma Ornithological Society* 40: 13-16.

Garic, J.M., and **G.M. Wilson.** 2007. What business do IRBs have in business? Business Review, Journal of St Joseph's College of Business Administration 2:117-125.

Gottfried, R., **C. Butler**, N. Hollingshead, M. Lane., D. Lemoine, D. Williams, and B. Scheffers. 2007. Modeling land use change and its environmental impacts on the southern Cumberland Plateau. Conference Proceedings of Emerging Issues Along Urban/Rural Interfaces 2: Linking Land-Use Science and Society, April 9-12, 2007, Atlanta, GA.

Butler, C. 2007. Review of Boulet, M. and D. R. Norris (eds). Patterns of migratory connectivity. *Ibis* 149: 860.

Butler, C. 2007. Review of Saab, V. A. and H. D. W. Powell (eds). Fire and avian ecology in North America. *Ibis* 149: 184-185.



*Astley, R.A., J. Chodosh, **W. Caire**, and **G. M. Wilson.** 2007. Conjunctival lymphoid follicles in New World rodents. *Anatomical Record* 290:1190-1194

Loucks, L.M.S. and W. Caire. 2007. Sex ratio variation in *Myotis velifer* (Chiroptera: Vespertilionidae) in Oklahoma. *Southwestern Naturalist* 52: 67-74

Ewing, A.L. and Leah Haines. Oklahoma State University College of Osteopathic Medicine Admissions Guide. In *Premedical Advisor's Reference Manual*, Carol Baffi-Dugan (ed.), ninth edition, Champaign, IL: National Association of Advisors for the Health Professions, 2008.



Ewing, A.L. and L. Prado. Texas Tech University College of Medicine Admissions Guide. In *Premedical Advisor's Reference Manual*, Carol Baffi-Dugan (ed), ninth edition, Champaign, IL: National Association of Advisors for the Health Professions, 2008.

Ovrebo, C. L., and T. J. Baroni. 2007. New taxa of Tricholomataceae and Entolomataceae (Agaricales) from Central America. *Fungal Diversity* 27(1): 157-170.

Ovrebo, C. L. 2007. Botanist's Corner. *Gaillardia, the Oklahoma Native Plant Society Newsletter* 22(4): 2-3.



Stabler, L. B., 2008. Management regimes affect woody plant productivity and water use efficiency in an urban desert ecosystem. *Urban Ecosystems* 11:197-211

Vaughan, M.B 2007. n-Acetyl Cysteine affects myofibroblast differentiation. *FASEB J* 21(5):A228.

*Skaley, M.S., **Caire, W.,** and **M.B. Vaughan.** 2007. Ear tubercles of *Tadarida brasiliensis*: sensory or thermoregulatory function? *FASEB J* 21(6):A966.

Wilson, G.M., *K.S. Byrd, **W. Caire**, and R.A. Van Den Bussche. Lack of genetic variation in the bat fly, *Trichobius major* (Diptera: Streblidae), in Oklahoma and Texas. *Proc. of the Okla. Acad. of Sci.* 87: 31-36.

Recent Presentations

(See also faculty presentations listed for SWAN, OAS Technical Meetings and Oklahoma Research Day)

- Baird, T.A.** 2008. Stalking turtle headed sea snakes and other wildlife of New South Wales and New Caledonia. Invited Presentation University of Central Oklahoma Tri Beta Society. March, 2008.
- *Curtis, J.L., **T.A. Baird**, and D.K. Hews. 2008. Collared lizards decrease testosterone levels in response to staged territorial intrusions: A test of the challenge hypothesis. Society for Integrative and Comparative Biology. San Antonio, TX. Jan. 2008.
- Baird, T.A.** The colorful world of collared lizards: Experimental field tests of functions and costs. Invited Departmental Seminar, University of Texas, Tyler. October, 2007.
- Baird, T.A.** The social world of Oklahoma collared lizards. Invited presentation to the Cimmaron Chapter of the Sierra Club. September, 2007.
- Bass, D.** 2007. Macroinvertebrate species assemblages and freshwater habitats of small Caribbean islands. University of Oklahoma Zoology Club.
- Bass, D.** 2007. How to establish relationships with faculty and why this is important. UCO Freshman Orientation.
- Bidlack, J.E.** 2007. The future of Oklahoma's natural environment. George Nigh Leadership Academy, Oklahoma City, OK.
- Butler, C.** 2008. Birds of Oklahoma. Keynote speaker for Oklahoma Association of Environmental Educators Expo.
- Caddell, Gloria.** 2008. Vegetation of gypsum outcrops. Talk presented to the Northeast Chapter of the Oklahoma Native Plant Society, December 1, 2007.
- Caire, W.** Thirty years or so of mammalogy and The Selman Living Lab. Keynote Speaker for the Oklahoma Academy of Science Annual Spring Field Meeting.
- Caire, W.** Thirty years or so of mammalogy and The Selman Living Lab. UCO Biology Club.
- Caire, W.** Bats. Oklahoma Christian Schools.
- Matthew S.S., **M.B. Vaughan**, and **W. Caire**. Histological examination of the ear tubercles of the Mexican free-tailed bat (*Tadarida brasiliensis*). American Society of Mammalogists Annual Meeting, Albuquerque, NM.
- W. Caire** and *K. Smith. The Selman Living Laboratory: Biocentric preservation & utilitarian conservation. Amer. Democracy Project Regional Conference poster.
- Ewing, A.L.** 2008. Development of a freshman biomedical learning community through course clustering. UCO Share Fair; Partners in Transformative Learning.
- Haynie, M. L.** 2007. Placement of the newly rediscovered *Myotis planiceps* within the *Myotis* phylogeny: Using molecular techniques to answer a taxonomic question. TriBeta seminar, University of Central Oklahoma, 11 September.
- Haynie, M. L.** 2007. Rediscovery of the flat-headed myotis (*Myotis planiceps*): Where does this uniquely morphological bat species fit in the phylogenetic tree? Sigma Xi seminar, University of Central Oklahoma, 08 November.
- *Lack, J.B., R.S. Pfau, and **G.M. Wilson**. 2007. Population genetic structure of the Texas mouse (*Peromyscus attwateri*) based on cytochrome b data. American Society of Mammalogists, University of New Mexico, Albuquerque, NM.

- Lewis, D. P. and **C. L. Ovrebo**. 2007. New species described and bibliography of Agaricalean fungi from east Texas. Poster at Mycological Society of America Annual Meeting, Baton Rouge, Aug 5-9.
- Lewis, D. P., **C. L. Ovrebo**, and J. L. Mata. 2007. New species described and bibliography of Agaricalean fungi from Louisiana, Mississippi and Alabama. Poster at Mycological Society of America Annual Meeting, Baton Rouge, Aug 5-9.
- Mata, J. L., and **C. L. Ovrebo**. 2007. New reports of *Gymnopus* for Costa Rica and Panama. Poster at Mycological Society of America Annual Meeting, Baton Rouge, Aug 5-9.
- *Mushegyan, V., B. Hall, **G.M. Wilson**, and R.S. Pfau. 2007. Population genetic structure of the Texas mouse (*Peromyscus attwateri*) based on the control region data. American Society of Mammalogists, University of New Mexico, Albuquerque, NM.
- *Mushegyan, V., R.S. Pfau, and **G.M. Wilson**. 2008. Intraspecific phylogeography of the Texas mouse (*Peromyscus attwateri*). Posters on the Hill, Washington, D.C.
- Ovrebo, C. L.**, K. H. Hughes, and R. E. Halling. 2007. A new species of *Tricholoma* from Costa Rica. Poster at Mycological Society of America Annual Meeting, Baton Rouge, Aug 5-9.
- Ovrebo, C. L.** Introduction to mushrooming. Oral presentation at Texas Mycological Society foray, Oct 19-21.
- Stabler, L.B.**, Urban ecosystems: Humanity's habitat. Presented at the Tri Beta monthly meeting March 27, 2008.
- Vaughan, M. B.**, *C. M. Andrews, W. E. Wright, and J. W. Shay. Immortalized keratinocytes that overexpress H-ras produce an invasive, randomized epithelium in organotypic culture. Poster presentation at Experimental Biology 4/8/08, San Diego, CA.
- Vaughan, M. B.** A tissue ecosystem to study skin aging in vitro. Seminar given to Biology Department at Oklahoma Christian University (Jennifer Xiao, host), 01/30/2008.
- Vaughan, M. B.** Keratinocyte aging affects skin wound repair. Seminar given to Department of Biological Science, Tulsa University (Lea Spyres, host), 02/08/2008.
- Vaughan, M.B.**, and J. J. Tomasek. Keratinocytes attenuate force generation by fibroblasts. Poster presentation at the INBRE/COBRE Retreat for Investigators and Students, Oklahoma City, OK, May 9, 2008.
- *Robinson, E. D., and **M. B. Vaughan**. Replicative senescence affects fibroblast alpha-smooth muscle actin and contractility. OUHSC Summer Undergraduate Research Program, Oklahoma City, OK, July 2007.
- *Palmer, T. R., *W. H. Kim, and **M. B. Vaughan**. Development of a portable, tension-maintaining skin equivalent. Oklahoma Venture Forum Bricktown Capital Conference, Oklahoma City, OK, Sept 6, 2007.
- *Robinson, E. D., and **M. B. Vaughan**. (poster) Replicative senescence affects fibroblast alpha-smooth muscle actin and contractility. EPSCoR Research Day at the State Capital, March 31, 2008 (3rd place award winner).
- *Robinson, E. D., **M. B. Vaughan**. (poster) Replicative senescence affects fibroblast alpha-smooth muscle actin and contractility. Experimental Biology 2008, San Diego, CA, 4/8/08 (Student presentation award finalist).
- *Kim, W. H., T. R. Palmer, and **M. B. Vaughan** (poster). A skin equivalent model with tension and portability to study wound healing. Experimental Biology 2008, San Diego, CA, 4/6/08 (Student presentation award finalist).
- *Chukwuma, S. N., * T. B. Stephenson, and **M. B. Vaughan** (Johnson Award Poster). Expression of alpha-smooth muscle actin to determine genetic predisposition of myofibroblasts. Tri-Beta National Convention, Highland Heights, KY, 5/30/08.

Wilson, G.M. Life as a Graduate Student. Presented to the English Majors Student Organization, College of Liberal Arts, April 2008

Wilson, G.M. Life as a Scientist and Inside the Human Body. Presented to pre-kindergarten and kindergarten-aged children at Goddard School, Edmond, OK, June and July 2008

* denotes current or former students, and bold a current UCO professor



Biology Department Participation:
Oklahoma Academy of Science 96th Annual Fall Technical Meeting
Tulsa Community College, Tulsa, Oklahoma
November 2, 2007

Oral Presentations

Ewing, Anne. Development of a freshman biomedical learning community through course clustering.

*Mushegyan, Vagan, Pfau, Russel, and **Wilson, Gregory.** Population genetic structure of the Texas mouse, *Peromyscus attwateri*, in North America as inferred by the control region sequence data.

Strawn, Sheila. Update on *Xanthoparmelia* and other lichens of the Wichita Mountains Wildlife Refuge.

Posters

*Rice, Kristi and **G.M. Caddell.** A comparison of vascular plant communities on grazed and ungrazed gypsum outcrops in the Cimarron Gypsum Hills, northwestern Oklahoma.

*Koppari, Kimberly, *Cluck, Amy, *Dunn, Chris, *Bowles, Emily, *Hintergardt, Miranda, *Smith Sarah, *Cloud, Tiffany, *Mushegyan, Vagan, and **Wilson, Gregory.** Comparative phylogeography of two species of *Peryomyscus* in Oklahoma and adjacent states.

* denotes current or former student, and bold a UCO professor



Biology Department Participation:
The Southwestern Association of Naturalists 55th Annual Meeting
The University of Memphis, Memphis, Tennessee
April 10-12, 2008

Oral Presentations

Baird, T.A. 2008. Fluctuating asymmetry increases with hatching success in collared lizards.

*Curtis, J.L., **T.A. Baird**, and D.K. Hews. Testosterone levels decrease following staged territorial intrusions in adult male collared lizards: A test of the challenge hypothesis.

*Locey, K. J., **P. A. Stone, M. E. Stone**, and *B. D. Stanila. 2008. Movements and demography related to differential reproductive strategies in the Sonoran mud turtle (*Kinosternon sonoriense*).

*Stanila, B. D., *K. J. Locey, **P. A. Stone**, and **M. E. Stone.** 2008. Influence of habitat on ecological variation in Sonoran mud turtles (*Kinosternon sonoriense*).



Poster presentations

Loucks, L.M.S. and **W. Caire.** Weight change in hibernating *M. velifer* in Oklahoma

*Smith, K. A., and **M. L. Haynie.** 2008. Genetic variation in striped skunk (*Mephitis mephitis*) populations in the central United States

* denotes current or former student, and bold a UCO professor



Biology Department Participation:
Seventh Annual Research Day for Regional Universities
 University of Central Oklahoma, Edmond, Oklahoma
 October 26, 2007

Poster Presentations

*Agan, L.T., *A. Speligene, *C. M. Andrews, and **M. B. Vaughan.** Histochemical staining demonstrates randomization of stratified epithelium by h-Ras-overexpressing keratinocytes.

Ahmad, Riaz and *Jeff Burke. Cross reactivity of immunoglobulin G antibodies to West Nile virus and St. Louis encephalitis virus in selected farm animals in central Oklahoma.

*Ariesha T.A.W., P.W. Wilson, **W. Caire.** Updated checklist of the food habits of the Short-eared Owl (*Asio flammeus*) in Oklahoma.

Baird, Troy. Does male display advertise to mates or competitors? A comparative field test in collared lizards.

*Bryan, Andrea, *Kiya Harrison and **Mel Vaughan.** The effect of the antioxidant curcumin on myofibroblasts.

*Clement, Meredith, **John Barthell,** Amy Savitski, John Hranitz, Harrington Wells, Adrian Wenner, Robbin Thorpe, Daniel Song and Theodora Petanidou. A tale of two islands: nectar flow and pollinator guilds of a plant species native to Greece and invasive in the United States.

*Curtis, Jennifer, **Troy Baird** and Diana Hews. Collared lizards decrease testosterone levels in response to staged territorial intrusions: a test of the challenge hypothesis.

Haynie, M. L., J. Arroyo-Cabrales, R. A. Medellin, O. J. Polaco, and J. E. Maldonado. 2007. Placement of the newly rediscovered *Myotis planiceps* within the *Myotis* phylogeny.

*Kim, W. H. and **M. B. Vaughan.** Telomerase expression inhibits complete potential differentiation of myofibroblasts.

*Locey, Ken and **Chris Butler.** Status of spiny-tailed iguanas in Brownsville.

Loucks, L.M.S. and **W. Caire.** Weight change in hibernating *M. velifer* in Oklahoma.

*McBride, Kimberly and **Chris Butler.** Population persistence of the Brownsville common yellowthroat.

*Mushegyan, Vagan, **Gregory Wilson** and Russell Pfau. Population genetic structure of the Texas mouse (*Peromyscus attwateri*) based on control region sequence data.

*Mushegyan, Vagan, Felecia Qi and I-hsiu Huang. Function of dex-S and tre-R in mucin I production in *S. mutans*.

Ovrebo, Clark, Karen Hughs and Roy Halling. A new species of *Tricholoma* from Costa Rica.

*Palmer, T. R., *W. H. Kim, and **M. B. Vaughan**. Development of a portable, tension-maintaining dermal equivalent.

*Pelchat, Clifford R. and **Gloria Caddell**. 2007. The pollination biology of *Psoralidium tenuiflorum* (Pursh) Rydb., a native perennial herb.

*Pham, Lisa, Lily Wong, Steve Sezate and James McGinnis. Does the translocation of A-transducin depend on its amino acid sequence?

*Rice, Kristi and **Gloria Caddell**. 2007. A comparison of vascular plant communities on grazed and ungrazed gypsum outcrops in the Cimarron Gypsum Hills, northwestern Oklahoma.

*Robinson, E. D., *S. N. Chukwuma, *T. B. Stephenson, and **M. B. Vaughan**. Clonal analysis of myofibroblast differentiation.

Stone, Paul, *Brian Stanilla, *Ken Locey and **Marie Babb**. Terrestrial flight response and interpopulational migration in Sonoran mud turtles, *Kinosternon sonoriense*.

Wilson, Gregory, *Amy Cluck, *Chris Dunn, Emily Bowles, *Kimberly Koppari, Miranda Hintergard, Sarah Smith, *Tiffany Cloud and *Vagan Mushegyan. Comparative phylogeography of three species of *Peromyscus* in Oklahoma and adjacent states.

* denotes current or former student, and bold a UCO professor

Other Faculty Activities

Dr. Troy Baird acted as Associate Editor for Ecology in the journal *Herpetologica*. Dr. Baird also took a three-week trip to New South Wales, Australia. During this trip, he assisted and supervised UCO masters student **Rory Telemeco**, a Fulbright Scholar who is conducting field and laboratory studies on the effects of incubation temperature on phenotypic traits of hatchling Australian three lined-skinks in Dr. Richard Shine's laboratory at the University of Sydney. Dr. Baird also traveled to Noumea, New Caledonia, to conduct mark-recapture studies on turtle-headed sea snakes with Richard Shine of the University of Sydney. Upon return to the Sydney area, Dr. Baird conducted pilot field studies on Australian water dragons in preparation for more detailed future work on their behavioral ecology.

Dr. David Bass attended the Annual Meeting of the American Association for the Advancement of Science (AAAS) in Boston, February 13-17. David represented Oklahoma at the AAAS business meetings and played an organizational role with the junior academy events. He was also inducted as president of the National Association of the Academies of Science (NAAS).

Dr. Jim Bidlack acted as Track Coordinator for Multimedia Educational Resource for Learning & Online Teaching (MERLOT) International Conference.

Dr. Chris Butler was elected to the Board of Directors of the Central Oklahoma Audubon Society.

Dr. Gloria Caddell and **Dr. Bill Caire** led several field trips to the Selman Living Lab hosting the Sierra Club, Oklahoma Master Naturalists, and the Sante Fe South Charter School.

Dr. Clark Ovrebo and Dr. Diana Pardo from the Modern Languages Department led a study tour to Belize and Guatemala during May 2008 as part of the UCO Passport Program. Thirteen students from across campus, including 6 biology majors, visited Mayan ruins and experienced the natural history of those areas on that trip. **Dr. Ovrebo** also spent a week at the University of Tennessee doing molecular systematics on the mushroom genus *Tricholoma* and led a morel walk for the Oklahoma Native Plant Society.

Meetings attended

Oklahoma Academy of Science Field meetings



The 2007 fall field meeting was held at Sequoyah Bay State Park in Wagoner. Clark Ovrebo led the mycology field trip for that meeting. Other faculty members who attended included Greg Wilson, Anne Ewing, Brooke Stabler, and Bill Caire. Many UCO biology students also attended. One highlight of that meeting was a canoe trip on the Illinois River; most participants got wet at least once! The 2008 spring meeting was held at Beaver's Bend State Park in Broken Bow. Several UCO faculty led field trips at that meeting, including: David Bass-aquatic invertebrates, Gloria Caddell-botany, Clark Ovrebo- mycology, and Chris Butler-ornithology. Bill Caire was keynote speaker at the meeting and Greg Wilson was meeting director. Brooke Stabler also attended, along with a dozen or so UCO Biology students.

Dr. Anne Ewing attended multiple workshops during the year and hosted the Oklahoma Consortium of Laboratory Science Affiliates (OCCLSA) Applicant Match Meeting at UCO. She also attended MedExtravaganza at the OSU-College of Osteopathic Medicine in Tulsa.

Dr. Greg Wilson was named the Executive Director of the Office of Research and Grants at UCO. He has attended many conferences and meetings in conjunction with that position, including those of the Society for Research Administration in Nashville, an NIH workshop in Chicago, a SURE-STEP grantees meeting in Washington, D.C. and the National Council of University Research Administrators meeting in Oklahoma City.

Grants and Awards Received

Dr. Jim Bidlack received the Outstanding Graduate Award, University of Arkansas Department of Crop, Soil, and Environmental Sciences.

Dr. Anne Ewing received the UCO Vanderford Engagement Award which is given in support of the academic mission and values, civic engagement, leadership, first-year experience and/or globalization.

Dr. Mel Vaughan received an INBRE grant of \$6000 to support summer research for his student Edana Robinson.



*Biology Department recipients of the
Dr. Joe C. Jackson College of Graduate Studies and Research
Fall 2007 Incentive Awards*

Dr. Chris Butler received a UCO College of Graduate Studies and Research Faculty Research Grant of \$7250 to study the effects of habitat fragmentation on bird communities in extreme southern Texas.

Dr. Michelle Haynie and **Dr. Brooke Stabler** each received new faculty start up grants of \$500 from the Jackson College of Graduate Studies and Research

Dr. Bill Caire received a Research and Scholarly Activities Incentive Award.

Dr. Mel Vaughan received a regular grant from the Jackson College of Graduate Studies and Research for \$7500 for 2007-2008.

Dr. Greg Wilson received a grant from the Jackson College of Graduate Studies and Research for \$7,500 to conduct genetic research on the cave myotis, *Myotis velifer*.

Meet the Faculty and Staff

In this section we spotlight full-time faculty and staff. This year we want you to meet Dr. Chris Butler and Dr. Michelle Haynie.

Dr. Chris Butler



I was born in 1978 at Champaign-Urbana, Illinois. (My parents were both completing degrees at the University of Illinois at the time.) When I was six months old we moved to Longmeadow, Massachusetts where we stayed for two and a half years. When I was three we moved to Knoxville, Tennessee and remained there for about a decade. At age 13 we moved to Beaverton, Oregon and I graduated from Beaverton High School. I went to Cornell University where I received my B.S. in Natural Resources and I then went to Oxford where I received my PhD in Zoology. I spent a couple years teaching at Sewanee (a small, private liberal arts college in Tennessee) and I came to UCO in August 2005.

I'm an ornithologist who became interested in birds at quite a young age. When I was five I saw my first American Goldfinches in the front yard. I thought they were the most beautiful things I had ever seen and I was surprised that I had never noticed them before. I borrowed a pair of binoculars from my parents and set out to see what other interesting birds were around that I hadn't seen and my parents maintain that I have almost never set them down since then. I started keeping a "life list" (a list of all the birds I'd seen in my life) at age eight. I enjoyed sharing my love of the outdoors with others and during high school I volunteered at the Portland Audubon Society.

In high school, I flirted with pursuing a medical career, primarily so I could have money to travel the world and see new and interesting birds. During my junior year of high school I spent a summer interning at a biomedical research company working on a device that would use ultrasound to measure the progression of osteoporosis. Although the research was interesting I found that I enjoyed being outdoors more than I enjoyed working in a small office and decided that I would be happier if I could get a job working with wildlife. I took my first paid position studying the ecology of breeding birds in upstate New York the summer before I entered college. Every summer thereafter I took a job studying birds in different parts of the country from the Cascade Mountains of Oregon to Saguaro National Park in Arizona to the boreal forests of northern Minnesota and northern Michigan.

I had a great advisor at Cornell (Dr. Charles Smith) who was instrumental in convincing me to pursue a career in academia. He really enjoyed teaching as well as conducting research and his enthusiasm for his job was infectious. I decided in my sophomore year that I wanted to become a professor.

After I received my PhD, I took a non-tenure track teaching position at Sewanee. Although I loved teaching there and the scenery was beautiful (Sewanee has a 10,000-acre campus on the Cumberland Plateau), the emphasis was almost entirely on teaching and not very much research was conducted there. I decided that I wanted a position where I could better balance teaching and research. When the position at UCO opened up, I jumped at the opportunity. Although UCO emphasizes teaching, conducting research (particularly with undergraduates) is strongly encouraged. I was particularly impressed that UCO was striving to include more undergraduates in research. I have now been at UCO for three years and am very happy with the balance of teaching and research at this institution.

Dr. Michelle Haynie



I was born in Wichita, Kansas, and was raised in a small town just outside of Wichita called Haysville. I was the oldest of two children, having one younger brother. Both of my parents instilled in me the love of nature, science and the outdoors. My mom in particular taught me to be curious about the world around me. I decided at a young age that I wanted to be a zoologist and I kept focused on that goal, taking almost every science class my high school had to offer.

I graduated from Campus High School in Haysville in 1994 and went immediately to Oklahoma State University. I originally was a pre-vet major, but a genetics class my sophomore year changed my mind and I started to focus on molecular biology. Also early in my career at OSU, I met my future husband, John. John and I met four weeks into my

freshman year and married in 1997, at the end of my junior year. At the beginning of my senior year I worked up the courage to talk to my genetics professor about my future and he quickly offered me a position as an undergraduate researcher. I was assigned to assist a graduate student on a project documenting genetic variation in pupfish and was delighted to learn that my work had earned me a place on the publication. After my graduation in 1998 with a B.S. in Zoology, I decided to remain at OSU and continue to work with my mentor, Dr. Ron Van Den Bussche. My thesis revolved around determining parentage of young born in colonies of two different species of prairie dogs. I graduated in the December of 2000, with my M.S. in Zoology. In June of 2000, my husband and I left Stillwater to go to Lubbock, Texas, and Texas Tech University.

My start at Texas Tech was a little bumpy. I was beginning a doctoral program while still trying to complete my master's, and I learned, after a lot of trial and error, that my major advisor and I were not on the same page. After two years of floundering, I switched to the lab of Dr. Robert Bradley and finally felt comfortable. In Dr. Bradley's program, I found a balance between my love of field work and my enjoyment of lab work. My dissertation focused on genetic variation in four species of woodrats. While working on my dissertation, John and I started our family. Erin Maureen was born in June of 2004, and Moira Kaitlyn followed in January of 2006. We were blessed to have two healthy, happy little girls. After six years of ups and downs, I graduated with my Ph.D. in Biology in May, 2006.

While nearing the end of my Ph.D., I was struck by the realization that, despite all the years in school, I still really didn't know what I wanted to do after I graduated. I ended up applying for a wide range of positions and was lucky enough to be selected for a job at the Smithsonian Institution. In April of 2006, John and I moved our young family to Maryland. Although I was officially hired through the National Museum of Natural History, my office and lab were in the National Zoo. One of my favorite parts of the day was arriving at my office early enough to be walking through the zoo when the gibbons were doing their morning family sing. Despite some perks and benefits of working at the Smithsonian, John and I realized very quickly that the Washington D.C. metro area was not the place for us. I also realized that I missed being in an academic setting. We began looking for jobs closer to home and when the opportunity at UCO came about, I was excited by the possibilities. Needless to say, we are thrilled to be back home and I look forward to learning and growing here at UCO.

CUR, Curriculum, and Student Outcomes



As noted in the chairman's corner, as part of our ongoing effort to improve the educational experience for students in the biology department, the Council for Undergraduate Research (CUR) conducted an evaluation of our program last fall. As a result of recommendations made in that evaluation, faculty have begun examining our core curriculum to see if and how it might be modified to incorporate more research and transformative learning experiences for our students. The first phase of this effort involved defining what outcomes we are seeking for our students. Working in small groups, all faculty members participated in this effort and came up with four main outcomes. First, faculty members agreed that all biology graduates should have a good grasp of the scientific method, including literature review, hypothesis testing, data interpretation and presentation, and the ethics of science. Second, students should understand the core concepts of the biological sciences; faculty members developed a list of a dozen or so broad subject areas that make up that core. The last two outcomes defined were improved student communication skills and student proficiency in chemistry, math, and physics. During the coming year, work to align the core curriculum with these outcomes will begin. During the summer break two faculty members, Gloria Caddell and Brooke Stabler, attended the biannual CUR conference at the College of Saint Benedict in St. Joseph, Minnesota to learn about what's going on at other campuses across the country to facilitate undergraduate research programs.

College of Mathematics and Science Seminar Series

This year the CMS initiated a seminar series to enhance the educational experience for our students by bringing cutting edge research presentations and respected speakers to campus. The series kicked off with an excellent presentation by biochemist and molecular biologist Dr. Jordan Tang, entitled "Toward an Alzheimer-Free World". Among the other speakers with a biological bent for these monthly meetings included Dr. Charles Abramson on the psychology of Africanized Killer Bees and behavior of European Honey Bees, Dr. Phillip Silverman on summer research programs at OUHSC, and Dr. Vic Hutchinson on Evolution and Intelligent Design.

Summer Field Biology Course

During summer 2008 the Department of Biology offered for the first time, at least that anyone can recollect, a Field Biology course. The eight-week course was divided into the following topics: fungi, vascular plants, insects, aquatic insects, reptiles and amphibians, mammals, and birds. About the same amount of time was spent on each topic. In addition to local field trips, an all-day trip was taken to south-central Oklahoma and an overnight trip was taken to the Selman Living Lab. Faculty involved were Drs. Clark Ovrebo, Jenna Hellack, Beth Allan, David Bass, William Caire, Gloria Caddell, Wayne Lord, Chris Butler, Tony Stancampiano, and Mr. Marvin Mays. Sixteen students were enrolled in the course.

Student Activities

Undergraduate Research

See recent publications, presentations and meetings of the Southwestern Association of Naturalists, Oklahoma Academy of Science, and Research Day for Regional Universities for other student research presentations. UCO students are asterisked (*)

INBRE, SURE-STEP, and SURE



Students at UCO continue to benefit from two federal grant programs: the National Science Foundation's SURE STEP grant (Supporting Undergraduate Research and Education for the Science, Technology, Engineering and Mathematics Talent Expansion Program) and the National Institutes of Health (NIH) funded INBRE (Oklahoma IdeA Network of Biomedical Research Excellence) grant for biomedical research. Our students also participate in SURE (Summer Undergraduate Research Experience), a research program funded by and held at the Oklahoma University Health Sciences Center (OUHSC).

This year we are starting the final year of the 5-year NSF-funded Sure-Step program. The program kicks off with the Summer Bridge component. This summer, we have 4 faculty participants: Wei Chen (Laser immunotherapy for Cancer), Baha Jassemnejad (Robotics), Wayne Lord (Insect ecology), and Mel Vaughan (Cell biology of aging). Out of 36 applicants, 24 students were chosen to participate in the program, which involves morning research lectures and working in the afternoons on research projects with the faculty and their peer mentors. Students were given the opportunity to live on campus as well. During the last week of July, the students will hear from various campus organizations such as Student Life, Leadership Central, Career Services and Information Technology. The last day of the program is reserved for student presentations of their research. All the students may be able to continue participation and support throughout their freshman year. Of the 24 participants this year 12 are biology majors. Each group working with a faculty member also has a student peer mentor. This summer, Dr. Vaughan's peer mentor is Sarah Chukwuma; Dr. Chen's peer mentor is Kelvin Le; Dr. Lord's peer mentor is JeAnna Redd, and Dr. Jassemnejad is using two peer mentors: Grant Armstrong and Kooroush Azartash-Namin. Halie Ferguson is the student housing and program assistant.

Our students often are accepted into the INBRE and SURE programs because of the research experience they gain here. Kaelyn Lu is in the SURE program at OUHSC. The INBRE grant is currently supporting research projects for 4 students: Tiffany Palmer is working in Dr. Vaughan's lab, Henry Le is working in Dr. Chen's lab, and Kim Koppari and Fariha Sultana are working at the OUHSC this summer.

Visit the SURE-STEP WebPage at UCO: <http://cms.ucok.edu/sure-step>

Visit the INBRE website: <http://okinbre.org/>

Graduate Students

Currently there are 10 graduate students in the Biology department with 3 newcomers this past year. Newcomers include Daryn Lu, who is working with Mel Vaughan; Christopher Roy is working with Chris Butler; and Meredith Clement is working with John Barthell.

Kristi Rice defended her Master's thesis "Effects of Abiotic Factors and Livestock Grazing on Plant Communities in the Cimarron Gypsum Hills, Northwestern Oklahoma" in July; she will be working as an adjunct in the Biology department at UCO during 2008-2009.

Student Clubs

Pre-Med Health Professions Club



Having received the 2008 Vice President's Outstanding Organization Award for UCO and doubling its membership, it is apparent that the Pre-Med/Health Professions Club had an exciting and productive past year! As the club met every first and third Tuesday of the month in the Howell Hall atrium, students were provided the opportunity to learn about many different areas of the healthcare field. Speakers came from across the state to speak about professionalism, admissions processes, emergency medicine, psychiatry, dentistry, podiatry, and much more. Outside of general meetings, the club participated in a number of volunteer projects and field trips. From cooking dinner for the residents of the Ronald McDonald House to helping out with the Regional Science Fair, Earth Day, the Big Event, and a summer blood drive, the club was sure to give back to the community. Members found trips to OSU medical school and OU Health Sciences Center, as well as the Human Body Exhibit at the Oklahoma Science Museum to be very stimulating. The most active member and recipient of a free Kaplan test prep course for the fall semester was David Bishop, and for the spring semester, Diep Pham. The current officers are Ben Lynch, Susie Ondak, Mariam Canales, Joy Hammond, Dan Foerster, and Taylor Denny. Together they are hoping and preparing for another great year! To find out more about the club, log on to <http://cms.ucok.edu/premed/index.html>.

Tri-Beta Biology Club and National Biological Honor Society (Tri-Beta)



Once again, the past year has been a busy one for the Psi Mu Chapter of the Beta Beta Beta National Biological Honor Society and Biology Club at UCO. We held our regular, twice monthly meetings and had a diverse selection of speakers from on and off campus. This year we also featured student presentations at one meeting, which gave some of us our first opportunity at research presentation! During the fall 2007 semester some members participated in the annual Bioblitz, which was held at the Wichita Mountains Wildlife Refuge in Medicine Park. The club paid for registration and meals for members to attend the fall 2007 and the spring 2008 Oklahoma Academy of Science field meetings. The fall meeting was held at Sequoyah State Park and we enjoyed canoeing along the Illinois River in addition to faculty-led field trips. The spring meeting was held at Beaver's Bend State Park and BBB members were the primary student participants! We conducted multiple service trips to the Selman Living Laboratory; two during the fall semester and one more during the spring. We added skirting to the bunk houses, did some roof work, and built a great fire pit. During one of the fall trips we also visited the bat caves and as always did some trapping while at SLL. BBB president Vagan Mushegyan was the winner of the 2007 Collegiate Academy of Science Award for Biological Sciences presented by the OAS for his presentation at their technical meeting. Our induction ceremony was held February 29 and 6 new members were inducted. Seven of our members attended the annual regional meeting held at Lake Texoma April 18-20 with two presenting research posters. We held our annual plant sale on Earth Day and raised over \$100 for Selman Lab. Sarah Chukwuma, last year's Johnson Poster award winner at the regional meeting, attended the BBB National Conference at Northern Kentucky University during May 2008. Our 2008-09 officers were elected at our final meeting of the academic year. Our new officers are: Kim Koppari-president; Kelly Smith-vice president; Eric Sullivan-secretary; Whitney Johnson-treasurer; Sarah Chukwuma-historian; and Paul Parks-senator. Tiffany Cloud will act as assistant treasurer to Whitney and Erica Becker will assist Sarah as historian.

Biology Department participation:

2007 Beta Beta Beta South-Central Regional Convention

University of Oklahoma Biological Research Station, Lake Texoma

April 4-6, 2008

Poster Presentations

Mushegyan, Vagan. Comparative phylogeography of two species of *Peromyscus* in Oklahoma and adjacent states.

Mushegyan, Vagan. Function of dexS and treR in mutacin I production in *S. mutans*.

Smith, Kelly. Genetic variation within and among skunk populations in the central United States.

Student Awards and Grants

Won-Hee Kim and Edana Robinson were given the American Association of Anatomists Travel Awards for 2007.

Edana Robinson won 3rd place in the 2008 EPSCoR Research Day at the State Capitol.

Shamira Goode was awarded a \$1000 stipend to conduct a research project studying plant competition through the Oklahoma Louis Stokes Alliance for Minority Participation in Science, Technology, Engineering, and Mathematics (OK-LSAMP STEM).

Kelly Smith received Student Research, Creative and Scholarly Activities grants for spring and fall 2008.

Vagan Mushegyan, Tiffany Palmer, and Blake Middleton received awards from the UCO Foundation at the annual Presidential Partners luncheon. Vagan and Tiffany received Rothbaum awards in recognition of outstanding academic achievement. Blake received the Kirkpatrick award for leadership and public service and the W. Roger Webb leadership award.



The 26th Annual College of Mathematics and Science Awards Banquet

Lothar Hornuff Field Biology Award

Ken Locey

Ken Locey exemplifies the character of the field biologist for whom this award is named. He is involved in collecting data on Sonoran mud turtles in New Mexico, Mediterranean Gecko research on our campus and has worked as a Research Assistant on the effects of habitat fragmentation on avian communities in the Lower Rio Grande Valley of Texas. He had multiple peer-reviewed publications at the time of his graduation in May 2008. Ken has been accepted into a Ph.D. program at Utah State University with scholarship support.

Outstanding Biology Senior Student Award

Vagan Mushegyan

Vagan Mushegyan enrolled as a freshman at UCO in the 2004 Summer Bridge NSF-funded Sure-Step Program. In 2005 he received the Ethel Derrick Outstanding Zoology Student Award. He is active in the UCO President's Leadership Council and several student organizations on the UCO campus. In 2006 he was awarded an Undergraduate Research Assistantship and has been active in investigations on aspects of population genetic structure of the Texas mouse (*Peromyscus attwateri*). He sequenced DNA on the mitochondrial genome of that species. He has two papers in preparation and made several presentations at scientific meetings.

Ethel Derrick Zoology Award

Taylor Fisher

Taylor Fisher was chosen for this award because of his willingness to help other students, his active engagement in the Animal Biology class, and his average grade of 97% in the class.

Biology Education Senior Award

Kathleen Loux

Kathleen Loux is an example of the kind of student we want to become science teachers. With an overall GPA of 3.66 and a strong foundation in content, she is more than qualified. What sets Kathleen apart is her desire to work with all students and to make a difference in their lives. During her student teaching, she taught in a very difficult classroom in a high minority school, and still managed to teach children while retaining her enthusiasm.

Academic Achievement Award

***Phoebe Brown, Patrick Crowley,
Travis Kliever, Ashlea Turpin***

The UCO Biology Academic Achievement Award is presented to graduating senior student(s) who excelled throughout their academic career. In order to be considered for this recognition, a 4.0 GPA during the entire undergraduate studies must be maintained and at least 90 hours of coursework must be taken at UCO.



Alumni

Alumnus establishes endowed scholarship fund

After 30 successful years, Cdr. Craig Morin came home to the University of Central Oklahoma to visit and roam the classrooms of Howell Hall. Morin graduated in 1973 with a Bachelor of Science in Biology. During his visit this summer, countless memories surfaced, such as the time he spent as a lab assistant catching 200 frogs that had escaped from their aquarium overnight!

Morin had many stories but said nothing was as memorable as the investment that the professors made in him through their teaching. One professor he described specifically as his mentor was Dr. Beverley Cox. "I was stunned when she offered me the honor to be her lab assistant. It changed my life," said Morin, "I considered myself just a 'B' student and never thought an opportunity like that would be offered to me." Because of the dedication Dr. Cox had for her students that Morin witnessed first-hand, he was inspired to make the most of his situation and work as hard as he could to become more than he imagined was ever possible.

Morin currently works as an environmental safety and occupational health consultant to the petroleum industry. "I tell everyone I meet, all over the world, it is because of the education I received at the University of Central Oklahoma that I have been a success," Morin shared during his recent visit. "Because I feel this way, I want to give something back to honor Dr. Cox for what she has meant to my career over the last thirty years." Morin did just that. With a \$5,000 gift, he and his wife Mary Newman Morin, who also is a graduate of UCO, have established the Dr. Beverley Cox Endowed Scholarship for Biology, the first endowed scholarship ever to be established in the Department of Biology. The purpose of the scholarship endowment is to give students who are military veterans with an interest in the healthcare profession the opportunity to be inspired by their educators just as Morin was inspired.

With a grateful and kind heart, Craig Morin rekindled his love for his alma mater and has graciously given back in honor of a wonderful professor, mentor and friend to so many. If you would like to make a gift to the Dr. Beverley Cox Endowed Scholarship for Biology or would like to commemorate a professor, mentor, friend or family member by donating a tribute gift to establish an endowed scholarship or professorship, please contact Melody Hansen at the UCO Foundation, (405) 974-3782 or mhansen5@ucok.edu.

Other Alumni News

La Titia Taylor (B.S. UCO 1989) is a member of the Southern Ute Indian Tribe who graduated in 1992 with a Master of Science from Texas State University. Her thesis was titled "Leaf anatomy and morphology of *Barclaya*". La Titia moved back to the Southern Ute Reservation and worked for the Tribe's Natural Resource Department for 7 years. She was then promoted to the position of Higher Education Department Director in 1999, and was in charge of the scholarship, distance learning and adult vocational programs. La Titia has 2 boys ages 16 and 11. For the past 15 years she has coached and refereed boy's 4th-6th grade basketball. She loves gardening and playing softball.

Amy Estep was a graduate student under Dr. Hranitz who completed her thesis "Geographic variation in wariness, morphology, and genetics of the cricket frog, *Acris crepitans*, in Oklahoma" for an M.S. in Biology in 2000. She currently teaches at Watonga Middle School. She sent a letter to Biology chair Jenna Hellack regarding some articles published in the Watonga Republican. Amy said "I thought it was cool because there are three former UCO biology students on front: myself, Richard Carter, and Bobby Spencer. The latter two share a medical practice at Watonga Memorial Hospital."

Randy Parker, who graduated in fall 2007, has begun a Ph.D. program at UT Southwestern Medical Center, Dallas.

Jeff Burke, who completed his M.S. under Dr. Ahmad last year is now in the P.A. program at OU.

Dr. Paul Olson, who earned his M.S. under Dr. Bidlack, is back at UCO, now as an adjunct instructor teaching general and plant biology courses. Paul completed his Ph.D. at OU and did post doctoral work at Colorado State before coming home to UCO.

UCO BIOLOGY DEPARTMENT DONATIONS 2007-08**Selman Living Laboratory Adopt a Bat Donors**

Lori Alspaugh	Lisa Johnston
Barbara Arnold	Sheila & Ted Keeney
LeeAnn Bailey-Gooch	Candyce Kline
Erica Baker	Justin Lack
Dr. John Barthell	Jeffrey Lastrapes
Karen Ann Bay – Woodward Middle School	Amy Levescy
Patricia Ann Bolt	Lynda Loucks
Jennie Smart Brixey	Mrs. Mathews 2 nd grade class - Woodward
Robin & Fritz Buckallew	Margaret Matzinger
Dr. Gloria Caddell	Stacey Meek
Jerry & Julie Chambers	Ed O'Brien
Steve A. Clevenger	Dr. Paul Olson & family
Dr. Cari Deen	Sadie Pace
Megan DeGeus	Paul Patrick
Dr. Jill Devenport	Toni Payne
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Dr. William Lee Beasley
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Selman Living Laboratory Donors

Aldridge Foundation
 Dr. John Barthell
 Dr. Lori Beasley
 Dr. William Lee Beasley
 Lee & Beverly Endicott
 Dr. Paul Olson
 Richard Pyle
 Andrew Riha

Dell Computers
 Betty Selman



CONGRATULATIONS

*To the following UCO students, who have been accepted to
these professional programs for the Fall Semester, 2008*

<http://www.biology.ucok.edu/PersonalPages/AEwingWeb/whosgoingwhere.htm>



OU – COLLEGE OF MEDICINE

McBride, Kim
Nye, Steven
Reed, Alessandra
Weaver, Natalie

OU – COLLEGE OF DENTISTRY

Lorents, Edward
Perryman, Reed
Tietze, Sebastian

OU – COLLEGE OF PHARMACY

Abraham, Jephine
Derby, David
Kincaid, Kimberly
Mathews, Shirley
Nettleingham, Kyle
Wilcox, Justin

OU – PHYSICIAN ASSISTANT PROGRAM

George, Sean
Hart, Paul
McCarty, Melissa
Palmore, John
Raza, Amir

OU – PHYSICAL THERAPY PROGRAM

Johns, Richard
Knox, Lacy

OU – COLLEGE OF NURSING – ACCELERATED BSN

Heim, Kaylee

OU – OCCUPATIONAL THERAPY PROGRAM

Divine, Cassie
Stone, Meredith
Young, Kyra

OU – SONOGRAPHY PROGRAM

Maldonado, Ashley

OU – RADIOGRAPHY PROGRAM

Camp, Cody

OU – RADIATION THERAPY PROGRAM

Gaiser, Leah
Hammers, Bryan

OSU – COLLEGE OF OSTEOPATHIC MEDICINE

Campbell, Jeremy
Lovato, Zach
Lynch, Ryan
Robinson, Edana

OSU – COLLEGE OF VETERINARY MEDICINE

LaRue, Jamie

NSU – COLLEGE OF OPTOMETRY

Kliwer, Travis

SOUTHERN COLLEGE OF OPTOMETRY

Varghese, Tania

SWOSU – COLLEGE OF PHARMACY

Brown, Danica
Mathias, Amber

UCSF – SCHOOL OF DENTISTRY

Mushegyan, Vagan (DDS/PhD)

NOVA SOUTHEASTERN – COLLEGE OF OSTEOPATHIC MEDICINE

Blackaby, Daniel

LAKE ERIE – COLLEGE OF OSTEOPATHIC MEDICINE

Jacoby, Lauren

PARKER COLLEGE OF CHIROPRACTIC

Bista, Insaf
Hughes, Brian

COMMANCHE COUNTY HOSPITAL MEDICAL TECHNOLOGY PROGRAM

Lang, DeShawn

UNIVERSITY OF NORTH TEXAS – PHYSICIAN ASSISTANT PROGRAM

Tandang, Leah

SAMUEL MERRITT COLLEGE OF PODIATRIC MEDICINE

Newhard, Heather

SOUTHERN COLLEGE OF OPTOMETRY

Varghese, Tania

A.T. STILL – COLLEGE OF OSTEOPATHIC MEDICINE MESA, AZ

Leming, Luke

UNIVERSITY OF SOUTHERN CALIFORNIA – SCHOOL OF DENTISTRY

Reitz, Kurtis