



Bioluminescence



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Bioluminescence



Bioluminescence Vol. 9

Editors: Jenna Hellack and Gloria Caddell

Summer and Fall 2005, and Spring 2006

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

Faculty and Staff

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Dr. Troy Baird
Dr. David Bass
Dr. James Bidlack
Dr. Christopher Butler
Dr. Gloria Caddell
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Dr. Madhukar Khetmalas
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Dr. Paul Stone
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Dr. Michael Shaughnessy
Ms. Shana Shanto
Dr. Linda Stabler
Dr. Tony Stancampiano
Dr. Sheila Strawn

Chairman's Corner



It has been another year of growth in the Biology Department. Thanks to Dr. William Beasley, the Inasmuch Foundation and others of our alumni, we are now teaching Animal Biology in a beautiful new laboratory. We have also finished the small Histology Laboratory. We are starting phase II this summer and will hopefully have the Plant Biology laboratory and Herbarium finished when school starts in August of this year. We are looking at the possibility of beginning the work on the Herbarium Prep. Room, Museum and Advanced Vertebrate Laboratory in the spring or summer of 2007.

As you will read in Dr. Caire's "Status of the Selman Living Laboratory," with the **minor setback of a tornado**, the SLL is on its way to becoming a major field research station. The Biology Department greatly appreciates all the work he has done. The University of Central Oklahoma also appreciates him. He now has the title of Director of the Selman Living Laboratory.

It looks like we have completely lost Dr. John Barthell to Administration. John became the Associate Dean of the College of Mathematics and Science in the Fall of 2005 and will be Dean Barthell starting in July 2006. We are hoping we can talk him into continuing to teach History and Nature of Science. Dr. Melinda Henderson, who so graciously held the position of Interim Dean during the school year 2005-06, is retiring.



Associate Dean John Barthell and Dean Melinda Henderson

In the last year, we changed the Biology Core to include an entry-level course "Biology for Majors". This course is now a prerequisite for all other biology courses. In the coming year we will begin a curriculum evaluation. We plan to look at our strengths and weaknesses, with a focus on our strong points that we feel are: undergraduate research, Biology Education, and Health Professions preparation. It is our intention to have an external department review and bring to the campus the Council on Undergraduate Research (CUR) as the consulting group.

What's happening

Status of the Selman Living Laboratory

A SELMAN LIVING LAB UPDATE



A Big THANK YOU to the Aldridge Foundation from me and all the student groups, community groups, researchers, scout groups, the Sierra Club, the Oklahoma Native Plant Society, the Oklahoma Academy of Science and others who have enjoyed the Selman Living Laboratory. Yes, they are all appreciative of what the Aldridge Foundation has done to help keep the SLL moving along. Thank you from all of us!



Here is a brief update report for you. Currently on site at the SLL is a doublewide trailer (with washer, dryer, refrigerator, stove, etc.). This came about from a National Science Foundation award to Dr. Caire. After the doublewide was in place, we brought in a water line from the rural water service, built a large septic system, and just recently, we added a telephone line with a high-speed internet hookup. Just before



Doublewide trailer

the doublewide was purchased, we had in place two bunkhouses (each can sleep about 18 people), a classroom building, two astronomy domes, and two small outbuildings. It is beginning to look like a real outdoor living laboratory. In addition, we found sitting in the UCO surplus a small trailer that had been used to teach decontamination techniques. We had it moved to the SLL and we plan to convert it into bathrooms. We also have converted one of the small outbuildings into an ADA bathroom. Our desire is to convert the other small outbuilding into a bathroom.

Research activities continue at the SLL. Dr. Caddell from UCO and her graduate student Robin Buckallew recently published a paper in the Proceedings of the Oklahoma Academy of Science documenting 230 species of plants at the SLL. Dr. Mather from the University of Science and Arts is studying Tiger Beetles. Investigations of the genetics of bat flies are being conducted by Dr. Wilson at UCO and several undergraduate students. One of his students, Kendra Byrd, placed second at the Annual Beta Beta Beta Biological Society poster competition. I recently received a grant from Florida Power and Light to begin construction of a bat-friendly gate in one of the SLL caves to help protect bats during the hibernation season. I recently made a presentation to the Oklahoma Academy of Environmental Education (mostly K-12 teachers) about the opportunities at the Selman Living Laboratory.



Steve Maier from Northwestern Oklahoma State University and Chad Ellington from Rose State University have both been active in offering astronomy shows. President Beran of Northwestern Oklahoma State University has also offered to help at the SLL. They purchased three small refrigerators for the classroom

and bunkhouse buildings. They will also install ceramic tile on the floors of the buildings. He also will make sure that we have a nice fire pit for hot dog and marshmallow roasts. One of UCO's sororities held a planning retreat at the SLL and donated two new microwaves.



The Biology Club (Tri-Beta) held two service days at the SLL. They hung blackout shades over all the windows in the trailer, placed concrete under the stairs into the trailer and erected five flag poles at the entrance. They rode over Mrs. Selman's Ranch with her ranch hand, Jay Rankin, and collected rocks for a rock garden near the flagpoles, and completed other "odd jobs" around the SLL.

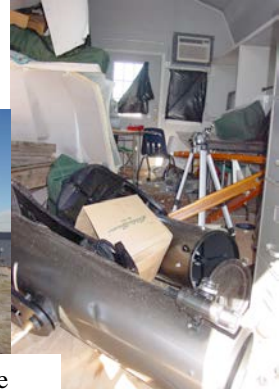
You might have heard that a rare October tornado struck the SLL. It picked up one of the bunkhouses and dropped it into the classroom (we think all the telescopes survived). UCO's administration has jumped in and they are in the process of seeing that the repairs will be made. The doublewide will be re-shingled with a better storm-resistant shingle and a more substantial skirting will be installed. The bunkhouse will be repaired as well as the classroom. However, the extent of damage to the classroom was such that after its repair, it was converted into a storage building and a new classroom was purchased. All electrical repairs will be made by the UCO Physical Plant. The Architectural and Engineering department of UCO drafted a footprint of a classroom building that will also serve as a tornado and severe storm room. It will probably be constructed of concrete. I have used their conceptual design in an NSF grant proposal to raise the funds to construct the building.

Well, I trust you see that there has been some activity at the SLL since I last wrote. I am glad it continues to move along and I am very thankful for all the support and encouragement that the Aldridge Foundation has given. Recently they funded a proposal for ten futon chairs/beds for the SLL. They will provide both seating during the day and beds at night.

You are all welcome to come see the SLL. Pick a clear night and enjoy the wonders of the night sky. Thanks Again,
Bill Caire



Tornado damage



Status of the Unfinished First Floor Laboratories

Phase I of Laboratory Campaign Completed

Three labs in the Howell Hall Laboratory Annex Building were completed in September 2005 thanks to the generosity of the Inasmuch Foundation. These labs include the histotechnology lab, animal biology lab, and the botany/zoology prep room. The Inasmuch Foundation provided a \$300,000 grant in January 2005 that covered the construction costs for the three laboratories. In addition to the Inasmuch grant, the biology department has received donations from several alumni to support Phase II of the campaign that includes completion of the botany laboratory and herbarium. Construction of these areas is set to begin in July. For updates on construction and the laboratory campaign, check the Development Office website at cms.ucok.edu/cmsdo.

Animal Biology Laboratory Dedicated in Honor of Dr. William Lee Beasley



Room 156 — Plant & Animal Bio. Prep. Room



Room 253 — Histotechnique Lab



Room 158—Animal Biology Lab

An open house for three remodeled labs and a dedication to Dr. William Lee Beasley, a 1969 biology graduate of UCO, was held November 3, 2005 in the Howell Hall Lab Annex, Rm. 158. The open house showcased three completed labs and the dedication of the animal biology laboratory in honor of Dr. Beasley. Dr. Beasley is an Oklahoma City dentist specializing in Endodontics.

“I applaud Dr. Beasley’s leadership and the new labs have made me want to re-take animal biology,” said Vagan Mushegyan, biology sophomore. The event was held for the biology faculty and Dr. Beasley’s friends and family to celebrate the opening of the new laboratories.

The campaign started in July 2004 and the funding from the Inasmuch Foundation, a foundation dedicated to the betterment of the community, came in January 2005, which paid for Phase One of the three-phase project. Phase One included zoology and animal biology labs, a botany and zoology prep room and a histotechnique laboratory. “The school will present itself better, and thus acquire more and better students” Mushegyan said.



Laboratory Dedication
From left to right
Provost & Vice President Dr. William
Radke,
Dr. William L. Beasley, and President Dr.
Roger Webb.

Research Revolution Film and Discussion Series: Year Four

The Research Revolution series had another successful fall season. The film & discussion series explores scientific themes of the 21st Century and the issues and ethics surrounding them. The series is brought to the public by Friends of the Library of UCO, The Metropolitan Library System, and the UCO College of Mathematics and Science. The fall of 2005 series included: "Galileo: The Relationship Between Science & Religion" with the discussion led by Dr. Kerry Magruder, OU, held at the Ronald J. Norick Downtown Library; "End of Life Issues and the Right to Die", led by Dr. David Necco, OCU, held at the Edmond Library; "Emerging Infectious Diseases", discussion led by Dr. David Dyer, OUHSC, held at the Southern Oaks Library, OKC; and "Creation: The Promise of Stem Cells", discussion led by Dr. James Tomasek, OUHSC, held at Howell Hall, UCO.

Faculty News

Recent Publications



Bass, D. 2005. A survey of freshwater macroinvertebrates on Antigua, West Indies. *Living World, J. Trinidad and Tobago Field Naturalists' Club* 2005:11-14.

Baird, T.A. and T.D. Baird. 2006. Phenotypic plasticity in the reproductive behavior of female sand tile fish, *Malacanthus plumieri*. *Ethology* 112: 52-63.



Bidlack, J.E., *A. Middick, *D. Shantz, C.T. MacKown, R.D. Williams, and S.C. Rao. 2006. Weed control in a pigeon pea—wheat cropping system. *Field Crop Research*. 96: 63-70.

Desjardin, D.E., and C.L. **Ovrebo**. 2006. New species and new records of *Marasmius* from Panama. *Fungal Diversity* 21: 19-39.

Hoagland, B.W., A. Buthod, and G. **Caddell**. 2005. The occurrence of *Cerastium pumilum* (Caryophyllaceae) in Oklahoma. *Sida* 21 (4): 2439-2440.

*Rudisill, T. and **D. Bass**. 2005. Macroinvertebrate community structure and physicochemical conditions of the Roman Nose Spring System. *Proceedings of the Oklahoma Academy of Science* 85: 33-42.

Sato, M., **M.D. Vaughan**, L. Girard, M. Peyton, R.D. Ramirez, N. Sunaga, A.F. Gazdar, J.W. Shay, and J.D. Minna. 2006. Multiple oncogenic changes (KRAS^{V12}, p53 knockdown mutant EGFRs, p16 bypass, telomerase) are not sufficient to confer a full malignant phenotype on human bronchial epithelial cells. *Cancer Res.* 66(4): 2116-2128.

Stone, P.A. and **M.E. Babb**. 2005. A test of the annual growth line hypothesis in *Trachemys scripta elegans*. *Herpetologica* 61: 409-414.

Stone, P.A., **M.E. Babb**, *B.D. Stanila, G.W. Kersey and Z.S. Stone. 2005. *Kinosternon sonoriense* (Sonoran mud turtle) diet. *Herpetological Review* 36: 167-168.

Wilson, G.M., R.A. Van Den Bussche, K. McBee, L. A. Johnson, and C.A. Jones. 2005. Intraspecific phylogeography of red squirrels (*Tamiasciurus hudsonicus*) in the central Rocky Mountain region of North America. *Genetica* 125:141-154.



* denotes current or former UCO students

Recent Presentations

*Byrd, K.S., **G.M. Wilson**, **W. Caire**, and R.A. Van Den Bussche. Population genetic structure of the bat fly, *Trichobius major* (Diptera: Streblidae), in Oklahoma and Texas. Central Plains Society of Mammalogists, Truman State University, Kirksville, MO, October 2005.

*Byrd, K.S., **G.M. Wilson**, **W. Caire**, and R.A. Van Den Bussche. Lack of population genetic structure of the bat fly, *Trichobius major*, in Kansas, Oklahoma, and Texas. Posters on the Hill competition, Washington, D.C., April 2006.

*Cunliffe, A., **G.M. Wilson**, **W. Caire**, *R.A. Astley, and J. Chodosh. Conjunctival lymphoid follicles in New World rodents. Central Plains Society of Mammalogists, Truman State University, Kirksville, MO, October 2005.

Ewing, Anne L. and Kerry L. Cheesman. Who we are and what we do: The results of a national survey of health professions advisors. 17th National NAAHP Meeting, Portland, OR, 2006.

Jackson, D.I., A.E. Miller, J.K. Fleming, S.A. Street, B.W. Fierson, A.J. Williams, A.E. Rowe, D.J. Madrid, H. Matsumoto, N. Takemori, **J.J. Hellack**, and R.C. Woodruff. Developmental stress and hormesis effects in response to vibration and

hypergravity of *Drosophila melanogaster*. 21st Annual Meeting American Society for Gravitational and Space Biology, Reno, Nevada, November 2005.

- Meeks, S., L. Luna, G. Wilson, W. Caire.** "West Nile Virus: Seroprevalence in Oklahoma small mammals. Are new reservoirs increasing human risk?" National Student Research Forum, Galveston, Texas, April 2005.
- Meeks, S., L. Luna, G. Wilson, W. Caire.** "West Nile Virus: Seroprevalence in Oklahoma small mammals. Are new reservoirs increasing human risk?" Graduate Research Education and Technology Symposium, University of Oklahoma Health Science Center, Oklahoma City, OK. (First place Dean's Award winner for Outstanding Research, poster presentation) March 2005.
- Meeks, S., L. Luna, G. Wilson, W. Caire.** "West Nile Virus: Seroprevalence in Oklahoma small mammals. State Meeting of the Public Health Association, Oklahoma City, OK. (First Place Award Winner poster presentation) March 2005.
- Melichercik, M.J., J.M. Hranitz, and **T.A. Baird.** Effective population size in collared lizards: another look after three generations. Annual Meeting of Pennsylvania Academy of Sciences, 2005.
- Thompson, J.N., jr., C. Hallman, J. Madrid, A. Miller, H. Matsumoto, N. Takemori, R. Woodruff, A. Williams, J. Fleming, S. Street, B. Pierson, T. Teel, B. Potthoff, and **J. Hellack.** 2005. Effects of mutation accumulations and stress on development homeostasis in normal and stress-sensitive genetic backgrounds. Poster, August 2005.
- *Vaughn, J.C., **W. Caire, L.D. Luna, S.L. Meeks,** and **G.M. Wilson.** West Nile Virus: Prevalence of an emerging infectious disease. Central Plains Society of Mammalogists, Truman State University, Kirksville, MO, 14-16 October 2005.
- Wartko, D., L. Yeany, J.M. Hranitz, and **T.A. Baird.** Heterozygosity-fitness correlations in a population of collared lizards, *Crotaphytus collaris*. Annual meeting of the Pennsylvania Academy of Sciences, 2006.
- Wilson, G.M.,** *B. Hall, *V. Mushegyan, T. Johnson, and R.S. Pfau. Patterns of mitochondrial variation in populations of the Texas mouse, *Peromyscus attwateri*, in North America. Central Plains Society of Mammalogists, Truman State University, Kirksville, MO, October 2005.
- Wilson, G.M.,** *B. Hall, *V. Mushegyan, T. Johnson, and R.S. Pfau. Patterns of mitochondrial variation in populations of the Texas mouse, *Peromyscus attwateri*, in North America. American Society of Mammalogists, Southwest Missouri State University, Springfield, MO, June 2005.
- Yeany, I., D. Wartko, J.M. Hranitz, and **T.A. Baird.** Investigation of the effect of population structure on heterozygosity-fitness correlations in collared lizards, *Crotaphytus collaris*. Annual meeting of the Pennsylvania Academy of Sciences. 2006.



Biology Department Participation:
Oklahoma Academy of Science 94th Annual Fall Paper Meeting
 Oklahoma City University, Oklahoma City, Oklahoma
 November 5, 2005

Oral Presentations

- *Rudisill, T. and **D. Bass.** Macroinvertebrate community structure and physicochemical conditions of the Roman Nose Spring System.
- Strawn, S. A.** and S. G. Strawn. *Xanthoparmelia chlorochroa*, its possible distribution and toxicology in Oklahoma.
- Vaughan, M.B.,** W.E. Wright, and J.W. Shay. Keratinocyte replicative senescence: When aging is skin-equivalent deep.

Poster Presentations

- *Cunliffe, A., **G. M. Wilson, W. Caire,** *R. A. Astley, J. Chodosh. Conjunctival lymphoid follicles in New World rodents.
- *Mushegyan, V., *B. Hall, T. Johnson, R. Pfau, **G. M. Wilson.** Patterns of mitochondrial variation in populations of the Texas mouse, *Peromyscus attwateri*, in North America. University of Central Oklahoma, Tarleton State University.
- *Vaughn, J.C., **W. Caire, L. Luna, S. Meeks,** and **G. M. Wilson.** Long-term titer study of West Nile Virus antibodies in small mammals in Oklahoma County, Oklahoma.



Biology Department Participation:
Sixth Annual Research Day for Regional Universities
 University of Central Oklahoma, Edmond, Oklahoma
 November 11, 2005

Bass, D. Stream macroinvertebrate community composition above and below waterfalls on a small oceanic island.

Baird, T.A. and *N.J. Calder. The cost of being brightly colored: Experimental field tests with male collared lizards.



*Byrd, K.S., **G.M. Wilson, W. Caire,** and R.A. Van Den Bussche. Population genetic structure of the bat fly, *Trichobius major* (Diptera: Streblidae), in Oklahoma and Texas.

Caddell, G.M. and *K. Rice. Vascular flora of Alabaster Caverns State Park.

*Cato, P.P. and **M.B. Vaughan.** Effect of k-Ras on epithelial compartmentalization.

*Cunliffe, A., **G.M. Wilson, W. Caire,** *R.A. Astley, and J. Chodosh. Conjunctival lymphoid follicles in New World rodents.

*Curtis, J.L. and **T.A. Baird.** Seasonal within-habitat variation in the abundance of adult trombiculid mites and larval mite infection of collared lizards.

*Hall, C., **G. Caddell,** and **J. Barthell.** Phenology, breeding system, and pollination biology of *Dalea purpurea* Vent. (Fabaceae).

*Isiaho, A.M. and **M.B. Vaughan.** Telomerase reverse transcriptase (hTERT) may alter fibroblast phenotype through a telomere-mediated mechanism.

*Mushegyan, V., *B. Hall, T. Johnson, R.S. Pfau, and **G.M. Wilson.** Patterns of mitochondrial variation in populations of the Texas mouse, *Peromyscus attwateri*, in North America.

*Overall, L., **G. Caddell,** and **J. Barthell.** Phenology, breeding system, and pollinators of *Calylophus berlandieri* Spach. (Onagraceae) in central Oklahoma.

*Reidenbaugh, R.T. and **M.B. Vaughan.** p63 expression in epidermal tissue: a taxonomic survey.

*Skaley, M.S. and **M. Vaughan.** Replicative senescence morphology of *in vitro* skin equivalents.

*Willhoite, Amy and **G. Caddell.** Plant blindness in Oklahoma Middle School students.

*Vaughn, J.C., **W. Caire, L.D. Luna, S.L. Meeks,** and **G.M. Wilson.** West Nile Virus: Prevalence of an emerging infectious disease.



Biology Department Participation:
The Southwestern Association of Naturalists 53rd Annual Meeting
 Universidad de Colima, Colima, Mexico
 April 13-15, 2006

Oral Presentations

*Curtis, J.L. and **T.A. Baird.** Temporal dissociation between larval mite parasitism of collared lizards and the abundance of mite adults.

Baird, T.A. and *J.L. Curtis. Episodic territory acquisition by first-year collared lizard males.

Stone, P. A., M.E. Babb, and *A.L. Beshara. Factors influencing sex ratios in *Trachemys scripta*.



Poster presentations

*Bishop, J.L., *J.C. Vaughn, **S.L. Meeks, L.D. Luna, G.M. Wilson,** C. Baldwin, and **W. Caire.** West Nile Virus: Seroprevalence in twelve species of Oklahoma rodents.

*Byrd, K.S., **G.M. Wilson, W. Caire,** and R.A. Van Den Bussche. Population genetics of the bat fly (*Trichobius major*) in Kansas, Oklahoma, and Texas.

*Cunliffe, A., **G.M. Wilson, W. Caire,** *R.A. Astley, and J. Chodosh. Presence/absence of conjunctival lymphoid follicles in New World rodents.

Wilson, G.M., *V. Mushegyan, *B. Hall, *J. Lack, T. Johnson, and R.S. Pfau. Intraspecific phylogeography of the Texas mouse, *Peromyscus attwateri*, in North America.

Other Faculty Activities

- Dr. Gloria Caddell** led a field trip for the Sierra Club to the Selman Living Lab in August 2005. She also led a field trip for UCO faculty and students to the Selman Living Lab in September 2005, and the Watchable Wildlife weekend at Alabaster Caverns State Park in May 2005.
- Dr. Troy Baird** was invited to present “The influence of sexual selection on behavioral diversity: collared lizards as a model system for field studies” at the Twenty First Century COE Program. Formation of a Strategic Base for the Multidisciplinary Study of Biodiversity. Kyoto University, Japan, March 2006.
- Dr. Gloria Caddell** presented a talk on the influence of Charles Darwin on pollination biology to the Oklahoma Native Plant Society Indoor Outing in February 2006. She also presented a talk on the flora of Oklahoma to the Edmond PEO Chapter in March 2006.
- Dr. Anne Ewing** has been appointed as a College Board AP Biology Reader.
- Dr. Mel Vaughan** was invited to present “Histotechnology reveals the structure and development of tissue equivalents” to the Oklahoma Society for Histotechnology Annual Meeting, Oklahoma City, Oklahoma. March 2006.
- Dr. Greg Wilson** attended the NSF STEP Grantees Conference, NSF SURE-STEP, Marriott Wardman Park Hotel, Washington D.C., in April 2006.
- Dr. Clark Ovrebo** spent a week in the Great Smokey Mountains National Park doing field research on fungi.
- Dr. Clark Ovrebo** is the Editor of the Proceedings of the Oklahoma Academy of Science.

Oklahoma Academy of Science Field meetings

Fall 2005 Field Meeting, Roman Nose State Park: **Dr. Clark Ovrebo** and **Dr. Gloria Caddell** led field trips. Others in attendance were Dr. Anne Ewing, Dr. David Bass, Dr. Jenna Hellack, Dr. Greg Wilson, Dr. William Caire and members of the Tri-Beta Club. Retired Professor emeritus Dr. Peggy Guthrie was also in attendance.

Spring 2006 Field Meeting Beaver’s Bend State Park: **Dr. Gloria Caddell** led the Botany field trips. Several members of the Tri-Beta Club attended the meeting along with Dr. David Bass, Dr. Bill Caire, and Dr. Sheila Strawn.

Grants and Awards Received

- Dr. Riaz Ahmad** received the Vanderford Distinguished Teachers Award of \$1000.00 in the fall of 2005.
- Dr. David Bass** received a research grant of \$1,490.00 from the Joe C. Jackson College of Graduate Studies and Research, University of Central Oklahoma.
- Dr. Jim Bidlack** received the Neely Excellence in Teaching Award of \$1000.00 in the fall of 2005.
- Dr. Gloria Caddell** received a \$1,125.00 UCO Campus Research Grant to complete her research on the Vascular Flora of Alabaster Caverns State Park.
- Dr. Anne Ewing** received a NIH-INBRE Curriculum Development Grant of \$11,838.00 to “Increase quantitative and physical science skills in freshman biology through course clustering.”
- Ms. Sherry Meeks** received a \$1000.00 scholarship from the Oklahoma State Public Health Association for her work with undergraduate research in public health.
- Dr. Mel Vaughan** has received an NIH INBRE Summer Research Opportunity Award to work in the lab of James J. Tomasek at the University of Oklahoma Health Sciences Center. His project will be to study the effect of keratinocyte/fibroblast interactions on force generation. Mel also received an NIH INBRE grant for research release-time in the spring of 2006. Dr. Vaughan also received a UCO Research Grant from the UCO Graduate College (JCJGSR) for the 2005-06 school year.
- Dr. Greg Wilson** received a research grant of \$7,420.00 from the Joe C. Jackson College of Graduate Studies and Research, University of Central Oklahoma, to conduct genetic research on bat flies. Greg was also awarded \$1000.00 by the Vanderford Faculty Award committee “In Support of Undergraduate Research, Creative & Scholarly Activity, for excellence in support of undergraduate research.”



*Biology Department recipients of the
Dr. Joe C. Jackson College of Graduate Studies and Research
Fall 2005 Incentive Awards*

Publication/Presentation Incentive Awards— Dr. Troy Baird (\$250.00), Dr. David Bass (\$500.00), Dr. Randall Myster (\$250.00), Dr. William Radke (\$250.00) and Dr. Paul Stone (\$500.00).
External Grant Incentive Awards — Dr. William Caire (\$250.00) and Dr. Randall Myster (\$1,500.00)

Meet the Faculty and Staff

In this section we spotlight full-time faculty and staff. This year we want you to meet Dr. Mel Vaughan who joined the Biology Department in the fall of 2004 and Dr. Madhukar Khetmalas who joined the Biology Department in the fall of 2005. Two other new faculty, Dr. Christopher Butler and Dr. Beth Allan, will be featured in our next Bioluminescence.

Dr. Mel Vaughan



Hi, I am Mel Vaughan, and I'm as excited as can be about being at the University of Central Oklahoma. Here is a "brief" story of how I came here.

I grew up in the country south of Oklahoma City. I liked to spend a lot of time exploring the outdoors. Times change, and when we moved into the city I forgot about the outdoors and started thinking about –you guessed it: girls. I graduated from PCO without an idea what I would do; I went to Central State for a couple of years doing what most of the kids are doing now, trying to work full time and go to school full time. I think I was a psychology major with a minor in music. Well, that didn't work so I took off a year to decide what to do. Finally I remembered the outdoors and entered the University of Oklahoma and earned a BS in Botany in 1987. I worked briefly for Dr. Lois Pfiester and Dr. Fritz Schmitz, isolating local algae and growing to harvest natural products. But grants run out, and so I started working at OU Health Science Center doing biomedical research. I grew interested in the research itself, reading papers and co-authoring a study, and soon chose to enter graduate school. Both Drs. Pfiester and Schmitz knew it was a difficult decision (I had a family to support) and said it would be hard but I would never regret it. In 1998 I earned a Ph. D. in Anatomical Sciences working with Dr. James Tomasek studying myofibroblast differentiation. He said "if you want to stay in Oklahoma, you must first leave Oklahoma" and so I went off to UT Southwestern Medical Center in Dallas to study with Dr. Brian Pilcher, who left shortly to pursue a biotech industry career. I joined our collaborators, Dr. Jerry Shay and Woody Wright, and continued as a postdoc studying aging and wound healing by using in vitro models of artificial tissue. During this time I was accumulating a bit of teaching experience here and there. For two years I perused the faculty positions offered in the Midwest, and when I read the UCO faculty position, I was sure they had written it just for me; the qualifications read like my CV. So I applied, interviewed, and then started getting nervous when finally Dr. Guthrie gave me the call – yes! I joined the Biology Dept. at UCO in August of 2004. I continue to collaborate with Dr. Tomasek and the Shay/Wright lab to study aging and wound healing.

My wife Lynne has been there to support and encourage my progress for most of my adult life. We also have a couple of great girls, Kristen and Morgan, who help keep us young. Both my parents encouraged active learning throughout life, and my oldest brother Gilbert, an English professor, was my role model as I grew up. While my brothers have moved away, we still talk regularly and I have a great bunch of in-laws and cousins here in the state. Oklahoma has been good to me and my family and I hope I can return the favor, exciting our college students by teaching through research.

Dr. Madhukar Khetmalas



I was born in a farmer's family in a small village of India, but probably as the luckiest one ever born. We (mom, dad and three brothers) lived on the farm, three miles away from the village, with bicycle and bullock-cart as our only means of transportation. I remember my school days: I rode a bicycle to go to school, walked through mud during rainy days, and worked on the farm with my parents after school hours.

I learned lessons in biology while working with the most influential person, my mom. She inspired me to undertake education. I worked all the time with her in the kitchen and selling vegetables and fruits. We grew cotton, sugarcane, peanuts, vegetables, cereals, pulses, and fruit crops. We raised farm animals such as ox, cows, buffaloes, sheep, goats and dogs. One of the influential teachers in my school was our biology teacher, Mr. Raut Sir. My elder brother quit school when he was in tenth grade to help my parents on the farm. Mom prayed for me to go to school. By this time, my parents were very well settled in farming and the bumper yields gave good money.

In 1977, the time came to leave the village and go to the city for high school education. It was hard for me to live away from my family. Time healed the wounds of my loneliness and slowly life filled me with lots of friends. One of my friends and a biology teacher, Dr. Wabale, inspired me to go for a college education. My parents supported the idea, although they didn't have any idea what I should do next, and

neither did I. Someone in the village suggested to my dad that I should study agriculture so that I could do advanced farming. So, I plunged into the field of agriculture. My parents were proud of me because I was doing well in college and at least not coming back to farming. They supported my B.S. and M.S. Education.

In 1982, I completed my B.S. degree in agriculture, majoring in plant pathology and microbiology, from the Mahatma Phule Krishi Vidyapeeth (MPKV), India. Then, influenced by many friends, I decided to take a step further in the world of agriculture. In 1984, I completed an M.S. in plant pathology from the Konkan Krishi Vidyapeeth (KKV), India. In the same year, I published my first paper on 'soil fungi antagonistic to plant pathogens' in the reputable Indian Journal of Current Science. This was astounding, and I was very pleased with my mentor, Dr. Sardeshpande, who enriched my academic life.

In 1985, despite my interest in farming, my parents encouraged me to take a Research Assistant position in the Department of Plant Pathology and Agricultural Microbiology at MPKV, India. It took a little while to adjust to the job; however, as time passed, I became interested in solving the farmers' problems through educating them on plant disease diagnosis and control. In the same year, a wonderful and beautiful woman entered my life as I got married to Lilavati, who was born and brought up in a farmer's family in a small village. In 1986, we had a handsome son, Shrikant, who is now twenty and currently is in a medical program in India. In 1990, I was blessed with another child, a daughter, Meenal, who is now sixteen and is studying at Edmond Memorial High School.

All these years from 1985 to 1993, I enjoyed teaching, research and extension services at MPKV, India. It was exciting to teach an undergraduate course in plant pathology. I conducted several research projects on disease epidemiology, identification of bacterial and fungal plant pathogens, and disease control. I enjoyed visiting and educating farmers as part of an extension education. I had an opportunity to work with several reputable mycologists, bacteriologists, and plant breeders, presented reports in the National seminars, and published several research articles. During all these glorious days, one terrible setback was that mom left this world due to cancer.

While I was in MPKV, India, I had a yearn to go abroad to pursue higher education. In 1993, I was fortunate enough to get a university graduate fellowship and teaching assistantship at the Memorial University of Newfoundland (MUN), St. John's, Canada to pursue Ph.D. studies. It was extremely hard to adjust to the 'newf' (Newfoundland) English accent, minus 20° C temperature, life in the lab instead of field work, cell biology and mycology courses, and most importantly life without wife and kids for two and a half years. However, time flew by and I accomplished work on the ultrastructure of peanut root nodules. I presented my research at the 16th International Conference of Biochemistry and Molecular Biology at New Delhi, India. Although life in St. John's was without family, I enjoyed cooking, bird watching, and whale watching, traveling the coastal areas of NF, walking through the snow and along the seashore, and witnessing the spectacular scenery of winter and summer on this island. I published four research papers from MUN.

During the last six months of my Ph.D., in the month of February 1996, although struggling with a meager fellowship, I was able to bring my family to show them this scenic place. Slowly our plans to return India changed. I received a Post-Doctoral research offer at the University of Northern British Columbia (UNBC), Prince George, Canada. At UNBC, I explored techniques in the area of molecular biology under the guidance of a molecular biologist, Dr. Keith Egger, and a mycologist, Dr. Hugues Massicotte. I was amazed to witness the gifted landscape of the vast temperate forest of beautiful British Columbia, explored Banff National Park, traveled across British Columbia, and east to west in Canada. At this point, I told my wife that I was sure I could get a faculty job because now I had enough background in Agriculture from MPKV, cell biology from MUN and molecular biology from UNBC and we should plan to apply for a green card and live in Canada. Indeed, we got our green card and an offer of a visiting scientist position from the Natural Sciences and Engineering Research Council of Canada (Charlottetown, PEI). However, luck was not in our favor as shocking news came from India that my dad had left this world. Subsequently, our plans changed and I made a hard choice to return to India.

In 1999, I returned to MPKV, India, and worked on a wheat project, vegetable project and at the biotechnology center, taught mycology and industrial microbiology graduate courses, and devoted most of the time to develop research facilities at the biotechnology center. Life at MPKV did not really fulfill my research dreams and I decided to return to the United States.

In 2003, the wind of fate flew me to West Virginia and there, with Dr. Steven Stephenson, I explored another vast temperate forest, rolling pastures and wheat land while working on myxomycete biodiversity. I was fortunate enough to explore the spectacular beauty of Great Smoky Mountain National Park. In collaboration with Dr. Dennis Miller and Steve, I was able to sequence the 18S rRNA gene for almost a hundred different species of myxomycetes. In the same year (2003), I had an opportunity to work at three institutions in the United States (West Virginia U, U of Texas, Dallas, U of Arkansas, Fayetteville). I was fortunate to get a Teaching Post-Doctoral Fellow at Texas Tech University (TTU), Lubbock. At TTU, with the help of Drs. John Zak, Randall Jeter and Michael San Francisco, I was able to acquire teaching skills and wrote research grant proposals. I accepted the position, but I was very skeptical about how I was going to manage teaching a 300-level course to a 80-120-student class. However, I looked at it as a great opportunity and I was hoping that this opportunity would perhaps make my dream come true of getting a faculty position in the United States. At TTU, with institutional

financial support (USDA-CSREES-ICRC) and with the help of an undergraduate research assistant, I was able to sequence over 200 clones of 16S rRNA and identify 200 bacterial species from the cotton rhizosphere.

On April 3rd 2005, astounding news came from Dr. Jenna Hellack, Biology Department Chair, University of Central Oklahoma (UCO) that I was selected for a tenure-track faculty position at UCO. The words echoed in my ear, and in exhilaration, I was incapable of saying anything. Finally, I stammered out and said "thank you". This was a wonderful moment for me as well as for my family because we had again been apart for three years.

I joined UCO last fall as an Assistant Professor, considering it a final destination and last home in my academic career path. It was a very thrilling experience when biology faculty members and many of the University's offices and authorities welcomed me. The same people who had interviewed also welcomed me as a member of the department and University family. My wife and daughter joined me in Edmond, which is a wonderful and peaceful place.

I am now here at UCO, not just because of perseverance and hard work for the last 20 years, but also because of the people with whom I had an opportunity to work, and the support of family and friends. My academic life was shaped because of the profound influence of Mr. Raut, Drs. Sardeshpande, Bal, Egger, Massicotte, Stephenson, Miller, Zak, Jeter, and Sanfrancisco, and my office mentors at MPKV, professor Tendulkar and Dr. Shinde. Although I work in the small world of 'microbes' I hope to do something big with the help of these smallest creatures and flourish as a faculty member at UCO.

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 and SURE-STEP

Two federal grant proposals have recently been funded that help to support undergraduate research at UCO. The first of these is the National Science Foundation grant entitled Supporting Undergraduate Research and Education for the Science, Technology, Engineering and Mathematics Talent Expansion Program ("SURE-STEP"). Dr. S. Narasinga Rao is the PI on this consortium grant that includes participation by four institutions besides UCO: 1) East Central University in Ada, 2) Cameron University in Lawton, 3) Langston University in Langston and 4) Southwestern Oklahoma State University in Weatherford. The grant is for 2 million dollars and is divided among the respective campuses for five years.

The SURE-STEP grant has two major components: 1) a summer "bridge" program and 2) a supplemental instruction program. The summer bridge program recruits high school (and transfer) students from across the state that plan to take science courses at UCO in the fall semester. The students receive a stipend while serving in a one-month program (in July) that allows them to work with faculty on science-based issues in the classroom, laboratory and field. Students are also exposed to counselors and advisors about what to expect at UCO as a science major. Last year Dr. Gregory Wilson participated in the program from the Biology Department. Three of the students, **Aileen Cunliffe**, **Vagan Mushegyan**, and **Brennen Hall** continue to work with Dr. Wilson. Collectively, the three students have been co-authors on papers presented at Oklahoma Research Day, Central Plains Society of Mammalogists, Oklahoma Academy of Science, Tri-Beta Regional and SWAN meetings. The supplemental instruction program involves students that act as "supplemental instruction leaders" in historically difficult courses. This year three Biology courses were involved: Biology 1114, Biology 1204, and Animal Biology. **Nici Ploeger** worked with Dr. Bidlack in Biology 1114, **Capri Andrews** worked with Dr. Ewing in Biology 1204, and **Rory Telemeco** worked with Dr. Baird in Animal Biology. Capri also serves as a peer mentor in the program.

The second grant with a positive impact on UCO undergraduates is the National Institutes of Health (NIH) funded grant for biomedical research entitled "Oklahoma Idea Network of Biomedical Research Excellence" (INBRE). Dr. Frank Waxman is the PI for the grant and it has a nearly 18 million dollar budget for use by a consortium of universities over the next five years. The grant funds various types of annual grants, including a student/faculty mentorship program, collaborative grants, mini-grants and research opportunity awards. Two Biology students, **Danijela Mojsilovic** and **Vagan Mushegyan**, are participating in a mentorship program this summer. Dr. Mel Vaughan is also working in the summer mentorship program with another student. Drs. Vaughan and Bidlack also received "Research Opportunity Awards" to work with other scientists in the biomedical field. The INBRE grant also supports equipment purchases that facilitate biomedically oriented research and that involves undergraduates.

Both SURE-STEP and INBRE grants are providing several new opportunities for students interested in conducting undergraduate research. If you or others wish to know more about these programs, please contact Dr. John Barthell, Dean, College of Mathematics & Science or Dr. Gregory Wilson, Jackson College of Graduate Studies and Research.

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

New Graduate Students

Jennifer Curtis, Brian Stanila and Kristi Rice joined the Biology Department in the fall of 2005. Jennifer will continue her active research with Dr. Troy Baird, Brian plans to work with Dr. Paul Stone and Kristi will be working with Dr. Gloria Caddell.

Masters Thesis Defense

Rajan, Prianka. Population genetic structure of the Yellow-bellied Marmot, *Marmota flaviventris*, in the Central Rocky Mountain region of North America. Presented in partial fulfillment of the requirements for the degree of Master of Science in Biology.

Student Clubs



Pre-Med Health Professions Club

From the President-Phoebe Brown
April 13, 2006

With exciting volunteer projects, riveting speakers, and many other club events, the Pre-Med/Health Professions Club has had a stimulating and productive 2005/2006 season. Every first and third Tuesday of the month, the club met to introduce pre-health professional students to different areas of the health field. The past academic year brought speakers from around Oklahoma in the areas of dentistry/dental hygiene, family medicine, nuclear medicine, and public health. The most notable speaker of the year was Dr. Gordon Deckert, who in his lecture, *State of the State's Health*, inspired students to make a difference in the health-care conditions of Oklahoma. To acknowledge the most active member of the club in each semester, the tradition of awarding a free Kaplan test preparation course was continued. This past year, the winners were Phoebe Brown and Christina Lindsey. Outside of general meetings, the club participated in a number of volunteer projects. These included giving birthday parties for abused children at Citizens Caring for Children, building houses for low-income Oklahoma residents through Habitat for Humanity, volunteering at Race for the Cure, supervising craft projects at OU Children's Hospital, and making dinner for residents at the Ronald McDonald House. The club's major event, the annual Health Career Fair, was held in January in the Howell Hall Atrium and showcased all the areas of health care by representatives from health colleges in Oklahoma and had several hundred UCO students in attendance. For the next year, the club is arranging an extensive array of philanthropic activities and hopes to induct more newcomers into the network of future health-professionals. More information on the club and its activities can be read on its website: <http://biology.ucok.edu/Pre-medweb/medweb/PremedHealhome.html>.



Tri-Beta Biology Club

Beta Beta Beta National Biological Honor Society (Tri-Beta)
From the President-Rory Telemeco
May 15, 2006

Tri-Beta continues to be a very active student organization. We have continued our bi-monthly meetings throughout the year. At each meeting guest lecturers shared their knowledge and expertise while students were fed a "nutritious" lunch of the college student staple: pizza. Our speakers and the topics they spoke on were extremely varied and ranged from the science and controversy of stem cell research to fish management in the public waters of Oklahoma City. Also, we ran a small speaker series which showcased Drs. Butler (Ornithology), Allan (Biology Education), and Khetmalas (Microbiology), the new UCO biology professors who joined the faculty this year. One of the primary objectives of Tri-Beta is to promote undergraduate research. In honor of this, one of our meetings was dedicated to the research of undergraduates here in the UCO biology department.

Apart from our monthly meetings, the club has also been involved in a variety of educational and charitable activities this year, most of which were completely funded by the club. We had a service trip to the Wichita Mountains National Wildlife Refuge where we collected trash, and two service trips to the UCO Selman Living Laboratory (1 in fall and 1 in spring) where we worked primarily on finishing work on the research station which is being placed there. Chores ranged from hanging curtains to raising flag poles and collecting rocks for a rock garden. The club also paid for all members who wished to attend the Oklahoma Academy of Science field meetings which were held at Roman Nose State Park and Beaver's Bend State Park. We had a spectacular turnout for the annual Tri-Beta regional meeting at the OU biological field station where we had 12 UCO students present undergraduate research. We also won 6 of the 18 presentation awards given at the

regional meeting. In addition we were awarded best chapter. Early in the spring, many of our members joined **Dr. Bass** to form an Earth Day committee which did all the planning and preparation for the UCO Earth Day celebration later in the year. New this year, we stayed the night at the OKC Zoo and were allowed a guided after-hours night-hike of the zoo. Also new this year, we co-sponsored an Amnesty International film festival on human rights and environmental concerns. Then to close things properly, the club financed an end of year picnic on the last day of classes at Fink Park. Next year **Melissa Corona** will be leading the club as President along with **Vagan Mushegyan** as Vice-President.



Biology Department participation:

2006 Beta Beta Beta South-Central Regional Convention

University of Oklahoma Biological Research Station, Lake Texoma

South-Central Region includes Oklahoma, Texas, Arkansas and Louisiana. There were 176 registrants representing 15 institutions. UCO had 17 students and three faculty members attending. Of the 17 UCO students 12 presented their research in the form of a poster or oral presentation. UCO students won 6 of the 18 awards presented at the meeting.

Paper Presentations

- *Byrd, Kendra. "Lack of population genetic structure in the bat fly (*Trichobius major*) in Kansas, Oklahoma, and Texas." Advisor: Dr. Greg Wilson (**3rd place paper**)
- *Cato, Polina. "Effect of k-ras on epithelial compartmentalization: an immunohistochemical study." Advisor: Dr. Mel Vaughan
- *Isiaho, Armstrong. "Human telomerase enzyme reverse transcriptase increases contraction yet attenuates *a*-smooth muscle." Advisor: Dr. Mel Vaughan (**3rd place paper**)
- *Laura Russell and Mel Vaughan. "Effects of N-acetyl-L-cysteine on myofibroblast phenotype." Advisor: Dr. Mel Vaughan
- *Locey, Kenneth. "Factors affecting range expansion in the introduced Mediterranean gecko, *Hemidactylus turcicus*." Advisor: Dr. Paul Stone
- *Mushegyan, Vagan. "Intraspecific phylogeography of the Texas mouse, *Peromyscus attwateri*, in North America." Advisor: Dr. Greg Wilson (**2nd place paper**)
- *Skaley, Matthew S. "Replicative senescence morphology of *in vitro* skin equivalents." Advisor: Dr. Mel Vaughan (**2nd place paper**)



Poster Presentations

- *Cunliffe, Aileen. "Conjunctival lymphoid follicles in New World rodents." Advisor: Dr. Greg Wilson (**3rd place poster**)
- *Hogan, James and *Jerad Fields. "Comparison of atrial fibrillation inducibility due to electrical stimulation of the extrinsic vs. the intrinsic cardiac autonomic innervation." Advisors: Ben Scherlag and Sunny Po, OUHSC (**1st place poster**)
- *Lindsey, Christina. "Probing reactive oxygen species (ROS) generation by histatins." Advisor: Dr. Eric Houghton
- *Taleghani-Ford, Metra. "Telomerase overexpression predicts a difference between intrinsic and exogenous myofibroblast differentiation." Advisor: Dr. Mel Vaughan

Student Awards and Grants

- *Jennifer Curtis received a \$500.00 Gaige Award from the American Society of Ichthyologists and Herpetologists (ASIH) for her graduate research proposal. Jennifer is a first year graduate student working with Dr. Troy Baird on Collared Lizard behavior. Jennifer also received a grant of \$1,092.00 from the Explorer's Club Youth Activity Fund in May 2005.
- *Kendra Byrd was invited to present her research at the 2006 Undergraduate Posters on the Hill Competition in Washington, D.C. Kendra had the Outstanding Undergraduate Presentation at the Central Plains Society of Mammalogists meeting, Truman State University, Kirksville, MO. She was awarded a Summer Undergraduate Internship at the Fred Hutchison Cancer Research Center, Seattle, WA, in the summer of 2005, and she was given an Undergraduate Research Assistantship by the University of Central Oklahoma for the 2005-06 school year. Kendra had a 3rd place paper presentation at the Tri-Beta Regional meeting, OU Biological Research Station, Lake Texoma. Kendra was well represented at the College of Mathematics and Science Awards Banquet (see 24th Annual College of Mathematics and Science Awards Banquet below)

*Vagan Mushegyan received an INBRE Summer Research Experience for the summer 2006 at the University of Oklahoma Health Sciences Center, Oklahoma City, OK. Vagan had a 2nd place paper presentation at the Tri-Beta Regional meeting, OU Biological Research Station, Lake Texoma.

*Aileen Cunliffe received an INBRE Summer Research Experience for the summer 2006 at the University of Oklahoma Health Sciences Center, Oklahoma City, OK. Aileen had a 3rd place poster presentation at the Tri-Beta Regional meeting, OU Biological Research Station, Lake Texoma. Aileen has received the Ernestin Walton Scholarship Award presented by the Oklahoma Society of Histotechnologists.



*The 24th Annual College of Mathematics and Science Awards Banquet
April 21, 2006*

Lothar Hornuff Field Biology Award

Kendra Byrd

Kendra Byrd is a graduate of Alva High School. She was encouraged by many of her High School teachers but particularly by Mrs. Julie Angle, her High School Chemistry teacher, to participate in scientific research. Kendra has been conducting population genetics research for the past three years at UCO. Her research involves collecting bat flies from caves in southern Kansas, western Oklahoma and south-central Texas.

Ethel Derrick Zoology Award

Patrick Crowley

Patrick Crowley is a graduate of Carl Albert High School. He is currently a sophomore at UCO, and plays tennis and golf. His plans are to attend OU medical school after graduating from UCO.

Biology Education Senior Award

Amy Willhoite

Amy Willhoite attended Edmond North High School. Amy reached her decision to teach in a roundabout way. She started at OU as a physical therapy major, married a UCO student and raised a family. She decided to attend UCO and get a Biology Education Degree because she believes teachers make a difference.

Outstanding Medical Technologist Award

Angela Highfill

Angela Highfill is a graduate of Guthrie High School. Her interest in Medical Technology started when she was trained as a Phlebotomist at Logan Hospital in Guthrie. She is doing her residency in Medical Technology at Saint Francis Hospital in Tulsa. Her supervisor describes her as outstanding.

Outstanding Biology Senior Student Award

Kendra Byrd

While a student at UCO, Kendra has presented her research at local, regional and national professional conferences. She has received numerous awards, including being selected to present her research at the 2006 Undergraduate Posters on the Hill Competition in Washington, D.C.



Alumni

Winton, Shawn (BS Biology, 1998) Shawn is teaching at Muldrow High School in eastern Oklahoma. He is teaching Biology and Human Anatomy/Physiology. He lives in the country near Sallisaw and has a strip pit by his home with lots of turtles, frogs, snakes, etc.

Padgett-McCue, Amy (BS Biology, 1996) Amy has taken a position as Research Assistant in the laboratory of Dr. Paul Weigel, Chairman of the Department of Biochemistry and Molecular Biology, University of Oklahoma Health Sciences Center. After a five-year break to be with her three daughters, she returns to her work with Hyaluronan and Hyaluronan Synthases. Instead of the HAS and Chondroitin Synthases in *Pasteurella multocida*, she will be working with Streptococcal enzymes and the three human HAS enzymes. She can be reached by e-mail at amy-padgett-mccue@ouhsc.edu.

Hinkle, Brent (BS Biology, 2002) Brent graduated from Oklahoma State University College of Osteopathic Medicine this spring (May 2006). He has accepted a residency position in Tulsa. He is planning on a dual program for certification in Family /Emergency Medicine.

Young, Ed (BS Biology 1987) Ed writes that we mentioned him in our 1998 issue and that we did not need to up-date what he is doing, but for those of you who have not read that issue: Ed is a High School Teacher in California and has served as a Board member of the California Regional Environmental Education Community (region-10) for many years.

Miller, Erin (BS Biology, 2004) Erin received a teaching assistantship from the Botany Department, University of Oklahoma, for the fall of 2005.

Meek, Casey (BS 1994, MS 1997) Casey, who received her PhD a couple of years ago at UARK, accepted a full-time teaching position at OCCC for the fall 2005 year.

Howerton (Martens), Amber (BS 2001) Amber has an environmental research job in Las Vegas UNLV. She will be working for Dr. Jaci Batista.

Johnson (Hulet), Christina (BS 1993) Christina is a Senior Research Associate of the Department of Pharmacology and Neuroscience under Dr. Tome Yorio. Her work at UNTHSC involves ocular actions of Endothelins. She works with animal models for glaucoma, testing new drugs, using a lot of protein chemistry and molecular biology combined. She and her husband Paul are adopting a little boy from Russia, so she plans this to be her last year at UNTHSC.

Miller, David L. (BS 1992, MS 2003) David is pursuing his PhD at the University of Alaska, Fairbanks, and is working for Travis/Peterson Environmental Consulting, Inc. Recently some work he did while in Oklahoma at OMRF was published. There were two articles, both dealing with the identification of prolidase deficiency in humans. Congratulations on the publications.



CONGRATULATIONS

To the following UCO students, who have been accepted to these professional programs for the Fall Semester, 2006.



Cleveland – Chiropractic College
Pargeter, Jason

OU – College of Dentistry
Hays, Tanner
Krespo, Natasha
Lack, Jarrod
Lay, Heather
Pitt, Clint
Williams, Libby

OU – College of Medicine
Breed, Jason
Fisher, Tyson
Jarvis, Tom
Reidenbaugh, Ty
Wight, Daniel

OSU – College of Osteopathic Medicine
Bushman, Jonathan
Fisher, Tyson
Jarvis, Tom
Rogers, Craig

OU – Physician's Assistant Program
Barnett, Shauntessa
Demers, Katherine
Sharp, Tony

OU – College of Pharmacy
Durham, Tami
Hostetter, Megan
Travers, Jacki
Williams, Zach

OU – College of Physical Therapy
James, Lindsay

University of Missouri – Kansas City School of Dentistry
Krespo, Natasha

Baylor College of Dentistry
Krespo, Natasha

Loma Linda University – School of Medicine
Reidenbaugh, Ty

Nova Southeastern University – College of Osteopathic Medicine
Rogers, Craig

Comanche County Memorial Hospital Med Tech Program
Nguyen, Thuy Diem
Pee, Fern

Muskogee Regional Medical Center – Med Tech Program
Daniels, Ericka

Saint Francis Hospital – Med Tech Program
Guinn, Amber
Legate, Aubree

Valley View Regional Hospital – Med Tech Program
Murkiri, Louisa

NSU – College of Optometry
Dhamani, Navrin
Glaze, Tyler

Logan College of Chiropractic
Morton, Reba
Stanton, Bryan
Unruh, Matthew

Wichita State Univ. – Physician's Assistant Prog.
Krakowski, Kristin

OSU – College of Veterinary Medicine
Spall, Ben

The UCO Department of Biology would like to thank the following donors to the Investing in Excellence Laboratory Campaign. With the support of these donors, the department has completed three laboratories, and will begin construction on three more areas in July.

William Harvey - up to \$99

Lynda Westhof Adcock
 Anonymous donor
 Anonymous donor
 Amy Gustafson - *in honor of Dr. William Caire*
 Paige M. Hill - *in honor of Jan and Richard Hill*
 Angela Powers
 Dan Redditt
 Elizabeth Swift Shockley
 Billy D. Stallings

James Watson & Francis Crick - \$100-\$499

Ahmed B. Buksh, DPM - *in honor of Dr. Riaz Ahmad & Dr. Peggy Guthrie*
 Thelma Livingston Dibble
 Olusegun Famodimu
 Mary Flynn, DVM
 Edward H. Gilbert - *in memory of Armelda Combrink Gilbert*
 R. Mark Hardisty
 Sheila Morris Keeney
 Lynda Samanie Loucks
 Margaret Melton
 Phillip A. Nokes, DO - *in honor of Dr. Beverley Cox*
 T. Bruce Pistocco, MD
 George Roso, MD
 Mary Shuman, MD
 Kristin Williams

Rosalind Franklin - \$500-\$999

William F. Slagle, DDS
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Antony van Leeuwenhoek - \$1,000-\$2,499

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 Nita McNeill, DVM
 Cdr. and Mrs. Craig Morin - *in honor of Dr. Beverley Cox*
 Eric Reed, DO and Karen Hall Reed

Rachel Carson - \$2,500-\$4,999

J. Michael Steffen, DDS

Aristotle - \$25,000-\$49,999

Anonymous donor

Galen - \$50,000-\$74,999

Beasley Family Trust

Hippocrates - \$75,000 and above

Inasmuch Foundation

Inasmuch Foundation Makes \$400,000 Grant to Complete Biology Labs

The Inasmuch Foundation recently awarded a \$400,000 grant—\$150,000 outright and a \$250,000 challenge grant—to the College of Mathematics and Science Investing in Excellence campaign. Funds will be used to complete the remaining biology laboratories in the Laboratory Annex including the natural history museum and advanced zoology lab. The grant follows a \$300,000 grant Inasmuch made in 2005 for Phase I of this project.

Edith Kinney Gaylord founded the Inasmuch Foundation in 1982. Its grants support education, health and welfare of children, mothers and families, the arts, historic preservation, and environmental concerns.

The challenge grant provides 2 to 1 matching funds for every dollar raised by the College up to \$250,000. Donations to the university are fully tax-deductible, and 100 percent of every contribution to the Investing in Excellence campaign will go toward completion of the Howell Hall laboratories. To make a contribution, please fill out the form below and send it to the address provided. If you need additional information regarding the campaign, please contact Beverly Endicott, development director, at (405) 974-3563 or bendicott@ucok.edu.

YES, you can count on my support for the UCO Biology Laboratories!

Your gift will be matched 2 to 1 by the Inasmuch Foundation. This is a great opportunity to double your gift! Please fill out the form below and return to: UCO College of Mathematics and Science, 100 N. University Dr., Box 177, Edmond, OK 73034.

Name _____ Maiden Name _____

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City _____ State _____ Zip _____

Phone _____ Email (optional) _____

- You may publish my/our name in UCO honor roll of donors
- My company has a matching gift program. Name of company _____

Payment Information:

Gift amount \$ _____

- Check is enclosed (payable to UCO)
- Please bill my credit card for \$ _____
 - Mastercard Discover

Credit Card # _____ Expiration date _____

Signature _____

Gifts to the University of Central Oklahoma are fully deductible as charitable contributions for income tax purposes

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