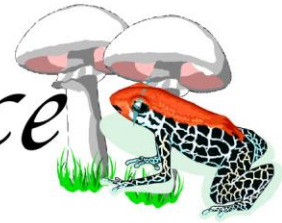




Bioluminescence



UCO - Biology Department Newsletter Vol. 6 Issue 1-2, Fall 2002 and Spring 2003
Editors - John Barthell and Jenna Hellack

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Chairman's Corner.....



Our year began with planning for program review that is mandated by the Oklahoma Higher Regents and which occurs every five years. Department Chairpersons, Assistant Chairs, and Administrative Secretaries, met with Dean Bill Caire and his Administrative Team to begin the process of creating a Strategic Plan for the year. The

entire College followed the guidelines established by the Academic Quality Improvement Program (AQIP). Four AQIP goals, 1) Helping Students Learn, 2) To value people by committing to the development of the talents of all faculty and staff, 3) To understand students' and other stakeholders' needs, and 4) To measure effectively and to plan for continuous improvement, were selected from the nine overall goals. Following the initial work at the College Retreat, the Biology Faculty discussed, revised, and came to consensus on our annual strategic plan. Continued revisions were made by the faculty with final editing by the Chairperson, and the Assessment and Curriculum Committees to produce the Self-Study for Continuous Improvement (SSCI) document.

Both internal and external reviewers reviewed the SSCI document with a final meeting of the Biology Faculty, Dean Caire, and provost, Dr. Don Betz.

Student enrollment increased again this year, particularly in the fall semester. Three full-time temporary faculty positions were filled. Dr. Michael Shaughnessy taught General Biology and Animal Biology. Ms. Sherry Meeks was hired for Introductory Microbiology and General Biology, while Ms. Linda Luna filled the position of General Biology Laboratory Coordinator. These individuals have contributed to the strength of our department. Thirteen adjunct instructors, and eight full-time faculty who taught classes as overloads, completed our teaching faculty for the year. Two part-time Graduate Assistants, Bobbie Scoggins and Marie Babb, were assigned as aides in General Biology and introductory microbiology laboratories.

Faculty research remains strong in the department. Specific details are found in subsequent areas of the newsletter. With the organization of Tri Beta, the honorary society for biology students, and the efforts of the faculty, undergraduate research has increased. Work on the Selman Living Laboratory continues. Through the efforts of Dean, Bill Caire, the astronomy telescopes are in operation and building units for teaching and fieldwork are in place.

Four laboratory rooms, three prep rooms, the museum, and the herbarium are still unfinished, without proper lighting, casework and floor tile. We continue to utilize these spaces for teaching. Perhaps you can help us. Watch your mail for information about a building fund campaign to complete the labs. Come see us!

Home coming date is October 4, 2003!

Status of The Selman Living Laboratory:



The Selman Living Laboratory continues to inch along in its development. We could sure use all you alums out there contributing whatever you can --- we are trying to develop the SLL without pleading for university funds. As you did when you were in college, you probably wrote home to your parents encouraging them to send money. Well, now that you have graduated we need you to PLEASE SEND MONEY. All joking aside, if you can contribute some funds please do so. Every little bit helps.

Three of five temporary buildings have been delivered to the Selman Living Lab. Two of the buildings will be bunkhouses (each sleep 12), one will be a small classroom (12 x 24) and two will eventually become bathrooms. (Here is where we need the money—for the fixtures: two commodes, two showers and sinks, Plus the septic system.)

The bunkhouses will provide a way for students, teachers, and researchers, etc. to stay for longer periods of time. A National Science Foundation grant has been submitted for another building --- keep your fingers crossed for us that it is funded.

The astronomy site has improved. The second dome is up and with a little more tweaking will soon be operational as well. We are also in the process of constructing five more telescope piers. The goal is to have five smaller telescopes added. These will be in boxes with an inquiry based workbook. When astronomy events are planned, groups of four to five individuals will be given a box with the telescope and notebook in it. As a group, they will proceed to a pier, open the box, follow the directions and set up the small scope. They will also be instructed on how to locate different astronomy objects as a team, how to take pictures, etc. While they are working on these small team projects, the larger telescopes in the domes will be finding deep space objects for the groups to enjoy. With these smaller scopes and small group projects there will be less just standing around time and more activity and learning time.

Dr. David McNeely of Langston University and Bill Caire received a small grant last summer from the North American Native Fish Association to survey the fish in the small creeks and streams on and near the Selman Living Lab. Working with students from Langston, 20 species of fish were found including an established population of Red River Pupfish in Trader Creek and the uncommon Arkansas Darter. A manuscript describing the Red River Pupfish has been accepted for publication in the Southwestern Naturalist. A large format poster depicting the fish and their ecology has been designed and will be distributed to schools, libraries and state parks in the area. An information bulletin board (similar to what you see in National Parks along trails) is being constructed at the Selman Living Lab for displaying information to visitors. <http://www.biology.ucok.edu/SelmanLL/SelmanFishPage/>



There are lots of projects at the Selman Living Lab and if you would like to be involved then please let us know.

What's Happening

Sad to say, the first floor of the LAB is where it was last year— not completed! But we are still optimistic for completion sometime before our newest assistant professors retire in 25 years or so. On a more positive note, we received another large Aquarium donation (\$22,500.00). Dr. Joe Phillippe, DDS, an Edmond resident, donated his 210-gallon reef aquarium holding live hard and soft corals as well as tropical fish. The coral came from the Fiji islands and southern Florida. Thank you Dr. Phillippe.

In the last year, the Biology Department went through our five-year program review. In the process of reviewing and evaluating the undergraduate degree programs, it was decided that our core of required courses needed to be evaluated and possibly changed. Dr. Guthrie formed an Ad-Hoc committee and this committee is looking at possible changes in the core curriculum. This is a time-consuming and exhaustive process. The Ad-Hoc committee has been meeting weekly to determine what they believe should be modified or changed in the Biology curriculum. The review process has just begun, but the department has voted to change the core to at least include a Majors' General Biology class that would be a prerequisite for both plant and animal biology. The Ad-Hoc committee is to be commended for their work. All of us not serving on that committee thank them for their work, and are grateful we are not on the committee.



The School year 2003 – 2004 will be Dr. Peggy Guthrie's last. She will be retiring in the spring of 2004. Peggy had planned to retire this summer, but with a lot of begging and arm-twisting we got her to agree to one more year. Dr. Guthrie is the Chairperson, the driving force behind the very active Pre-med/Health Professions club, and in our opinion—plus most of the students she has advised—the best

darn health professions advisor in the state of Oklahoma. She received the UCO Sponsor of the Year award this spring. The Premed/Health Professions club received the Student Organization of the Year award, and the Outstanding Community Service award. Congratulations to the club and Dr. Guthrie. We are probably not going to get Dr. Guthrie to stay any longer than next year, so here is the announcement we've got one more year, that's all folks. If you have some interesting anecdote on her let us know. You can guess we are planning something. Suggestions welcome!

Jenna Hellack (jhellack@ucok.edu) or John Barthell (jbarthell@ucok.edu)

Faculty Activities

Faculty publications

Baird, T.A., D.K. Timanus* and C.L. Sloan*. 2003. Intra- and intersexual variation in social behavior: effects of ontogeny, phenotype, resources, and season. Pp. 7-46, in: Fox, S.F., J.K. McCoy, and **T.A. Baird** Eds. *Lizard Social Behavior*. Johns Hopkins University Press, Baltimore Md.

Barthell, J.F., J.M. Hranitz, R.W. Thorp and Maria K. Shue*. 2002. High temperature responses in two exotic Leafcutting bees: *Megachile apicalis* and *M. rotundata* (Hymenoptera: Megachilidae). *Pan-Pacific Entomologist*. 78: 235-246.



- Barthell, J.F.**, R.W. Thorp, G.W. Frankie, J.-Y. Kim and J. M. Hranitz. 2003. Impacts of introduced solitary bees on natural and agricultural systems: the case of the leafcutting bee *Megachile apicalis* Spinola (Hymenoptera: Megachilidae) pp. 151-162. In K. Strickler and J. H. Cane, Ed. *For non-native crops, whence pollinators of the future?* Thomas Say Publications in Entomology, Entomological Society of America Lanham, Maryland.
- Buyck, B, and **C. L. Ovrebo**. 2002. Some interesting *Russula* species from Panama. *Mycologia* 94(5): 888-901.
- Cooper, W.E. Jr., J.P. Caldwell, L.J. Vitt, V. Pérez-Mellado and **T.A. Baird**. 2002. Food-chemical discrimination and correlated evolution between plant diet and plant-chemical discrimination in lacertiform lizards. *Canadian Journal of Zoology*. 80: 655-663.
- Cooper, W.E. Jr., V. Pérez-Mellado, T. Baird, **T.A. Baird**, J.P. Caldwell and L.J. Vitt. 2003. Effects of risk, cost, and their interaction on optimal escape by nonrefuging Bonaire whiptail lizards, *Cnemidophorus murinus*. *Behavioral ecology*. 14: 228-293.
- Fox, S.F., J.K. McCoy and **T.A. Baird** (Eds.). 2003. *Lizard Social Behavior*. Johns Hopkins University Press, Baltimore Md.
- Hranitz, J.M., and J.F. Barthell. 2003. Levels of heat shock protein 70 during development of the alfalfa leafcutting bee, *Megachile rotundata* (Hymenoptera: Megachilidae). *Southwestern entomologist*. 28: 97-103.
- McCoy, J.K., **T.A. Baird** and S.F. Fox. 2003. Sexual selection, social behavior and the environmental potential for polygyny. pp. 149-171, In: Fox, S.F., J.K. McCoy, and **T.A. Baird** Eds. *Lizard Social Behavior*. Johns Hopkins University Press, Baltimore Md.
- Myster, R.N.** 2001. Mechanisms of plant response to gradients and after disturbances. *The Botanical Review* 67: 441-452.
- Myster, R.N.** 2002. Foliar pathogens and insect herbivine effects on two landslide tree species in Puerto Rico. *Forest Ecology and Management*. 169: 231-242.
- Myster, R.N.** 2002. The use of productivity and decomposition to address functional redundancy in the Neotropics. *Community Ecology*. 3: 51-57.
- Rao, S.C., C.T. MacKown and **J.E. Bidlack**. Biomass and nitrogen traits of summer pigeon peas and winter wheat grown for three rotations in containers. *Commun. Soil Sci. Plant Anal.* 33:897-912.
- Stern, K., J. Jansky and **J. Bidlack**. 2003. *Introductory Plant Biology*, 9th Edition. The McGraw-Hill Companies.

Faculty presentations

- Baird, T.A.** and C.L. Sloan*. “The influence of competitor-to-resource ratio on the social organization of female collared lizards.” Southwestern Association of Naturalists Meeting, Cuernavaca, Mexico. April 2002.
- Baird, T.A.** and C.L. Sloan*. “The influence of competitor-to-resource ratio on the social organization of female collared lizards.” American Society of Ichthyologists and Herpetologists meeting, Kansas City MO. July 2002.
- Baird, T.A.**, T.D. Baird, L.J. Vitt, W.E. Cooper Jr., J.P. Caldwell, V. Pérez-Mellado. “Social behavior and sexual dimorphism in the Bonaire whiptail, *Cnemidophorus murinus*: the role of sexual selection.” Southwestern Association of Naturalists meeting, Norman, OK. April 2003.
- Barthell, J.F.** and **T.A. Baird**. Male aggression and size variation in the large carpenter bee, *Xylocopa virginica*. 50th Anniversary Meeting of the Southwestern Association of Naturalists, University of Oklahoma (OCCE), April, 2003, Norman, OK, USA.
- Barthell, J.** and **T.A. Baird**. “Male territoriality and size variation in the large carpenter bee *Xylocopa virginica*.” Annual Fall Technical Meeting of the Oklahoma Academy of Science, Oklahoma Christian University, Oklahoma City, Ok, USA. November 2002.



Barthell, J.F. “Bees under stress: Field and molecular evidence for invasiveness in a non-native leafcutting Bee.” Biological Science Department, California State Polytechnic University, Pomona CA, USA. May 2002.

Barthell, J.F. “Invasion on the edge: Heat tolerance and nesting behavior in an invasive solitary bee.” Biological Sciences Department, University of Tulsa, Tulsa, Ok, USA. November 2002.



Barthell, J.F. “Invasion through co-optation: Does nesting behavior promote range expansion in a non-native solitary bee?” Department of Zoology, University of Oklahoma, Norman, OK, USA. February 2003.

Barthell, J.F. “Success through stress: a solitary bee moves to California.” Sigma Xi Seminar, University of Central Oklahoma, October 2002.

Barthell, J.F. “How to observe, rear, pin and (now) homogenize an insect: my life with bees.” UCO Biology/Tri-Beta Club, Edmond, OK, USA. October 2002.

Barthell, J.F., J.M. Hranitz and R.W. Thorp. “Larval heat stress as a consequence of nesting site choice in the exotic Leafcutting bee species *Megachile apicalis*.” National Meeting of the Entomological Society of America, Fort Lauderdale, Florida, USA. November 2002.

Bidlack, J., S. Cooper, D. French, J. Kandel and T. Lonergan. Recruiting colleagues for the MERLOT Review Process. MERLOT International Conference. Atlanta, Georgia September 2002.



Cooper, S., **J. Bidlack** and D. French. Promotion and tenure considerations for digital scholarship. MERLOT International Conference. Atlanta, Georgia September 2002.

Hranitz, J.M., **T.A. Baird** and R.A. Van Den Bussche. Microgeographic genetic structure of a population of collared lizards in Central Oklahoma. American Society of Ichthyologists and Herpetologists Meeting, Kansas City, MO. July 2002.

Ovrebo, C.L. Distributional connections of macrofungi between the southern United States and the neotropics. Southwestern Association of Naturalists annual meeting April 2003.

Ovrebo, C.L. Mushrooms of lawn and garden in Oklahoma. Annual Fall Technical Meeting of the Oklahoma Academy of Science, University of Tulsa, Tulsa, Ok, USA. November 2002.

Ovrebo, C.L. Neotropical macro-fungi: connections with Oklahoma fungi. Seminar OU Department of Botany and Microbiology. February 2003.

Ovrebo, C.L. The Agaricales of Barro Colorado Island, Panama. Symposium presentation, 4th Latin American Mycological Congress, Xalapa, Mexico May 2002.



Faculty grants and awards



Three Biology Department faculty received publication incentive awards at the spring 2002 College of Graduate Studies and Research Awards Reception. **Dr. Troy Baird**, “Lizard Social Behavior”, \$650.00; **Dr. Jim Bidlack**, “Communications in Soil Sciences and Plant Analysis”, \$250.00; and **Dr. Paul Stone**, \$125.00 “ Estimating Lizard Home Range.”

John Barthell received a grant for \$8,426.00 from the National Geographic Society entitled “Measuring the Recovery of an Island ecosystem after Removal of Honey Bees”. Participants include R.W. Thorp (University of California at Davis), A. M. Wenner (University of California at Santa Barbara) and J.M. Randall (The Nature Conservancy). The work will be conducted this summer on Santa Cruz Island, off the coast of southern California.

Dr. Randy Myster was awarded the UCO Hauptman Award for Research Excellence in the College of Math and Science. Dr. Myster also transferred to UCO a \$8,800 USDA grant awarded at the University of Puerto Rico.

Dr. Gregory Wilson was awarded a UCO grant for his research proposal “Intraspecific phylogeography of yellow-bellied marmots (*Marmota flaviventris*) in the central Rocky Mountain region.”

Dr. Peggy Guthrie was awarded the UCO Sponsor of the Year award for her outstanding service as sponsor of the Pre-Med/ Health Professions Club.

The 2002 Annual Research Day at UCO

The University of Central Oklahoma hosted the Fourth Annual Research Day on October 11, 2002. Over 350 abstract submissions were made by students and faculty from fifteen Oklahoma colleges and universities. The event was sponsored by the Oklahoma State Regents for Higher Education, Oklahoma Center for the Advancement of Science and Technology (OCAST), General Motors of Oklahoma City, the UCO Office of Academic Affairs and the Experimental Program to Stimulate Competitive Research (EPSCoR).

The Biology Department participated in the event with the following presentations.

Baird, T.A. Reproductive coloration in female collared lizards stimulates courtship by males.

Barthell, J.F., J.M. Hranitz, R.W. Thorp, and M.C. Hartless*. "Stress protein levels in offspring of an invasive bee species differ according to female nest choice: a field experiment."

Bidlack, J. A. Middick*, K. Greer*, D. Shantz*, E. Petersen*, K. Jones*, M-C Sung*, C. MacKown, and S. Rao. Weed control in a pigeon pea-wheat rotation: final report of a three-year study.

Haight*, J. and **R. Myster.** Effects of species, density and prairie type on post-dispersal seed predation in Oklahoma.

Hranitz, J.M., R.A. Van Den Bussche, and **T.A. Baird.** Genetic evidence of male-biased dispersal in collared lizards (*Crotaphytus collaris*).

Miller*, D. and **C. Ovrebo.** A taxonomic survey of the macro fungi of the Pontotoc Ridge Nature Preserve.

Ovrebo, C., K. Rice*, and E. Vellinga. *Endoptychum agaricoides* in Oklahoma.

Pilula*, M. and **D. Elmendorf.** Isolation, characterization and identification of alkalophilic bacteria from gypsum outcrops.

Radke, W. Human TSH radioimmunoassay does not detect avian TSH.

Rudisill*, T. and **D. Bass.** An ongoing ecological survey of the spring system at Roman Nose State Park, Oklahoma.

Sheth*, N, S. Maddox*, J. Daniel and **D. Elmendorf.** Removal of nitrogen, phosphorus and fecal indicator bacteria by surface impoundments.

Turner*, E. and Y-Z. Li. Isolating the protein in the retina responsible for sight interaction of *Citrobacter freundii* and caffeine and ibuprofen.

Wilson, G., J. Dawson*, **L. Luna,** K. Pargeter*, A. Spears*, R. Stroope*. Intraspecific phylogeography of yellow-bellied marmots in the Rocky Mountain Region: a proposal.

Community presentations

Barthell, John and **G. Caddell.** Workshop entitled "Oklahoma Wildflowers and Pollinators". Oklahoma Museum of Natural History, Norman, OK. June 2002.

Barthell, J.F. "Bees (emphasis on honey bees)". Edmond Kiwanis Chapter, Edmond, OK. USA. May 2002.

Caddell, G. Workshop for teachers "Daisy Days and Starry, Batty Nights". Selman Living Laboratory. July 2002.

Hellack, J.J. and **D.L. Elmendorf.** "Birds likely to be seen on a Christmas Bird Count in Oklahoma County". Oklahoma City Audubon Society, University of Central Oklahoma, Edmond, OK. December 2002.

Tishomingo before statehood and was a county abstractor. He had a lot of land where my uncle raised cattle and I was involved in cattle roundup by the time I was in the third grade. My grandparents taught me to take care of animals, fix fences and an appreciation of outdoor life. My interests in animals started with them. My interest in birds started with my second and third grade teachers, Mrs. Yandell and Ms. Fly. Mrs. Yandell took my second grade class on field trips and taught us the names of the most common birds. When I started college and discovered Ornithology, Ms. Fly (70 yrs old by this time) helped me with my research, spent several summers helping me find nesting birds in Johnston County and was always ready to leave at a minutes notice for a field trip to the Panhandle or Big Bend Texas.

My parents, particularly my mother, tolerated and encouraged my interest in wildlife. I mended broken wings, raised squirrels and even a fox. You name it and I probably had it in the house. The only time I ever remember her getting a little upset with me was when I brought home my pet rattlesnake for Christmas break. She had that snake so barricaded off in the bathroom it took 10 minutes to get in.



As a young kid my interest was primarily in horses. As a teenager basketball and softball, with a major interest in boys starting about age 15, but the people I admired outside of my family were always teachers. When I started college, I did not know what area I was interested in, but I knew I wanted to teach. I took a biology class at Murray State College taught by the football coach, Mr. Ladd. He was good, and he opened my eyes to a whole new world. I wanted to know more. I was going to be a Biology teacher. After attending two years at Murray, I went to East Central State College in Ada. There I met Dr. William Carter, ornithologist with a major interest in herpetology (yes snakes), he was out in the field asking questions, and collected specimens. A field biologist was born. Not only could I teach, I could be outside studying animals.

Dr. Carter had graduated from Oklahoma State University so after graduating from ECSC with a degree in biology education, I moved to Stillwater to get a MS degree in natural science. While at OSU I had an opportunity to go to the OU biological station and take an Ornithology course from Dr. George M. Sutton, Professor at OU, ornithologist and well-known artist. While at the biological station I found out what being a graduate student was all about. With my parents thinking I was becoming a permanent student, I applied for graduate school at OU. Here however I took a detour. My application got lost and by the time they called me giving me a teaching assistantship I had promised a small school in Stratford OK I would teach there. While I had to wait a year on OU, I would not have missed that year of teaching for anything in the world. I taught 7th, 8th, 9th grade Science, Biology, Chemistry, was the 9th grade class sponsor, pep club sponsor, and kept the books at basketball games. I learned a lot. It was a good thing I was only 22 years old.

My Ph.D. is in Zoology with emphasis in Ornithology, Ecology, and Evolution. I graduated in 1975, took a research associate position in genetics at OU the next year (I was a teaching associate in genetics): can't seem to make up my mind can I? UCO (CSU then) was looking for someone to teach genetics, I was very impressed with the faculty and the students. It seemed to be the place for me. So in 1977, I joined the faculty here at UCO. My research has been primarily in population genetics and in association with Dr. James N. Thompson, jr. at the University of Oklahoma. I love to teach. I'm not doing research in the field I started in, but this last year I did get to teach Ornithology for the first time. Maybe there is hope for me yet.

Student Activities

New graduate students

Two new graduate students entered the Biology Masters program this spring. **Jennifer Haught** who received her undergraduate degree here at UCO and **Laura Westmoreland** who received an undergraduate degree from Central Methodious College, Fayette MO. Dr. Randy Myster will be Jennifer's major advisor and Dr. David Elmendorf will advise Laura Westmoreland.

Masters thesis defense presentations

Randolph-Buckallew, Robin. “ A floristic survey and description of plant communities at the Selman Living Laboratory, Woodward County, Oklahoma”. UCO Biology Department. November 2002.

Biology education



Several 2001-2003 Biology Education graduates were hired in Oklahoma public schools during the 2002-3 year. **Mr. Ben Haizlip**, who graduated in the fall of 2001, taught in the spring of 2002 at Edmond Santa Fe High School as a long- term substitute, and then was employed for the 2002-3 school year at Moore West Junior High School. Spring 2002 graduates teaching science in the Oklahoma City area are: **Ms. Renee Bell**, Del City High School; **Ms. Amonda Pierce**, Putnam City North High School; and **Mr. Justin Coffelt**, Edmond Memorial High School.

We had three biology education student teachers in the Fall 2002 semester: **Gabriel Robertson** was at Edmond Santa Fe High School. His mentor teacher was a UCO graduate, Ms. Leslie Piccolo. At the conclusion of the student teaching, he stayed on at Santa Fe as a long -term substitute for Ms. Piccolo who was away on maternity leave this spring. **Mathew Bell** was at Claremore-Sequoyah Schools in Rogers County. His mentor teacher was Mrs. Mimi Shelton. **Katherine Lopez** was at Del crest Junior High School. Her mentor was UCO graduate Ms. Karen Randell.

For the spring 2003 semester we had two biology education student teachers. **Misty Williams** was at Choctaw High School. Her mentor teacher was UCO graduate Ms. Paula (Ryan) Sendall. **Joanne Peterson** was at Putnam City High School. Her mentor teacher was Ms. Paula Severe.

Student presentations

Patel, Nisha C., D.L. Miller*, B.T. Kurien, J. Tumbush, H. Wang, S. Kurono, H.Matsumoto, R. Hall Scofield. Prolidase deficiency in the Amish. Poster presentation Oklahoma University Health Sciences Center. April 2003.

*Miller, D.L. and **C.L. Ovrebo**. A survey of the macro-fungi of Pontotoc Ridge Nature Preserve. Annual Fall Technical Meeting of the Oklahoma Academy of Science, University of Tulsa, Tulsa, OK, USA. November 2002.

*Miller, D.L. and **C.L. Ovrebo**. Macro-fungal diversity at Pontotoc Ridge Nature Preserve. Southwestern Association of Naturalists Annual meeting. Norman, OK April 2003.

* = UCO student

Student awards and grants



At the Presidential Partners Awards banquet, April 2003, the following biology students received the John and Eleanor Kirkpatrick Student Leadership and Public Service awards of \$500.00: **Travis M. Brown** received the Alvin Alcorn award (endowed by UPTIME, Ltd.); **Poonam S. Sharma** the Glenn English Award (endowed by Presidential Partners); **Kevin M. Pargeter** Enterprise Rent-A-Card Award (endowed by Enterprise Rent-A-Car); and **Ali Torabi** the Mike Synar Award (endowed by Presidential Partners). The Julian and Irene Rothbaum Student Achievement Awards of \$500.00 were presented to **Jeremy Moad**, **Poonam Sharma**, and **Kevin Pargeter**. The Rothbaum Gold Medal ward of \$1000.00 went to **Kevin Pargeter**. Congratulations.



At the April 2003 College of Mathematic and Science 20th Annual Awards Banquet the Biology Department presented awards to Rory Telemeco, Sara Powers, Andrea Heavin, Tevi Meek, Poonam Sharma, and Jeremy Moad. The following are summaries of their achievements.

Rory Telemeco received the Ethel Derrick Zoology Award. Rory Telemeco is a freshman Biology major from Harrah, Oklahoma. His goal is to become a zoologist and maintain his 4.0 GPA. During high school, he spent a summer with the Prairie to Peaks program studying various environmental issues. He is continuing this interest in biology as a student research worker for Dr. Troy Baird.

Sara Powers received the Lothar Hornuff Field Biology Award. Sara Powers, an Edmond North graduate is being recognized as an outstanding field biologist. Sara's interests are varied. She is always looking for a challenge and a new experience. She has field research experience with more than one professor on our campus. She has been a valuable assistant in our Vertebrate Museum, particularly with the herpetology collections. She will be presenting some of her research on "radio-telemetry of red-eared turtles at meetings this spring. Her career plans include graduate school and a career in conservation biology.

Andrea Heavin received a UCO Biology Academic Achievement Award. Andrea attended Verden High School and will receive her Biology degree this spring having earned a 4.0 GPA. She has been accepted to the University of Oklahoma's Physician Assistant Program and will begin her classes this summer. Andrea has work experience in retail sales and as a laboratory research technician working at OMRF. The Biology Department honors Andrea Heavin for her academic achievement.

Tevi Meek a UCO Biology Academic Achievement Award. Tevi Meek completed her B.S. in Biology, Fall 2002 with a 4.0 GPA. She will be entering the University of Oklahoma College of Dentistry in July. While at UCO, Tevi was a member of the varsity basketball team, served as secretary of the Pre-Med/Health Professions Club, and a member of various honor societies. She has worked with Dr. Paul Stone on his turtle research project.

Poonam Sharma a UCO Biology Academic Achievement Award. Poonam Sharma was born in Edmond, but spent most of her life in India. She attended Edmond North High School. She will received her B.S. in Biology this spring, having also earned a 4.0 GPA. She has been accepted to the University of Oklahoma College of Medicine, fall 2003. Her college activities have included the Pre-Med/Health Professions Club, Chemistry Club, and four honor groups, Tiaras, Alpha Chi, Gamma Beta Phi, and Alpha Lambda Delta.

Jeremy Moad received the Outstanding Graduating Senior award. Jeremy Moad is from Broken Arrow, Oklahoma. He has contributed to the Biology Department in many ways. We recognized his intellect and love of science, when the department awarded him the Ethel Derrick Award in 2001. He has continued to be an active participant in biology activities. He is President of the Pre-Med/health Professions Club this year and has received the Freshman Achievement Scholarship and Kilpartick Presidential Award. His career goal is to be a physician



Pre-med/Health Professions Club



This has been a banner year for the organization. Membership has remained high, the group has met twice each month, and the Annual Health Careers Opportunity Fair was well attended. Former UCO students and club members:

Todd Gleaves, Chris Cook, Bill Busch, and Bill Worden were special speakers at our meetings. Co-Sponsors, Dr. Peggy Guthrie and Dr. Jenna Hellack, along with Biology Administrative Secretary, Sharon LaFave, were honored at the annual "Hanging of the Greens" in November. Community service projects included President Webb's Christmas Party, regular participation in Citizens Caring for Children, and framing a house in Choctaw for the Central Oklahoma Habitat for Humanity group. Officers for the year were: Jeremy Moad, President; Josh Payne, Vice-President, Aliyeh Ayadpoor, Secretary; Tyler Winters, Treasurer; Kevin Partgeter, Senator and Rebekah Stroop, Representative.

The highlight of the year came at the annual UCO Presidents Club's Sponsor Appreciation Banquet where we scored a "clean sweep". The Pre-Med/health Professions Club was selected at the 2003 Outstanding UCO Student Organization and also received the trophy for the group with the best Community Service and Philanthropy for 2003. Dr. Peggy Guthrie, Co-Sponsor, received the award for the 2003 Outstanding Sponsor.



The final social for the organization was an officer appreciation dinner, May 1st to honor the outgoing officers and welcome the new 2003-2004 officers: President- Tyson Sjulín; Vice-President- Tara Martin; Secretary- Anita Patel; Treasurer- Gina Gianfilippo; Senator- Erin Tilliotson, and House Representative- Krista Clifton.

TriBeta/ Biology Club.



TriBeta/Biology Club Attends Regional TriBeta Meeting

The Biology Club became affiliated with TriBeta (Beta Beta Beta) Biological Honor Society during the fall of 2002. We inducted over 70 new members in the inauguration ceremonies. During April 4-6, nine of our student members traveled with Dr. David Bass and Ms. Linda Luna to the Regional Meeting held annually at the University of Oklahoma's Biological Station on Lake Texoma. Other universities from Oklahoma, Texas, and Arkansas also sent members of their TriBeta chapters. Poster sessions were held Friday evening following supper and the club reports. On Saturday, over 60 oral presentations of student research were given. Sara Powers did an excellent job in her first oral presentation at a scientific meeting (Assemblage of Turtles in Central Oklahoma Farm Ponds) and Dave Miller won the Outstanding Graduate Student Presentation Award (The Macro-Fungi of Pontotoc Ridge Nature Preserve, Pontotoc County, Oklahoma). The UCO club members appreciated the funding from the university so they could attend this event and are looking forward to next year's meeting.

The new officers for the 2003-2004 school year are: President, Kevin Pargeter; Vice-President – Doug Stine; Secretary- Erin Tillotson; Treasurer – Chris Snyder; UCOSA Senator – Justin Griffith; UCOSA House of Rep. – David McWhorter; and Historian – Paige Kincaid.



Alumni

Adams, Dwight E. (B.S. early 1970's) Dwight has been named the head of the FBI's National Forensic Laboratory. He was named a Distinguished Former Student from the University of Central Oklahoma in November 2002. Dwight was the first FBI agent to testify on DNA analysis. He was a member of the research team that developed and validated DNA-testing procedures for the FBI's Forensic Laboratories. Dwight presented "Science and the Fight against Terrorism" to the UCO community while visiting UCO in November 2002.

Elmer, Aaron (BS 1994 and MS 1997) Aaron received his Ph.D. in Plant Physiology at Washington State University in August 2002. He has received a Postdoctoral Fellow, Bioanalytical Mass Spectrometry and Functional Genomics at the Noble Research Foundation.

Husky, Paula (BS 1976) Paula is in radiological sciences. She writes that she has finished her first six months of clinical.

Hossain, Tahzeeba (B.S. 1991) Tahzeeba who received a doctorate in Microbiology from OU is a research scientist at Donald Danforth Plant Science Center in Saint Louis, Missouri. Tahzeeba was one of the students that received citizenship in 1993 when Governor Nigh and UCO hosted a citizenship ceremony at the UCO

football field. Tahzeeba's current research project "enhancement of folic acid in rice" has allowed her to utilize her training in plant biology, biochemistry, molecular biology and tissue culture. She wants to thank Drs. Terry Harrison, Fred Gross and David Hart for their role in her academic future.

Jones, Kurt (BS Biology Ed, 2000) Kurt is a biology and ecology teacher at Frankling Hight School in Franklin, Tennessee. He is also pursuing a country music career in Nashville and has recently had the opportunity to sing with country music stars, Doug Stone and Shalee Tennon.

Langham (Dick), April. (B.S 1997) April is now a Chiropractor in the Ft. Worth TX area.

Lauener, Shelby (BS. 1970) Shelby recently retired from Langston University. He was the Director of Athletics for twenty years and still teaches Kinesiology part time. Shelby was the secretary of the "Central State College" Biology Club during his years at now UCO and writes he still remembers Dr. W. Smith's spam and eggs on ecology field trips.

McKenzie, Stephanie (BS 1997) Stephanie has been accepted into the Graduate Program in Biomedical Sciences, OU Health Sciences Center, Oklahoma City, OK.

Meek, Cassandra (Casey) (BS, 1994 MS 1997) Casey recently received her Ph.D. in plant physiology from the University of Arkansas. The title of her dissertation is "*Physiological and molecular characterization of common cotton cultivars in response to water-deficit stress.*". In the spring of 2002, Casey received the Outstanding Ph.D. Student Award from the Crop, Soil, and Environmental Science Department at the University of Arkansas. Casey first evaluated the cultivars physiological responses to water-deficit stress then did gene expression studies on four selected cultivars. Casey's research aspirations are to assist in bridging the gap between traditional production efforts and new advances in biotechnology, with an emphasis on plant stress response. She also plans to "teach, mentor and assist future scientists in achieving their goals".



Pierce (Bowlware), **Karen MD** (BS 1992) and **Ken Bowlware DO** (BS 1991) Karen and Ken have returned to Oklahoma to establish their medical practices.

Penn, Dustin (BS 1988) In the Fall of 2002 Dustin accepted the position of Director and Senior Scientist, Konrad Lorenz Institute, Vienna, Austria. This spring he came home to Oklahoma for a visit and graciously agreed to speak to the UCO Biology Club and to Sigma Xi. He spoke to TriBeta (biology club) on his perceptions of his education and how he decided on a career in Biology. The title of his talk was: "Some Modest Advice for Aspiring Biologists". Later in the week he gave a talk to Sigma Xi entitled "Pathogens or Sex? The evolution of genetic polymorphisms of MHC genes". Dustin was the first student to receive the Lothar Hornuff Award as the Outstanding Undergraduate Field Biology Student at UCO in 1987. He received his MS degree in Zoology, University of Florida in 1992 and his Ph.D. in Biology, University of Utah in 1997. His research interests are in evolutionary biology, behavior ecology, and conservation biology. His most recent papers have addressed genetic polymorphisms, sexual selection, chemical signals, kin recognition, evolution of infectious diseases, and inbreeding avoidance. Dustin's wife Sarah (a behavioral ecologist) has accepted a post-doc position at the institute



Dustin Penn talking to TriBeta

Ridiner, Chis (BS 1985, MS 1991) Chis is now an adjunct at UCO. He is teaching microbiology for the department.

Tyrrell, Mickey (BS 1996) Mickey is now a resident in family practice at the University of Oklahoma.

Wilkinson, Dan (BS 1968) Dr. Dan Wilkinson, Vice-President, Environmental Resources Division, Plano, Texas, Geo-Marine, Inc. recently contacted us for inclusion in our Alumni mailing list. Dr. Wilkinson received his Ph.D. in botany, Texas A&M University in 1982. After receiving his degree he became a research scientist in the Department of Oceanography at Texas A&M, then in 1993 he started his career in the Environmental Division of the Plano, Texas, Geo-Marine, Inc. He became Vice-President this spring.

Wilson (Rowlen), Leigh Ann (B.S 1996) Leigh is working on an MS degree in Microbial Ecology at Rutgers University, NJ. She moved to Arkansas in February.

Some of the Biology Faculty before the graduation precession of the College of Mathematics and Science.



Back row left to right Troy Baird, David Elmendorf, John Barthell, Jenna Hellack, Clark Ovrebo, and Peggy Guthrie.
Front row left to right: Gloria Caddell, David Bass, and Donna Zanowiack