

# Chemiluminescence

University of Central Oklahoma Department of Chemistry

December 2006

## Message from the Chair

*Dr. Cheryl Frech*

Those of us who make a career in academia live by a unique calendar. Our years begin in August with the fanfare of the new academic year and its fresh start. A flurry of back-to-school meetings occurs at all levels of the university. The high that is the first day of classes follows; some faculty members love this day and others dread it. After the first week, students, faculty and staff settle in to our weekly routines. The Fall Semester is punctuated by Labor Day, Fall Break, and Thanksgiving, after which it's all downhill: students and faculty trying to finish a course, learn the material, or earn a grade. UCO holds a winter commencement on a cold Saturday in December. After a few weeks off for the holidays, the Spring Semester eases to a start in January. The winter months bring colds and flu to faculty and students alike, and most years we experience an occasional snow or ice day. The Spring Semester has its two pauses: Martin Luther King Day and the much-anticipated Spring Break. The academic year rushes to a close amid end-of-the-year banquets for student clubs and award ceremonies, capped by spring commencement. Summer school is an asterisk: not all faculty (or students) choose to participate.

Many of UCO's faculty members have lived with this calendar since they started school as a student years ago. We've never had a vacation in say, April. At least 30 weeks a year, we are in the ongoing cycle of teach, test, and grade. The predictable and repetitive patterns of the semester are both relentless and comforting. In spite of the roller coaster schedule, our faculty continues to be active in various professional societies, with student organizations, and in research. Please read on for more information.

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## Faculty Updates

The UCO Department of Chemistry welcomes two lecturers for the 2006-07 year.

**Mr. Lane Whitesell** has served as an adjunct for UCO for more than 10 years. He holds degrees in Math, Library Science, Fine Arts, and Education. He is teaching General Chemistry, Chemistry and Society, and Introductory Chemistry. In addition, Lane is assisting Kat Taylor in the Chemistry Storeroom in the evenings, providing much-needed service to our increasing number of evening lab sections. Lane also works at UCO's KCSC classical radio station and enjoys cooking and book collecting.

**Ms. Lisa McGaw** joins us this year to teach General Chemistry and Introductory Chemistry. Lisa holds a master's degree in chemistry from West Texas A&M. Prior to her experience at UCO, Lisa has taught high school for many years, most recently at Saint Mary's Hall, a prestigious private high school in San Antonio. She has worked in various aspects of AP high school chemistry, from consultant to teacher, to reader of exams. Lisa lives in Stillwater with her children, Kelly and Kristen, and her husband John Gelder, an OSU chemistry professor.

**Dr. Pam New Resigns:** Pam New has made the personal decision to place her family higher on the priority list and resign to take the time and energy necessary to raise two wonderful children. She is available to students as a tutor, an offer of which many students have taken great advantage. The Department wishes her the very best.

## Faculty News

**Dr. "Al" Albahadily** is continuing his research on biodiesel. Six freshmen UCO students worked with him on the project through the 2006 NSF Summer Bridge Program and four of them continued to work on the project this semester.

**Dr. Robert Bost** attended the AAFS annual meeting, accompanying 15 undergraduate and graduate students. He also served as an on-site evaluator for FEPAC (Forensic Sciences Education Program Accreditation Commission).

**Dr. John Bowen** is working with a UCO senior and two high school students on producing an immunochromatography card that will work with viruses. Bowen started a program for talented local high school students to introduce them to scientific research.

**Dr. Jim Dechter** continues to serve the Department as Assistant Chair, a position of indirect authority and oblique power. He used Element Day this year as an opportunity to brush up on his Shakespeare - portraying the character Polonius from Hamlet as a clue for the element polonium.

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## NEWS FROM CHEMISTRY/FORENSIC SCIENCE GRADUATES

A visit from our graduates or correspondence is always enjoyed by the faculty and staff. Since the last newsletter the following have made contact with us. We have included some brief information about each one.

### Pre 1970's

**Carl Amos** (68) – Carl is a retired industrial chemist who now does consulting. He and his wife Barbara live in Norman.

### 1970's

**Dr. Stan Sanders** (78) – Stan received his Ed.D. from OSU and is now teaching at Northeastern State University in Tahlequah, OK.

**Dr. Tom Kupiec** (78) - Tom is owner and CEO of Analytical Research Labs/DNA Solutions in OKC. His company does pharmaceutical, DNA, and forensic analysis.

**Mary Long** (78) – Mary is close to finishing a law degree at the OCU School of Law and consults for ARL/DNA Solutions.

### 1980's

**Lane Gardner** (89) – Lane is the Terminal & Warehouse Coordinator for The Lubrizol Corporation in Deer Park, TX. Lane and his family still have OKC ties.

**Dr. Freddie Hall** (86) – Freddie received his Ph.D. in Chemical Engineering and has worked at Tinker AFB for 14 years. During the last several semesters Freddie serves the Chemistry Department as an adjunct professor.

**Jim Schmidt** (86) – Jim does research in the Metabolism and Pharmacokinetics Dept. at Lexicon Genetics in The Woodlands, TX. Jim is also a freelance writer, having published numerous articles on chemistry and/or military history which will soon be published in book form.

**Dr. Kathy Swallows** (85) – Kathy works for Conoco/Phillips and was recently transferred back to Bartlesville, OK. Her new responsibilities are split between Analytical Services and Fuels Research.

### 1990's

**Dr. Dan Bolton** (92) – Dan, a Research Chemist at Bayer Corporation, has been transferred back to Pittsburgh from Germany. He lives in McDonald, PA with his wife and three children.

**Dr. Byron Curtis** (90) Byron is currently the Deputy Toxicologist at the OKC ME's Office.

**Sara (Paschel) Ferrero** (99) – Sara is a DNA Analyst and has recently been promoted to Lab Supervisor at the OSBI Lab in Lawton, OK.

**Dr. Michele Harris** (90) – Michele has completed ten years at Stephen F. Austin University in Texas where she is being considered for a full Professor position.

**Dr. Rebecca (Rangel) Johnson** (90) – Rebecca is President of Allergy Labs in OKC. Rebecca is a runner and has recently run in several long distance races and many 5 and

10 K races. She recently took an interesting trip to Spain.

**Dr. Arron Karcher** (94) – Arron is the Leader of the Organic Analysis Group at Halliburton in Duncan, OK.

**Jennifer (Hutcherson) Langevin** (96) and her husband **Dr. Paul Langevin** (97) recently moved to Casper, Wyoming after Paul completed a tour with the Navy stationed in Cyprus.

**Dr. Joe Lestina** (91) – Joe lives in Eagle River, AK and has a medical practice in Anchorage. He and his wife, Keira, recently added a baby boy to their family.

**Suzanne McGinnis** (90) – Suzanne retired from the Xerox Corp. in OKC and now works for the State of Oklahoma.

**Dr. Mitch Preston** (90) – Mitch and his family reside in Cottonwood, AZ where he has a medical practice.

**Karen (Hall) Reed** (92) – Karen and her husband Eric, a UCO Biology graduate, live in Mt. Pleasant, TX where Eric has a medical practice. Karen keeps busy caring for her 5 girls and home schooling the school-aged ones.

**Dr. Shawn (McCleskey) Rimassa** (98) – Shawn is a research chemist for the Schlumberger Corporation in Houston, TX.

**Dr. Rebecca Sanders** (99) – Rebecca works as a Research Chemist for the Sasol Corp in Louisiana. Rebecca has a one year old daughter.

**Amy Westwood** (00) – Amy is currently a Manager in the Molecular Genetics Division at ICOS Corporation in Bothel, WA. Amy and her husband recently moved to Everett, WA.

**Myron Storozsyzyn** (96) – Myron is a Pharmaceutical Chemist at Astellas Pharma Technologies in Norman, OK. He recently donated some HPLC columns to the Chemistry Department.

**Michael Fugate** (90) – Michael is currently teaching chemistry/honors chemistry at John Marshall High School in OKC. He is also pursuing an MS in Engineering Physics at UCO.

**Derek Ponder** (93) – Derek works at Tinker AFB as a Chemist and is currently completing an MS Degree in Chemistry from OU.

**Jerry Rice** (96) – Jerry is a supervising chemist at ODOT where they test a variety of road materials and supplies.

**Jennifer McAroy** (98) – Jennifer is in the process of setting up a new dental practice in the Kansas City area.

**Dr. Andy Hogue** (95) – Andy returned to Edmond to go into practice with Dr. Gourley at the Edmond Regional Eye Associates, Inc. They have a new Office on S. Bryant in Edmond. Andy recently gave a presentation to the Pre-Med. Club at UCO.

**Andrea Solorzano** (98) – Andrea was transferred back to OKC to serve as the Assistant Lab Director for the OSBI. She serves as a liaison to the Forensic Science programs at UCO.

**Dr. Davin Haraway** (90) – Davin is a D.O. in Tulsa.

**Dr. Mason Andrews** (99) – Mason is a neurological resident in Oklahoma City and lives in Guthrie.

**Jama VanHorne-Sealey** (99) – Jama recently moved to Oregon where she is working on a MS in Radiological Health.

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2000's

**Tana (Flies) Hamilton** (00) – Tana moved to Coffeyville, KS where she works as a Lab Technician in the regional hospital.

**Kuo-Fei Huang** (00) – Kuo-Fei has completed his training in the Coast Guard and is stationed in Yun-Lin County in west Taiwan. Kuo-Fei recently sent us pictures of his son.

**Jesse Kemp** (05) – Jesse received his MS in Forensic Sciences in Spring 2006 and is employed at Analytical Research Labs/DNA Solutions where he does forensic and other analyses. Jesse was married to Cindy during the summer of 2006.

### Club Activities

The UCO SAACS (Student Affiliates of the American Chemical Society) chapter has been involved in a number of new and exciting activities this past year. Students helped build a house on behalf of Habitat for Humanity in Spring 2006. In March SAACS president Christina Lindsay traveled to the ACS National Meeting in Atlanta, GA to present a poster describing club activities. For the 2006-2007 academic year, the group has participated in several chemistry shows including Quail Springs Mall, the Omniplex and Washington Irving Elementary School. Early in September, SAACS members and SAFS students held a cookout at Hafer Park, and members of both clubs recently floated down the Illinois River. In addition, after monthly club meetings, students are reviving a long-dormant tradition of volleyball between students and faculty! You can view recent club activities (including the 2006 Dunk the Professor) at youtube.com (search on UCOChem).

The **Student Academy of Forensic Science, SAFS**, has been very active this year, participating in conferences and performing community service. Members have attended workshops and the International Association of Identification Oklahoma Division conference held at UCO. Members have also been involved in service by helping Girl Scouts attain their forensic science IPP badge, participating in the Edmond Safe Trick or Treat event, and collecting canned food for the Hope Center Food Drive. SAFS has hosted guest speakers on Crime Scene Processing, Forensic Toxicology, Questioned Document Examination, and Forensic Odontology. During the 2007 Spring semester, SAFS will represent UCO at the annual American Academy of Forensic Science conference being held in San Antonio in February. SAFS is planning to have another Crime Scene Weekend, and will help to coordinate a KIDS ID community service project at a local mall.

**Dr. Michael Ferguson** has continued his outreach activities promoting chemistry and the UCO Chemistry Department. He performed chemistry shows at Martin Park Nature Center, Quail Springs Mall, Omniplex, and Washington Irving Elementary School, assisted by members of the UCO Chemistry Club.

**Dr. Cheryl B. Frech** attended the ACS national meeting in San Francisco, representing the Oklahoma Section as councilor. At UCO she serves on the Chairs Toolbox Committee, providing support and training for new department chairs.

**Mr. Don Gibson** is working in collaboration with M. D. Anderson in Houston to show transport of nanoparticles in nude mice cancer tumor models. He and his family are building a house from the ground up.

**Dr. Olivia Hanson** spent the summer as a visiting research professor at the University of South Florida in Tampa. She also served as an evaluator for the reading and marking of the 2006 Advanced Placement exams.

**Dr. Mike Hellwege** continues to teach organic chemistry. He is in his 41<sup>st</sup> year of service to UCO. His elaborate chalkboard diagrams have been converted into animated Powerpoint files.

**Dr. Mike Jezercak** continues to torment physical chemistry students, both a profession and a hobby.

**Dr. Luis Montes** is serving as Faculty Senate President for the 2006-07 academic year. He is also teaching a cohort group of students this semester who are taking all of their core courses together.

**Dr. Dallas New** says he is ready to retire.

**Dr. Dana Rundle** has attended a number of forensic science workshops recently including forensic hair examination and DNA auditing. She is mentoring an undergraduate research student at the OU Health Sciences Center.

**Dr. David von Minden** is serving as the president of the UCO chapter of Sigma Xi, the scientific honorary society, and as president of the UCO AAUP (American Association of University Professors) chapter. He accompanied students to the Southwest Association of Forensic Scientists meeting in Colorado Springs this fall.

### Five UCO Faculty Attend BCCE at Purdue

The Biennial Conference on Chemical Education was held in late summer 2006 at Purdue University in West Lafayette, Indiana. Drs. Bost, Frech, Montes, Rundle and von Minden all attended the five-day meeting. Dr. Montes presented a talk on "Geographic Perspectives of Chemistry" in the Chemistry Across Borders symposium. The other four faculty members presented talks on various aspects of forensic science education in the Forensic Science: Challenges and Changes symposium. Dr. Frech also presented a poster on National Chemistry Week projects for the classroom.

## FORENSIC SCIENCE INSTITUTE

UCO plans to create a world-class institute dedicated to quality forensic science education, training and research for professionals and students. **Dr. Dwight Adams**, a 1977 biology graduate of Central, has retired from the FBI to serve as the inaugural Director of the Institute. Adams is working closely with UCO administration and faculty to establish the institute and initiate a number of programs. National and international experts will come to UCO to provide student educational opportunities as well as professional training to law enforcement officers, first responders, attorneys, and forensic scientists. Programs scheduled for 2006-07 include Microscopic Hair Analysis, DNA Auditor Training, Bomb Factories and First Responders, and ISO Accreditation.

Construction plans are being developed to place a Forensic Science Institute Building on the UCO campus, just north of Second Street and across the street from the new OSBI building, shown below. The initial phase of the building will contain an auditorium, administrative offices, and seminar rooms. Later phases will include research and teaching laboratory spaces.

The Institute received Department of Justice funds that were used to order a UCO Crime Scene Vehicle. This fully-outfitted truck will be used for student training, crime scene analysis, and outreach to the community. Delivery is expected in early 2007.

## OSBI CONSTRUCTION

Just south of the UCO campus on Second Street, the Oklahoma State Bureau of Investigation is building their new crime lab. The department and institute look forward to increased future cooperation with OSBI in its new location.



## ENDOWED SCHOLARSHIPS ESTABLISHED

Since the 2005 Chemistry Department Newsletter was issued two additional endowed scholarships have been created. They are the Joni L. McClain, M.D. Endowed Scholarship and the Dr. Fred B. Jordan Endowed Scholarship.

### JONI L. McCLAIN, M.D. ENDOWED SCHOLARSHIP

Joni L. McClain, M.D., a 1979 graduate of then Central State University is establishing a \$10,000 endowed scholarship in her name. She expressed a desire to recognize the financial help and the quality education she received while pursuing a B.S. degree in Chemistry. The scholarship, which will benefit female pre-med students majoring in Chemistry or Biology, will be funded over a five-year period. Dr. McClain is currently a Medical Examiner in Dallas.

### DR. FRED B. JORDAN ENDOWED SCHOLARSHIP

An endowed scholarship has been established to honor Dr. Fred B. Jordan, the former Oklahoma Chief Medical Examiner, who played a major role in establishing the MS in Forensic Science program at UCO. Dr. Jordan helped establish the curriculum for the MS program, worked to get the program approved, taught the Death Investigation course, and mentored numerous Practicum students. His contributions have been invaluable to the Forensic Science programs at UCO. Dr. Jordan is now retired and lives in Maine. He has made a major donation towards this scholarship. Once fully endowed, the scholarship will help provide financial support for students in the MS in Forensic Science program.

The Chemistry Department thanks Dr. McClain and Dr. Jordan for the support they have shown for the Department and University. The scholarships will provide financial support for many students in the future.

The Chemistry Department invites and encourages our graduates and friends to establish an Endowed Scholarship in their name, to honor someone else, or to contribute to existing endowments. To endow a scholarship requires a minimum contribution of \$10,000 which may be contributed over a five-year period. Earnings from scholarship endowments provide a perpetual source of funding to meet the needs of chemistry and forensic science majors. For additional information on how to establish an endowed scholarship, please contact Dr. Cheryl Frech or Dr. Fred Grosz.

## Contact Information

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### ENDOWED SCHOLARSHIP FUND DRIVE UPDATE 2006

Letters for the third phase in the Emeritus Faculty Endowed Scholarship Fund Drive were sent to graduates, friends, family, and acquaintances in June 2006. As a result of this effort over \$10,500 was contributed. A total of \$71,810 has been received from graduates, friends, faculty, family, Emeritus Faculty, and matching donations since the Endowed Scholarship Fund Drive began several years ago. A big THANK YOU to all who have contributed to this successful campaign. The status of the Endowed Scholarships to date is as follows:

<b>Mrs. Cindy Coleman</b>	<b>\$ 7,590</b>	<b>Dr. Fred Grosz</b>	<b>\$15,370</b>
<b>Dr. David Hart</b>	<b>\$ 8,940</b>	<b>Dr. Verlin Richardson</b>	<b>\$14,170</b>
<b>Dr. Terrill Smith</b>	<b>\$11,800</b>	<b>Dr. Larry Westmoreland</b>	<b>\$13,940</b>

To fully endow each of the six scholarships requires a minimum of \$10,000. We are getting close to having the six scholarships endowed to the minimum. We are asking for your help in meeting this goal. With tuition increases and the number of students requiring financial aid, it is important to increase the endowment beyond the minimum as only the interest is used to fund scholarships. You can contribute by printing out the pledge card and sending it along with your contribution to University of Central Oklahoma, Chemistry Endowed Scholarship Fund, 100 N. University, Box 88, Edmond, OK 73034-5209. Your support is greatly appreciated.

### YES, you can count on my support for the Chemistry Endowment Scholarship Fund

\$1000 or more	\$500-\$999	\$250-\$499	\$50-\$249
Platinum	Gold	Silver	Bronze

I wish to designate my contribution to honor (you may select more than one fund)

Ms. Cynthia Coleman \$ _____	Dr. Fred Grosz \$ _____	Dr. David Hart \$ _____
Dr. Verlin Richardson \$ _____	Dr. Terrill Smith \$ _____	Dr. Larry Westmoreland \$ _____

Pledge Amount: \$ \_\_\_\_\_ for \_\_\_\_\_ 1 year \_\_\_\_\_ 2 years

**Payment Information:**

Check for \$ \_\_\_\_\_ is enclosed (Payable to UCO Foundation)

Please bill my credit card for \$ \_\_\_\_\_

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Your contribution is fully deductible as a charitable contribution for income tax purposes

University of Central Oklahoma Endowed Scholarship Fund, 100 N. University Drive, Box 88, Edmond, OK 73034  
(405) 974-5435    FAX (405) 974-3862    cfrech@ucok.edu

## Odds, Ends and More

**Technology Update:** We now have *six* multimedia classrooms up and running, complete with internet connection and computer projection. Also, we are extremely happy to have a dedicated space for online research and tutoring. The research resource room houses four powerful Dell computers and will be equipped with higher power (and more expensive) computational and analytical software. Storage and information libraries are located there as well which gives our upper level students a place to work with higher level material in a dedicated environment. UCO is currently wiring Howell Hall for wireless internet access.

## Staff News

**Ms. Carla Supon** is the new administrative assistant in the department office. Carla joins us from Academic Affairs; she's worked at UCO since 1990.

**Ms. Kat Taylor** continues to keep all of our laboratories organized and safe. She is counting the months until her January 2008 retirement.

## New Instrumental Holdings

The Department is proud to own some new equipment for the Instrumental Analysis Lab and for the growing Forensic Science Lab.

### **Instrumental Lab:**

Liquid Chromatograph, Agilent Model 1100 with a diode array detector.

Graphite Tube Atomizer (Graphite Furnace), Varian Model GTA 120.

### **Forensics Lab:**

GC/MSD, Agilent Model 5975 with electron and chemical ionization capabilities.

Liquid Chromatograph, Agilent Model 1100 with a diode array detector.

Gas Chromatograph, Agilent Model 6890 with an autosampler.

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