Message from the Chair

Dr. Cheryl Frech

It’s late in the Fall 2011 semester. Faculty and students are winding up this semester’s courses. Students are fretting about grades, preparing for lab practicals, and studying for final exams. Enrollment has begun for Spring 2012 and we are preparing the Summer 2012 schedule.

The Department of Chemistry continues to evolve and change. We recorded 269 Chemistry majors this fall, which is a 12% increase over Fall 2001 when we had 135 Forensic Science majors in the department. We now have fewer than 20 “legacy” Forensic Science majors who are completing the older degree program. Students who wish to earn a degree in Forensic Science now get a double major or second degree in Forensic Science along with any other major at the university. Quite a few students continue to combine Chemistry and Forensic Science in this manner.

2011 was declared the International Year of Chemistry, and here at UCO we celebrated in a number of ways. Visit our website, www.chemistry.uco.edu to view a clip of Millie Mole on her international journeys over the summer. In November we hosted Lauren Redniss, author of the graphic biography of Marie and Pierre Curie, “Radioactive: Marie and Pierre Curie - A Tale of Love and Fallout”.

We are planning our first Chemistry Reunion for September 2012. I hope you’ll read about it in this newsletter and plan to attend to see your classmates, instructors and our facilities.

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Top News

Make Plans Now to Attend the 2012 Chem-tastic Alumni Reunion

The Department of Chemistry is planning the first ever all-class reunion for department graduates, faculty, and staff in September 2012. We have tentatively selected Friday, September 21 and Saturday, September 22 for this event.

Tentative Schedule: Friday
- Chemistry Club Meeting: Alums are invited to share with current students their experience at UCO and their career path.
- Research Poster Display
- Tours of Howell Hall
- Mixer with heavy hors d’oeuvres

Saturday
- Continental breakfast in Howell Hall Atrium
- Tours of campus, new Forensic Science Institute building, and OSBI building
- Classes without Quizzes: Brief presentations by UCO faculty
- Picnic lunch
- Banquet

We hope many of you will make plans to visit the University of Central Oklahoma next September. The department, college, and university have grown and changed. The campus has new buildings, landscaping, and art. The emeritus faculty suggested this event and are working closely with the department in planning and executing this celebration. If you have ideas for the event that you would like to share, please contact the department. If your company or business would be able to sponsor a meal or provide financial support, please let us know.

Chemistry Faculty, Fall 1991
Do you know any of these faculty members? Bonus: Where was this photo taken?
Research Updates

Dr. Robert Bost: Dr. Bost is mentoring Ms. Sherrita Commey on a forensic science master's thesis project, “Evaluating Accelerated Solvent Extraction of Cocaine in Human Hair”; she has an RCSA grant to support her work. Ms. Cassy Knight is working on "Excipients in Bath Salts - Sympathetic Methamphetamine Analogs" for her Directed Research project.

Dr John Bowen: Dr. Bowen works with a group of UCO students and high school students to monitor the antibacterial compound triclosan in the outflow of Oklahoma sewage treatment plants with GCMS and SPME. Kayla Smithhart is working on an on-fiber derivatization of antibiotics using SPME and GCMS and David Rohrer is looking at the mineral composition of desert varnish on rocks collected this summer from the canyolands of Utah. A student in Quantitative Analysis was able to use SPME and GCMS to detect odor-causing chemicals with the assistance of Dr. Al and Dr. Clark Ovrebo of Biology.

Dr. Lilian Chooback: Currently Dr. Chooback holds 2 INBRE grants and one internal grant. She has 5 students working with her on research projects.

Mr. Don Gibson: Mr. Gibson has some interesting ideas to develop about using photons from the sun to produce electrical energy as well as improving the efficiency of combustion in automobiles.

Dr. Tom Jourdan: Dr. Jourdan works with the FBI and OSBI on a project involving ammonium nitrate explosives mixtures. He has forensic science graduate students working on projects related to cigarette ash residue, tire skid mark tracing, and bioCollectors for explosives residues.

Dr. Steve Meier: Dr. Meier is performing research with two of the four students from the 2011 Summer Bridge program: Jessica Laverty and Kelsey Coy, both Chemistry majors.

The UCO Nutrition and Dietetics program’s teaching kitchen that enabled each group of students to have their own preparation area and cooking resources. Every food item was prepared from scratch with particular emphasis on the purpose of each ingredient at the molecular level in combination with temperature and time as normal parameters of nearly all chemical reactions, including food preparation. All of the prepared food was delicious and a number of people appeared out of nowhere to help eat it.

The next day focused on environmental concerns, beginning with a discussion of nuclear chemistry, with special emphasis on nuclear energy in light of the recent Japanese nuclear reactor incident. The students gained insight into their normal radiation exposure from natural and man-made sources by using their math skills to calculate their personal exposure levels.

One focus of the International Year of Chemistry 2011 (IYC 2011) is water quality and availability. The remainder of Day 2 was taken up by a number of topics involving water treatment and testing. First was a discussion of the water treatment process at the Lake Hefner Water Plant and the role of chemistry in that process. The students were also provided with water samples from a variety of surface water and tap water sources. These samples were tested for a number of chemical parameters and this data was submitted to the IYC 2011 website as part of an international student-based international data repository.

The final day concluded with a further analysis of aspirin and other over-the-counter medications from a forensic toxicology perspective. Each group prepared a PowerPoint presentation of their week of activities. Each student group had access to a Nikon camera to use to document their experience as a group and as individuals, and these pictures and their experimental data formed the basis of their presentation. This provided a creative, fun, and informative way for each group to wrap up their experience and gave each student a brief experience with public speaking and a subsequent question and answer session.

Applications for the 2012 Summer Academy will be available on the department website in spring. Encourage a high school student to apply!
Faculty Updates

The current faculty are a diverse and hard-working group. Here are some brief glimpses into their work. Faculty who did not respond were warned that the Newsletter Team would write creative entries on their behalf.

**Dr. F. Albahadily** - Dr. Albahadily spent the month of May visiting his family in Baghdad, Iraq. Currently he is working with faculty from Engineering and Physics at UCO on biopolymers for use in biomedical applications.

**Dr. Robert Bost** – “No news is good news.” Dr. Bost serves as the lead instructor for Introductory Chemistry and is active in his church choir. He has been found scouring the stockroom for various performance props for his church productions.

**Dr. John Bowen** – Dr. Bowen and his research students prepared madly for Oklahoma Research Day, held at Cameron University in November. He continues to enjoy white-water rafting each summer in the Rocky Mountains.

**Dr. Lilian Chooback** – Dr. Chooback is still teaching Biochemistry classes and a General Chemistry laboratory class along with doing research and collaborating with Drs. William Karsten and Leonard Thomas at OU. She also loves her son to death and is very proud of him.

**Dr. Jim Dechter** – Dr. Dechter spent the summer converting the Inorganic Chemistry course to PowerPoint slides, taking advantage of the first-time availability of the text's figures and tables in electronic format. Since the course diverges from the textbook at times, a lot of auxiliary material still had to be scanned in. So far the course has been going fairly smoothly. In his spare time, Dr. Dechter says he has been reading books on modernism (particularly in literature).

**Dr. Mike Ferguson** – It has been a fairly busy year for Dr. Mike Ferguson. He has continued his outreach activities, organizing the ACS Mall Event at Quail Springs Mall in October. He performed a chemistry show for the 8th-grade students at Santa Fe South Charter School. In addition, he took part in the Educators’ Leadership Academy in 2010-11. To keep him busy away from the office, Dr. Ferguson also bought a house on September 30th.

**Dr. Cheryl Frech** – In her copious free time, Dr. Frech has joined a bell choir, specializing in the E6 and F6 bells. Her perspective on teaching General Chemistry has altered now that she has one daughter in college. The Frech family traveled to Scotland and England in July 2011 with Millie Mole.

**Mr. Don Gibson** – Life has changed oh so much since last year. For the first time in 40 years Mr. Gibson is not currently working on a research project. He feels like a fish out of water, but hopes to get back to doing a little research in nanotechnology again. His kids are finally out of school and if he can “just get the oldest out of the nest and into her own place then life on the farm will be just me, the missus, the goldens and the cattle”.

**Dr. Mike Jezerck** – Dr. Jezerck is continuing the development of Chemistry for Engineers including some home-grown labs investigating fuel properties. He is working on a new look for the Departmental website so check back soon to see.

**Dr. Thomas Jourdan** – Dr. Jourdan continues to serve as a consultant to the International Atomic Energy Agency (IAEA), and as such was part of two 5-person teams this year providing 40-hour courses on the "Response to the Criminal Use of Nuclear or Radiological Materials at Major Public Events"; the courses were in Slupsk, Poland, and Kiev, Ukraine, as these two countries prepare to host the Euro 2012 football championships.

**Dr. Steve Meier** – Dr. Meier performed research with several students this summer. He served as a faculty mentor in the UCO Summer Bridge program that allows students entering their freshmen year at UCO to perform research with a faculty mentor during the month of July. He continues to bless and anoint the 17-year-old NMR spectrometer with Holy Water hoping that it remains operational so that he can have an instrument to analyze the products he synthesizes in his research.

**Dr. Luis Montes** – Dr. Montes continues to be involved around campus. He served as the Faculty Senate President during the 2010-2011 academic year, and is currently the faculty co-chair of UCO’s first Faculty and Staff fundraising campaign. He is also involved with the general area of communicating chemistry to wider audiences. He is currently working on two spoken word poetry pieces that will each discuss some aspect of chemistry. Dr. Montes and his wife, Alyson (and Millie Mole), traveled to Belgium and France. Finally, just a year after tearing his Achilles tendon, he is back playing Ultimate Frisbee, including competing in the over-forty national competition in Cincinnati in July.

**Dr. Dallas New** – Dr. New serves as a faculty advisor for the Chemistry Club and Gamma Beta Phi honor society. He is the coordinator of the UCO Regional Oklahoma Junior Academy of Science competition for middle and high school students and is the webmaster for both the Oklahoma Academy of Science and Oklahoma Junior Academy of Science. Outside of work he enjoys spending time with his wife and children, being a Boy Scout leader and cooking for the church youth retreats.

**Dr. Dana Rundle** – Dr. Rundle and Dr. Bost conducted the summer chemistry high school workshop again this year (see news article) and she plans to continue doing that for the next several years. Dr. Rundle is a member of the department Outreach Committee, Curriculum Committee, Academic Advisory Committee, and the University Student Conduct Committee.

**Dr. David von Minden** – The hottest July in the history of weather record keeping in the U.S. occurred in this July, in Oklahoma. This small fact, plus a drought of historic proportions, kept Dr. von Minden from growing anywhere near the record amounts of tomatoes of two years ago. Thus, the von Minden tomato (and hot pepper) patch was
Chemiluminescence in Switzerland and Germany. Cultural outings included trips to the Fort Worth and Santa Fe Operas, the Oregon Shakespeare Festival and the Shaw Festival in Ontario. As Larry says ‘it’s a tough job, but someone has to do it’.

Going Places
UCO Chemistry faculty attend a variety of chemistry, biochemistry, and forensic science conferences and workshops. Here is a partial summary for 2011-12. If you plan to attend the same event, or if you live in the area, please let us know and we can plan a meal or a meeting.

American Academy of Forensic Sciences
Dr. Robert Bost
Atlanta, GA February 20-25, 2012

American Chemical Society National Meeting
Drs. Steven Meier and Cheryl Frech
San Diego, CA March 25-29, 2012

American Society for Biochemistry and Molecular Biology
Dr. Lilian Chooback
San Diego, CA April 21-25, 2012

Biennial Conference on Chemical Education
Drs. Luis Montes and Cheryl Frech
Penn State University, July 29 – August 2, 2012

Club Activities - SAACS: Student Affiliates of the American Chemical Society

The UCO SAACS has been involved in various exciting activities during the past year. The club participated in the Oklahoma ACS Section event at Quail Springs Mall during National Chemistry Week. Several members introduced chemistry to children by entertaining them with the making of silly putty at the Edmond Safe Trick-or-Treat event.

Seven officers and members attended the national ACS meeting the past spring in Anaheim to present a poster on the activities of the club. Various interesting speakers have visited the club during the past year including graduate school professors, a toxicologist, a brew master, and author Lauren Redniss, who presented information on her book, Scorched. However, Dr. von Minden did have success in having two of his directed research students present their work on determining the capsaicin levels in hot peppers presented at the Southwest/Southeast regional ACS meeting (Brandi VanAlphen) and at the Oklahoma Pentasectional meeting (Alexis Weddle) this past academic year.
NEWS FROM CHEMISTRY AND FORENSIC SCIENCE GRADUATES

We always enjoy hearing of the activities of our alumni. Here are some updates:

Kelly Randolph, DVM (80) – Kelly has an active veterinary practice and plans to take a trip to Africa next May.

Glen Brunette (83) – Glen continues to work at Cato Grease in OKC. He and his wife live on acreage west of Guthrie and raise some animals.

Jackie (Hart) Cleveland (86) – Jackie teaches Chemistry at a private high school near St. Louis, MO. She partners in a business to help small businesses and government agencies write environmental reports.

Lane Gardner (86) – Lane continues as the Terminal & Warehouse Coordinator for the Lubrizol Corporation in League City, TX. Lane is coping with being a single parent to his twins. In his spare time he has taken up biking.

Graylon Williams, Ph.D. (89) – Graylon recently accepted a position at Conoco/Phillips in Bartlesville. He heads the Analytical Services group in support of particle characterization and thermal analysis for the worldwide operation of Conoco/Phillips. He and his family just moved into their new home.

Mitch Meier, MD (88) – Mitch had the misfortune of having his home destroyed in the Joplin tornado. He and his family are currently rebuilding. Due to a lingering infection he has had to cease his medical practice for the time being. He would welcome your prayers.

Michelle Harris, Ph.D. (90) – Michele is Professor of Biochemistry and Assistant Chair of the Chemistry Department at Stephen F. Austin University.

Sharman Hoppes, (90) – Sharman is a professor in the School of Veterinary Medicine at Texas A&M. She recently gave Dr. Terry Smith a tour of their facilities.

Mike Childers (90) – Mike retired from the OSBI and moved with his family to work at the VanderPol Christian Academy in the Philippines where his wife is Assistant Superintendent. They are located in the village of Layton near Ligao on the Island of Luzon. They publish an interesting monthly Newsletter. If you would like to receive it contact Fred Grosz at fgrosz@uco.edu.

Dan Bolton, Ph.D. (93) – Dan continues his work as a Director at Eastman Chemical in Kingsport, TN. He and his family recently took a cruise to the Bahamas. His children are following in his footsteps as excellent water-skiers.

Karen (Hall) Reed (93) – Karen keeps busy homeschooling her 5 girls and caring for her 1-year-old son. Her husband, Eric, is a doctor and recently went on a mission trip to Honduras.

Derek Ponder (93) – Derek is the QA/QC Technical Director and lead organic molecular spectroscopist in the Analytical Section at Tinker AFB in Midwest City, OK.

Kristy Hoggatt (94) – Kristy still lives in Joplin, and was fortunate to escape damage to her home due to the tornado in May 2011.

Arron Karcher (94) – Arron is the Discipline Manager-Applied Sciences in the Production and Enhancement Division for Halliburton in Duncan, OK.

Jessica (Douglas) Davis (05) – Jessica recently completed the Redman Iron Man Triathlon in Oklahoma City. She finished in an excellent time of 13:45. Congratulations on this extreme test of endurance.

Skyler Colman, MSFS (06) – Skyler is currently employed by NMS Labs, Inc., a reference and forensic science research lab in Willow Grove, PA. The lab partners with Arcadia University in Philadelphia.

Eric Crossley and Kim Pham-Crossley (06) – Eric and Kim married in 2011 and currently live in Kansas where she is pursuing a masters degree in Operations and Supply Chain Management. Eric is currently doing LC/MS/MS research and development for a clinical laboratory.

Faith Musko, MSFS (08) – Faith continues to work as a Certifying Chemist at AIT Labs in Indianapolis, IN. She is also serving as an adjunct professor teaching Forensic Science courses at Indiana Tech.

Our Incredible Staff News

Ryan Hays: Manager, Chemistry Laboratories. Ryan is about to finish teaching his second semester of Success Central. Over the summer, he went to Chicago to visit his family and while there, he and Millie attended the 20th Lollapalooza music festival. He also attended some concerts in Dallas and in Tulsa over the past year. He remains active by riding his bike, playing racquetball, and/or utilizing the newly awarded free UCO wellness center membership.

Carla Supon: Carla, her father, and Millie the Mole went on a 9-day Rhine River cruise in July 2011. They departed from Amsterdam, the Netherlands, sailed down through Germany and France to Basel, Switzerland. The scenery was beautiful and they especially enjoyed “the Romantic Rhine” where castles and vineyards could be seen from the river. They enjoyed various excursions, especially Amsterdam (where they saw windmills!), Cologne, Heidelberg, and they even got to see a little of the Black Forest and sampled the famous Black Forest Cake. The trip was particularly delightful as they basked in 70-degree temperatures during the day (and 50-degree temps at night) while everyone here in Oklahoma was still roasting in 100-degree heat! Ask to see her pictures sometime!

Mandi Phelps: The department has been fortunate to have had a single student secretary for the past 4½ years. Mandi joined us in the Fall 2007 semester as a freshman from Yukon. She will graduate in December with a B. A. in Psychology and a B. S. in Forensic Science. She will marry her fiancé, Travis, in February, and plans to attend graduate school at a later date.

Contact Information

Department Chair - Dr. Cheryl Frech - cfrech@uco.edu
Departmental Phone - 405-974-5018
Chemistry Web Site – www.chemistry.uco.edu
Our Most-Traveled Award goes to… Millie Mole!!

It’s the International Year of Chemistry!! What better way to celebrate than to travel all around the world? And that’s exactly what Millie’s been doing. She, not having the ability to see above the counter at the airport terminal, has been escorted by many of her departmental faculty peers. And what places! Millie accompanied Dr. Frech and her entire family (who were generous enough to allow Millie to tag along) across the pond to faraway England and Scotland in July this past summer. Visiting the Royal Academy of Chemistry, St. Andrews and Strontian, Millie certainly got an international experience.

Millie also accompanied Dr. Montes and his wife to Paris, France where she saw Marie Curie’s and Lavoisier’s laboratories, and the Diamond District in Belgium. Not all chemistry geek, she also insisted on seeing the Louvre while in France.

Not yet satisfied with France, Belgium, Scotland and England, Millie tagged along on a Rhine River Cruise with Carla Supon and her father. She especially liked the Black Forest.

Back home, Millie decided to enjoy the experiences in our own country, attending the Lollapalooza music festival in Chicago and white-water rafting down the Colorado River.

See all of Millie’s travels on our website to the tune of “I’ve been Everywhere” by Johnny Cash! See the video here at http://www.chemistry.uco.edu . Thanks to Mandi Phelps for assembling the film.
ENDOWED SCHOLARSHIP FUND DRIVE UPDATE 2011

In 2010 and 2011, the College participated in fall phone drives where student and faculty volunteers called alumni. As a result of fund-raising efforts in FY2011, $11,988 were raised. Please consider supporting one of our emeritus faculty, other faculty, or new student scholarships. We would like to endow each of the scholarship funds at the $20,000 level in order to be able to award these scholarships on a continuing basis each year. If you would like to establish a new endowed scholarship in your name or to honor someone, please contact Dr. Cheryl Frech (cfrech@uco.edu), Dr. Fred Grosz (fgrosz@uco.edu) or Ms. Melody Hansen (mhansen5@uco.edu).

2011 Scholarship Award Winners

These scholarships were awarded to the following students at the Spring College of Mathematics and Science Awards Reception.

<table>
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<tr>
<th>Scholarship</th>
<th>Student Name</th>
<th>Hometown</th>
<th>Major</th>
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<tr>
<td>Fred Grosz</td>
<td>Shaun Hail</td>
<td>Edmond</td>
<td>Chemistry</td>
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<tr>
<td>David Hart</td>
<td>Melissa Knop</td>
<td>Moore</td>
<td>Chem-ACS/FS</td>
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<tr>
<td>Verlin Richardson</td>
<td>Caitlin Kriewall</td>
<td>Claremore</td>
<td>Chem-ACS</td>
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<tr>
<td>Terrill Smith</td>
<td>Ryan Buettner</td>
<td>Edmond</td>
<td>Chem-HS</td>
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<tr>
<td>Larry Westmoreland</td>
<td>Noah Easton</td>
<td>Lexington</td>
<td>Chem-ACS</td>
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YES, you can count on my support for the Chemistry Endowment Scholarship Fund

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Amount</th>
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<tr>
<td>Ms. Cynthia Coleman</td>
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<td>Dr. Fred Grosz</td>
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<td>Dr. David Hart</td>
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<td>Dr. Verlin Richardson</td>
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<td>Dr. Larry Westmoreland</td>
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<tr>
<td>Dr. David von Minden</td>
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NEW! New Student Recruiting Fund $_______ Chemistry Endowment Fund $_______

Pledge Amount: $_________ for _______ 1 year __________ 2 years

Payment Information:

____ Check for $_________ is enclosed (Payable to UCO Foundation)

____ Please bill my credit card for $_________

____ Visa ____ MasterCard _____ Discover

Credit Card # __________________ Exp Date _______ Signature ______________________

____ My Company has a matching gift program. Name of Company ______________________

Name ____________________________ Address ________________________________
City _____________________________ State __________________ Zip Code ___________
Home Phone (____) _______________ E-Mail ___________________________________

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) 974-5476 FAX (405) 974-3862 cfrech@uco.edu
Club Activities - SAACS

Continued from Page 5

“Radioactive”, which was nominated for the National Book Award in nonfiction. For the 2010-2011 academic year, the club was pleased be awarded recognition by the American Chemical Society as a Commendable Chapter. The award will be presented at the 243rd ACS National Meeting in San Diego in March 2012. Recent and upcoming events include a social excursion to an OKC Barons hockey game.

Quick Chemistry Facts

Number of:
- UCO chemistry majors, Fall 2011: 269 (includes 18 legacy FS majors)
- Chemistry majors, Fall 2001: 240 (included 135 FS majors)
- Sections of courses offered, Fall 2011: 87
- Sections offered, Fall 2001: 66
- New freshman and transfer majors, Fall 2011: 53
- Full-time chemistry faculty, Fall 2011: 15
- Part-time faculty, Fall 2011: 13
- New part-time faculty, Spring 2012: 2
- Full-time staff: 2
- Part-time staff: 2
- Department student tutors and lab assistants: 30
- Chemistry faculty and staff who drive Priuses: 5
- Chemistry faculty who arrive on a Harley: 1
- Countries visited by Millie Mole in 2011: 8

New element names in 2011:
- 114 – Flerovium, Fl
- 116 – Livermorium, Lv