



Solutions



8/1/2008

Message from the Editor:

The Department of Chemistry and Biochemistry has been a very busy place the past year. Most of the changes have been for the better and this newsletter will briefly acquaint you with them. I want you to always feel connected to this department no matter how much the facilities or the composition of the faculty change. I understand that this department was your “home away from home” while taking the many lecture and laboratory hours necessary for your degree. You are always welcome to stop by when in the area. I recently visited my Alma Mater and although the department is housed in a new building and most of the faculty members I knew are heading towards retirement, I still feel at ease when I am there. As a department, we hope that you feel the same way toward us. If you have any suggestions that would make you feel more comfortable with us or to improve the content or format of this newsletter, please contact me at the address on the last page or via email.

Sincerely,
Dr. Edward Donnay
donnay.edward@mcm.edu

Alumni News:

Richard Collins ('69) shared stories about chemistry in the quadrangle. He recalled reporting an average of widely scattered molecular weight data to Dr. Jones in general chemistry and Dr. Jones replying that he must have done that type of work before. He also recalled losing a good deal of his shirt diluting sulfuric acid as a stockroom clerk.

Eric Palmer ('05) wrote to say that he has gotten married recently and is currently working as a microbiologist and formulations chemist for Neos Therapeutics (formerly PharmaFab). He expressed an interest in furthering his science knowledge by attending graduate school in the near future.

Jennifer Coddling ('06) checked in from the Thorpe Research Group at the University of Delaware. Her project involves new techniques to purify bovine milk through the removal of an enzyme which requires her to go to a local farm each morning at 7:00 am.

Rusty Sliter ('06) wrote to inform us he had a paper published in the March 2008 issue of the Journal of Chemical Physics. Rusty is currently pursuing his PhD at the University of Southern California. At the time of this writing, he should be beginning his own research after finishing teaching an advanced physical chemistry lab and passing the screening examination.

Stephanie Coffey (minor '06) and her dog Eve stopped by the department while in town to visit family. Stephanie is half way through veterinary school at Texas A&M. She will be starting clinical studies after spending most of the time in the classroom the past two years.

Thanks to all who have written or visited. We look forward to more visits and letters during the next year!

Departmental News:

We are happy to introduce two new graduates, R. Brooke Morris (B.S. in Chemistry) and Allison White (B.S. in Biochemistry). Both are currently working as interns in local dentist offices and are applying to dental schools for fall 2009.

We are excited to welcome a new faculty member to the McMurry chemistry family, Dr. Hyunshun Shin. Hyunshun obtained her B.S. in chemistry from Dooksung University in South Korea and her Ph.D. from Drexel University under Prof. Robert O. Hutchins. After a post doctoral fellowship at the University of Pennsylvania with Prof. David W. Christianson, she moved to the University of San Francisco where she has been working as an Assistant Professor since 2006. Her research interests include the application of structure-based drug discovery towards the design and synthesis of bioactive substances targeting cancer and bacteria infection.

In December, Dr. Arlen Jeffery informed us that he was accepting a position at Stephen F. Austin University in Nacogdoches, TX. Dr. Jeffery arrived at McMurry in the fall of 2000 to teach organic chemistry. Over the years he has been a great colleague, mentor, and friend to faculty and students alike. We wish him the best of luck at his new position.

In March, we were informed that a new position of Lab Manager was created in the budget to be shared between the Departments of Biology and Chemistry & Biochemistry. Duties for our department will include managing the stockroom, supervising the student assistants, and serving as the chemical hygiene officer. Stephen Davis ('98) has been hired to fill this position and starts in mid-July.

The department was fortunate enough to host two distinguished outside speakers during the past academic year. In the fall, Dr. Fred MacDonnell, professor of chemistry from the University of Texas at Arlington, gave a seminar entitled "Hypoxia Selective DNA Cleavage Using DNA Binding Metal Complexes." Dr. MacDonnell also spoke with students about the ins and outs of graduate school and being a graduate student. In the spring, Dr. Marcetta Darensbourg, professor of chemistry at Texas A&M University, came to Abilene through the generosity of the Welch Foundation. Her talk, entitled "The Organometallic Active Sites of Hydrogenase Enzymes", was well-received by an audience that included students and faculty members from ACU, HSU, and McMurry.

Dr. Pam Veltkamp and Dr. Edward Donnay were accompanied by three students when they attended the most recent national meeting of the American Chemical Society in New Orleans. The students were in awe of the size and scope of the meeting. We all enjoyed the exposition, listened to many excellent chemistry presentations, and ate large amounts of really good food!

Departmental Research:

We learned that our application to the Welch Foundation for a renewal of the departmental grant has been accepted. For the next three years the grant will support a handful of undergraduate students doing research. This is our fourth three-year cycle on the grant. This summer, Dr. Paul Pyenta will be advising Matthew Durham, who will be working concurrently on two projects: 1) an investigation of antibody IgG structure in solution using fluorescence resonance energy transfer, and 2) the construction of a green fluorescent protein (GFP) producing strain of bacillus thuringiensis (BT) to be used to track the life cycle of BT in the gut of certain insects. Dr. Edward Donnay will be optimizing a synthetic procedure that a student worked on last summer and hopes to

have enough of the product to make some Self-Assembled Monolayers (SAM's) with a collaborator at the University of Houston.

Dr. Pam Veltkamp, Dr. Wayne Keith (physics), and Dr. Cynthia Martin (math) were awarded the first McMurry University Research Initiative (MURI) grant. Their proposal was to form a center which would promote interdisciplinary math and science research (carried out by students and faculty) in solving problems identified by a developing community. For example, a project could involve the development of a water purification system for a poor, rural community. The proposed name for the new center is the McMurry Center for Mission Outreach with Science and Technology (MCMOST). During the first summer of funding, the team is working out the details of center structure and activities. One of the major activities initially will be to offer a course in general education in which the students carry out a research project and implement the solution. The team hopes to be able to offer the course for the first time in spring 2009. If any readers have an interest in this project, or would like to make comments or suggestions, you are welcome to contact Pam at veltkamp@mcm.edu.

We also learned that our application for funding the purchase of new electro-analytical equipment from the Pittsburgh Conference Memorial National Grants Program was passed over in a very competitive process. Fortunately McMurry has stepped in and allowed us to purchase the desired equipment as a capital expense. This is not the only new equipment that the department has obtained recently from various funding sources. In the past two years the department has acquired a research grade pH meter, a cyclograph (an essentially a high-speed thin-layer chromatography instrument), a Schlenk line, a high performance liquid chromatograph (HPLC) and a research-grade microwave oven. (This is not your Wal-Mart variety oven—it cost \$20,000!) We plan to use all of these instruments in our classes, as well as our research.

We are pleased to report that David Klassen had the last of his research work published in the *Journal of Undergraduate Chemistry Research* (the citation is R. T. Sliter, D. M. Klassen. *J. Undergraduate Chemistry Research*, **2007**, 6(3), 108-112.) The article is entitled “Mixed Ligand Complexes of Osmium(II) with Sterically Hindering Polypyridine Ligands.” The student who appears as an author is Russel (“Rusty”) Sliter, who graduated in May 2006. He is now a graduate student at University of Southern California, pursuing a Ph.D. in Physical Chemistry (see Alumni News).

Dr. Ed Donnay also had an article published this past year. The title of the article is “Synthesis and Characterization of Tris(heteroleptic) Diimine Complexes of Chromium(III)” and it appeared in the journal *Inorganica Chimica Acta (Inorg. Chim. Acta)*, **2007**, 360, 3272-3280). The article describes work he began at Furman University in the summer of 2002 which was continued by undergraduate students there.

School and Miscellaneous News:

In March the public phase of the new capital campaign for McMurry University had its kick off, with the expansion and renovation of the science facilities as the centerpiece of the campaign. The expansion of the science facility will occur on the site currently occupied by the tennis courts south of the current building and consist of mostly state-of-the-art chemistry and biology labs. The current facility will be remodeled to absorb the Math and Computer Science departments. A more complete renovation will be undertaken in a second future phase. Dr. Paul Pyenta was named as the project shepherd for the new building and will be meeting with the architects as the need arises.

McMurry's Science/Math Advisory Board (SMAB) will be holding its next meeting in September. This Board is a group of science, math, and computer science alumni who voluntarily assist the science and math departments at McMurry with a variety of support. If you would like to know more about SMAB, you can visit their website at www.mcmurrysmab.org or by contacting the current chairman, Dr. Max Wynn ('80, Chemistry and Biology) at 760 Treadwell, Hurst, TX 76053.

As we were clearing out departmental filing cabinets to make room for the lab manager we came across a photograph containing a group of people that we can not identify. The photograph has been posted on the web (www.mcm.edu/newsite/web/academics/ncs/chemistry/news/index.htm) and we are looking for any information you could provide. It may have something to do with the chemistry honor society, Delta Epsilon Sigma, but we really don't know.

Alumni Search:

The following table contains the names of alumni for whom we have incomplete, incorrect, or no address. If you know the contact information for any of these alums, we welcome your sharing that information with us, or you might contact that person and ask him/her to contact us. Thank you!

Greg Mamikunian '56	Peter Morford '75
David Neel '58	Mary (Shooter) Real '75
James Tingle '59	Tommy C. Taylor '75
Jack Shultze '62	Conley Goines '76
Dr. Reynold Carlson '63	Dr. Norman Carl Sulser, Jr. '76
Mohammad Dareshori '63	Eugene Weitzel '78
Gail (Hart) Long '64	Gregory Guy Alexander '79
J. Dwayne Bennett '65	Mark B. McClure '80
Steven Sample '66	Laurel Van Winkel '81
Dr. Mary Jane (Matthews) Wray '67	Kirk Arthur Brooks '82
Sharon DuBoise '69	Mansel Harris '82
Dr. Carolyn Nell (McCoy) Cutaia '69	Rosalind Rankin '83
Dr. Carl Wayne Hudson '72	Dr. Mary Linda Sellers-Hann '83
George E. Bernard '73	Gregory Aguilar '85
Roger Keith Allen '74	Johnny Duane Rowland '85
C. Randall Cotney '74	Kerry Kyle Clark '86
Dennis J. Smiley '74	Marcus Von Babb '94
Susan Arth '75	Mirela Zimic '97
Richmond Cullins '75	Dr. Doug McEwen '01
Robert C. Loyd '75	

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