



# Solutions



8/19/2011

## Message from the Editor:

The current chemistry faculty members are always delighted to meet and hear from all of our alumni. The success chemistry alumni have had after leaving McMurry is a tribute to the legacy of our forerunners like Drs. Jones, Sonntag, Harris, and others. However we are curious whether we are living up to the high standards they set, and so for self-assessment purposes, we especially want to hear from recent graduates (2000 and later). We want to know if you are still working in the chemistry field, were you accepted into professional school, and how the McMurry chemical education you received has or has not prepared you for your current occupation. Please contact us even if things have not gone as planned, because we want an accurate picture of how we are doing. Please drop in if you are in the area or send us an email and thank you for helping us evaluate our performance.

Sincerely,

Dr. Edward Donnay

[donnay.edward@mcm.edu](mailto:donnay.edward@mcm.edu)

## Alumni News:

Drs. Girvin Harkins ('60) and Eddie Massey ('61) were honored as inductees to the Science and Math Wall of Honor on November 6, 2010 (along with Biology alumnus Dr. Lee Ann Odom Hillhouse). We were delighted to celebrate this honor with them as they reminisced about their time at McMurry. A short biography of the honorees is below. The Wall of Honor is sponsored by the McMurry Science/Math Advisory Board (SMAB). If you would like to know more about SMAB, you can visit their website at [www.mcmurrysmab.org](http://www.mcmurrysmab.org) or contact their current chairperson, Dr. John Manning ('79), at [mail@jonmmanning.net](mailto:mail@jonmmanning.net).

Girvin Harkins received a M.A. in 1962, followed by a Ph.D. in 1964 from Johns Hopkins University. From there he worked in postdoctoral fellowships at UC-Berkeley and Rice University. By 1968, Girvin was asked to manage an interdepartmental research program in chemical engineering and materials science at Rice, which resulted in the creation of a Ph.D. program in Corrosion Science and Engineering. Later, Girvin went to work for Hewlett-Packard and then for the spin-off company, Agilent Labs, as principle engineer for optical switching technology. He retired in 2001.

Following his graduation from McMurry, Eddie Massey went to Vanderbilt University, where he received his Ph.D. in organic chemistry in 1966. His career of nearly 41 years was focused on the development and government approval of pharmaceutical products for three different companies. He was responsible for the development of 14 commercial pharmaceutical products and holds 8 U.S. patents. He says that the highlight of his career was participating in the development of human insulin (Humulin), the first product for medicine made using bacteria genetically programmed to make a human protein. He retired in 2006.

We were pleasantly surprised to receive a visit from Nathan Rife ('04) in early April. He and his wife Robin were in Abilene for a friend's wedding and decided to stop by to visit. Nathan finished a master's degree in chemistry at Texas A&M and is currently working as a research chemist at M-I SWACO, where he designs drilling muds for the oil industry. Sounds interesting!

Sean Smith ('06) dropped by for a visit in May. He is now attending a seminary.

Russell (“Rusty”) Sliter (’06) can now be addressed as “Dr. Sliter”! He informed us in May that he has defended his dissertation at the University of Southern California in Physical Chemistry. He has accepted a position with KLA-Tencor in the Silicon Valley as an applications development engineer. Rusty wrote that the company “specializes in inspection systems for photo-masks and wafers in the semi-conductor industry.” Congratulations, Rusty!

### **Departmental News:**

The department is happy to introduce four new graduates, all of them Honors students! They are Jennifer Revell (B.S. in Biochemistry) and Malaney (Lopez) O’Connell (B.S. in Biochemistry) in December; Erica Rawls (B.S. in Biochemistry) and Heather Whitehead (B.S. in Chemistry) in May. Jennifer completed her honors thesis on color-blindness with Dr. Larry Sharp in the Biology department. She was accepted into the Rosenberg School of Optometry at the University of the Incarnate Word in San Antonio and will begin her studies there this fall. Malaney completed her honors thesis working with breast cancer cells under the direction of Dr. Paul Pyenta (Chemistry Department). She took a temporary position at the biotech firm Receptor Logic in Abilene where she was an intern while going to school. She was recently married and will start a PhD program in cancer biology at the University of Texas-Medical Branch in Galveston this fall. Erica Rawls and Heather Whitehead shared the W. Norton Jones Scholarship as juniors and the Outstanding Senior Award this year. Both completed honors theses on potential chemotherapy compounds working with Dr. Shin, both are planning to get married this summer, and both were accepted into the Texas Tech University Health and Science Center School of Pharmacy. Erica was a significant performer on the women’s basketball team, while Heather won the Don Allen Memorial Award for the outstanding non-traditional graduating student.

After a three-year experiment by the University of doing without department chairs, McMurry decided to reinstate the department chair position in its administrative structure. Dr. Pam Veltkamp was appointed the chair for this department last August.

The department was successful in applying for a one year renewal of our Welch Departmental Grant for \$25,000 that supports students and faculty doing research. The Welch Foundation has changed from three-year renewal periods to one-year due to the recent economic downturn. This grant is essential for maintaining research activity in the department. Work being done under the grant is described below.

A highlight this year for the McMurry student chapter of ACS was to host a group of approximately 40 fourth graders from Lawn Elementary School on McMurry’s campus for an afternoon of chemistry activities in the fall semester.

As reported in the previous newsletter, the whole department had plans to attend the Biennial Conference on Chemical Education last summer at the University of North Texas in Denton. We were all able to attend, and each person brought back some new ideas to improve chemistry education at McMurry. For example, Dr. Shin attended several talks on the use of supplemental instruction to improve student learning in Organic Chemistry. Dr. Veltkamp attended two POGIL workshops to improve her implementation of the method. Dr. Donnay attended presentations which described the effects of raising the math prerequisite for General Chemistry. Dr. Pyenta gained valuable insights into teaching the chemistry course for nursing majors at a symposium at the conference. The insights gained will be implemented in our classes, and we plan to attend future chemical education conferences.

The Finch-Grey Science Building underwent a partial renovation as a result of money raised during the capital campaign. The Biology and Physics departments saw a complete renovation of some space, which came in under budget but over time. Instead of being completed before classes began last fall, the project lasted nearly until Thanksgiving. The Chemistry Department hosted

several biology classes and labs which were displaced during the fall because of the renovation. Because the renovation downstairs came in under budget, there were some funds to allow for a small facelift of some of the chemistry labs this summer. The work benches and fume hoods are being sanded, painted, and coated as needed in the main teaching laboratories. Any leaking faucets and drains are being fixed. The science reading room is being turned into the Dean's (School of Natural and Computational Science) office. While having the Dean in the building will benefit the logistics of the school, the loss of student study space is hard to bear. It may be possible to recoup some of the student space by subdividing the chemistry instrument room, but this will not happen under the current renovation.

### **Departmental Research:**

Dr. Shin and her students Erica Rawls and Heather Whitehead traveled to Boston on August 22-26, 2010, where Erica presented a poster "Characterizations of Diastereoisomers of Polyamine Analogues with Oxime Functionalites" at the 240th ACS National Meeting & Exposition. Heather Whitehead presented a poster at the capitol as part of Texas Undergraduate Research Day on February 14, 2011. She met Mrs. Susan King, representative of District 71, who quizzed her about her research on Potential Anticancer Agents targeting Arginine Biosynthesis.

This summer the department has five undergraduate students conducting research on the Welch Foundation Departmental Grant, including two from last summer continuing their work. Dr. Hyunshun Shin has two students working on her projects targeting the biosynthetic pathway for polyamines. Amanda Genzling will design and synthesize inhibitors of an enzyme called ornithine decarboxylase and Tara Williams will synthesize polyamine analogues. Dr. Edward Donnay will be supervising two students. Nathan Worley will continue his work on the synthesis and physical characterization of chromium complexes containing polypyridyl ligands with acidic or basic functional groups. Oluwatoyosi Adewunmi will try to analyze and separate chromium complexes by High Performance Liquid Chromatography (HPLC). Our last recipient of Welch funds is Jonathan Urbanczyk who will continue working on a collaborative project between Drs. Donnay, Shin, and Sung-Kun Kim (from Baylor University) on improving the solubility of a new antibiotic compound.

Dr. Edward Donnay received a Kiva Research Fellow Award for his project, "Metal Complexes Attached to a Gold Surface." The project involves fabrication of Self-Assembled Monolayers or SAMs, containing a modified phenanthroline ligand. The ligand was synthesized by Tim Fliegel ('08, deceased), but full characterization and fabrication of SAM's is beyond the capabilities at McMurry. The goal of the project will be achieved through collaboration with Dr. T. Randall Lee at the University of Houston. The award provides an opportunity to travel to Houston and work with advanced instrumentation in materials science. The ultimate result of this project will hopefully be a publication in a peer reviewed journal and/or a presentation at an American Chemical Society meeting.

### **School and Miscellaneous News:**

Long-time member of the math faculty Mr. Mike Swanson retired in May after 45 years at McMurry. Dr. Dick Schofield announced that he will retire in May 2012. Dr. Schofield has taught geology courses at McMurry for the past 29 years, first in support of the geology major, and then, after the major was discontinued, in support of the (now terminated) Environmental Science major and concentrations in science teaching fields and the biology department. The future of geosciences at McMurry is in doubt.

Renovation of Old Main began in May. This is anticipated to be a two-year project, in which the entire building will be gutted to the floors and then essentially "rebuilt" inside. The old

auditorium will be recovered as a lecture hall, and an elevator will be added. Cooke and Old Main will be connected via a second floor hallway, so that both buildings will become handicap-accessible with the new elevator. Although that renovation does not affect the faculty in the science building directly, it does have a direct impact on our colleagues in math, as that entire department has moved to cubicles in the Campus Center. An indirect effect will be that more classes will be held in the science building, due to the loss of classroom space in Old Main for two years.

#### **40 Years Ago in the Department**

*(Below are news items and excerpts from the department newsletter from May 1971. It is of interest to note that news of both Drs. Eddie Massey and Girvin Harkins was reported. The entire newsletter can be seen on our website, [www.mcm.edu/newsite/web/academics/ncs/chemistry/news](http://www.mcm.edu/newsite/web/academics/ncs/chemistry/news))*

“Dr. Thomas K. Kim, formerly professor of mathematical economics at Texas Tech, arrived on campus about June 1, 1970, to begin his term as eighth president of McMurry... On March 13, 1971, he was [formally] inaugurated ... [at the] Abilene Civic Center.... A reception for Dr. Kim and his family was held in the foyer of the recently completed Ryan Fine Arts Center, which had been dedicated on the preceding day.”

“The first January term was held this year and seemed to be well received by both student and faculty participants. A second January term is planned for next year.”

“Biggest news of the year in the department has been the receipt of several excellent grants. Last May the Research Corporation made a grant of \$25,000 to the department. This sum... was used to purchase a Perkin-Elmer R12-A NMR spectrometer, with which we received a gas chromatography unit with flame photometry attachment... and a powerful new permanent magnet that the department has presented to the physics department.... Also in May, the department received a matching grant of \$4100 from the N.S.F. With this it has purchased a “Porta Vac” for use in the physical and inorganic laboratories [and other equipment.] During the year Dr. Klassen received a research grant of \$2100 from the Research Corporation. This permitted him to initiate last summer a research program on certain complex compounds of osmium and ruthenium. To continue this work he received in the spring of this year a three-year grant of \$36,000 from the Welch Foundation. During the year Dr. Sonntag has continued his research work under a previously made Welch Foundation grant.”

#### **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.

Greg Mamikunian ‘56

James Tingle ‘59

Jack Shultze ‘62

Mohammad Dareshori ‘63

Gail Hart Long ‘64

George E. Bernard ‘73

C. Randall Cotney ‘74

Susan Arth ‘75

Tommy C. Taylor ‘75

Conley Goines ‘76

Gregory Guy Alexander ‘79

Laurel Van Winkel ‘81

Mansel Harris ‘82