

Newsletter, Spring 2007
Department of Chemistry
University of Tennessee at Chattanooga

Plans Underway for Renovation of Grote Hall

So many exciting changes are taking place at UTC! As you enter the campus, you will be amazed at the beautification of the university. Students, faculty, and staff are proud of their campus and anxious to share it with you. Exciting plans are also taking shape for the renovation of Grote Hall, home of the Chemistry Department. The university has requested \$8.2 million for this project, which is expected to begin in Summer 2008. All major building components will be replaced including HVAC, fume hoods, plumbing, electrical, and elevator. Chemistry will be permanently situated on floors three and four. Third floor will house Biochemistry, General Chemistry, Physical Chemistry, fifteen offices, a huge computer lab and two classrooms. Fourth floor will be home to Advanced Organic and Inorganic, Quantitative Analysis, Organic, and Instrumental Lab, two offices, faculty research labs, a classroom, and the chemistry library.

“Changing of the Guard” for Department Heads

After ten years of outstanding service as Department Head, Dr. Doug Kutz returned to full-time faculty status and turned over the reins of the Chemistry Department to Dr. Gail Meyer. Dr. Meyer (Gail McDade, BA '74) has been on the faculty for 25 years.

Waddell Retires

Dr. Tom Waddell, a “legend in his own time,” will retire in May 2007 after 36 years of distinguished service to the university. During this time he taught nearly 13,000 students and wrote thousands of recommendation letters for students applying to graduate and medical schools. We will miss you, Dr. Waddell!

Symes Appointed to Associate Professor

UTC has recognized the outstanding teaching of Dr. Steven Symes by awarding him tenure and promoting him to Associate Professor. Dr. Symes joined the Department in 1999. In addition to his teaching, Dr. Symes collaborates with colleagues in Arizona, New Mexico, and at NASA and has recently been awarded grants from NSF and NASA. Congratulations, Dr. Symes!

Santiago Completes Army War College

Last summer, Dr. Manuel Santiago completed two years of study with the Army War College. Dr. Santiago joined the Department in 2001 as Assistant Professor and, along with teaching, directs a vigorous biochemistry research program. Dr. Santiago proudly serves as a Colonel in the United States Army Reserve, after having served ten years in active duty. Congratulations, Dr. Santiago!

Narramore Receives Alumni Award

Mr. Jim Narramore (BA '83) received two Student Alumni Council Ambassadors Favorite Professor Awards last spring. These awards recognized Mr. Narramore's “service and dedication to UTC students to enhance their learning environment.” Congratulations, Mr. Narramore!

Summa Cum Laude, Magna Cum Laude Graduates

In December 2005, Nathan Kokes graduated Summa Cum Laude, maintaining a perfect 4.000 GPA. In May 2006, Weinan Chen and Katie Ziegler both graduated Magna Cum Laude. Nathan is applying to medical school, Weinan is attending graduate school, and Katie is attending medical school.

Departmental Honors

Since Fall 2005, seven chemistry students have Departmental Honors projects completed or in progress: (1) Maikel Botros, "Complexation Studies of Mixed-Donor Ligands with the Heavy Metal Ions Hg(II) and Cd(II)"; (2) Randi Gant, "Degradation of Pyrimidines by *Pseudomonas Syringae*"; (3) Mallory Hacker, "Catabolic Degradation of Pyrimidines in *Pseudomonas mendocina*"; (4) Kimberly Holte, "Applying a Heterogeneous Catalytic Transfer Hydrogenation (CTH) Technique to the Reduction of Ketones"; (5) Timothy Brooks, "Answers in Ashes: Elemental Analysis of Cremains by ICP-OES"; (6) Katherine Ziegler, "Predicting Molecular Interactions with Nonporous and Nanoporous Carbon Using Computational Chemistry"; and (7) Amanda Mansfield Finley, i. "Catalytic Transfer Hydrogenation of Aldehydes" ii. "Ring Opening of Epoxides by Catalytic Transfer Hydrogenation."

Department Says Goodbye to Postdoctoral Fellow Daron Janzen

In late July the Department of Chemistry bid a fond farewell to Dr. Daron Janzen, Grote Postdoctoral Fellow. Dr. Janzen taught and conducted research under the direction of Dr. Greg Grant who received a major grant from the National Science Foundation supporting this two-year appointment. Dr. Janzen received his Ph.D. in Inorganic Chemistry from the University of Minnesota. He and his wife and two children have "returned home" to Minnesota, where Dr. Janzen accepted a position with the College of St. Catherine.

New Instruments

In 2006, the Department replaced its ten-year old 300 MHz FT-NMR with a new JEOL 400 MHz FT-NMR spectrometer. This acquisition was made possible by a \$280,000 grant from the National Science Foundation submitted by Dr. Greg Grant and co-authors Drs. Rob Mebane, Manuel Santiago, and Tom Waddell. Our NMR has always been a workhorse instrument in the Department, and the enhanced capabilities of this new NMR spectrometer have been utilized with enthusiasm. We also have purchased a new \$252,000 LC/MS (Liquid Chromatograph Mass Spectrometer) through a NSF grant secured by Dr. Steven Symes (Chemistry) and Dr. Sean Richards (Biological & Environmental Sciences). The LC/MS allows researchers to separate complex mixtures and determine the abundances of all components. It is primarily used for environmental research to focus on the detection and quantitation of pharmaceutical compounds in lakes, streams, and rivers. The Chemistry Department houses approximately \$1 million worth of equipment for use by faculty and students. Dr. Mebane has upgraded the Thermo Finnigan and Perkin Elmer GC/MS systems, courtesy of the Grote Fund and Swafford Fund. A new Nicolet FT-IR will be used extensively in Instrumental and Physical Chemistry Labs. The FT-IR was purchased through the UC Foundation Grote Fund.

Notable Accomplishments

Faculty and students recently published a total of 17 research papers in the following scientific journals: *Journal of the Chemical Society - Dalton Transactions*, *Journal of Chemical Crystallography*, *European Journal of Inorganic Chemistry*, *Transition Metal Chemistry*, *Synthetic Communications*, *Journal of Undergraduate Chemistry Research*, *Journal of Colloid and Interface Science*, *Inorganic Chemistry*.

Faculty and students presented a total of 35 research papers at the following conferences: the Southeast Regional Meeting of the American Chemical Society (Memphis, TN and Augusta, GA), the National Meetings of the American Chemical Society (Atlanta, Washington, D.C., and San Diego), the Conference on Lunar and Planetary Science, SETAC in Baltimore, the International Chemistry Conference-Pacific Basin Societies (Honolulu), and the Meteoritical Society Meeting in Gatlinburg. At the SERMACS conference in Augusta, Rishi Naik received an award for one of the top ten undergraduate posters. Drs. Mebane and Rybolt published a book, "Environmental Science Fair Projects." Drs. Waddell and Rybolt published a collection of 15 stories, through *Journal of Chemical Education*, titled "The Chemical Adventures of Sherlock Holmes."

Faculty this year secured nearly \$1million in grant support including funding from the following agencies: the National Science Foundation, the Research Corporation, Tennessee Water Resources Research Council, The American Chemical Society/Petroleum Research Fund, and Wheeler Odor Center.

Grote Chemistry Scholars 2006-07



The Department of Chemistry is proud to have 12 Grote Scholars for the 2006-07 year. This scholarship program was initiated in 1976 through an endowment established by Irvine and Nita Grote. Dr. Grote served as a member of the chemistry faculty from 1931 to 1969 and as chairman of the department from 1941 to 1964. The Grote Scholars are: Cassie Brooks (Mosheim), Daniel Chatham (Dyersburg), Jin Cheng (Ooltewah), Lauren DeLoach (Humboldt), Sean Dunn, Marie Loizeaux, Lindsey Miller (all from Chattanooga), Iliza Myers (Franklin), Rishi Naik (East Ridge), Marlene Oaks (Ooltewah), Eric Tiner (Soddy Daisy), and Skye Webb (Chattanooga). We are very proud of these exceptional, talented students.

Awards Banquet

The 18th Annual Chemistry Department Awards Banquet was held on April 21, 2006. Almost two hundred attendees enjoyed "The Year in Review" which recounted the students' and the department's adventures throughout the year. Dr. Tom Waddell, who narrated the review, provided another humorous moment as he was caught off-guard with a photo slipped in of him as a very young professor. Many of our outstanding chemistry majors were recognized for their scholarship, research, and service. Awards and scholarships totaling \$54,000 were presented to honorees. Special recognition was given to our 19 graduating seniors.

2006 Summer Research Programs

The Summer Undergraduate Research Program of 2006 contained exhilarating events. Fifteen students worked intensely alongside eleven faculty for ten weeks conducting exciting research. The URP was funded by the UC Foundation Grote Fund, National Science Foundation grant, and Wheeler Odor Center grant. Highlights of the program were seminars by Dr. John Gupton of the University of Richmond, who spoke on his stimulating research in biochemistry. Another high point was our URP Summer Picnic, held at the TN Riverpark. Faculty and students enjoyed a great time and then it was back to work.



Student Affiliates' Activities

The ACS Student Affiliates Chapter, along with their sponsor, Dr. Manuel Santiago, has been very active. In February, the students hosted a Spring Luncheon which was well attended. In May, students volunteered at the Creative Discovery Museum, performing zip-lock-bag experiments with children. The Student Affiliates spend two hours every Wednesday evening tutoring chemistry students. The UTC Chapter was awarded "Commendable Service" by the American Chemical Society for their outstanding service last year.

Website

We invite you to visit our updated website at www.utc.edu/Academic/Chemistry. Our objective is to provide information relevant to past, present, and potential members of the department. We thank Dr. Gretchen Potts for her outstanding work with the website. We would like to send the newsletter to our alumni and friends via email if they prefer to receive an electronic copy instead of a hard copy. Please visit our website and let us know what you're doing. We would love to hear from you! Following are updates on some of our alumni who have visited our website to let us know where they are and all the latest events in their lives. Enjoy!

Alumni News

Ada Abungu (BA '04) is a pharmacy student at Ohio State University.

Thomas Blake (BS '01) received his Ph.D. from Purdue University. His work focused on soft landing and mass spectrometry instrumentation development. He is currently a fellow at the CDC in Atlanta.

Chrystal Bruce (BS '97) received a Ph.D. in Physical Chemistry from UNC Chapel Hill in 2003 and is currently an assistant professor at Erskine College.

Jennifer Capps Palmer (BS '99) worked at Chattem for 5 years in a Quality Control lab, then accepted a position at Elan Pharmaceuticals in Gainesville, GA. She returned to Chattem as a Senior Chemist, where she did instrument calibration. A promotion will place her in the Technical Services Lab in Method Development.

Keith Coffey (BS '02) worked at Chattem for two years and is now working as a research chemist with the Research and Development team at C & A Floorcoverings in carpet manufacturing.

Robert Craven (BA '03) is attending medical school at UT College of Medicine in Memphis, TN.

Jane Dickerson (BS '05) is attending graduate school at the University of Washington. Her research at the present time is in proteomics.

George Dorsey (BA '64) received his Ph.D. from UTK in 1969, worked as a polymer scientist at the Oak Ridge Y-12 Plant for 31 years, retired from ORNL in 2000 and now works as a consultant for JAG Enterprises with radiation-cured wood composites.

Randi Gant (BS '06) is attending graduate school at Vanderbilt University. Her research is in analytical chemistry, specifically proteomics.

Scott Gass (BS '04) is a Quality Control Chemist working at Cymer Chemical.

Andrea M. Goforth (BS '01) completed a Ph.D. in Chemistry at South Carolina in December 2005 and is now a post-doc at UC-Davis.

Deanna Goods (BA '05) is teaching high school physical science. She will begin work on her Master's.

Adam Grasham (BS '02) attended chemistry graduate school at Ohio State University. Two years later, he worked with polymers for Invista in Dalton, GA. Since '05, he has traveled with TVA/US Army Chemical Materiel Agency as an analytical chemist.

Lensey Hill (BS '04) is in graduate school at the University of Alabama in Tuscaloosa.

Vanessa Janeksela (BS '05) is pursuing a Ph.D. in chemistry at Vanderbilt University.

Rajan Kshatri (BS '04) is attending dental school at UT-Memphis.

Kelly Kovach (BA '97) was a captain for Continental Airlines for 7 years and now is a pilot for FedEx.

Francis (Bud) LaMonica (BS '04) is also working at Cymer Chemical.

John Lee (BS '03) is a graduate student in organometallic chemistry at NC State University. His work focuses on the development of new homogenous ruthenium complexes for the hydroarylation of unsaturated substrates. He will receive his Ph.D. in June 2008.

Ginger Matthews Wells (BS '05) worked at Alco Chemical in process quality control and recently began a contract with TVA working with insulating oils.

Dean Norris (BA '88) spent the first 9 years in the paper chemical industry in tech sales/management and product development. After traveling 6 years, he became a board certified Radiation Therapist and is now a Health Physics Specialist for the Univ. of California at San Francisco Office of Environment, Health & Safety.

Ayako Okuyama-Donofree (BS '97) is a QA & GMP Compliance Auditor at Merck & Co.

Robert Osborne (BS '01) earned his Ph.D. in August and will stay at University of South Carolina for a time as a post-doc. His ultimate plan is to stay in academia at a predominately undergrad/masters level institution.

Laura Palmiero (BS '04) earned her M.S. in Chemistry at the University of Illinois at Urbana-Champaign.

Walt Patrick (BA '70) directs a 501(c)(3) research coop working on hyper-integrated aquaculture and the conversion of wood waste into methanol for use as auto fuel.

Sarah Sewell (BS '03) received her Ph.D. from Vanderbilt University and is a post-doc at Vanderbilt.

Chuck Sisson (BS '05) will be pursuing a Ph.D. in chemistry at Clemson University.

Kristi Wrenn Swearengin ('98) attended the University of Alabama at Birmingham for her M.S. in Forensic Science, after which she worked for a drug testing lab in Salt Lake City as a GC/MS technologist. She then spent 4 years at the Dallas Co. Medical Examiners office as a Forensic Chemist and Intoxilyzer Supervisor and now works part-time for Fondren Forensics as a technical supervisor for the Intoxilyzer, in DWI enforcement.

Christine Wright Parker (BS '78) is a medical doctor. She specializes in Internal Medicine with Memorial Health Partners in Chattanooga, TN.

