

**Newsletter, Spring 2005**  
**Department of Chemistry**  
**University of Tennessee at Chattanooga**

**Plans Underway for Renovation of Grote Hall**

Exciting plans are taking shape for the renovation of Grote Hall. The state legislature has funded \$4.2 million for this project, which is expected to begin in late 2006. All major building components will be replaced including heating/air conditioning, fume hoods, plumbing, lighting/electrical, and elevator. In order to keep the chemistry program in operation, the renovation will take place in two stages. First, the third floor will be renovated, and new chemistry laboratories will occupy this entire floor. Next, the remaining floors will be renovated, and Chemistry will be permanently situated on Floors 3 and 4. Funding in addition to the state allocation will be needed to accomplish this vital undertaking, and we are already at work with the Development Office to launch a major fund-raising initiative.

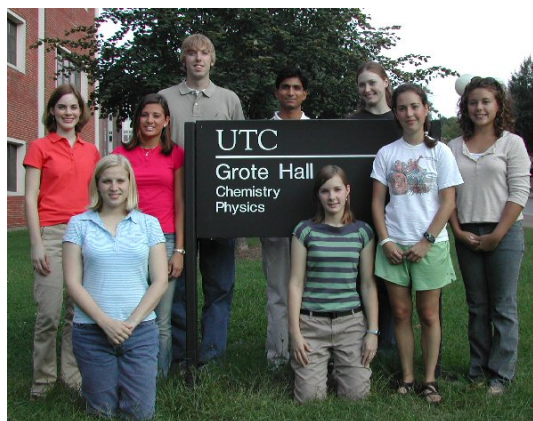
**Santiago Appointed UC Foundation Professor**

UTC has recognized the outstanding teaching of Dr. Manuel Santiago by appointing him UC Foundation Assistant Professor. Dr. Santiago joined the Department in 2001, and along with teaching, he now directs a vigorous biochemistry research program. Dr. Santiago's able leadership led to the establishment of our Biochemistry Concentration. Prof. Santiago also proudly serves as a Colonel in the United States Army Reserves. Congratulations, Dr. Santiago!

**The Department Welcomes Postdoctoral Fellow Janzen and Visiting Professor McLean**

In August the Department of Chemistry welcomed Dr. Daron Janzen as Grote Postdoctoral Fellow. Dr. Janzen is teaching and conducting 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.

Earlier this year the Department also welcomed Dr. Howard McLean as Visiting Professor. Dr. McLean is teaching and carrying out research under the direction of Dr. Gretchen Potts. This appointment is made possible through a Research Site for Educators in Chemistry award from the National Science Foundation. During his one-year sabbatical from Rose-Hulman Institute of Technology, Dr. McLean is utilizing our ICP Spectrometer to study the chemical composition of meteorites.



**Grote Chemistry Scholars**

The Department of Chemistry is proud to have 12 Grote Scholars for the 2004-05 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 Scholars are: Daniel Chatham, Lauren DeLoach, Jennifer Gordon, Aaron Henry, Vanessa Janeksela, Nathan Kokes, Sara Magee, Amanda Mansfield, Lindsey Miller, Ken Patel, Eric Tiner, and Skye Webb. We are extremely proud of these exceptional and talented chemistry majors.

### Summa Cum Laude Graduate and Departmental Honors

In December 2004, Gregory Helton graduated Summa Cum Laude, maintaining a perfect 4.000 GPA. Greg also completed Departmental Honors with a research project entitled, "Complexation Studies of Thioethers Bound to Mercury (II)." Congratulations Greg, and best wishes in medical school!

This semester four chemistry students have Departmental Honors projects underway: (1) Jane Dickerson, "Biomonitoring: An Analysis of Plants using ICP-OES"; (2) Randi Gant, "Degradation of Pyrimidines by *Pseudomonas Syringa*;" (3) Darshan Naik, "Photometric Titrations for Understanding Reactions;" and (4) Sarah Prince, "Pyrimidine Biosynthetic Pathway of *Pseudomonas Syringae*."

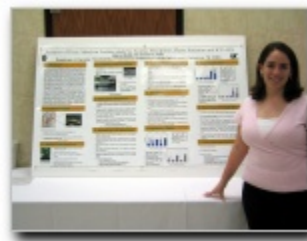
### New NMR Instrument

The Department will soon replace its ten-year old 300 MHz NMR with a new JEOL 400 MHz NMR spectrometer. This acquisition is made possible by a \$280,000 grant from the National Science Foundation submitted by Prof. Greg Grant and co-authors Profs. Rob Mebane, Manuel Santiago, and Tom Waddell. Our present NMR quickly became a workhorse instrument in the Department, and we look forward to utilizing the enhanced capabilities of this new NMR spectrometer.

### Notable Accomplishments

Faculty and students this year published a total of 17 research papers in the following scientific journals: *Inorganica Chimica Acta*, *Journal of the Chemical Society - Dalton Transactions*, *Journal of Chemical Crystallography*, *Polyhedron*, *European Journal of Inorganic Chemistry*, *Journal of Organometallic Chemistry*, *Transition Metal Chemistry*, *Synthetic Communications*, *Journal of Chemical Education*, *Journal of Colloid and Interface Science*, *Journal of Basic Microbiology*, and *Microbiological Research*.

Faculty and students this year presented a total of 27 research papers at the following conferences: the Southeast Regional Meeting of the American Chemical Society, the National Meeting of the American Chemical Society, the Pittsburgh Conference, the Conference on Lunar and Planetary Science, the Carnegie Institute, and the University of Oklahoma. At SERMACS - Research Triangle, three UTC students received awards for their papers: Weinan Chen - first place in the Inorganic Division; Erika Milczek - second place in the Organic Division; and Kira Shurtz - third place in the Analytical Division



From left to right: Weinan Chen. Erika Milczek and Kira Shurtz

Faculty this year secured a total of \$297,000 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 the Merck/AAAS Foundation.

### **2004 Summer Research Program**

The 2004 chemistry summer Undergraduate Research Program was possibly our best URP ever. Eighteen students worked intensely for ten weeks carrying out exciting research directed by 11 faculty members. The URP was funded in part by a grant from the Merck/AAAS Foundation.



A highlight of the program was the seminar by Dr. George Richter-Addo, of the Univ. of Oklahoma, who spoke on his stimulating research in bio-inorganic chemistry. Another high point was our URP Summer Picnic, held at the TN Riverpark. Faculty and students enjoyed a great barbeque lunch followed by some serious Frisbee. It was R & R for a few hours, then back to work!



### **Awards Banquet**

The 16<sup>th</sup> Annual Chemistry Department Honors Banquet was held on April 16, 2004. Over two hundred attendees enjoyed hearing alumna Pam Ross, M.D., speak on her experiences as an emergency room physician. We then honored our outstanding chemistry majors for their scholarship, research, and service. Awards and scholarships totaling \$54,000 were presented to honorees. Special recognition was given to our 33 graduating seniors.

### **News**

Chemistry enrollments continue to climb. In the past five years, student credit hours in chemistry have grown 34%. We are delighted that students are increasingly choosing careers in science and health-related fields.

Dr. Tom Rybolt's literary talents are displayed in his recently published novel, "Forbidden Light: A Novel of Discovery." To learn more about this science mystery, go to <http://forbiddenlight.com/>.

Also, the *Journal of Chemical Education* just published a compilation of the 15 Sherlock Holmes articles authored by Profs. Tom Rybolt and Tom Waddell. [http://store.jce.divched.org/shop/product\\_info.php?products\\_id=70](http://store.jce.divched.org/shop/product_info.php?products_id=70)

### **Student Affiliates Activities**

The ACS Student Affiliates Chapter was very active in the Spring 2004 Term. In February, the students hosted a Spring Luncheon which was well attended by chemistry students. In March, the Student Affiliates co-sponsored Dr. Arpad Vass, a forensic anthropologist at Oak Ridge National Labs. Dr. Vass spoke to a packed house on "The Science of Determining Time of Death." In April, the group sponsored a picnic for graduating seniors at the Tennessee Riverpark. In May, students volunteered at the Creative Discovery Museum, performing zip-lock-bag experiments with children.



During the Fall 2004 Term, the Student Affiliates spent two hours every Wednesday evening tutoring chemistry students. In October, the group hosted FBI chemist Pamela Reynolds, who spoke on "Forensic Chemistry: A Piece of the Puzzle." The UTC Chapter was awarded "Honorable Mention" by the American Chemical Society for their outstanding service in 2004.

### **Website**

We invite you to visit our updated website at [www.utc.edu/Academic/Chemistry](http://www.utc.edu/Academic/Chemistry). Our objective is to provide information relevant to past, present, and potential members of the department. Our thanks to Prof. Potts, for her outstanding work with the website.

### **Alumni News**

Dr. Randal Weber, a 1975 graduate of the Department, received the 2004 Distinguished Alumni Award presented by the UTC Alumni Association. Dr. Weber is Head of the Department of Head and Neck Surgery at the M.D. Anderson Cancer Center. Congratulations, Dr. Weber!

We are in the process of updating our alumni records. We invite you to help by going to our web site [www.utc.edu/Academic/Chemistry](http://www.utc.edu/Academic/Chemistry) and completing the on-line Alumni Information form. We'd love to hear from you.