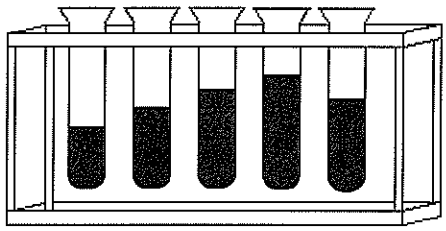
the Test Tube

Newsletter 2002 (#19)

The Department of Chemistry & Biochemistry
Texas Tech University
Lubbock, Texas

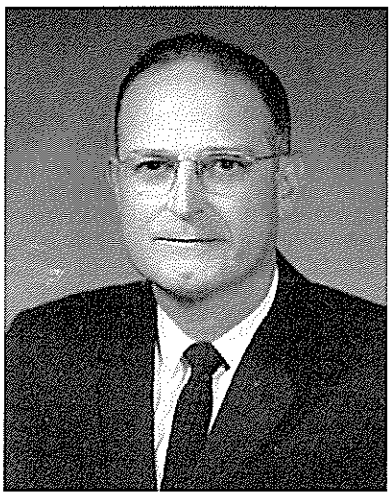


Editor: Kathy B. Jones

Professor Joe Dennis

December 5, 1911 - October 15, 2001

A memoir by Henry J. Shine



Professor Joe Dennis died in Kerrville, Texas, on October 15, 2001. He had been in declining health for almost three years and had moved to Kerrville with **Mrs. Dennis** in May, 2000, to be nearer their daughters in Kerrville and San Antonio. The Dennises had lived in Lubbock for 62 years. Joe Dennis was one of the most influential of the Department's chairs, starting it on its path from an essentially undergraduate teaching department to a research and graduate studies one. Joe's entire life in schooling and academics was spent in Texas. He was born in Sherman, where he attended public schools and, later, married **Jeanette Wallis** in 1935. **Jeanette** was to become a "silent partner" in the life of our Department. Joe received his BA degree from Austin College in 1933, MA degree from the University of Texas Medical Branch in 1937, and PhD degree from UT in 1942.

Joe Dennis joined the faculty of our department in the Fall of 1938. At that time he had only the MA degree. In noting this, it is helpful to reflect on the history of Texas Tech and its Department of Chemistry. Texas Tech was created by the Texas legislature in 1923 and opened its doors to students in 1925. Chemistry was one of the original departments of the new institution, called, then and for a long time afterward, Texas Technological College (TTC). Chemistry was singled out among departments even in that early stage because of the vigor of its first Head, **Dr. William Thornton Read**, who had been attracted to TTC from Yale by the first President, **Paul Whitfield Horn**. As a measure of Read's influence, the Department was given its own building in 1928, although, because of funding and space limitations, the building was shared, until 1951, with the Departments of Biology, Physics, and Geosciences.

It was to this building, known to us now simply as the north wing, that Joe Dennis came in 1938. He was persuaded to join Texas Tech by the then second Head, **Dr. Robert Cabaniss Goodwin**, who had himself been attracted to Tech from the University of Florida after Read left to go to Rutgers. Dennis had been recommended to Goodwin by one of Dennis's students in the UT Medical Branch in Galveston, where he had been teaching. That student, **Roy Riddle**, became one of Lubbock's eminent physicians. Goodwin wanted to add to the Department's roster someone with training in physiological chemistry (as biochemistry was known then) and knowledge of medical studies.

There were then eight on the faculty, five with doctorates, Goodwin, **W. M. Craig** (both of whom had degrees from Harvard), **A.G. Oberg** (Colorado), **Valerie Schneider** (MIT), **W.F. Rolf** (Chicago), and three (**Hulda W. Marshall, W.M. Slagle** and **C.C. Galbraith**) with bachelors or masters degrees. At that time, for TTC, the proportion of doctorates in a department was high. So, Dennis joined the Department with the plan of pursuing a PhD degree, doing coursework in the summers at UT Austin, under supervision of Dr. H.R. Henze, and research at TTC under the long-distance supervision of his former mentor in Galveston, Dr. B.M. Hendrix. The plan worked well. Because there was no space available elsewhere, a research lab was built for Dennis among the storage places in the attic of the building (now converted into the biochemistry research labs of the north wing, a fitting connection to the past), and Dennis received his PhD in 1942.

During those years, Dennis taught mainly freshman chemistry (now called general chemistry), and physiological chemistry for students from Home Economics (now Human Sciences) and the College of Agriculture. His course load was the usual 24-26 contact hours per week. Dennis also had charge of the undergraduate organic labs, which were then in deplorable condition. With the help of the students themselves, and with paint donated by the Building and Grounds Department, the labs, benches and hoods were painted battleship grey. There were, of course, no graduate lab assistants at that time. Dennis introduced the requirement that students could not leave the lab at the end of the period without cleaning the benches and sinks. The program of improving the appearance of labs was extended to the analytical lab when **Margret Stuart** joined the Department (1946), and was to continue at a greater pace later when Dennis became Head of the Department in 1950. The writer of this memoir remembers that when he was put in charge of the organic labs in 1954 (by Dennis), the concrete floors were still painted battleship grey, there were still no graduate assistants, and students

(continued on page

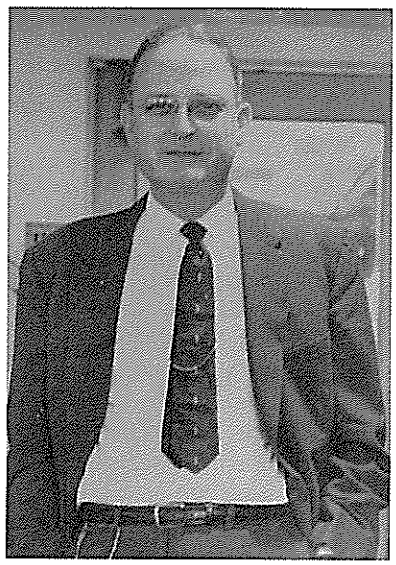
(Dr. Joe Dennis Tribute continued)

were still required to clean up the lab and even line up their ring stands in a prescribed order according to size. The undergraduate lab assistant, **Harold Starr**, had been trained by Dennis.

Until 1950, Dennis was involved in much of the teaching in the Department. He taught general chemistry (as almost everyone did), organic for chem majors, organic for Home Ec and Ag majors, qual organic, biochem, physiological chem for Home Ec and Ag majors, organic preps, and seminar for senior chem majors, as well as directing the research of graduate students, and serving as Premedical Student Advisor since 1944. In those early years it was not uncommon for an administrator to hold more than one position. Dr. Goodwin, for example, was not only Head of the Department of Chemistry and Chemical Engineering, but also Dean of Arts and Sciences. In 1950, the Board of Directors (now called Regents) and the President decreed that persons holding two important administrative positions must relinquish one of them. Dr. Goodwin chose to give up the Headship of Chemistry and Chemical Engineering and Dennis was appointed Head as the choice of the faculty. Goodwin remained as a member of the Department, however, teaching the majors' organic course, which he continued until becoming President of TTC.

Dennis set out as Head to revamp the facilities and to begin stressing research and graduate studies. Insofar as the latter is concerned, Dennis wanted to model his efforts on those of Roger Adams in the University of Illinois, by hiring young, research-minded faculty and providing them with best conditions for research that he could manage. Until the early '50's, Texas Tech had a good undergraduate teaching faculty, but not much interest was held in research nor were conditions conducive to research. Space had been very short, salaries were low and teaching loads very high. Space improved with the departure of the other science departments to the Science Building in 1951. Future emphasis on research was signified with the Board's approval of the PhD program in 1950. As non-research faculty left or were encouraged to leave, Dennis began replacing them with people keen on doing research, the earliest among these being **George Estok, Sam Lee** and **Jules Renard** (chemical engineering) in 1951, **Randolph Wilhoit** (1953) and **Patricia Fain, Henry Shine** and **Wesley Wendlandt** (1954). In 1955, Dennis visited Houston to solicit the Welch Foundation's interest in the Department, taking with him research proposals from some of the new faculty, and the first of the Department's Welch grants were awarded to Fain and Shine in 1955. Fain, however, left in 1957 to go into industry.

As for facilities, Dennis began by having lab furniture built in the Department's own carpentry shop which he set up and outfitted with saws, planers, and woodworking lathes. **Truman Erwin** was hired and, with an assistant **(Jesse Cox)** and Dennis's directions, built new benches for both undergraduate and research labs. Even office furniture was built, including the credenza and entry station in the Departmental Office for the one and only secretary in the Department, **Miss Mary Sufall**. Undergraduate labs had hoods, but some of the newly created research labs did not. Hood vents were in place, a legacy of the planning of **W.T. Read**, for which hoods were now built in the basement shop. Building of furniture and managing the building, itself, was continued by a remarkable jack-of-all-trades, **Warner Kendall**, and an equally able assistant, his brother-in-law, **Jimmy Hall**. Dennis carried out the hiring of all of these capable people, himself.



When Dennis became Head of the Department in 1950, he initiated regular faculty meetings and established some departmental committees. Nevertheless, he retained complete authority for running the Department. He hired all the staff, faculty and graduate student assistants, and made all decisions on pay raises. For many years, he managed the registration of students, operating from his office while registration and course-section filling took place elsewhere on the campus in the hands of assigned faculty. When registration was complete, and new sections opened and filled, Dennis would assign teaching loads, putting his handwritten assignments in faculty mailboxes shortly before classes were to begin. He was assisted in that part of his work during the early 1960's by **Dr. Robert G. Rekers**, who was named officially as Assistant Head in about 1967. In 1968 the new President of Texas Tech, **Dr. Grover E. Murray**, ordered that all Department Heads would be known as Chairs, with terms subject to review and renewal. This change did not sit well with Dennis, whose stated philosophy was "if I can't have the authority, I don't want the responsibility". He resigned as Chairman in 1969.

In that year the Department's first Welch Professor, **Charles William Shoppee F. R. S.**, from Sydney, Australia was appointed. The Welch Professorship was yet another of Dennis's achievements in his relationships with the Foundation. A grant of one million dollars was made in 1965. By the time the Chair was filled in 1969, a large sum in interest had accrued with which Shoppee bought several instruments of great use to his work and the Department's.

Toward the middle of the 1960's, Dennis began pushing the University for an addition to the building to accommodate the growing research needs. Overcoming opposition from various other departments and areas in the University, described by Dennis as "a very trying time", he obtained permission to plan for a small addition to fit onto the south part of the building. Plans were drawn up with input from the faculty. However, those plans were not agreeable to one of the members of the Board of Directors, Mr. Harold Hinn of Plainview, with whom Dennis was in direct contact. The outcome was our instruction to plan for an addition much larger than the building itself, and with the collaboration of a distinguished outside firm of architects, Pitts, Phelp and White. Dennis appointed Dr. Rekers as the liaison with the architects, and a splendid addition was constructed, now known as the central and south wings. Although the addition was started under Dennis's supervision, it was not finished until 1970, after he had given up the Chairmanship. The direct contact that Dennis had had with a member of the Board was a contravention of University policy, which did not go down well with the upper administration. To some extent, Dennis suffered for that both during and after his Chairmanship.

(continued on page 3)

(Dr. Joe Dennis Tribute continued)

Joe Dennis set himself the goal of building a department that would be known for its graduate program and research work. He was the first Head of a science department to set such a goal at Texas Tech and he made it his mission. Consequently, his own research work suffered, all the more as the demands of a growing department grew themselves. The research he did for the PhD degree at UT was on the effect of denaturation on the sulfur content of egg albumin and edestin. At TTC, he had a lengthy collaboration with Dr. Fred Harbaugh, Head of the Department of Animal Husbandry. The collaboration resulted in a number of publications on the carbon dioxide, potassium and calcium content of blood in dairy cattle and on the mineral components of wheat plants. These interests were a continuation of research he had done as a student at Galveston. He supervised the work of 11 masters and three doctoral students. The first of the Department's PhD degrees (Patricia Fain, 1953) was under his direction.

Dennis was very formal in his Departmental life, addressing the faculty usually by their titles rather than first names. This writer never heard him address his long-time secretary, the late Mary Sufall, in any way other than Miss Sufall, for example, and I and others, as far as I know, always addressed him as Dr. Dennis. He was always very courteous and calmly spoken, yet often unyielding in his opinions and chosen path. He retained much loyalty for the older, long-time members of faculty who had come through the hard times with him. He was strongly committed to the Presbyterian church, serving as a deacon and elder of the First Presbyterian Church and, later, Cumberland Presbyterian Church of Lubbock. After he had retired from Texas Tech in 1976, he and Mrs. Dennis endowed the "Joe and Jeanette Dennis Undergraduate Scholarships" in the Department, through which the Dennis name will be evermore associated with the Department to which they gave the greater part of their life.

(Please see Dr. Dennis' obituary on page 13)

Publications by Dr. Joe Dennis

"Potassium Changes in the Functioning Heart under Conditions of Ischemia and Congestion" (with **Robert M. Moore**), *American Journal of Physiology* **1938**, *123*, 443-447.

"A Comparison of pH Values of Coronary Venous Blood and Blood from Other Veins" (with **Robert M. Moore**), *American Journal of Physiology* **1938**, *123*, 441-442.

"Changes of Nitrogen Content Brought About by Denaturation of Protein" (with **Byron M. Hendrix**), *Journal of Biological Chemistry* **1938**, *126*, 315-322.

"Blood Potassium Change as a Result of Partial Asphyxia in Dogs" (with **F.J. Mullin**), *Proceedings of the Society for Experimental Biology and Medicine* **1938**, *38*, 560-561.

"Blood Potassium in Tetany and Asphyxia of Dogs" (wih **F.J. Mullin and D. Bailey Calvin**), *American Journal of Physiology* **1938**, *124*, 192-201.

"The Effects of Denaturation on the Sulfur Content of Egg Albumin and Edestin" (with **Byron M. Hendrix**), *Archives of Biochemistry* **1943**, *2*, 371-380.

"The Carbon Dioxide Content of the Blood of Dairy Cattle" (with **Fred G. Harbaugh**), *American Journal of Veterinary Research"* **1946**, *7*, 37-40.

"The Blood Potassium and Calcium Levels of Cattle Grazing Wheat" (with **Fred G. Harbaugh**), *American Journal of Veterinary Research* **1947**, *8*, 396-399.

"The Experimental Alteration of Blood Potassium and Calcium Levels in Cattle" (with **Fred G. Harbaugh**), *American Journal of Veterinary Research* **1948**, *9*, 20-25.

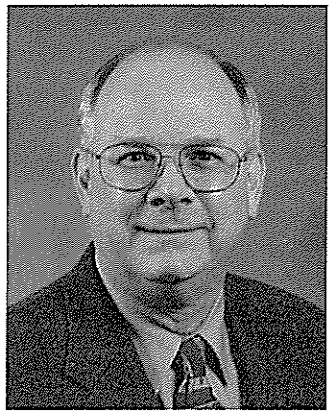
"A Quantitative Investigation of Some Mineral Components of Wheat Plants" (with **Fred G. Harbaugh** and **Margret R. Stuart**), *American Journal of Veterinary Research* **1950**, *11*, 400-404.

"The Effect of Added Manganese in Feed on Various Mineral Components of Cattle Blood" (with **Patricia Fain** and **Fred G. Harbaugh**), *American Journal of Veterinary Research* **1952**, *13*, 348.

"Influence of Potassium Ions on the Electroencephalogram of the Dog" (with **Patricia Fain** and **Fred G. Harbaugh**), *American Journal of Physiology* **1955**, *182*, 415.

The Chair Conformation

by
Dr. Richard A. Bartsch



Once again **Mrs. Kathy Jones** has done an excellent job of editing the new edition of the *Test Tube*. A photograph of Kathy standing next to the needlepoint rendition of the 13-cent U.S. Chemistry stamp in the Chair's Office appears on the front cover.

We are deeply saddened by the passing of **Dr. Joe Dennis**. Many thanks to **Dr. Henry J. Shine** for his memoir of the life and times of this key figure in the development of the Department of Chemistry and Biochemistry that we know today. Joe and Jeannette Dennis will always be very special people to us.

This year's edition of the *Test Tube* profiles another famous graduate of our program — **Dr. Chee-hway Tsai**, the Director of Corporate Research and Development for the Proctor and Gamble Company. In his article, Chee-hway shares his remembrances of being a graduate student at Texas Tech and some tips for success in an industrial career.

The past academic year was really exciting with the incorporation of six new faculty members into this department. Of the five who joined the Department for Fall Semester 2001, the efforts of **Drs. Robert E. Blake** and **Rebecca S. Miller** are already impacting the general chemistry program. Becky is the Coordinator of General Chemistry and Bob will begin in Fall Semester 2002 an educational experiment in which three different types of recitation sections will be utilized in CHEM 1301: Introductory Chemistry. **Dr. Robert A. Flowers** quickly established his organic chemistry research program at Texas Tech after his move from the University of Toledo. Several new graduate students

(continued on page 4)

(The Chair Conformation continued)

joined his group and he received new research grants from Pfizer, Inc. and The Welch Foundation. Our two new theoretical chemists, **Drs. Jorge A. Morales** and **L. William Poirier**, are off to fine starts. Both were awarded research grants by The Welch Foundation and Bill also received a Research Innovation Award from Research Corporation and a grant from the ACS Petroleum Research Fund.

In the last session of the Texas Legislature, the Texas Excellence Fund was established with the goal of enhancing the research statures of Texas state universities other than the University of Texas at Austin and Texas A&M University. A majority of the funds were designated for Texas Tech University and the University of Houston. After an internal competition at Texas Tech, an interdisciplinary proposal for further development in Nanotechnology was selected for funding. With a portion of these funds, we hired **Dr. Shaorong Liu** from industry to interact with personnel in the TTU Nano Tech Center. Shaorong joined us in the late spring as Associate Professor in the Analytical Chemistry Division and is busy setting up his research laboratories.

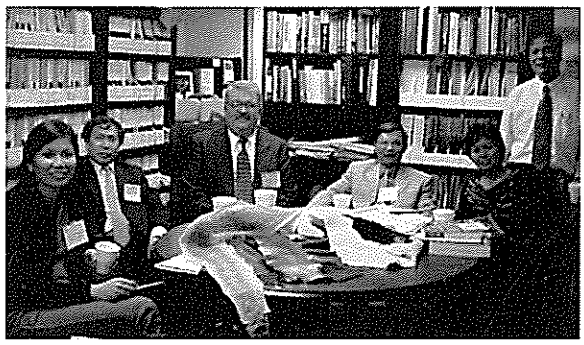
During the past year, the teaching expertise of several faculty members was recognized. **Dr. Dominick J. Casadonte** received one of the three inaugural Chancellor's Council Distinguished Teaching and Research Awards. (Two of the awards went to TTU faculty members and one to a TTUHSC faculty member.) **Dr. David M. Birney** was one of 15 recipients of the Professing Excellence Award from the Success Center and Department of Residence Life at TTU. **Dr. Galina G. Talanova**, a Visiting Assistant Professor, received the 2002 Outstanding Professor of the Year Award from the TTU Chapter of Alpha Epsilon Delta, a pre-medicine honorary society.

Effective with Fall Semester 2002, three faculty members have been promoted. **Drs. Darryl J. Bornhop** and **Allan D. Headley** now hold the rank of Professor. **Dr. Guigen Li** is a new Associate Professor.

Once again both our ACS Student Affiliates chapter and the South Plains Section of the American Chemical Society were recognized at the national level for their activities. We're very proud of their accomplishments.

Thanks again to those of you who contributed to the Welch Challenge, the Robinson Lectureship Series Endowment and the Shine Lecture Series Endowment or gave an unrestricted departmental donation. With the current economic downturn, such financial assistance from our graduates is more important than ever to continued departmental development. We really appreciate your help.

Sincerely yours,
Richard A. Bartsch
Chair and Paul Whitfield Horn Professor

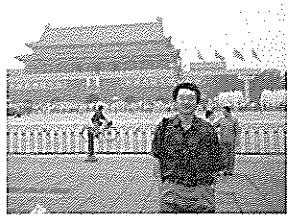


Chemistry Professor **Dennis Shelly** (third from left) meets with a delegation from Vietnam May 23, 2002. The trade promotion and scientific exchange visit to the U.S. was arranged by the Institute for International Education at the request of the Ministry of Industry, Socialist Republic of Vietnam, through the U.S.-Asia Environmental partnership (USAEP), Washington D.C. Guests included deputies of the Ministry of Industry, representatives from the Center for Environmental and Chemical Engineering of Vietnam's Chemical Engineering Corporation and leaders of Vietnam National Chemical Corporation. One of the visitors represented the University of Technology, Ho Chi Minh City as a faculty member in the Department of Environment, whom Dr. Shelly met while in Vietnam during the first "Scrap Leather Recycling Workshop" in February 2002. This visit paves the way for future higher level exchanges and cooperative projects that will benefit the U.S. and Vietnamese chemical and leather industries.

Alumni Profile

Chee-hway Tsai

Director, Corporate Research & Development
The Procter & Gamble Company



I ran into Dr. Bartsch when we both attended the Council for Chemical Research 2002 Annual Meeting in Cincinnati in late March. Over dinner, we chatted about my past student days in Texas Tech and my present job in industry. Dr. Bartsch asked if I would be interested in writing a short article about my student days in Lubbock and my experience in industry for *the TestTube*. I was indeed honored that he asked and of course agreed to try it.

Came to Lubbock from Taiwan

I have been in the US for over 27 years; Lubbock was my first stop in this country. Deep down in my heart, Lubbock and TTU occupy a special space and give me a wonderful feeling. I came to Texas Tech from Taiwan in January of 1975 for my graduate study. When I arrived in Lubbock, I was able to read English reasonably well but could hardly communicate verbally. Since there were many foreign students around, my poor English communication skill did not come as a surprise to local people. Folks in Lubbock and TTU were extremely nice and helpful. But, I was frustrated with my poor English conversational skill and determined to improve it. In addition to my chemistry courses and thesis work, I decided to spend time to improve my English communication proficiency. I remember that I often sat in front of my 13" TV set in the College Inn on Main Street for hours every evening, listening to the news in order to improve my comprehension, and I read newspapers every day to expand my vocabulary. By the time I left TTU in August of 1977, I guess that I had made some progress.

As a foreign student, I studied diligently and worked long and hard in the laboratory. But, I also had lots of fun at TTU. I particularly remember the volleyball games with faculty members and graduate students after 4:30 p.m. in the backyard of the Chemistry Building, the departmental seminars, and the pizza parties at Pizza Inn

Tsai Profile (continued)

with Dr. Song's group after Thursday night's group seminar. I could feel the excitement in the air whenever the Red Raiders played at home, even though I had just begun to understand American football at that time.

I graduated from the Department of Chemistry with an M.S. degree under **Dr. P.S. Song** who is a world-leading expert in photochemistry and photobiology. My MS thesis was on UV-induced photolysis of coumarin and psoralen related compounds and its relation to skin cancer. Till these days, I have owed my career success to the wonderful education in the Chemistry Department at TTU. I recall that I felt very grateful for the great teachers in every discipline of chemistry and their teaching not only in basic science but also in problem solving. The days at TTU certainly laid a great foundation for my continued success at Cornell University where I obtained my PhD degree in Food Chemistry in 1981 and contributed to my career success in industry.

Joined Industry

After receiving my PhD from Cornell, I joined Procter & Gamble's Research and Development Division in July, 1981. I was interested in research and teaching, but got attracted to practical, applied industrial research. In the academic world, the key outcome of research may be knowledge and publications; whether the research results are commercialized or not may not be of critical importance. Nowadays it appears to be changing somewhat toward getting more value out of research results in the academic world, but we certainly are not there compared to industry in terms of commercialization of inventions. I have no intention of making the academic world the same as industry, as their missions are drastically different. However, it may be important to understand the differences in order to make a successful transition should one decide to work in industry after graduation.

For eight years in the 1980's, I worked as a bench chemist. I was excited about my scientific work and new inventions, but learned to be mindful of new consumer benefits and new products as a result of my work.

Industry demands output in terms of products and new sales and profit at the end of the day. In the beginning, I struggled to strike the balance between being a good scientist and a good technologist -- in other words, the balance between keeping up with emerging science and delivering what the company expected of me. In the end, I found that I needed to be good at both. Translating science and technology into a product that can be sold for profit is demanded by industry. New learning and knowledge that result from research is just a means, not an end. To continually deliver good results in industry, I need to keep abreast of emerging science and technologies via the scientific and patent literature.

Over the past decade, I have grown in my corporate responsibility and have made the transition successfully from a bench scientist to a technical manager. The latter transition can be as big as or bigger than that from a university researcher to an industrial researcher. As a bench chemist, I could succeed primarily through my own doing with some team work. As a technical manager, I can only succeed through others' technical work by managing and motivating them. Simply put, the role is somewhat similar to that of a coach. A coach has to inspire and motivate his or her players to do their best to win as a team and to grow as individual players. An industrial manager needs to be a coach as well as a team manager.

Therefore, succeess in industry requires two sets of skills, technical skills and non-technical skills. Universities offer excellent training in technical skill development. Most graduates are well prepared in their technical skills when they join industry. The non-technical skills can take years to develop on a job since there has been no focused formal training in the university. The non-technical skills include, but are not limited to, written and oral communication skills, people interaction skills, ability to fit in the corporate culture, personal leadership and organizational development skills. To a large extent, it also varies with the type of work one does and the industry one is in. For example, some companies offer a technical career ladder parallel to a managerial ladder to attract more scientists to work as career bench scientists. However, there is always a need for technical managers to lead and manage people. It can be a matter of personal choice, given the options provided by a company.

For those who may have the opportunity to work in industry, regardless of personal choice in pursuit of an industrial career, I would like to offer a few tips:

1) Technical mastery is always an important starting point. You need to be good professionally before managers pay much attention to your career growth. The competition for advancement can be extremely severe among many qualified candidates.

2) Be a good team player even if you are working as an individual scientist. Managers value team success because nobody can bring an idea to a product alone with acceptable speed.

3) Taking initiative to make things happen is an important virtue of a successful innovator and a leader.

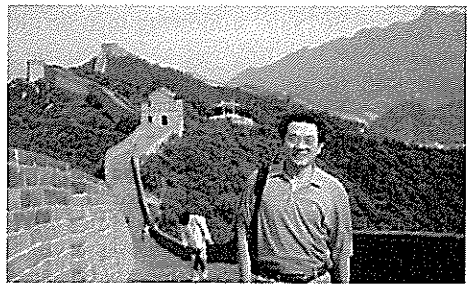
4) Innovate, even if things look pretty good. Try to make your own technology obsolete before someone else does it for you.

5) Deliver results beyond what your boss expects of you, both in technical excellence and speed.

6) Start to pay attention to non-technical skills while you are working as a bench chemist. Watch and learn from your managers.

7) Show interest in people. Help others succeed, especially those working for you.

I am not an expert in career development or human resources management. I just want to share what I've learned in my industry career in a spirit of helping others, especially the graduates from TTU. I hope these tips will be helpful to some in the future.



Last, but not least, I would like to talk briefly about my family. My wife, **Sueshun (Susan)**, also got her M.S. degree from the Chemistry Department at TTU in 1977. We have two sons, Ben (25) and Richard (20). Ben has graduated from medical school and is now a resident surgeon. Richard is a college junior. My wife and I enjoy antiques and fine art. I have enjoyed playing tennis over the past 25 years and have just started to pick up golf. During my career, I also had a chance to work and live in Japan for a number of years. During those years, we traveled a lot in North and Southeast Asia. My job also took me to European countries occasionally. My wife enjoyed traveling with me to Europe when she could. Spending time as a family was a highlight of our life.

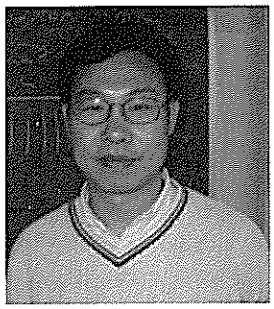
Twenty-seven years ago when I was at TTU, I never dreamed of becoming a technical manager with a big responsibility in industry. I was planning to return to Taiwan to teach. However, fate took me where I am and I am happy about what I am doing. I am always proud to be a Texas Tech graduate.

Who's "ν" (That's c/λ of course!) on the Faculty?

We are very pleased to announce the appointment of **Dr. Shaorong Liu** to a tenure-track position and **Dr. Gary Miracle** as a visiting faculty member.

Shaorong Liu

New in Analytical Division



Dr. Shaorong Liu joined the Department this Spring as an Associate Professor. He received his Ph.D. from Texas Tech University in 1995. Following that, he did postdoctoral study at Northeastern University in 1996 and at the University of California, Berkeley in 1997.

Dr. Liu's research interests include development of various chemical separation and analysis methods, integration of these methods into microfabricated devices, and application of these microfabricated devices for high-throughput and cost-effective bioanalysis. He is also interested in understanding the fundamental aspects of micro-fluidics and associated subjects.

Currently, the research of Dr. Liu's group is focused on microfabricated devices for high-speed and high-throughput analysis of DNA molecules. They have developed a microfabricated hybrid device that combines the best attributes of capillary and microchip components to achieve high speed molecular resolution of DNA sequencing fragments. This hybrid device consists of a microfabricated chip containing multiple twin-T injectors attached to an array of capillaries that serve as the separation channels. This hybrid design takes full advantage of the unique chip injection scheme while employing long straight capillaries for sequencing fragment separations.

The separation channel length is optimized for both speed and resolution since it is unconstrained by chip size. The next step is to integrate preparation of DNA sequencing samples into this hybrid device for automated sample preparation and sequencing separation.

Dr. Liu's group is becoming increasingly involved in the development of miniaturized instrumentation for automated multi-dimensional separations of protein molecules, while improving DNA analysis on microchip devices. Improving LIF detection and developing new detection schemes for microfabricated devices will certainly be a significant part of Dr. Liu's research as well.

Gary Miracle

Visiting Assistant Professor in Organic Division

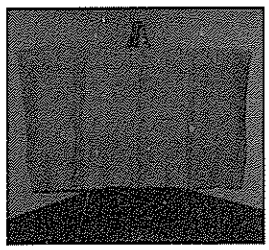
Dr. Gary Miracle joined the Department this Fall as a Visiting Assistant Professor. He received his Ph.D. from the University of Wisconsin-Madison in 1996. He has worked as a Research Assistant Professor at the University of South Carolina, a Visiting Assistant Professor at Colby College in Waterville, Maine, and a Visiting Assistant Research Professor at the University of Toledo.

Dr. Miracle's research interests include materials science and nanotechnology utilizing organic synthesis and computational chemistry. He has started to design and synthesize fullerenophiles – molecules that will experience noncovalent CH-p and NH-p interactions with the outer surfaces of fullerenes and carbon nanotubes that are more favorable than competitive interactions with the solvent molecules or with themselves. He's performed detailed computational studies of one series of fullerenophiles, and synthetic efforts are now well underway. These interactions are intended to alter the physical properties of fullerenes and carbon nanotubes in useful and predictable ways. He hopes to use fullerenophiles to dissolve carbon nanotubes in appropriate solvents, purify them, and release them in the form of thin aligned films, while recovering the fullerenophiles for reuse.

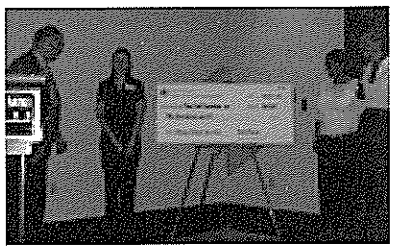
Robinson Endowment Surpasses $20,000

With the surprise gift of $300 from the ACS Student Affiliates, the Robinson Lecture Series Endowment surpassed the $20,000 mark. Additional donations have pushed the current total to $20,360. Contributions will be gratefully accepted at any time.

The inaugural Robinson Lecture was scheduled for March 2002, but was cancelled due to illness of speaker Dr. Richard Smalley. Plans are underway for the inaugural lecture to be held during the 2002-03 school year, with Dr. Rudolph Marcus of Caltech as the invited lecturer.



The Mystery Check (above) is a surprise gift of $300 to the Robinson Lecture Series Endowment from the ACS Student Affiliates. (Below) **Dr. Richard A. Bartsch** accepts the check from ACS-SA officers **Joanna Morton, Adlia Ebeid** and **Paula Simoni**. The presentation occurred during the ACS South Plains Section 2002 Awards Banquet.



Gift Acknowledgements

We express our appreciation for these gifts made to the Department:

$50 - $500

John Douglas Hudson, MD
Marque A. Hunter, MD
Byungki Son

We also gratefully acknowledge these donations to the Shine Lecture Series:

$50 - $500

Jiin Duey Cheng
Yuzuru Murata

The Third Henry J. Shine Lecture

Professors **Julius Rebek, Jr.** (left) and **Henry J. Shine**

Dr. Julius Rebek, Jr. of The Skaggs Institute for Chemical Biology, The Scripps Research Institute, presented the third **Henry J. Shine** Lecture. Entitled "Molecular Encapsulation", Dr. Rebek delivered the talk on December 3, 2001. This annual lecture series was endowed by students, colleagues and friends of Dr. Henry Shine and supplemented by a grant from the Plum Foundation.

Dr. Julius Rebek visits with (top photo) visitors from Midwestern State University, and (bottom photo, l to r) TTU organic professors **Guigen Li, John Marx, Allan Headley, Dick Bartsch, (Dr. Rebek), Bob Flowers** and **David Birney,** at the reception following the Henry Shine Lecture.

What's Been Going On? Staff Role Call

Jennifer Dunfield received the Top Techsan award during Homecoming 2001. **Vincent Wilde** has joined the departmental staff as the Analytical Instrumentation Specialist in the Electronics Shop. Vince, the son of former faculty member **Dick Wilde**, began work in May 2002. Master glass blower **Jim Stephens** left TTU in July to return home to West Virginia. **Kenneth Taylor** left the department in August.

In August, **Jane Bradley** retired after 20 years of faithful service to our department. And in September, **Kavin Morris** will become a Machinist here and **Karen Cantrell** will join the Gen Chem office as Secretary II/Undergraduate Advising Secretary.

The next time you're on the TTU campus, stop by and say "hi" to our current staff:

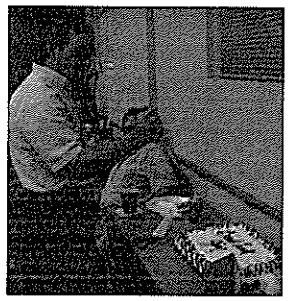
Justo Adame
Stores Supervisor
Cheryl Blasingame
Secretary III
Karen Cantrell
Secretary II
Kelly Diaz
Secretary II
Jennifer Dunfield
Administrative Secretary
James Hildebrand, Manager
Chemistry Building Operations
Duane Hinds
Technician IV
Priscilla Jones
Clerical Specialist II
Kathy Jones
Clerical Specialist III
Kavin Morris
Machinist
David Purkiss
Spectroscopy Technologist
Laquetta Purkiss
Technician III
Yesenia Sanchez
Business Manager
Noah Solis
Technician II
Jerry Walton
Technician IV
Vince Wilde
Analytical Instrumentation Specialist

Check Out Our NEW Web Page!
http://www.depts.ttu.edu/chemistry

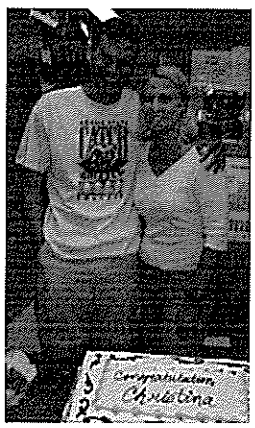
Departmental secretaries (l to r) **Kathy Jones, Cheryl Blasingame** and **Jennifer Dunfield.**

Gen Chem secretary **Jane Bradley** (center) attends the TTU Retirement Lunch with **Dick Bartsch** (l) and **Henry Shine.**

Administrative secretary **Jennifer Dunfield** receives the Top Techsan award from (l to r)TTU Ex-Student Association President Robert Dan "Heavy Cat" Thompson, Interim Chancellor Dr. David Smith, (Jennifer), and TTU President Dr. David Schmidly.



Master glass blower **Jim Stephens** attacks the cake at his good-bye party, as **David Purkiss** observes his technique. Jim has returned home to West Virginia and will be missed here.

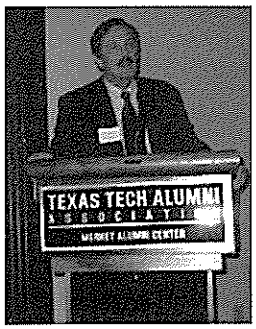


Kenneth Taylor (background) lends a helping hand to grad student **Chris Truitt** and stockroom student assistant **Christina McNeely** at her graduation party. Chris and Christina were married in September.

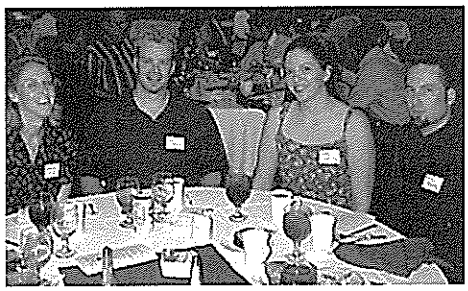
ACS South Plains Chapter
Wins 5th Consecutive National Award

The South Plains Chapter of the American Chemical Society has been awarded it's 5th consecutive national award. They received a first-place ChemLuminary Award in the "Best National Chemistry Week Contest" category. The winner was announced during the 222nd ACS National Meeting in Chicago in August 2001. The South Plains Chapter has now won three Phoenix Awards and two ChemLuminary Awards. Congratulations!

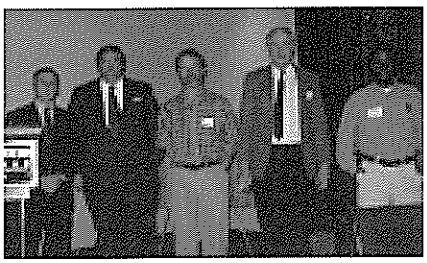
At the 2001 Meeting of the Steering Committee of the Southwest Region of the ACS, Texas Tech was unanimously voted to host the 2006 Regional Meeting.



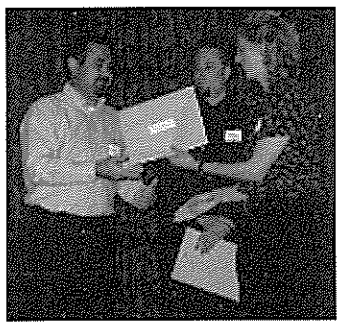
Dr. Jerry D. Spencer, Professor of Pathology and Director of the Forensic Pathology Division, TTUHSC, and Chief Medical Examiner for Lubbock County, was the featured lecturer at the 2002 Awards Banquet.



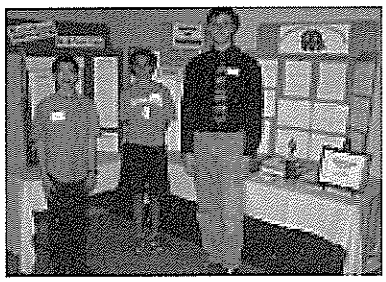
Dr. Rebecca Miller, Dr. Bob Flowers, Mari Knettle, and **Brian Knettle** visit at the ACS South Plains Section 2002 Awards Banquet.



ACS South Plains Chapter 2001-02 officers (l to r) Chair **Steve Tomlinson** (TTU), Chair-elect **Robert Long** (ENMU), 2002-03 Chair-elect **Newton Hilliard** (ENMU); Awards Committee Chair **John Marx** (TTU), and **Alfonse Walker** of Celanese Chemicals.

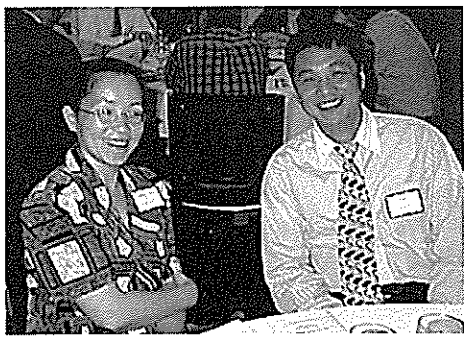


(l to r) Outstanding General Chem TA's **Yusuf Tutar** (Spring 2002) and **Brian Knettle** (Fall 2001) receive their awards from Gen Chem Coordinator **Dr. Rebecca Miller**.



(l to r) 2002 South Plains Regional Science Fair Winners: **Richmond Lee** (elementary winner - project "Rainbow in a Test Tube"), **Katie Meador** (junior winner - project "Solutions and Surface"), and **Greg Gellene** (senior winner - project "This Greenhouse Gas Is No Laughing Matter"). Greg's poster also won 3rd place in the chemistry category of the Texas Science and Engineering Fair, held in Arlington in April.

Dr. **Dom Casadonte** and students, sporting multicolored hair, ask the question, "Chemistry: Is it Art or is it Science?" during National Chemistry Week 2001. Their effort was highlighted in a C&E News article and this photo nominated for the Best NCW 2001 Photo.



Dr. Jesse Yeh (r) and his wife **Cheng-chih Hsieh** have a good time at the 2002 Awards Banquet. Dr. Yeh received his PhD from TTU in 1987 and is currently Professor and Chemistry Coordinator at South Plains College in Levelland, Texas. He also teaches Gen Chem at TTU during the summer.

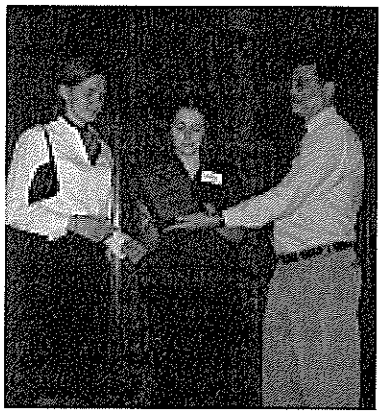
(l to r) Departmental scholarship recipients **Joanna Morton, Christopher Longbine, April Nesbit,** and **Katrina Petney**.

ACS South Plains Chapter/ACS-SA

ACS-SA Officers 2001-2002
President: **Martin Youngs**
Vice-President: **Colby Brazile**
Treasurer: **Paula Simoni**
Secretary: **Joanna Morton**
Activities Coordinator: **Adlia Edeib**
Historian: **Emilia Arguella**

ACS-SA Officers 2002-2003
President: **Joanna Morton**
Vice-President: **Colby Brazile**
Treasurer: **Nisha Patel**
Secretary: **Casey Gatzki**
Activities Coordinator: **Heidi Word**
Historian: **Emilia Arguello**

Officers from the Texas Tech ACS Student Affiliate group accepted the ACS *Award in Recognition of Outstanding Achievements for 2000-2001* at the 223rd ACS National Meeting in Orlando, Florida in April 2002. This is the highest annual ranking given by the American Chemical Society to only 24 chapters nationwide! This is the fourth consecutive year our ACS-SA has achieved national recognition for their efforts promoting chemistry and chemical education.



ACS-SA Advisor **Dr. Greg Gellene** (r), and officers **Paula Simoni** and **Joanna Morton** show off the ACS *Award in Recognition of Outstanding Achievements for 2000-2001.*

ACS-SA Web Page:
http://www.orgs.ttu.edu/americanchemicalsociety
and email address:
ttu_acs_sa@hotmail.com

Scholarships and Awards

Support of our scholarship programs by Phillips Petroleum Company continues to allow us to recognize, reward and encourage our outstanding undergraduate students. In addition, scholarship funds are available from the interest generated by endowments established many years ago by **Dr. and Mrs. Joe Dennis** and by **Dr. Robert C. Goodwin**. These scholarships are awarded at the annual Chemistry and Biochemistry Awards Banquet, co-sponsored by the South Plains Section of the ACS.

Jeanette and Joe Dennis Scholarship
April Nesbit

Robert C. Goodwin Scholarships
Christopher Longbine
Bruce McHam
Joanna Morton
Katrina Petney
Erin Sliter

Phillips Petroleum Scholarship
Colton Street

Outstanding General Chem TA
Brian Knettle (Fall 2001)
Yusuf Tutar (Spring 2002)

Graduate Students Win Poster Competition

Danny Chang, doctoral student in Professor Greg Gellene's research group, won best poster for his presentation *First Principles Simulation of the Photoelectron Spectra of LiH-* at the 18th Southwest Theoretical Chemistry Conference in El Paso in October 2001.

Tom Baker, also a graduate student of Professor Gellene's, was first runner-up with his presentation *Classical and Quasi-classical Trajectory Calculations of Ozone Isotopomer Formation and Exchange in O+O₂ Collisions.*

They competed against a field of graduate students and post-doctoral associates drawn from the four-state region of Texas, New Mexico, Oklahoma, and Louisiana.

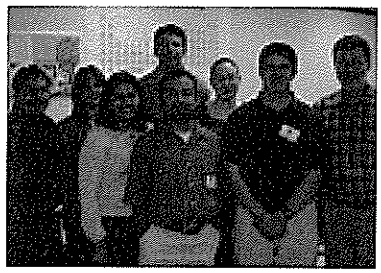
Advising Update

Dr. Bob Holwerda, Undergraduate Advisor, reports at the end of the Spring 2002 semester we had 102 biochemistry majors and 57 chemistry majors. In June 2002 Bob stepped down and Gen Chem Coordinator **Dr. Rebecca Miller** assumed the duties of Undergraduate Advisor.

The Undergraduate Advising Office congratulates these students for receiving College of Arts & Sciences scholarships ranging from $1,000 to $3,500: **Heather Meeks, Nicholas Miersma** and **Katrina Petney.**

Dr. Greg Gellene, Graduate Advisor, reports the department currently has 15 MS students and 44 PhD students. Eighteen new graduate students entered the department in Fall 2001, five in Spring 2001 and we have admitted 31 new students for Fall 2002.

Dr. Gellene also reports the prestigious Chancellor's Fellowship was awarded to new student **Cody Timmons**, who will begin his graduate studies in Fall 2002. **Dianjun Chen, Kyu Mee Kim** and **Henry Charles Manning** continue their graduate studies as Chancellor's Fellows. In addition, eight new Fall 2002 students will receive Research Assistantships from the Graduate School -- **Ben Backlund, Andrea Bentley, Cody Cleavelin, Katheryn Gilbreth, Catherine Ho, Jeremy Mason, David Snow** and **Cody Timmons.** (Cleavelin, Mason, and Snow are TTU alumni.)



(top) Graduate recruiting efforts brought prospective students to TTU from the University of Texas at El Paso to hear the Welch Lecture in April 2002.
(bottom) Visiting students get to know current students and professors during the 3rd Graduate Recruiting Weekend, held March 22-24, 2002.

Faculty News and Notes

DICK BARTSCH spent one week in Zabrze, Poland, during June 2001, working with Dr. Krystyna Brandt in the Institute of Polymer Chemistry of the Polish Academy of Sciences with support from a collaborative grant from the Maria Sklodowska-Curie Fund II.

In May of 2002, Dick served as a member of the External Review Team for the Nuclear Materials Technology Division at Los Alamos National Laboratory. At the May 2002 Commencement for Texas Tech University, he hooded his 39th doctoral student, **Dr. Sergei Dzyuba**.

Dick continues to serve as a member of the Editorial Advisory Board for the "Journal of Inclusion Phenomena and Macrocyclic Chemistry" and accepted an invitation to become an Editorial Board Member for "Solvent Extraction and Ion Exchange."

Again for the summer of 2002, **Mrs. Sonja Crowell**, a chemistry teacher at Lubbock High School, is conducting research on ionic liquids in the Bartsch research laboratories with sponsorship from the Texas Higher Education Coordination Board-Advanced Research Program.

Dick was appointed by the Dean of the College of Arts and Sciences at Texas Tech University to serve as Chair of the Department of Chemistry and Biochemistry for three more years.

He gave these talks this year:

* The 6th International Conference on Calixarenes in Enschede, The Netherlands, June 2001: *Calix[4]arene Mono(N-X-sulfonyl Carboxamides): Synthesis and Alkali Metal Cation Extraction* and *Conformational Effects on Selectivity and Efficeincy of Metal Ion Extraction by Calix[4]arenedicarboxylic Acids.*
* 2002 International Symposium on Macrocyclic Chemistry in Park City, Utah, June 2002: *Di-ionizable Calix[4]arenes and Mono-ionizable Calix[4]arene-bis (crown ethers) for Metal Ion Separations.*

Chairman Dick Bartsch (r), visits with former student **Paul Hipes** (BS 1981).

DAVID BIRNEY received the Professing Excellence Award, given by the Success Center and the Department of Residence Life, Texas Tech University. He was one of 15 recipients of this award campus-wide in its inaugural year. This award recognizes "faculty members who, by their interaction with students, have upheld a standard of excellence in education". He was also selected as one of the 2001 Outstanding Faculty Members at Texas Tech by Mortar Board and Omicron Delta Kappa.

David will give an invited talk entitled *Sequential Transition States andValley-Ridge Inflections in Organic Reactions* at the 2002 International Conference on Reactive Intermediates and Reaction Mechanisms, Centro Stefano Franscini, Ascona, Switzerland in July. This year, he receieved a grant entitled *Incorporation of Parallel, Combinatorial and Solid Phase Organic Synthesis in the Undergraduate Organic Chemistry Laboratory* from the Camille and Henry Dreyfus Foundation, Inc.

Erika Wrage, the TTU Success Team Leader, presents the Professing Excellence Award to **David Birney**.

BOB BLAKE chaired a symposium entitled *New Directions in Non-Traditional Instruction* at the 223rd National Meeting of the American Chemical Society in Orlando, Florida and also presented a paper entitled *LearnStar: Bringing Fun Learning From an Entertainment Venue to the Classroom.*

Professors **Bob Blake** (l) and **Bob Holwerda** enjoy dinner during the ACS South Plains Section 2002 Awards Banquet.

DARRYL BORNHOP was promoted to Professor, effective in Fall of 2002. He gave these talks this year:

* Imaging in 2020 II Conference: *Lanthanide Chelates: Multipurpose Probes for Biomedical Imaging*
* 57th Southwest Regional Meeting of the American Chemical Society, San Antonio: *Micro Interferometry for On-chip Nanosensing*
* Oak Ridge National Laboratory: *Biomedical Engineering a New Brain Cancer Treatment*
* University of Washington, Seattle: *Two Topics in Biochemical Analysis: Chip Scale Interferometry and Lanthanide Chelates for Medical Imaging*
  DOE, Washington D.C.: *Probe Developmments to the Post Genomic Era*
* Effective Drug Discovery Conference, Philadelphia: chaired session and give invited talk, *Hydrodynamic Microflow for Cell Pattering*
* Montreal, Canada: gave an invited presentation on label free protein binding assays at HPLC 2002 (High Performance Liquid Chromatography); gave invited talk at Advanced Research Technology Inc.
* Small Talk 2002, San Diego: invited talk *Nanosensing By Microinterferometry*

DOM CASADONTE was awarded the Chancellor's Council Distinguished Teaching Award in December 2001. This is the first award of this type given to recognize outstanding teaching for the entire Texas Tech University System. The award came with a $10,000 cash prize.

Dom gave these talks this year:

* 57th Southwest Regional Meeting of the American Chemical Society, San Antonio: *Service Learning as a Tool to Teach Introductory Chemistry to Non-Sciences Major*
* Southwest Speakers Exchange, University of Texas at El Paso: *Environmental Remediation Using High-Intensity Ultrasound*
* University of Texas at El Paso: *Sonochemical Remediation of Environmental Contaminants*
* Case Western Reserve University: *Environmental and Materials Sonochemistry*

New grants funded include:

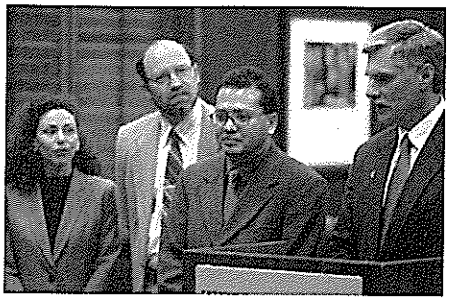
* *Enhanced Degradation of Environmental Contaminants Using Pulsed and Heterodyne Sonochemistry,* Advanced Technology Program, Texas Higher Education Coordinating Board. $149,501 for January 2002 - August 2004.

(continued)

Faculty News and Notes continued ...

DOM CASADONTE (continued)

* *Enhanced Sonochemical Efficiency Using Power-Modulated Pulsed and Heterodyne Ultrasound,* Petroleum Research Fund. $80,000 for June 2002- August 2004.
* *Sonochemical Synthesis of Polysilyne Materials, Phase II,* Sandia National Labs, $24, 950 for February 2002 - August 2002.



Dr. David Smith (r), TTU Interim Chancellor, presents Chancellor's Council Distinguished Teaching and Research Awards to (l to r) Professors Sybil Hart (Human Development and Family Studies), **Dominick Casadonte** (Chemistry and Biochemistry), and Raul Martinez-Zaguilan (Physiology-TTUHSC). *(photograph from Lubbock Avalanche-Journal)*

SANDY DASGUPTA was appointed by Texas Governor **Rick Perry** to serve on the Texas Council of Environmental Science and Technology and on the Texas Emissions Reduction Plan Advisory Board.

Sandy gave these talks this year:

* International Ion Chromatography Symposium (IICS) 2001 in Oakbrook, Illinois: *Measurement of Ammonia by Ion Chromatography*
* Encontro Nacional Quimica Analitica (ENQA) XI, Campinas BRAZIL; Universidade Estadual Paulista at Arraquara, Arraquara BRAZIL; Centro de Energia, Nuclear e Argicultura (CENA), Piracicaba BRAZIL: *Fishing Lines, LEDs and Waveguides: A Complete Recipe of Macrofun with Microanalysis*
* Washington, D.C.: *An Automated Endotoxin Analyzer*
* Trinity University, San Antonio: *Misadventures of an Analytical Chemist*
* The Center for Process Analytical Chemistry, Seattle: *Progress in Moisture Sensors*

BOB FLOWERS gave these talks this year:

* Appalachian State University: *Mechanistic Study of Sm(II) Reagents*

(continued)

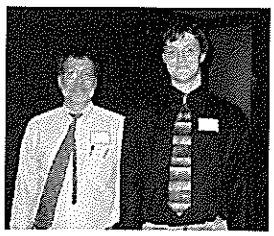
BOB FLOWERS (continued)

* Pfizer, Inc., Ann Arbor, Michigan: *Renaturation of Proteins Using Small Molecule Chaperones. A Novel Strategy for Protein Refolding and Renaturation.and Mechanistic Studies Directed Towards Controlling the Rate and Stereoselectivity of Sm(II) Promoted Radical Reactions*

The Flowers Research Group (clockwise from upper left) **Dr. Rebecca Miller, Professor Bob Flowers, Dr. Prasad Edamana, Xiangyi Liu, Pramad Chapode, Dr. Myeongseob Kim, Yang Zhang, Todd Davis,** and **Brian Knettle.**

GREG GELLENE gave these talks this year:

* Southwest Theoretical Chemistry Conference, El Paso: *First Principle Determination of the Bound States of Li^-/H_2*
* Southwest Speakers Exchange: University of North Texas: *Dynamics of Ozone formation: Insight into Isotopic Anomolies*
* Ionic and Neutral Cluster Gordon Research Conference: *First Principles Determination of the Bound Levels of $Li^-(H2)$*
* Pacific Northwest National Labs: *Sigma Bond Activation by Cooperative Interaction with ns^2 Atoms* and *Simple Theoretical Models*
* Gordon Conference on Isotopes in Biological and Chemical Sciences: *Classical and quasi-classical Trajectory Calculations of Ozone Formation*



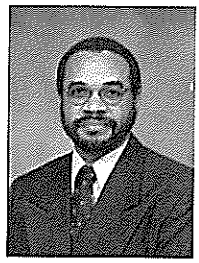
Dr. Greg Gellene (l) and his son Greg at the 2002 Awards Banquet. The younger (and taller!) Greg has won the South Plains Regional Science Fair Senior Division the past two years.

JIM HARMAN gave this talk:

* 1st Eurasian Congress on Molecular Biotechnology: *Amino Acid Substitution at Position 99 Affects CRP Subunit Stability*

ALLAN HEADLEY was promoted to Professor, effective in Fall of 2002. Allan is currently on leave from TTU for a year while serving as a program officer at the National Science Foundation, Division of Graduate Education.

Dr. Allan D. Headley.



BOB HOLWERDA gave this talk:

* Dayton, Ohio: presented a paper on behalf of Trouw Nutrition USA, *Applications of Chelated Trace Minerals in Pet Foods*

DAVID KNAFF presented two papers at the International Congress on Photosynthesis Research, in Brisbane Australia in August 2001.

During Spring 2002 semester, he was on Development Leave, serving as a Distinguished Visiting Professor of Plant Physiology at the University of Paris. He gave two seminars in Paris, one at the University of Granada (Spain), one at the Ruhr University (Bochum, Germany), two in Holland (University of Leiden and the Free University of Amsterdam) and two in Switzerland (University of Neuchatel and University of Geneva). He also gave two seminars in England (Essex University and University College, London).

The new TTU/TTUHSC Biotechnology MS Program, for which David serves as co-director, completed its first year with 13 students enrolled. Starting Fall 2002, he will also serve as co-director for a new MS/JD degree program, which will allow TTU students to obtain a Biotechnology MS and a Law JD in 4 years.

His new grants include:

* *Ferredoxin-Linked Metabolic Pathways in Plants*, U.S. Department of Energy, $285,000, September 2002-September 2005.
* *Mechanisms of Protein Disulfide/Dithiol Redox Reactions*, The Welch Foundation, $150,000, June 2002 - May 2005.

David also gave these U.S. talks this year:

* 11th Western Region Photosynthesis Meeting: *Early Steps in Plant Sulfate Assimilation*
* Arizona State University; University of California, Irvine; University of California, Berkeley: *Plant Sulfae Assimilation*

(faculty news continued on page 12)

Faculty News and Notes continued ...

CAROL KORZENIEWSKI participated in an Office of Naval Research Electrochemistry Program Review: *Surface Electrochemistriy of Catalytic Reactions at 25-28°C.* She also gave these talks this year:

* Potter's Lodge Meeting in Albany, New York: *The Surface Electrochemistry of Small Molecules That Serve as Fuel Cell Reactants and Intermediates*
* American Vacuum Society: *The Surface Electrochemistry of CO and Methanol on Solid Electrodes and Supported Catalysts*
* University of Texas at Dallas: *Strategies for Investigating the Surface Electrochemistry of Methanol and Related small Molecules That Serve as Fuel Cell Reactants and Intermediates*
* Gordon Conference on Electrochemistry: *Strategies for Probing Competing Reaction pathways of Methanol and Related Small Molecules on Fuel Cell Catalysts*
* University of California-Irvine: *Vibrational Coupling as a Probe of Adsorption and Reactivity at Electrode Surfaces*
* Pittsburgh Conference on Analytical Chemistry: *Understanding Long Transient Evolution Times in Potential Step Measurements Involving CO Monolayer Oxidation on Pt;* and *An Ex Situ Infrared Method for the Quantification of CO_2 Produced During Elecrochemical Oxidation Reactions of Formic Acid and Methanol in Microliter Reactions Volumes*
* Leadership Workshop, Committee for the Advancement of Women Chemists, Orlando; *Probing Pathways in the Electrochemical Oxidation of Methanol on Bulk Alloys and Nanometer-Scale Metal Particles in the Symposium on Electrocatalysis and Fuel Cells.*

GUIGEN LI was promoted to Associate Professor, effective in Fall of 2002. Guigen gave these talks this year:

* Texas Christian University and Baylor University (Southwest Speakers Exchange): *New Amino-halogenation and Diamination Reactions*
* University of Iowa: *Biologically Important Aminohalogenation and Diamination Reactions*

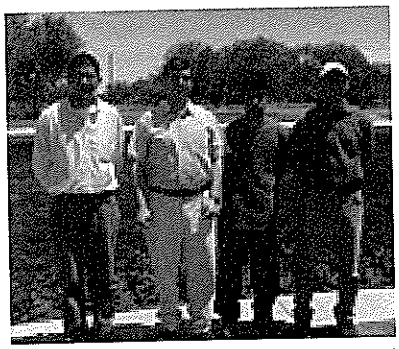
SHAORONG LIU will present experimental results at the 4th Asia-Pacific International Symposium on Microscale Separations and Analysis in October 2002 in Shanghai, China.

JORGE MORALES gave this talk this year:

* National ACS Meeting, Chicago, Illinois, August 2001: *'Classical' Charge-Transfer Models For Hybrid Quantum/Classical Dynamics: A Wavefunction Approach.*

Recent grants Jorge has received:

* *Quantum/Classical Charge-Transfer Models for Biochemical Simulations: A Valence Bond Approach,* The Welch Foundation, $150,000, 2002-2005.
* *Valence Bond Quantum/Classical Theory for Charge Transfer Processes,* TTU Research Enhancement Fund, $5,000



The Morales Research Group, (l to r) **Faraz Ahmed Rizvi, Professor Jorge Morales, Srirangan Addepalli,** and **Manish Kumar.**

DAVID NES gave these talks this year:

* Oxford University, England: *Rational Drug Design of Ergosterol Synthesis*
* Institute of Biological Chemistry, Washington State University: *Biosynthesis of Sterols*
* University of Central Florida: *Enzyme targets in Sterol Biosynthesis for Rational Drug Design*
* University of Missouri at Rolla: *Genetic-Engineering of Plants for Value-Added Traits*
* University of Nevada-Reno, *Biochemistry of Sterols*
* Montreal, Canada: chaired BIO 4 at 93rd American Oil Chemists' Society, Recent Advances in Steroid Research I and presented *Enzymatic C-Methylation Reactions in Sterol Synthesis.*

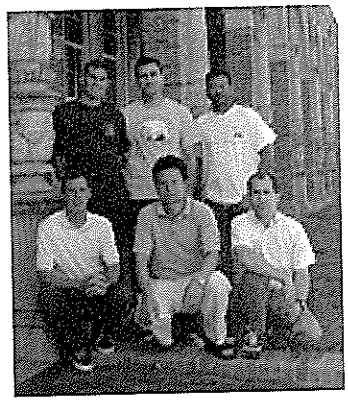
PAUL PARÉ has been awarded an ACS Frasch Foundation Grant for research in agricultural chemistry, one of only 17 grants given for the July 2002-July 2007 cycle. Paul will receive $200,000 for his research project *Binding of the Insect Elicitor Volicitin to its Receptor: Initiation of VOS Emissions in Corn Plants.*

(continued)

PAUL PARÉ (continued)

He gave these talks this year:

* American Society Horticultural Sciences: *Volatile Emissions from Onion Plants Exposed to Elevated Carbon Dioxide*
* The Durmishidze Institute of Biochemistry and Biotechnology, Academy of Sciences of Georgia: *The Role of Volatile Chemicals in Plant Defense* and *A Unified Mechanism for Quercetin Radical Scavenging.*
* Baylor University, Waco: *Chemical Signals in Plant Defense*



The Paré Research Group (clockwise from upper left) **Christopher Truitt, Mohamed Farag, Dr. Venkatakrishnan Krishnamachari, Dr. Richard Jasoni, Dr. Hanxun Wei,** and **Professor Paul Paré.**

BILL POIRIER has been invited to attend a CECAM Workshop on Quantum Dynamics in Lyon, France, in September 2002. He was appointed Joint Professor in the Department of Physics at TTU in December 2001.

His new grants include:

* *Using Symmetrized Orthogonal Wavelets to Customize Quantum Dynamics Calculations of Atomic Nuclei in Molecules,* Research Corporation, Research Innovation Award, $35,000
* *New Methodologies for Accurate Quantum Dynamics Calculations of the Dynamics of Atomic Nuclei,* The Welch Foundation, $150,000
* *Accurate Dynamics Calculations for Atomic Nuclei in Molecular Systems, Using New Theoretical Techniques,* Petroleum Research Fund, $25,000

In addition, Bill gave this talk:

* Southwest Theoretical Chemistry Conference, El Paso, Texas: *Accurate Rovibrational Spectroscopy Calculations Using Semiclassical Basis Optimization.*

Faculty News and Notes continued ...

DICK REDINGTON gave these talks:

* Gordon Research Conference: *Isotopes in Biological and Chemical Sciences*
* Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory: *High Resolution Infrared Spectroscopy*, an invited lecture.

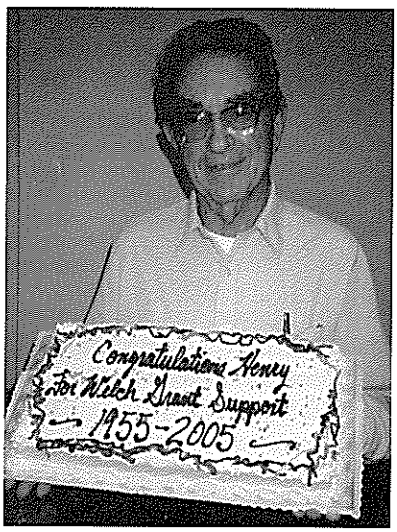
AKBAR SALAM gave these talks this year:

* Southwest Theoretical Chemistry Conference, El Paso, Texas: *The Conformational Equilibrium of n-pentane: A High-Level Computational Study*
* Loyola University: *Recent Theoretical Studies of Semi-Classical Radiation-Matter Interaction*

DENNIS SHELLY attended the 98th Annual Meeting of the American Leather Chemists Association in Skytop, PA, where he chaired a technical session and presented a paper entitled *Thermomechanical Analysis of Wet Blue Leather.*

HENRY SHINE's Welch grant was renewed this year, which means that in 2005 he will have had 50 years of continuous research funding from The Robert A. Welch Foundation.

In July 2002, Henry attended the European Union of Chemistry (EUCHEM) conference on Organic Free Radicals held at York University, England.



Henry Shine celebrates 50 years of continous research funding from The Welch Foundation.

Song Dissertation Award Given to Steven Tomlinson

The Song Dissertation Award, established by Professor **Pill Soon Song** when he left our department to become chairman of the Department of Chemistry at the University of Nebraska, honors the graduate student who submits the best doctoral dissertation in Texas Tech's Department of Chemistry and Biochemistry in a given calendar year. The winner of the 2002 Song Dissertation Award was **Dr. Steven R. Tomlinson** for his dissertation entitled *cAMP Mediated Effects on CRP Subunit Interactions*, completed under the supervision of **Dr. James Harman**. The award included a check for $650. Dr. Tomlinson is currently at an Instructor in the General Chem program here at Texas Tech, and he also serves as TTU's Coordinator for the Welch Summer Scholar Program.

ARCS Scholars Named

In November 2001, graduate students **Jason Montgomery** and **Mitchel Cottenoir** and undergraduate student **Jennifer Lacina** received scholarships from the Lubbock Achievement Rewards for College Scientists Chapter. ARCS is a woman-run philanthropic organization, started in the aftermath of the Soviet launching of Sputnik, with the goal of reestablishing US technological superiority. They give financial awards nationwide to college students majoring in science and engineering. Last year, ARCS awarded $4 million to 400 scholars at 40 schools. Recipients must have a university grade point average of 3.5 or above, and must be recommended by their departments, which are in the scientific and technical disciplines.

Jason works for **Dr. Bill Poirier**, while Mitchel and Jennifer are in **Dr. Bob Shaw's** research group.

Mitchel Cottenoir researches enzymes that can provide antibiotic resistance to bacteria. which could be a step toward inhibiting such enzymes.

(photo from Lubbock Avalanche-Journal)

Transition States Deaths

DR. JOE DENNIS, former Department Head, died Monday, October 15, 2001. Dr. Dennis was born December 5, 1911, in Sherman, Texas where he attended public schools and married Jeanette Wallis on August 25, 1935. He received a bachelor's degree from Austin College in 1933, a master's degree from the University of Texas Medical Branch in 1937 and a doctorate from the University of Texas in 1942. He also received an honorary doctorate of science from Austin College in 1965. He taught in the University of Texas Medical Branch from 1934 to 1938.

Dr. Dennis was a member of the faculty at Texas Tech from 1938 to 1976, serving as Head of the Department of Chemistry from 1950 to 1969. He was Emeritus Professor of chemistry from 1976 until his death. During his tenure at Tech, he was the Premedical Adviser from 1945 to 1953 and a member of the Premedical Advisory Committee from 1953 to 1976.

He was a member of the American Chemical Society for more than 55 years, a Fellow of the American Association for the Advancement of Science, a member of Phi Kappa Phi and Sigma Xi and a lifetime honorary member of Alpha Epsilon Delta. He was listed in Who's Who in America.

Dr. Dennis was a lapidary after retirement and a member of the Lubbock Gem and Mineral Society. He had been a resident of Lubbock for 62 years and moved to Kerrville in May 2000. He served as deacon and elder at First Presbyterian Church of Lubbock and Cumberland Presbyterian Church of Lubbock. He was a member of the First Presbyterian Church in Kerrville. He was buried at Fairview Cemetery in Denison, Texas.

Survivors include his wife; three daughters, Nancy Wilbourn of Kerrville, Linda Price of Tacoma, Wash., and Susie Robbins of San Antonio; six grandchildren; and six great-grandchildren.

A tribute to his work in the Department is the feature article on page one of this issue of the *TestTube*.

The family suggests memorials to the **Jeanette and Joe Dennis Scholarship Endowment**, Texas Tech Foundation, P.O. Box 45025, Lubbock, TX 79409.

Products in High Yield
Alumni News

BIJAN AMIRI-ELIASI (PhD Bartsch 2000) has a new job as Senior Chemist at Uniroyal Chemical (part of Cromption Corporation) in Middlebury, Connecticut. He is the chief mass spectroscopist in the Registration Chemistry Section of Crop Protection R&D.

DAVID BABB (BS 1982, PhD Bartsch 1985) is a Technical Leader for Polyurethanes R&D with The Dow Chemical Company in Freeport, Texas.

CHERYL BAKER (PhD Harman 1999) sent this update: "I have officially moved to Boston and now I am an instructor in the Department of Surgery at Children's Hospital, Boston. I will be given a faculty position in about 6 months. I also have a joint appointment with the Genetics Department at Harvard. I will be working with Dr. Judah Folkman and Dr. Richard Mulligan and their labs. It is soooo exciting for me because I will be using the orthotopic murine models I have developed and learned in Dr. Fidler's lab, as well as going back to my molecular biology roots to work on gene therapy. I will be using viruses (AAV, Lenti, etc.) to shuttle the genes/soluble proteins, drugs I deem necessary for a particular target."

CARRIE BATES (BS 1999, MS Bartsch 2002) joined the Department of Environmental Health Sciences at Tulane University as a Laboratory Research Technician after graduating from TTU in May.

EARL R. BEAVER (PhD Draper 1970) retired from Monsanto in 1999 and is now the Chief Technical Officer at BRIDGES to Sustainability in Houston.

FRANKIE GENEVA BOYD (BS 1955) emailed, "I received an MS in Chemistry from St. Mary's University in San Antonio, Texas in 1968 and then a JD from St. Mary's in 1975. I am currently self-employed in the practice of law in San Antonio. My business address is P.O. Box 3057, Universal City, Texas 78148. My FAX No. is 1-888-453-0576. My e-mail address is lawchem@prodigy.net."

HAROLD M. BRANNON (BS 1953) was named a Texas Tech University Ex-Students Association Distinguished Alumni in 2001. He received his medical degree from the University of Texas Medical Branch in

(continued)

HAROLD M. BRANNON (continued)
Galveston and is currently a radiologist in San Antonio. He is president of the South Texas Radiology Group and on the advisory board of Frost Bank. Dr. Brannon has served on the advisory boards to the University of Texas Medical School in San Antonio and Blue Cross/Blue Shield of Texas. He chaired TTU's Horizon Campaign for San Antonio and a member of the Texas Tech Spur Society. He has also received the Ex-Students

MARTY CAMPBELL (PhD Bartsch 1999) has completed his first year as Assistant Professor in the Department of Chemistry at Henderson State University in Arkadelphia, Arkansas. Marty and his wife, Janee, are foster parents of two girls (ages 2 and 4) whom they are adopting.

DAWN CHITTY (PhD Walkup 1996) is a Regulatory Writer for Merck and Company at Rahway, New Jersey.

CHUL HEE CHO (PhD Robinson 1997) is an Assistant Research Professor of Chemistry at Sung Kyun Kwan University, Suwon, Korea.

SANGKI CHUN (PhD Bartsch 2002) is a Postdoctoral Research Associate in the Department of Chemistry at Purdue University.

CONNIE DUNN (MS Dasgupta 1992, PhD Bartsch 1995) has a new position as Technical Director for PharmChem, Inc. in North Richland Hills, Texas.

SADIK ELSHANI (Postdoc Bartsch 1997-2000) is a Senior Research Chemist with Chemo Dynamics in Sayreville, New Jersey.

NAZAR ELKARIM (PhD Bartsch 1999) has established himself as Analytical Chemist for Northern Lipids, Inc. in Vancouver, British Columbia. He went to Sudan last year and returned with his wife, Marwa.

JAMIE HABERER (BS 1999) graduated in May, 2002 with a Masters Degree from the Marine Science Institute of the University of Texas at Austin. She developed an HPLC method to determine soluble reactive phosphate down to 1 nM, utilizing sample volumes of 1 mL to 10 µL without having to preconcentrate or extract phosphate.

ROBERT (ROB) HANES (BS 1994, PhD Bartsch 1999) has joined Halliburton Energy Systems in Duncan, Oklahoma as Senior Scientist-Chemist.

DAVID E. HARWELL (PhD Mills 1993) is the Manager for the Office of Community Activities of the American Chemical Society in Washington, DC.

PAUL HIPES (BS 1981) is Director of Horizon Asset Ltd. in London.

HUI (CAROL) HU (MS Bartsch 2001) joined DuPont Pharmaceutical Co. in North Billerica, Massachusetts as a Staff Scientist following her graduation last August.

SHERYL IVY (BA 1993, MS Bartsch 1996) has been promoted to Senior Research Associate at Discovery Partners International in Tucson, Arizona.

RUSSELL (RUSS) JOHNSON (MS Bartsch 1999) has been promoted to Senior Research Associate at Discovery Partners International in Tucson, Arizona.

RICHARD ALAN KEMP (BS 1978) submitted this info from our website: "I have recently left 20 years in the chemical industry in Houston (Shell, Union Carbide) and taken up residence in Albuquerque, NM, where I am employed half-time by the University of New Mexico as a Professor of Chemistry, and half-time by Sandia National Laboratories as a member of the technical staff. Actually, it is more like three-quarters time each! My research interests are still in catalysis, main group chemistry, and the synthesis of new materials. I hope to be able to interact again with friends in the Chemistry Department at Texas Tech, such as **Max Roundhill**, **Bob Holwerda**, and **Bruce Whittlesey**."

JUN LI (PhD Knaff 2001) is currently a post-doctoral research fellow in the Department of Biochemistry at the UT HSC Southwestern Medical Center in Dallas.

JAMES C. MCGRAW (BA 1955) is Clinical Professor of Endodontics at the University of Washington in Bellvue. He serves on the Board of Directors for Woodlands Park Zoo, where he also volunteers his time and skill to help treat hundreds of animals. He has performed root canals on such animals as an endangered snow leopard and a patas monkey. Many veterinary dental instruments were pioneered at Woodland Park Zoo, in conjunction with Boeing and other area

(continued)

Alumni News Continued ...

JAMES C. MCGRAW (continued)
high-tech companies. Dr. McGraw's volunteer work at WPZ was profiled in the cover story of the Fall 2001 issue of "@thezoo" magazine published by WPZ.

Dr. McGraw writes, "When I was a student and Chem major at Texas Tech, I worked 8 hours per day (3-11 p.m.), 7 days a week, year in and year out, as an Emergency Room Tech at Methodist Hospital! So, I really had to scramble to get my labs in, study, classes, etc. (as I had to pay my own way). My father, John C. McGraw, was getting his PhD in History at the same time at Texas Tech. He used to leave me notes, 'Dear son, please send money, love, Dad'. He went on to Chair History at Hardin-Simmons University.

I have been fortunate to receive all the singular awards and honors my profession and speciality affords. Thanks TTU!"

S. DERREK NICHOLS (BS 1995, MS Nes 1998) writes that after receiving his MS from Tech, he was commissioned into the U.S. Air Force. In February 2002 he married Stephanie Carter, also a Texas Tech Alumnus. In May he graduated from The University of Texas Medical Branch at Galveston with his MD, and will pursue a residency in surgery (site undetermined), after which he will serve his country in the USAF Medical Corps.

CHUNKYUNG PARK (PhD Bartsch 2001) has been a Postdoctoral Associate in the College of Pharmacy at the University of Minnesota in Minneapolis since his graduation from TTU.

MICHAEL (MIKE) PUGIA (PhD Bartsch 1986) is Senior Manager, New Products for the Diagnostic Business Group of Bayer Corporation in Elkhart, Indiana. Their latest new products include CLINITE Micro-albumin, Microalbustix and MULTISTIX PRO brands. These urinalysis strips are for professional use in near-patient (point-of-care) and centralized laboratory locations and are intented for use in at-risk patient groups to assist diagnosis in kidney function, carbohydrate metabolism (e.g., diabetes mellitus), urinary tract infections and liver function.

AARON SETTERDAHL (PhD Knaff 2001) is currently a post-doctoral research fellow in the Institute for Protein Science, University of Osaka, Japan.

ROBERT J. SMALL (MS Shine1964) is employed as CMP Technical Director of EKC Technology, Inc., in Hayward, California. He says, "Dr. Shine was a big influence on my developing chemical career. He taught me fundamental ideas about how to approach a research project. My career was fairly straight forward when I left TTU. I received a PhD from University of Arizona and spent the next ~25 years doing process development work in the traditional chemical industry (Celanese, Ashland, Ciba Geigy, etc.).

For the past 8 years I have been involved in designing new cleaning chemicals for the semiconductor industry. Currently I am involved in designing chemicals and processes for the chemical mechanical planarization of IC wafer. This industry moves at lightning speed, never a dull moment."

CHRIS STETSON (PhD Bartsch 1995) is a Project Coordinator for Bayer Diagnostics in Medfield, Massachusetts.

JAMES SWEET (PhD Casadonte 1998) reports that he is "out of the Navy now and just doing my reserve duty. I went into business with a friend of mine from A&M. We have a small consulting company based out of DFW. It feels good to get back into science again. Our website is www.prochemist.com."

VERONICA THOMASON (BS 1998) is a Chemist I for Luminex Corporation in Austin, Texas.

LOKMAN TORUN (MS Bartsch 1994) has received his PhD in chemistry from Purdue University and is now a Postdoctoral Research Associate with Organix Inc. in Woburn, Massachusetts.

MARTY UTTERBACK (PhD Bartsch 1992) is the Commercial Development Manager for Uniqema in Sugar Land, Texas. He is the Americas Marketing Manager for the Oilfield and Textiles businesses for Uniqema, a speciality chemicals division of ICI Chemicals. Marty and his wife, Wendy, are expecting their second child in August.

RAMESH VISVANATHAN (Postdoc Bartsch 1990-93) is the General Manager, QA for Ranbaxy Laboratories Ltd. in India. Ranaxy is the only Indian company with a number of plants abroad in addition to four in India. Ramesh is responsible for Stability and Validation at the Indian plants.

DARCEY WAYMENT (PhD Casadonte 1997) has taken a job as a chemistry professor at Our Lady of the Lake University in San Antonio.

W. CHRISTIAN (CHRIS) WIGLEY (BS 1988, PhD Nakashima 1992) is a Senior Postdoctoral Fellow in the Department of Physiology at The University of Texas Southwestern Medical Center at Dallas.

ZHI-YI ZHANG (Posdoc Bartsch 1995-97) is a Senior Formulation Scientist for Biodelivery Sciences International at the UMDNJ New Jersey Medical School in Newark, New Jersey.

QINGXIANG (ELLEN) ZHAO (MS Bartsch 2001) and her husband were killed while visiting family in China in March 2002. After completing her MS degree in synthetic organic chemistry, Ellen moved to New Jersey with her husband to begin working at the R. W. Johnson Pharmaceutical Research Institute in Raritan. It is with great sorrow that we say goodby to this gentle, capable, and highly motivated young woman, who always looked at everything in its best light.

She is survived by her son, Eric Wei. Any cards or letters of sympathy or remembrance may be sent to Dr. Guigen Li at TTU. He will forward these to Dr. George Chiu, Ellen's group leader at R.W. Johnson Pharmaceutical. Dr. Chiu has close contact with Ellen's husband's family in China and will also be Eric's guardian.

ATTN Alumni:

Update your address!!
Send us info about your job or family!!

Just fill out the *Alumni and Friends Update Form* online at www.depts.ttu.edu/chemistry

And email JPG or TIF photos to Kathy.Jones@ttu.edu

Transition States Graduations

Bachelor of Arts in Chemistry

August 2001
Debra Michelle Marks
Kyle Wayne Caldwell
December 2001
Michael Troy Staton
Jeffrey Alan Hottel
May 2002
none

Bachelor of Science in Chemistry

August 2001
none
December 2001
Brian Steven Phelps
Shelly Renee Carnley
Tamzid Farhat
Natalie Marlene Harrell
May 2002
James Matthew Hansen
Kenneth Royce Hughes
Joey Clinton Latham
Amber Nicole Sellers
Don Adam Simmons

Bachelor of Arts in Biochemistry

August 2001
Ryan Chad Cowan
December 2001
Kenneth Craig Guy
David Edward Snow
May 2002
Joni Yvette Alamo
Mohammed Sami Bakdash
Cody Rinn Cleavelin
Jason Donald Fitch
Geetha Flora Pinto
Paula Simoni
Ravi Nara Srinivasa

Bachelor of Science in Biochemistry

August 2001
Robert Kent Bogle
Timothy Gray Johnson
Steven Aric Smith
December 200 1
none
May 2002
Bradley Adam Brown
Adlia Mohamed Ebeid
Michelle Curwick Wells
Charles Anthony Gonnell
Jennifer Anne Lacina
Abby Sabrina Leake
Jeremy Todd Mason
Jason Todd Redler

Master's Degrees in Chemistry

August 2001
Hui Hu
(Organic-**Bartsch**)
Synthesis of Proton-ionizable Lariat Ethers

Evgeniy Vasiljevich Kobzar
(Analytical-**Bartsch**)
Metal Ion Complexation by Lariat Ethers with Partially Fluorinated Side Arms

Zhuhua Qi
(Analytical-**Shelly**)
Bonded Phase High Performance Liquid Chromatography of Spore Mycotoxins

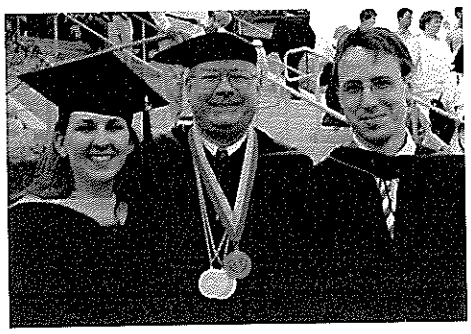
Justin Wade Westfall
(Organic-**Marx**)
Formal Synthesis of Aplysistatin

December 2001
Abdulaziz Mahmoud Ajlouni
(Organic-**Marx**)
Studies on the Synthesis and Stereochemistry of Occidenol

Hong-Jun Huang
(Analytical-**Shelly**)
Characterization of Leather Powder Using Inverse High Performance Liquid Chromatography

Nichole Mylette Jackson
(Organic-**Headley**)
Analysis of the Physical Properties of Ionic Liquids

May 2002
Carrie Lee Bates
(Organic-**Bartsch**)
Synthesis of New Proton-Ionizable Lariat Ethers



Dr. Richard A. Bartsch (center) proudly poses with May 2002 MS graduate **Carrie Lee Bates** and his 39th PhD graduate **Dr. Sergei V. Dzyuba**.

Ph.D. Degrees in Chemistry

August 2001
Steven Richard Tomlinson
(Biochemistry-**Harman**)
cAMP-Mediated Effects on CRP Subunit

Jacob Urquidi
(Physical-**Redington**)
Theoretical Studies on Liquid Water

December 2001
Myeongseob Kim
(Organic-**Bartsch**)
Design and Synthesis of Benzo-18-Crown-6 Carboxylic Acids and Diazadibenzo Crown Ethers and Lariat Ethers with Neutral and Proton-Ionizable Side Arms

Sun Hee Kim
(Organic-**Li**)
Development of New Synthetic Methodologies

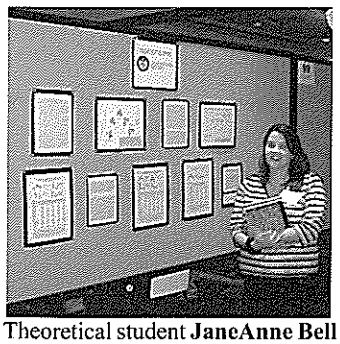
Jun Li
(Biochemistry-**Knaff**)
Studies on the Cytochrome bc_1 *Complex and its Electron Acceptors in Purple Photosynthetic Bacteria*

Aaron Tait Setterdahl
(Biochemistry-**Knaff**)
Oxidation Reduction Properties of Thioredoxin and Related Proteins

May 2002
Sangki Chun
(Analytical-**Bartsch**)
Effects of Structural Variation Within Polyether and Calix[4]arene Ligands and Matrix Variation on Metal Ion Ccomplexation

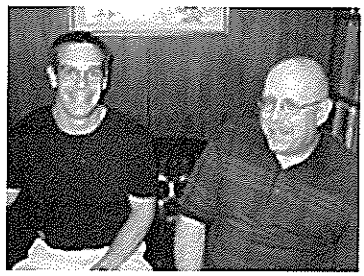
Sergei V. Dzyuba
(Organic-**Bartsch**)
Synthesis, Properties, and Applications of Ionic Liquids

PHOTOCHEMISTRY

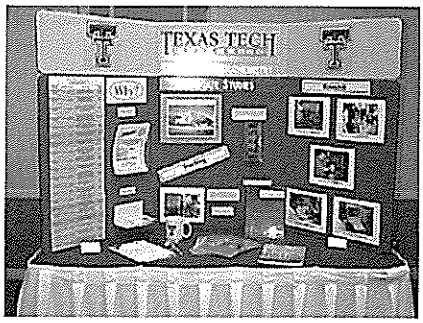


Theoretical student **JaneAnne Bell** poses beside her poster during the Southwest Regional ACS Meeting in San Antonio, October 2001.

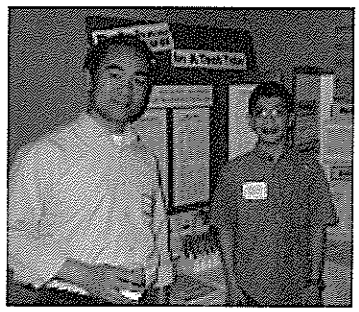
Chemistry wizard **Dom Casadonte** (center, bottom row) and employees of the TTU Honors College Dean's Office stir up trouble during Halloween, 2001.



Seminar speaker **Don Mittanck** of Monsanto (l) visits with biochem professor **Bob Shaw.**



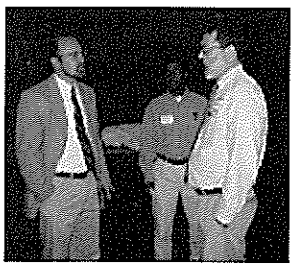
The Graduate Recruiting Office has a new professional display board, first used at the Southwest Regional ACS Meeting in San Antonio, October 2001.

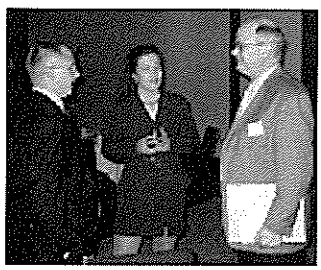


Professor Guigen Li admires Richmond Lee's winning science fair poster.

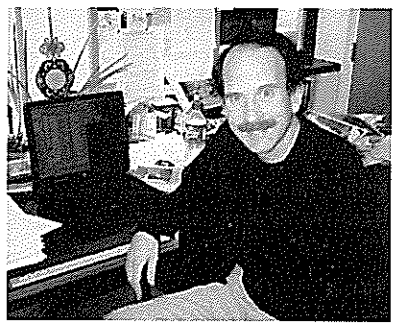
PhD student **Bill Weaver** (l) and August 2001 PhD graduate **Jacob Urquidi** confer at our popular Coke machine.

Chairman **Dick Bartsch** presents an engraved silver platter to **Jane Bradley** during her retirement party August 9.





(left) **Dom Casadonte, Alphonse Walker** and **Greg Gellene**, and (right) **Steve & Joslyn Tomlinson** and **Dick Bartsch** find time to visit after the 2002 ACS South Plains Awards Banquet.



Organic professors (top to bottom) **John Marx** (with student **Chun Zhou**), **David Birney** and **Bob Flowers** in their respective offices.

Dear Family, We Are Fine, How are You?

Please let us hear from you, whether it be a quick "hello", a lengthy epistle, or a cool note to correct our errors about you! It would be a tremendous help to us if you could update our information about you and that, in turn, would help you be better informed about what's going on here at Tech. Please fill out the form below and mail it to the *TestTube* editor. An interactive online form is available, at http://www.depts.ttu.edu/chemistry/alumniform.html. Or, send Kathy.Jones@ttu.edu an e-mail message with this information (and maybe a photo or two for the next issue of the *TestTube*).

Information Update for TTU Chemistry and Biochemistry Alumni & Friends File

Name _____
Last First Middle Maiden

TTU Degree(s): B.A. B.S. M.S. Ph.D. **Year(s) of Degree(s):** _____

Research Advisor: _____
(Please provide for graduate and postdoc positions; if not TTU, please give school name)

Former Employee: Faculty Staff Postdoc **Years Employed:**
_____

Address: _____
_____
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_____

_____ Check here if this address is different from the one printed on your *TestTube* label .

E-mail Address:
_____

Web page URL: _____

Employer: _____ **Position:**
_____

Business Address: _____
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Comments, Corrections, News (photos are welcome!):

Please return this page to: **Kathy Jones, Texas Tech University, Department of Chemistry and Biochemistry, Box 41061, Lubbock TX 79409-1061**
***OR* use the online form:** **http://www.depts.ttu.edu/chemistry/alumniform.html**
***OR* e-mail info to:** **Kathy.Jones@ttu.edu**
***OR* Fax this page to:** **1-806-742-1289**

The Coinage Metals

Our department is, now more than ever, dependent upon non-state sources of funding in the form of endowments and personal donations. The continued success of and improvement in our department depends upon the establishment of a stable endowment-based foundation. Would you please consider helping us in this critical endeavor? Contributions in any amount would be welcome. As you can see in this issue of the *TestTube*, we are well on our way to establishing a class of students who are second to none in the country. Please consider helping the Department of Chemistry and Biochemistry at TTU as it strives to be one of the premier teaching and research departments in the United States and the world.

Please return this page with your donation.

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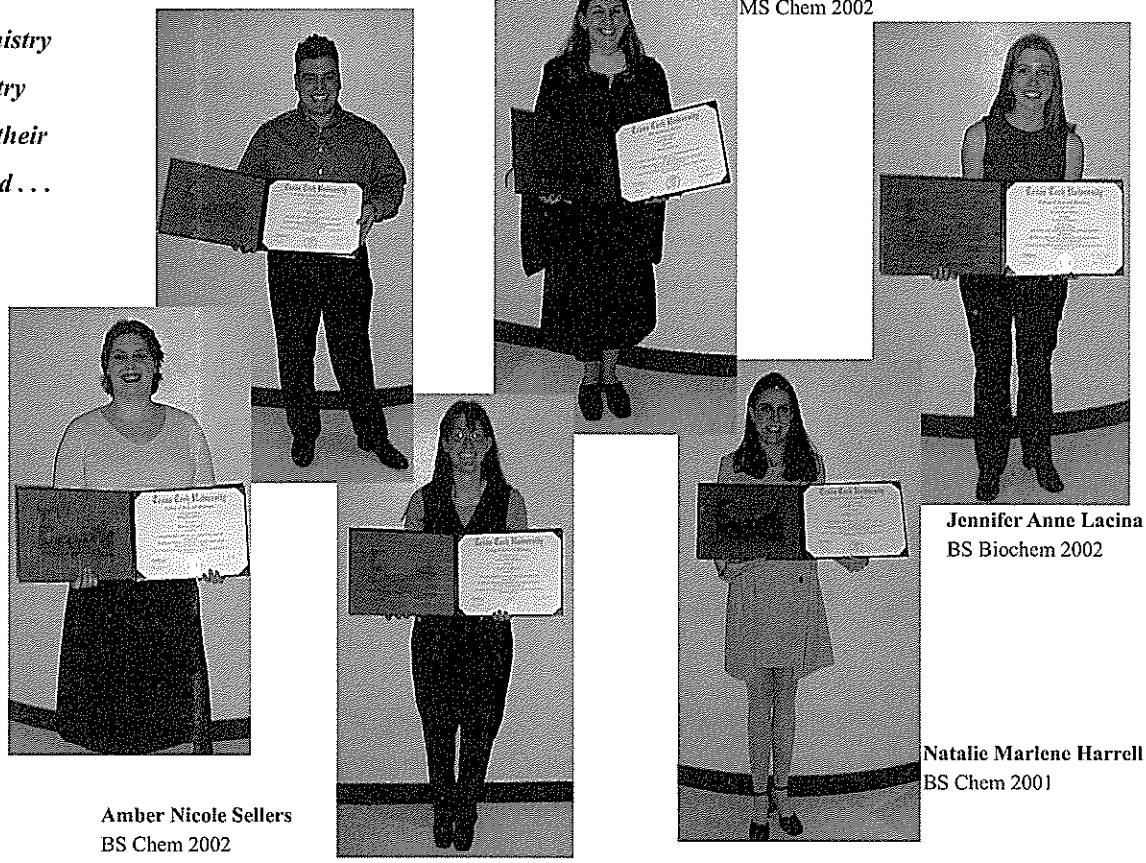

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