

# the Test Tube

Newsletter 1993 (#13)

THE DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

Texas Tech University Lubbock, Texas

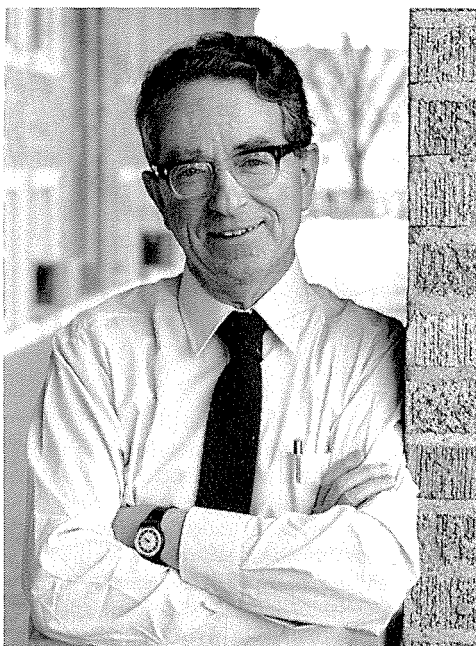
Editor: Robert D. Walkup

## Henry Shines On

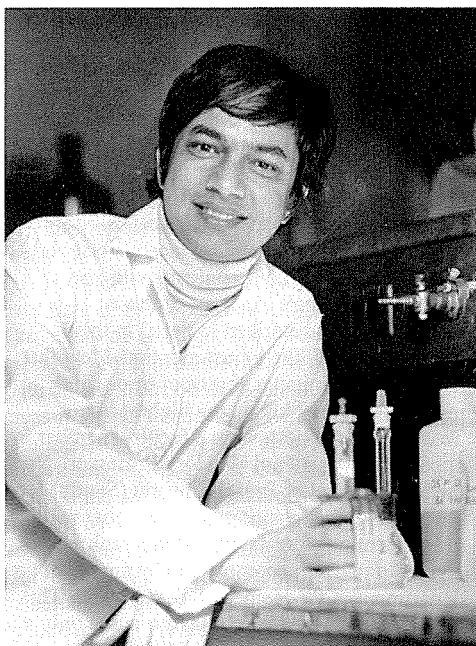
The interim between semesters, when the campus quiets down while students are away visiting family and friends, is a special time for introspection, a time when faculty and students can reflect on the past and plan for the future. Thus it was particularly appropriate that, just a week before the renewed hubbub of classes, seminars, exams, etc., the Department of Chemistry and Biochemistry hosted a special event which allowed us to reflect on the career of one of our most esteemed departmental citizens. In honor of Horn professor **Henry J. Shine**'s 70th birthday, a Symposium on Electron Transfer Reactions in Organic Chemistry was held on January 16, 1993.

The symposium, organized by Horn professor **Richard A. Bartsch**, was attended by past and present students and colleagues of professor Shine who travelled to the Hub City from all over the world, and featured an outstanding scientific program along with an overwhelming outpouring of tributes to professor Shine's forty-plus years as a scientist, teacher, research mentor, and administrator. The scientific sessions, which were attended by over 95 scientists who came from as far away as Korea and Poland, was opened by Texas Tech's Provost and Executive Vice President, Dr. Donald R. Haragan, who highlighted Shine's ongoing contributions to the University. Technical presentations followed by professors Joseph F. Bunnett of the University of California at Santa Cruz, John F. Garst of the University of Georgia, Paul S. Engel of Rice University, and Glen A. Russell of Iowa State University --- all esteemed researchers of electron transfer chemistry --- and the symposium was capped by professor Shine, who discussed "How I Stumbled on and Got Hooked by Electron Transfer," a presentation which mixed personal anecdotes with an overview of the pioneering research which Shine has pursued in this vital area of organic chemistry.

A dinner which followed the symposium, held on the top floor of the First National Bank building in downtown Lubbock, was attended by more than 130 wellwishers, and featured numerous testimonials, including a presentation to professor Shine of a collection of more than one hundred congratulatory letters from friends and colleagues from all over the world, a birthday salute sung in Polish, presentations by former students of gifts from



Henry J. Shine relaxes outside the TTU Chemistry Building.



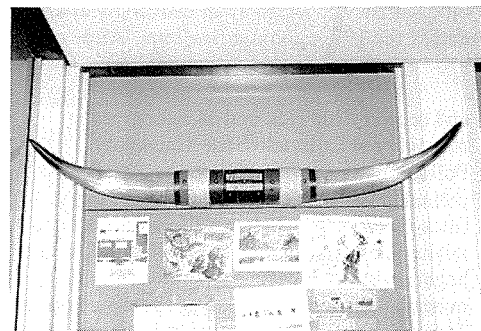
Horn Professor P.K. Dasgupta

Korea and Japan, recollections from Dr. John L. Kice of the University of Denver (a former chairman of TTU's chemistry department), testimonials from Horn professors **Richard A. Bartsch** and **David B. Knaff** (current chairman of the department), and a particularly humorous anecdote from professor Bunnett concerning the alleged existence of Henry Shine's evil twin, "Henry Shade." Finally, professor Shine offered, in his inimitable style, his own recollections and acknowledgements concerning his career as a chemist in general and at Texas Tech in particular. Among Shine's  
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## Dasgupta Horns In

Effective September 1, 1992, professor **Purnendu K. (Sandy) Dasgupta** became the 44th professor in Texas Tech history to be designated by the TTU Board or Regents as a Paul Whitfield Horn professor. The Horn professorship, the highest honor that Texas Tech University can bestow on a faculty member, is conferred on faculty who have a distinguished national and international record of research and scholarly achievement. The first Horn professorships were established in 1967, and our own **Henry J. Shine** was designated as the fifth Horn professor in 1968.

Sandy Dasgupta joins professors **Shine**, **Knaff** and **Bartsch** in this honor (Knaff was designated a Horn Professor in 1987, and Bartsch was thus honored in 1988), thus making the department of chemistry and biochemistry the department with the largest number of Horn professors on campus. In recognition of this honor, Sandy has appropriately decorated the doorway to his office (see photo).



The entry to Horn professor Dasgupta's lair. Label on horns reads "Professor. Beware!"

### Henry Shines On (continued)

recollections was his account of how he met his wife-to-be, Sellie, in New York, his being interviewed --- in New York --- for a professorship at TTU (and how he accepted the position without even visiting the campus!), and his revelation that the date of the symposium, January 16, marked the 45th anniversary of the docking of the ship that carried him to the United States from his birth country, England, in 1948.

It is important to note that this event was a birthday celebration, not a retirement party. Henry Shine continues to serve our department and the university with a full workload of teaching, committee duties, and the management of a research group which is as productive as ever. The "Shine Symposium" was a time for all of us to celebrate the ongoing career of one of the giants of 20th century organic chemistry, to reunite with good friends, and to reflect upon the fruits that come from continued dedication to excellence in all aspects of an academic career, as exemplified by Henry Shine. We all look forward to future Shine Symposia, as Henry continues to "shine on." (more photos from the Shine Symposium elsewhere in this issue)



### John Anderson Retires

Professor John A. Anderson retired from his position as professor of chemistry and biochemistry at Texas Tech University at the end of the 1993 Summer Sessions. Anderson had been on the TTU faculty since 1961.

John Anderson is a native of Chicago, and received his B.S. and M.S. degrees in chemistry at Colorado State University. Following a two-year stint in the Army, he earned his Ph.D. in biochemistry at Oregon State University, where his lifelong research interest in the secondary metabolism of fungi began. He has supervised the research of 4 masters degree and 10 Ph.D. degree students at Texas Tech, where his research has been funded at times by the National Institutes of Health and the National Science Foundation, and

throughout his career by the Robert A. Welch Foundation. He has published more than 40 research papers and review articles, mostly dealing with the elucidation of the biosynthetic pathways involved in fungal metabolism. Throughout his career, Anderson has maintained a full teaching load, including continuous service teaching general chemistry and the supervision of the biochemistry teaching laboratories, and he was a co-PI on a funded NSF grant application for the improvement of the instrumentation for the departmental biochemistry teaching laboratory. Anderson also served at various times on the TTU Faculty Senate, and has faithfully served the department as chairman of the biochemistry division, as faculty secretary, and as the departmental liaison for the United Way campaign.

John and his wife, Betty, have been married for 37 years and have two grown children, a lawyer and a cardiologist, and two grandchildren. Among Anderson's plans for retirement are a study tour to Greece in October 1993, and visits to his children and grandchildren in the Dallas/Fort Worth area. John Anderson was one of the pioneer research professors on the Texas Tech campus, and we owe him a debt of gratitude for his tireless service to the department and university over the years.

### Chairman's Remarks

It is with considerable pleasure that I send all of you my greetings as the *TestTube* resumes publication after a short hiatus. After Dick Bartsch's successful one-year stint as editor of our newsletter ended, allowing Dick to devote more time to the supervision of the department's nascent polymer chemistry program, considerable time was spent trying to persuade Ben Bradlee to give up his position as editor of the *Washington Post* and come to Lubbock to replace Dick. After a year of negotiations, Bradlee realized he could never match the performances of Dick and his predecessor, Henry Shine, and decided to remain in Washington. Fortunately for us, we had a budding Joseph Pulitzer in house all along in the person of Bob Walkup and I am delighted with the first issue that Bob has put together for you. You will find a description of Bob's plans for the *TestTube* a bit further along in this issue and I look forward to many more lively and informative issues during Bob's reign.

Much has happened since we last had the opportunity to communicate with you through this forum. As most of these happenings are described in detail in this edition, I would like to just mention a few that have been a particular source of pride to us. As many of you may know, the highest honor Texas Tech can bestow on a faculty member is appointment as a Paul W. Horn Professor. With the appointment of Prof. Purnendu (Sandy) Dasgupta to this position last year, our department has four faculty at this rank, something never accomplished by any other department in the history of Texas Tech. This honor, richly deserved by Sandy, is not only a recognition of Sandy's many individual accomplishments but a tangible symbol of the

continued high level of scholarly achievement by our faculty. While we were all basking in the reflected glory of our youngest Horn Professor, the testimonials we heard at the symposium held in January to honor Henry Shine, our senior Horn Professor, on the occasion of his 70th birthday provided us with a nice sense of the continuity of accomplishments at the highest levels of scholarly endeavor we as a department have been fortunate enough to share in over the past 40 years.

During 1992/93 Lubbock became the national center for excellence in women's collegiate basketball, as the Texas Tech Lady Raider's 31-3 season culminated with a victory in the national championship game. Although local chemists and biochemists received slightly less publicity than Cheryl Swoopes and Marcia Sharp last year, Lubbock also made its mark in chemical circles through the extremely successful 48th Southwest Regional Meeting of the American Chemical Society. Virtually all of the more than 500 scientific participants went away impressed not only by the hospitality and organizational skills of our faculty, but also with renewed respect for the uniformly high level of research in the laboratory and on the frontiers of chemical education carried out in our department.

It will come as no surprise to you that accomplishment at this level becomes increasingly more costly every year. It is our hope that, if you as alumni of the department take justifiable pride in these accomplishments, you will be willing to make a contribution to at least one of the several funds we have established to increase our research and teaching capabilities and to help recruit outstanding students into our programs. Details on these funds and handy-dandy forms to help you in contributing follow later on in this issue.

We hope that you have not suffered overly from the suspense generated by being kept in the dark about developments in the department during the short hibernation of the *TestTube* and we welcome all of our loyal readers back to the fold. Please accept my apologies for this short Dark Age and my best wishes for the new academic year.

David B. Knaff

### Editor's Note

I am pleased and honored to present the 13th *TestTube* newsletter to you. It comes after unnecessary procrastination for which there is no excuse, other than my own inexperience with organizing such a document, along with some degree of hesitance over how I can follow such class acts as Henry Shine and Dick Bartsch, the previous *TestTube* editors. Due to these delays, this issue of the *TestTube* contains news from both 1992 and 1993. I apologize for omissions of news from that period and hereby solicit corrections of that nature; as well as new news, from you. I gratefully acknowledge the very capable assistance of Ms. Jane Bradley in the preparation of this newsletter, and professors Bartsch, Knaff, and Shine for their assistance in insuring the accuracy of the newsletter's contents. A special thanks goes to Dick Bartsch

for the donation of some very useful photographs.

This issue represents a change in scheduling for the production of the TestTube. Instead of reporting news on a calendar year basis, we will report news on an academic year basis, thus aiming to mail out each edition during the fall. Thus if all goes as planned (and you have given us your correct and current address!), you should receive TestTube #14 in the fall of 1994, reporting news from the period covering Fall 1993 through Summer 1994.

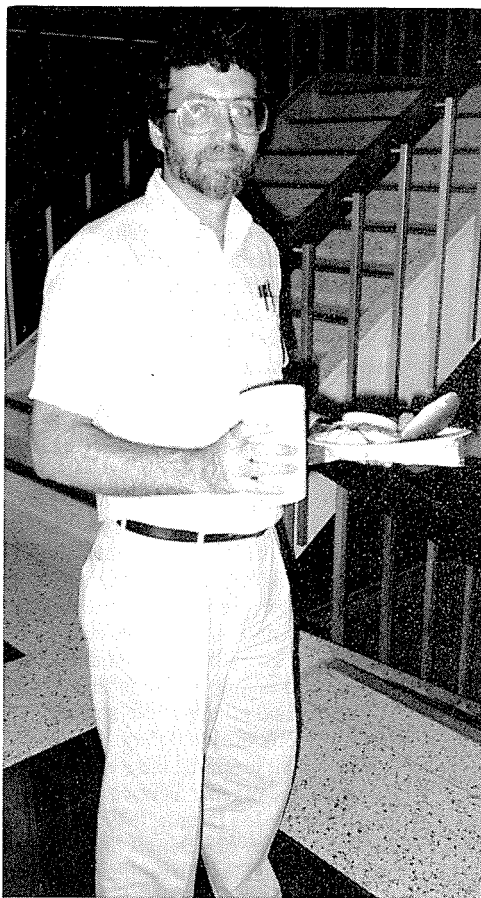
It is my wish that this newsletter can be, as much as possible, a common meeting ground for everyone who is and has been associated with the Department of Chemistry and Biochemistry at Texas Tech University over the years. Therefore, please send me news about yourself without delay --- there are many folks, over here and out there, who would like to know what you're up to! Also, please give the customary plea for financial donations to our "cause" (featured elsewhere in this issue) your most serious consideration; in these times of financial cutbacks there is a greater need than ever for individual donations, however great or small, to help us to keep our programs up and running, to help us to fund scientific interchange by hosting seminar visitors, and to help us to financially assist qualified students of chemistry and biochemistry. Regardless of your ability to donate to our department, though, please drop me a line about yourself and about others in the Texas Tech Chemistry family, and tell me how you would like to see the Test Tube improved (see the response form near the back of this issue). I will see to it that your news is included in future Test Tubes. Best wishes for great chemistry in 1994.

Bob Walkup

#### New Faculty on Board

Dr. **Gregory I. Gellene** joined the department of chemistry and biochemistry as an assistant professor in the Fall of 1992. Professor Gellene earned his Ph.D. degree in physical chemistry at Cornell University in 1983, and was on the faculty of the University of Notre Dame before transferring to Texas Tech. His research interests include studies of molecules produced in a collision-free environment using novel neutralized ion beam techniques developed in his laboratory, and studies of the effect of nuclear symmetry on chemical reactivity. Among Gellene's important research findings to date has been the observation of nonmass-dependent isotope effects in diatom-diatom reactions. Gellene's research is currently funded by the National Science Foundation and the Petroleum Research Fund. Dr. Gellene was able to move to Texas Tech with a significant amount of instrumentation which --- following the usual delays in having his laboratory properly supplied with the appropriate utilities --- is up and running under his direction, assisted by a capable graduate student and a postdoctoral associate.

In addition to his thriving research enterprise, Dr. Gellene has immersed himself in



Who says there's no such thing as a free lunch? Newly appointed professor Greg Gellene at the annual departmental barbecue lunch.

teaching and committee duties in our department. He has demonstrated a strong interest in furthering the mission of the department to attract talented high school and undergraduate students to careers in chemistry, and toward this end he has mentored several Welch Scholars, and has taken charge of revising the department's undergraduate research brochure. Texas Tech University is fortunate to have attracted an experimental physical chemist of professor Gellene's caliber.

#### Adjunct Faculty

The department of chemistry and biochemistry has bolstered its research program by appointing several professors from neighboring departments who are involved in research of a chemical or biochemical nature.

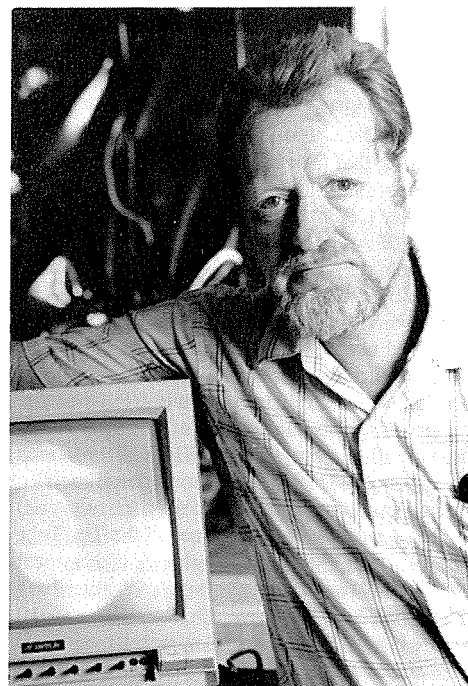
**Dr. Haraldur R. Karlsson**, an assistant professor in the department of geology (Ph.D., University of Chicago, 1988) is establishing a research program in the area of geochemistry with an emphasis on using stable isotope measurements to address a variety of problems, ranging from the origin of natural waters to unravelling the history of the solar system through the analysis of meteorites. **Dr. E. Roland Menzel**, a professor in the physics department (Ph.D., Washington State University, 1970), is an internationally known researcher in the area of applied laser spectroscopy. Professor Menzel founded the Center for Forensic Studies at Texas Tech University, and has established himself as an

expert in the use of laser-excited luminescence for the detection of latent fingerprints. Menzel is also supervising research projects in damage assessment in pulsed power devices and in the development of instrumentation for geochemical analysis using laser techniques.

**Dr. Ted W. Reid**, a professor in the department



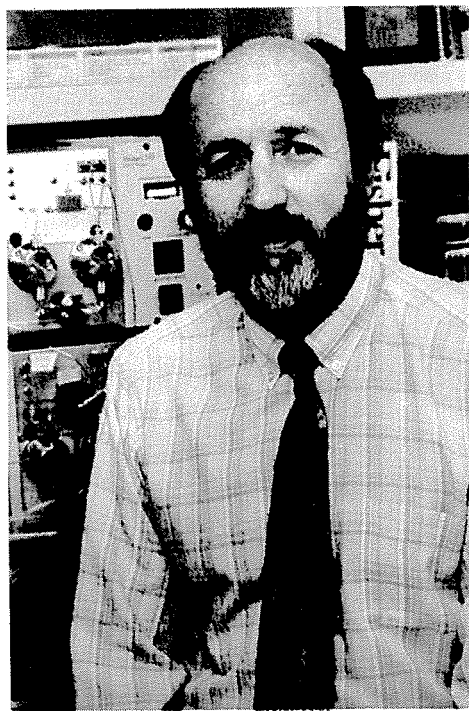
Haroldur Karlsson



Roland Menzel

of ophthalmology and visual sciences at the Texas Tech University Health Sciences Center (Ph.D. University of California at Los Angeles, 1967), is an internationally known biochemist and cell biologist. Professor Reid's research interests are focussed on the mechanisms and regulation of cell growth and adhesion, using epithelial cells from the eye as a study system.

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**Ted Reid**

Recently, Reid and coworkers have discerned a profound effect of small neuropeptides upon wound healing, and have initiated a drug design program aimed at developing analogs of such peptides for use as therapeutic agents for the treatment of various ocular disorders.

#### **Goodwin Passes On**

Robert C. Goodwin, a historic figure in the history of Texas Tech, passed away on June 19, 1993 at the age of 95. He had served Texas Tech from 1930 until his retirement in 1966, and during that time he rose through the academic ranks and served, at various times, as Chemistry Department Head, as Dean of the College of Arts and Sciences, as Vice President for Academic Affairs, and as President of Texas Technological College. Throughout his career as a university administrator, Goodwin continued to teach sophomore organic chemistry courses for the department. Among Goodwin's accomplishments as president of the university are his supervision of one of the largest building programs in TTU's history, and his helping TTU (then TTC) to undergo racial integration during the early 1960's.

Readers of earlier issues of the TestTube will recall reading about Goodwin's visit to TTU in 1989 as part of the Dean's Weekend celebration held that year. That account noted Goodwin's visit as an occasion to "welcome back one of the beginners of what we now are and of what the future will be." Robert C. Goodwin was that and more. However, the testimonials offered in memory of Goodwin note more than his accomplishments, they note his character, his care for others. Horn Professor **Henry Shine**, who knew Goodwin well, wrote the tribute to Goodwin which follows. It reveals a lot about Goodwin (and about Henry Shine!).

#### Some Memories of Dr. Robert C. Goodwin

by Henry J. Shine

Bob Goodwin was Dean of Arts and Sciences when I joined the Department in the Fall, 1954. Nevertheless, he continued to teach the course on sophomore organic chemistry. That course, in fact, was "his." He had a reputation, well-known at Texas Tech and in the Texas medical schools, for being very tough. A student either knew "his" organic chemistry or he flunked. Among my first teaching assignments (two freshman sections and the course for nurses) was the supervision of the organic labs. At that time lecture and lab were combined (as Chemistry 353, 354) and Dr. Goodwin was the teacher of credit. In my first year I flunked two students in the lab because they hadn't completed all of the experiments. That brought me into a confrontation with Dr. Goodwin who pointed out that my grade would mean an F in the whole course. But, when I insisted on maintaining the lab standard as high as that of the lecture, he said no more. No student thereafter took the lab lightly. When Dr. Goodwin quit teaching, after becoming President, the organic lectures were taken over by Joe Dennis, the head of the Department. Dr. Dennis had been waiting for Goodwin to relinquish the course, regarded similarly by Dennis as by Goodwin as a prestige item in the Department. It was some years before the lectures were shared, with Joe Adamcik in 1960. As far as I can tell, I did not teach sophomore organic for 20 years (until 1974) although I had already been teaching senior and graduate organic courses for many years.

While he was Dean and a teacher in the Department, Dr. Goodwin kept an office in our building (where General Chemistry's offices are now housed). Being new to the department and brash, and being aware of the shortage of space, I advocated taking away that office. Dr. Dennis soon put me in my proper place, reminding me of the respect due to a longer-timed and longer-valued member of the department.

Dr. Goodwin was a member of the old school. On an overnight train journey to a Welch Conference in Houston, which he attended as President, we had a long conversation about entrance standards at Tech. He believed strongly that any high school graduate deserved a chance at Texas Tech, the high school diploma being the only criterion for entrance. Early in his Presidency, too, he cautioned Joe Dennis (as Joe told me, later) to watch that Henry Shine didn't get so many research grants that his attention to teaching might suffer.

Dr. Goodwin retired from the Presidency in 1966. But, he stayed on for a while with an office in the East

Wing as an advisor of some sort. He told me with his impish grin, when we chatted one day in that office, that the regard being given to his advisory capacity should not be overestimated.

He was an early builder of our Department. Only a few of us who remain from those days know the debt we owe him.

#### **TTU Ranks in Top Ten for Analytical/Inorganic Chemistry!!**

The April 1992 issue of Science Watch, a publication of the Institute for Scientific Information, contained some pleasant news for our department. It gave a special report on the citation impact rankings for research in chemistry, by discipline, for the 1984-1991 period. (The ISI publishes Science Citations Index, and conducts research (reported in Science Watch) on the impact of papers upon their discipline, based on the number of times such papers are cited by other papers). For the discipline listed as Analytical, Inorganic, and Nuclear Chemistry, Texas Tech University ranked **number 2** (just behind Yale University) for its impact, as judged by the number of times papers from TTU have been cited since their publication! Our department, and the analytical and inorganic chemistry divisions in particular, can stand proud for this special recognition.

#### **C&B Faculty Honored by University**

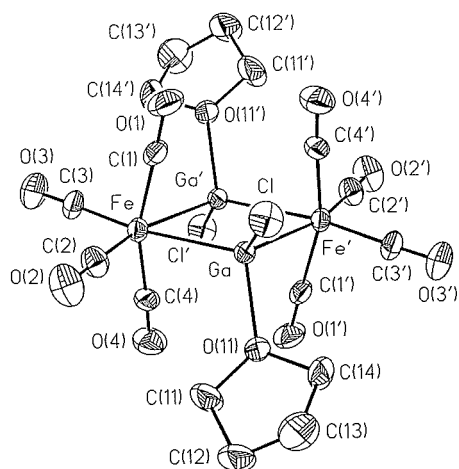
The department of chemistry and biochemistry continues to maintain high standards for academic excellence, as demonstrated by the recent recognition of two faculty with prestigious awards for excellence in teaching. On October 23, 1992, professor **Jerry L. Mills** was honored by the Texas Tech University Dads and Moms Association at their annual Family Day banquet with the Spencer A. Wells Creative Excellence in Teaching Award. This award recognizes Mills for his ongoing superhuman service to the university as a teacher, as head of the TTU Health Pre-Professional Advisory Committee as the undergraduate advisor for the 300-plus chemistry and biochemistry majors at Texas Tech, and for his service to the advancement of education via the numerous innovative textbooks and manuals in general chemistry that he has authored or co-authored. Those of us who work with Jerry can readily attest to his dedication to these tasks, as demonstrated by his workdays which typically begin at 6:00 am or earlier!

Also recognized for teaching excellence was professor **Dominick J. Casadonte, Jr.**, who was awarded the Texas Tech University New Faculty Excellence in Teaching award for 1993. This award, given to a faculty member who has completed three or less years at TTU, was given to Casadonte for his tireless dedication to high standards of teaching excellence and for his contributions to the department's efforts to organize a multidisciplinary laboratory program which will coordinate materials science-based experiments in inorganic, physical, and analytical chemistry.



## TTU Now Has an X-Ray Crystallographic Lab!

Through the efforts of professor **Bruce Whittlesey** and the provost's office of the University, the Department of Chemistry and Biochemistry has acquired a fully automated Siemens Model P4 single-crystal X-ray diffractometer, which was installed in the spring of 1992. Automated data collection is managed by a 486 IBM clone computer, and the system is equipped with a Silicon Graphics Indigo workstation for solving crystal structures. With this facility we are now able to routinely determine the structures of crystalline organic and inorganic molecules within a few days, or even hours in the case of small molecules. The department is currently in the process of integrating the Indigo into the departmental computer network to allow for the direct transfer of structural data to and from the Silicon Graphics Iris for molecular modeling studies. The Cambridge Crystallographic Database, which contains all of the reported crystal structure information for organic and inorganic molecules, is a part of this system. The X-ray diffractometer is currently being managed by Professor Bruce Whittlesey, who taught a combined lecture/lab course in X-ray crystallography in the Spring 1993 semester, in which ten graduate and two undergraduate students acquired hands-on experience in collecting data and solving crystal structures.



## Lubbock Hosts ACS Regional Meeting

The 48th Southwest Regional Meeting of the American Chemical Society was held in Lubbock on October 21-23, 1992, and the faculty and students of the TTU department of chemistry and biochemistry played a significant role in its organization. Attended by over 500 scientists from all over the world, the 48th SWRM featured numerous star-studded symposia organized by TTU faculty, the A.I. Meyers Symposium on Organic Chemistry (**R.D. Walkup**, organizer), Symposium on Biological Electron Transport (**D.B. Knaff**, organizer), Symposium on Intramolecular Dynamics and Kinetics of Excited Molecules (**R.L. Redington**, organizer), Symposium on Molecular Modeling (organized by **D.M. Birney** and **D.J. Kyle** (TTU Ph.D., 1987)), a Symposium on Rational Drug Design (organized by **T.W. Reid** and **C.E. Crosson** of

the TTUHSC department of ophthalmology and visual sciences), Symposium on Reactivity and Structure of Group 6B Metal Compounds (organized by **R.A. Holwerda** and **D.E. Pennington** of Baylor University), the Southwest Luminescence Symposium I: Theory, Dynamics and Applications (organized by **D.J. Casadonte**, **D.C. Shelly**, **E.L. Quitevis**, and **J.W. Kenney III** of Eastern New Mexico University), and Symposium on Synthetic Hosts for Recognition of Molecular and Ionic Guests (**R.A. Bartsch**, organizer). The organization of the meeting was provided by **R.D. Walkup** (General Chairman), **R.A. Holwerda** (Program and Publicity Chairman), **J.L. Mills** (Exhibits Chairman), **B.R. Whittlesey** (Local Arrangements Chairman), and **D.M. Birney** (Finance Chairman). Included in the meeting program was the presentation of the 1992 Southwest Regional ACS Award to professor Richard E. Smalley of Rice University, and the 1992 Southwest Regional ACS Award in High School Chemistry Teaching to Ms. Shelley Sweatt of Burkburnett High School. A Workshop on New Directions and Resources for High School Teaching, organized by Dr. **P.A. Metz**, and a Chemical Career Insights Program, sponsored by the ACS and hosted by the TTU Student Affiliates chapter of the ACS, were also held at the meeting.

The caliber of the technical sessions, the degree of attendance, and the breadth of attendees at the 48th SWRM was indicative of the growing recognition of the South Plains in general, and Texas Tech University in particular, as a center for excellence in chemistry.

## Hallman, Horng Win Song Prizes

The Song Prize was established by professor Pill Soon Song when he left our department to become chairman of the department of chemistry at the University of Nebraska to honor the graduate student who submits the best doctoral dissertation in the department of chemistry and biochemistry in a given calendar year. The winner of the Song Prize, which consists of a \$500 check, is selected from nominations tendered by each division to a special committee. The choice of winners is always a difficult one --- a testimony to the quality of the dissertations coming out of our department. The winner of the 1991 Song Prize was **Johnny L. Hallman**, for his dissertation on "Synthesis of Naphthoninhydrin and Synthesis of Polymer-Supported Crown Ethers," completed under the supervision of Horn Professor **Richard A. Bartsch**. The winner of the 1992 Song Prize was **Miin-Liang Horng**, for his dissertation on "Picosecond Spectroscopy of Molecular Aggregates" under the supervision of professor **Edward L. Quitevis**. Dr. Hallman is currently a postdoctoral associate at Los Alamos National Laboratory, and Dr. Horng is a postdoctoral fellow at Pennsylvania State University. Congratulations to these fine scientists for a job well done!

## Outstanding Teaching Assistants Honored

Each year, the department honors a

select number of its graduate student teaching assistants for exemplary service in this important function. In 1992, **Tom Klinger** was honored with the Texas Tech University Outstanding Graduate Student Teaching Award, and **Ahmed Abbas** and **Mike Mosher** were each honored with Department of Chemistry and Biochemistry Teaching Assistant Awards. For 1993, **Matt Monzyk** won the Texas Tech University Outstanding Graduate Student Teaching Award, while **Kim Smith** and **Andrew Bessire** were each honored with Department of Chemistry and Biochemistry Teaching Assistant Awards. Congratulations to these individuals for a job well done!

## Chemistry Graduate Student Association Founded

In June of 1993, a group of motivated graduate students in the department founded the Chemistry Graduate Student Association (CGSA). This association, which has been recognized as an official student organization on campus, was founded to provide opportunities for social interaction among graduate students in the department, to serve as a forum for discussion and dissemination of information useful to chemistry and biochemistry department graduate students, to serve as a medium for the intellectual and general scientific growth of the membership, and to represent the interests of the chemistry graduate students in interactions with the departmental faculty, staff, and other university entities. Among the CGSA's achievements to date have been the establishment and regulation of a laser printer available to chemistry graduate students on an around-the-clock basis, lobbying for a departmental decision to lower registration requirements for chemistry graduate students, and the organization of the first of (hopefully) many departmental picnics. The current officers of the CGSA are **Beth Laney**, president, **Bart Neff**, vice president, **Kelly Griffith**, secretary/treasurer, **Mark Eley**, officer-at-large, and **Mary Vedamuthu**, officer-at-large. The faculty advisor for the organization is **Robert D. Walkup**. The CGSA is an independently funded student organization, thus donations to it from TestTube readers would be welcome.

## Student Research Symposia

Each year, the South Plains Section of the American Chemical Society sponsors a meeting-in-miniature for the presentation of research findings by undergraduate and graduate students in chemistry from throughout the South Plains area. In 1992, the South Plains Chemical Research Symposium featured fourteen presentations, resulting in awards for four Texas Tech students: **Chris Auvenshine** was honored for an Outstanding Undergraduate Presentation, **David Harwell** and **Michael Mosher** were honored for Excellent Graduate Presentations, and **Aaron Odom** was honored for an Excellent Undergraduate Presentation.

In 1993, the South Plains Chemical Research Symposium was combined with Eastern New Mexico State University's Student Research Symposium, thus increasing the number of papers to be judged. **Elizabeth**

**Laney and David Harwell** tied for the award for Outstanding Graduate Presentation, and **Hyunho Cho** was honored for an Excellent Graduate Presentation.

The judges for these awards, **Patricia Metz** and **Richard Nakashima** in 1992, **Dominick Casadonte** and **Allan Headley** in 1993, have commented on how difficult their decisions have been, owing to the consistently high quality of the presentations. Congratulations to the winners!

#### Welch Scholars Program

For the third consecutive year, the Robert A. Welch Foundation has sponsored a special Welch Summer Scholars program at Texas Tech University. This program provides resources for a group of talented high school students from all over Texas, chosen by a competitive application process, to spend five weeks in the department receiving instruction and hands-on experience in chemical research. Dormitory housing for the scholars and resources for the departmental administration of the program are provided by the Welch Foundation. Texas Tech is one of four universities selected by the foundation to host the "Welchers." Each summer, professor **Patricia Metz** has organized a program for the Welch Scholars which includes a week of intensive instruction (including laboratory instruction, computer instruction, and problem-solving exercises), daily research seminars by departmental faculty, special field trips and cultural outings, and the core of the program: individual research projects supervised by departmental faculty.

In 1992, fourteen students attended the TTU Welch Summer Scholars program. Their names, and the names of their faculty research mentors (in parentheses) are Mary Chung of Plano (G.W. Robinson), Luke Fu of Austin (K. Ghowsi), Ellis Giles of Pearland (D. Casadonte), Michelle Hicks of Arlington (R. Shaw), Kathy Kang of Midland (D. Casadonte), Joshua Mills of Dallas (R. Shaw), Partha Mukherji of Bay City (P.K. Dasgupta), Hue Mun of Laredo (R. Wilde), Tom Nguyen of Houston (G.W. Robinson), Abhi Shelat of Austin (J. Marx), Kris Voss of San Antonio (R. Bartsch), Lawrence Walters of Dallas (E. Quitevis), Calinda Weddle of Greenville (R. Wilde), and Reyer Withrow of The Woodlands (J. Marx).

In 1993, thirteen students participated in the TTU Welch Summer Scholars program. They were John Cha of DeSoto (R. Shaw), Inhua Chen of Houston (R.D. Walkup), Jason Geach of Sugarland (D. Shelly), Seth Horwitz of Dallas (G. Gellene), Katy Irani of Houston (E. Quitevis), Adam Jacks of The Woodlands (D. Casadonte), Lily Liao of Lake Jackson (R. Shaw), Katy Stofer of Lake Jackson (R.D. Walkup), Jacob Lin of Austin (J.N. Marx), Patrick Luck of Mount Pleasant (B.R. Whittlesey), Bryan Navarette of Laredo (G. Gellene), Ravi Radhakrishnan of Houston (D.B. Knaff), and Lei Sun of Houston (R.A. Bartsch).

A large debt of gratitude is owed to Tricia Metz for her ongoing organization of the Welch Summer Scholars program, and to all the faculty, postdocs, and graduate students who

gave so much of their time to supervise, advise, and otherwise share their passion for science with the Welch Scholars.

#### Polymer Course Introduced

The "menu" of courses being offered by the department of chemistry and biochemistry has been enriched by the establishment of a new advanced undergraduate/graduate-level course in polymer chemistry. The new course, titled (appropriately) "Polymer Chemistry," (CHEM 4310/CHEM 5310) was developed by Horn professor **Richard A. Bartsch** and was first offered during the Spring 1993 semester. Readers of previous issues of the *TestTube* will recall that professor Bartsch was selected to attend the 1991 workshop on "Teaching Macromolecular Chemistry and Engineering in the Undergraduate Curriculum" jointly sponsored by the NSF and the ACS, at Virginia Polytechnic Institute and State University. It was the information contained in that intensive, hands-on workshop [RAB actually doing lab work?] along with other related workshops as well as Bartsch's increasing involvement in materials science research that led Bartsch to develop this course, which will be offered each year. The first "run" was a great success, and we look forward to the development of polymer chemistry/materials science as a bona fide discipline for study and research in our department. As a part of this curriculum development, the department is seeking donations of funds and/or equipment for the establishment of a laboratory course to accompany the polymer chemistry course (readers please take note!).

#### Transitions

Like any family or community, the department of chemistry and biochemistry at Texas Tech undergoes, for better or for worse, changes --- losses, gains, births, deaths, reorganizations --- with the passage of time. Several of these changes have been highlighted in separate articles in this issue of the *TestTube*. Additional "transitions" include:

Professor **Richard E. Wilde** has stepped down as Associate Chairman for the department, after seven years of faithful and tireless service. He has been replaced in this office by professor **Robert W. Shaw**. The department owes a lot to Dick Wilde for helping to keep the department running so smoothly, and particularly for his patient handling of the highly complicated rules and regulations associated with the new safety regulations being inflicted upon the department.

Professor **Robert D. Walkup** has stepped down as departmental graduate advisor, handing over the reins of this duty to professor **Edward L. Quitevis**, who now supervises both graduate advising and new student recruitment and assistantship duties. Professor Walkup was departmental graduate advisor for seven years.

During their Spring 1993 meeting, the Texas Tech Board of Regents approved the promotions, with the granting of tenure, of professors **James G. Harman** and **Bruce R. Whittlesey** from assistant professor to associate professor.

**James E. Powell** retired as Business

Manager for the department in August of 1992. Jim had worked at Texas Tech for 22 years, and was instrumental in supervising the transition of the departmental secretarial pool from typewriters to word processors during the early '80s. Jim remains in Lubbock, where he is enjoying his retirement playing golf and spending more time with his family. He has been replaced as departmental business manager by **Vickie A. Reasor**.

**Donnell O. Love** retired as chemistry and biochemistry stockroom supervisor in January of 1993. Don had faithfully served the university for 34 years, and is currently enjoying his well-earned retirement pursuing the perfect bowling game and travelling. Don has been replaced as the departmental stockroom supervisor by **Roy Leger**.

On August 19, 1993, Dr. **Clint ("Doc") McPherson** and his wife, Clara, celebrated their 50th wedding anniversary. Both Doc and Clara served as faculty at Texas for long periods: Doc retired in 1984 after teaching in the department for 28 years, and Clara retired in 1986 after teaching in the College of Home Economics (now the College of Human Sciences) for 33 years.

Other transitions include more literal additions to the departmental family. **Greg and Debbie Gellene** gave birth to a son, Thomas, their 3rd child, shortly after moving to Lubbock, on August 15, 1992. **Kiumars and Shekofeh Ghowsi** gave birth to their first child, a son, Ali, on June 20, 1993. **Henry and Sellie Shine** became proud grandparents, for the first time, on June 27, 1993, when their daughter, Stephanie, and her husband, Hamid, gave birth to a daughter, Naomi, in Austin, Texas. Sellie Shine was there to attend the birth, and Henry was there to fret over it.

#### News about Faculty

**John Anderson** was a plenary speaker at the 1992 Meeting of the Korean Agricultural Chemistry Society held in Seoul on October 17. He spoke on "Enzymes in Aflatoxin Biosynthesis."

**Dom Casadonte** attended the April 1992 National Meeting of the ACS in San Francisco, where he presented a poster on "Sonochemical Production of Amorphous Bimetallic Alloys and Coatings." At the October 1992 Southwest Regional Meeting of the ACS, Casadonte presented two posters, "Environmental Sonochemistry," and "Photostudies of Cu(I) Complexes Containing Phosphine Sulfide Ligands." At the March 1993 National Meeting of the ACS in Denver, Casadonte presented a paper on "Sonochemical Production of Amorphous Alloys and Coatings," and he chaired a session in "Solid State Synthesis." Professor Casadonte also presented a departmental seminar at Texas Christian University on March 9, 1993, on "Chemical and Materials Applications of High-Intensity Ultrasound."

**Sandy Dasgupta** presented numerous invited talks during the 1992-93 period. Among them are: "Light Emitting Diode Based Absorbance Detectors" at the Winter Conference on Flow Injection Analysis (Phoenix, January 1992); "Membranes in

Analytical Chemistry - A Personal Tour" at Brigham Young University (February 1992); "Continuous Analysis: Continuous or Discontinuous?" at Iowa State University (Perspectives in Chemistry Series, February 1992); "Suppressed Conductometric Capillary Electrophoretic Separation Systems (SuCCESS)" at Dow Chemical Co. (Midland, MI, July 1992); "Measurement of Atmospheric Acidity: An Automated Instrument," and "Suppressed Conductometric Capillary Electrophoretic Separation Systems (SuCCESS)" at the International Symposium on Ion Chromatography (Linz, Austria, September 1992); "Membranes in Analytical Chemistry" at the Institute of Analytical Chemistry, National Academy of Sciences, Czechoslovakia (Brno, September 1992); "Advances in Atmospheric Analysis" at the Technical University of Vienna (September 1992); "Working with Membranes in Analytical Chemistry - A Decade with Subtly Intransigent Objects" at Shell Development (Houston, November 1992); "Membranes in Flow Injection Analysis" at the Council for Chemical Research Niche Conference on Process Analysis (Keystone, Colorado, May 1993); "Breaking Barriers with Membranes" at the Gordon Research Conference in Analytical Chemistry (August 1993); and "Advances in Ionic Analysis" (keynote lectures presented in Seoul, Tokyo and Osaka in March 1993, and at the International Conference on Chromatography and Environmental Analysis in Lublin, Poland, September 1993).

Dasgupta was appointed as Associate Editor of *Analytica Chimica Acta* in 1993.

Allan Headley presented an invited lecture in May 1992 at the 2nd Chemical Research and Development and Engineering Center (CRDEC) Meeting on Solute/Solvent Interactions at the U.S. Army Chemical RD&E Center (Aberdeen, MD), on "Proton Transfer Reactions Involving Substituted Dimethylamines." In June 1993, Headley was again invited to the 3rd CRDEC Meeting on Solute/Solvent Interactions, where he spoke on "Substituent Effects on the Tautomeric Equilibrium of N,N-Dimethylamino Acids."

Bob Holwerda participated in the National Science Foundation's Graduate Fellowship Review Board in February 1992.

David Knaff presented seminars on "Ferredoxin-Linked Plant Enzymes" at the Department of Chemistry of the University of Georgia in December 1991, and at the Departments of Biochemistry at the University of Neuchâtel (Switzerland) and the University of Milano (Italy) in June of 1992. In June 1992, Knaff presented a talk on "Electron Transfer Pathways in the Photosynthetic Bacterium *Rhodospirillum rubrum*" at a symposium at the University of Zurich in honor of the 60th birthday of professor Reinhard Bachofen. In October 1992, Knaff presented seminars on "Bacterial Cytochrome bc<sub>1</sub> Complexes" at the Department of Chemistry and Biochemistry at Arizona State University, and on "Electron Flow in Photosynthetic Bacteria" at the Department of Chemistry of the University of Texas at Arlington. Professor Knaff also chaired a session on the evaluation of faculty

teaching at the Rocky Mountain Regional Chemistry Department Chairs Meeting in October 1992. In January 1993, Knaff chaired a session at the Western Regional Photosynthesis Meeting at Asilomar (on the Carmel Peninsula, California) and presented a talk there on "Cytochrome bc<sub>1</sub> Complexes." In August 1993, Knaff chaired a session at the Gordon Conference on Photosynthesis and presented a talk there on "Properties of Spinach Chloroplast Glutamate Synthesis."

Knaff served on the Department of Energy's Basic Sciences grant review panel in December 1991, and has served on the National Science Foundation's ILI Review Panel, reviewing grant applications for innovations in undergraduate laboratories, in 1992 and 1993.

Ed Quitevis presented seminars on "Picosecond Optical Dynamics of Molecular Aggregates" at the International Conference on Lasers '92 (Houston, December 1992) and at the Center for Fast Kinetics Research of the University of Texas at Austin (March 1993). Quitevis also presented papers on "Reorientational Dynamics of Lipophilic Fluorescence Probes in Micelles" at the 48th Southwest Regional ACS Meeting (October 1992), "Electronic Energy Relaxation in Polymer-Bound J-Aggregates" and "Reorientational Dynamics of Merocyanine 540 in Artificial Bilayers: Probes of Membrane Structure and Dynamics" at the ACS National Meeting in Denver (March 1993), and on "Excited State Dynamics in Polymer-Bound J-Aggregates" at the 4th Annual Symposium on Photoinduced Charge Transfer in Homogeneous Media at the NSF Center for Photoinduced Charge Transfer in Rochester, NY (July 1993).

Dick Redington spent nearly eight months on Faculty Development Leave in the Department of Chemistry at the Massachusetts Institute of Technology as a Visiting Scientist, where he conducted research in laser spectroscopy and molecular dynamics. He presented a paper on "MO Investigations of Tunneling in Tropolone and 2,5-Dihydroxy-p-benzoquinone" at the 48th Southwest Regional ACS meeting in October 1992.

Bob Shaw presented a seminar on "Reconstitution of *Bacillus cereus* 5/B.6 Metallo-beta-lactamase Activity with Copper" at the Joint National Meetings of the American Society for Biochemistry and Molecular Biology and the Biophysical Society in Houston (February 1992).

Henry Shine was an invited Discussion Chairman at the 1992 Gordon Conference on Radical Ions. He presented a paper on "Pericyclic Transition Structures. Heavy Atom KIE and Modeling" at the 7th International Symposium on Novel Aromatic Compounds at Victoria, B.C. (July 1992), and presented two papers, "Reaction of Thianthrene Cation Radical with Diarylmercurials. Electron Transfer is Undetectable," and "Carbon Kinetic Isotope Effects in Sigmatropic Rearrangements. Evidence for Coupled Motion" at the 48th Southwest Regional ACS Meeting (October 1992). Shine continues to serve Texas Tech as an appointed member of the University's Strategic Planning Task Force, a group which assists in planning the University's future,

particularly with respect to the reallocation of funds to academic units.

Dr. Shine offers, as news, "my having reached, without any effort on my part, 70 years, nearly 39 of which have been spent at TTU" (see article on page 1).

Bob Walkup has been appointed Adjunct Associate Professor in the Department of Ophthalmology and Visual Sciences of the Texas Tech University Health Sciences Center. He presented an invited seminar on "Metal-Mediated Transformations of Allenes" at the Symposium on New Reagents for Synthetic Organic Chemistry of the 47th Southwest Regional ACS Meeting (San Antonio, October 1991), and he spoke on "Synthetic Studies of Metabolites of Tropical Marine Bluegreen Algae" at the Department of Chemistry of Baylor University (December 1991), on "Synthetic Studies of the Bluegreen Algal Metabolite Oscillatoxin D" at the 1992 Marine Natural Products Gordon Conference, on "Stereoselective Syntheses of 2,5-Disubstituted Tetrahydrofurans: Toward the Synthesis of the Antibiotic Pamamycin-607" and "Highly Substituted Oxaspirodecenes: Toward the Preparation of the Antileukemic Marine Natural Product Oscillatoxin D" at the April 1992 ACS National Meeting in San Francisco, and on "Allenenes as a Means to Antibiotics and Nucleoside Analogues" at the Department of Chemistry of Rice University (September 1992), ICI Pharmaceutical Company, Wilmington, Delaware (November 1992), the Department of Chemistry and Biochemistry of the University of Delaware (November 1992) and the Department of Chemistry at the University of Texas at Austin (January 1993). More recently, Walkup delivered a seminar on "Organic Synthesis for Biomedical Research: Studies on 'Seminatural' Peptide and DNA Molecules" at the Department of Chemistry of Mississippi State University (May 1993), and he spoke on "Design and Synthesis of Biologically Active Molecules" at the Department of Biochemistry and Molecular Biology of the Texas Tech University Health Sciences Center (May 1993). Walkup also served as an *ad hoc* member of the Medicinal Chemistry Study Section of the National Institutes of Health in October 1992.

Dick Wilde attended the XXI European Congress on Molecular Spectroscopy in Vienna (August 1992) and the XII International Conference on Raman Spectroscopy in Wurzburg, Germany (September 1992).

### Surrogate Chairperson Tested, Found Acceptable

As the accompanying photograph indicates, a surrogate chairthing has been put into use to deal with the day-to-day business of the department while the virtual chairperson is away attending the usual chairperson's conferences, workshops, council meetings, etc. that so often call chairpeople out of town. An informal survey of faculty, staff, and students has indicated that the surrogate chairthing is an acceptable substitute for the virtual chairperson. In fact, comments to the effect that the surrogate was easier to get along with, had  
(continued, next page)

Surrogate Chairperson, continued better handwriting, and was a better listener than the virtual chairperson were made by several individuals. Of those surveyed, a significant number had not noticed that a surrogate had even replaced the virtual chairperson. For others, the only indication of a difference was the notable absence of consumption of Yoplait yogurt by the surrogate. The possibility of utilizing the surrogate on a fulltime basis, particularly as a decisionmaker for departmental budgetary issues, is currently being explored. More on that in future TestTube issues.



The newly instituted Surrogate Chairthing hard at work in the swank, hardwood-panelled inner sanctum of the departmental chairman's office.

#### Research and Development Grants Awarded to Faculty

**Dr. Dominick Casadonte** was awarded a grant of \$26,828 from Sandia National Laboratories for "Removal of Bubbles in Viscous Melts Using Ultrasound." He also received a grant from the Robert A. Welch Foundation for "Sonochemical Production of Nanophase Material" (\$61,000 for June 1993 - May 1995).

**Dr. Sandy Dasgupta** has been awarded the following grants recently: \$49,103 for 1992-93 from the Texas Coordinating Board's Advanced Technology Program for "Inexpensive Remotely Addressable Soil Moisture Sensors;" \$116,000 for 1992-93 from the Texas Coordinating Board's Advanced Technology Program for "Mapping Sulfur and Ammonia Emissions in Texas: A Mobile Research Laboratory. Phase Two;" \$121,000 for 1991-93 from Dionex Corporation for "Advances in Ion Chromatography;" \$88,000 for 1993-94 from Dow Chemical for "Membrane Interface to Capillary Electrophoresis;" and \$25,000 for 1993 from Shell Development for "Continuous Flow Analysis (unrestricted grant)."

**Dr. Allan D. Headley** was awarded \$1,500 from the ACS Summer Educational Experience for the Disadvantaged project for "The Synthesis and Properties of Some Unnatural Amino Acids."

**Dr. David B. Knaff** was awarded \$81,000 for June 1993 - May 1996 from the Robert A. Welch Foundation for "Multiple Center Biological Electron Carriers," \$181,250 for August 1993 - August 1996 from the U.S. Department of Energy for "Ferredoxin-Linked Chloroplast Enzymes," and \$131,580 for July

1993 - July 1996 from the U.S. Department of Agriculture for "Electron Flow in Photosynthetic Bacteria."

**Dr. Robert D. Walkup** was awarded \$207,456 for February 1992 - January 1995 from the National Cancer Institute for "Oscillatoxin D and Related Spirobicyclics," \$70,000 (for research administered by **Dr. John N. Marx**) for September 1992 - August 1994 from the National Institute for Allergy and Infectious Diseases for "Synthetic Methodology for Biologically Active Molecules," and \$10,000 (jointly with **Dr. David M. Birney**) for June 1992 - August 1992 from the Texas Tech University Biotechnology Institute for "Design, Synthesis, and Biological Evaluation of Structural Analogues of Substance P, a Neuropeptide Which Stimulates Epithelial Cell Growth."

**Dr. Richard E. Wilde** was awarded \$91,500 for June 1992 - May 1995 from the Robert A. Welch Foundation for "Dynamics and Structure of Aqueous Electrolyte Solutions."

#### News about Alumni and Former Faculty and Staff

**Joseph B. Ashton** (B.S., 1952) reports that he is enjoying his retirement after 32 years with Shell Oil Company. Dr. Ashton (Ph.D. from UT, 1959) has moved from Houston to Austin, and has spent part of the past year vacationing in Australia, New Zealand, Germany, Austria, Italy, Lichtenstein, and Switzerland (presumably in that order!), and visiting Venezuela on a mission trip. Dr. Ashton is keeping his hand in chemistry by consulting for Digital Equipment Corporation.

**Ingemar Berglund**, who spent two years working in professor Dasgupta's laboratory as a Research Associate, returned to the University of Umea in Sweden in 1992, where in June 1993 he successfully defended his doctoral thesis on research done at TTU.

**Ron Biediger** (Ph.D., 1992) is a postdoctoral fellow working with professor Robert Holton in the Department of Chemistry at Florida State University.

**Leah Bitalac** (M.S., 1991) and **Randy Reigle** (J.M.S., 1993) were married in June 1992.

**Jimmie Brasch** (B.S., 1957, M.S., 1959) left Battelle Corporation in 1988 to set up his own business, JB Labs, in Columbus, Ohio, doing contract infrared spectroscopic studies.

**Kai-Tai Chang** (Ph.D., 1990) is a Postdoctoral Research Associate in the Department of Biochemistry at Rice University.

**Ray Cunningham** (B.S., 1982, Ph.D., 1988), a Senior Chemist in the Additives Research Group of Nalco Chemical Company, Sugarland, Texas, was named Researcher of the Year for 1992 by that company. In August 1993, after only two years with Nalco, Cunningham was promoted to Group Leader of the Polymer Research Group at Nalco's principal R&D center in Naperville, Illinois.

The department was saddened to learn of the premature death of **Dennis W. Darnall**, of an acute bacterial infection, on June 7, 1992 in Las Cruces, New Mexico. Professor Darnall earned his Ph.D. degree at Texas Tech in 1966, and later joined the chemistry department at

New Mexico State University, where he rose through the ranks, served as an associate dean of the college of arts and sciences, and was, at the time of his death, chairman of the department. An established scientist who received numerous awards for his research on the chemistry and structure of proteins, Darnall was also the founder and president of Bio-Recovery Systems, Inc. from 1985 to 1989.

**Bill Edgemond** (Ph.D., 1991) is a Research Associate in the Department of Pharmacology at the Medical College of Wisconsin in Milwaukee.

**Kevin A. Gray** (Ph.D., 1988) is an American Heart Association Research Associate in the Department of Biology at the University of Pennsylvania.

**Saadettin Guner** (Ph.D., 1992) is an Assistant Professor in the Department of Chemistry at Karadeniz Technical University at Trabzan, Turkey.

**Miin-Liang Horng** (Ph.D., 1992) is a Postdoctoral Research Associate in the Department of Chemistry at The Pennsylvania State University.

**Jin Jung** (Ph.D., 1983) is a professor in the Department of Agricultural Chemistry of the College of Agriculture and Life Sciences at Seoul National University, Korea.

**Bob Kane** (Ph.D., 1990) is a National Institutes of Health Postdoctoral Fellow in the Department of Chemistry & Biochemistry at the University of California - Los Angeles, where he is working with professor Frederick Hawthorne.

**Mohinder S. Kang** (Ph.D., 1976) is now a Senior Research Biochemist at Marian Merrell Dow Research Institute in Cincinnati.

**Soo-Un Kim** (Ph.D., 1983) is a professor in the Department of Agricultural Chemistry of the College of Agriculture and Life Sciences at Seoul National University, Korea.

**Katherine Lebeda** (B.S., 1991) and **David Richard** (B.S., 1991) were married in August 1992. Both are pursuing graduate degrees in chemistry at the University of Illinois.

**Bor-Kang Lin** (Ph.D., 1989) is currently a postdoctoral fellow in the Department of Pharmacology at the Texas Tech University Health Sciences Center.

**Patsy Wood Martin** (B.S., 1976) is now serving on the Texas Tech University Board of Regents.

**Yuzuru Murata** (postdoc, 1967-68), who formerly managed a petroleum refinery on Tokyo Bay for Kyokuto Petroleum Industries, has moved to Mobil Oil's Tokyo office to work in marketing.

**J. Lynn Myers** (Ph.D., 1993) is the Laboratory Director for Midland Certified Reagents Company in Midland, Texas.

**Nihal Obeyesekere** (M.S., 1986, Ph. D., 1989) is a Research Associate in the Department of Neuro-Oncology at the University of Texas M.D. Anderson Cancer Center in Houston.

**Gyoosoon Park** (Ph.D., 1988) is an Assistant Professor of Chemistry at Kookmin University in Seoul, Korea.

**Rabi Prusti** (Ph.D., 1987) is now a



Senior Scientist in the Protein Chemistry Division of Curative Technologies, Incorporated, a biotech company located in Long Island, New York.

**Hideharu Shintani** was recently promoted to Director of the National Institute of Hygienic Sciences of Japan, and is on the Editorial Board for the Journal of Radiation Sterilization.

**Dr. Witold Subotkowski** (postdoctoral fellow, 1990-92) has joined the research staff of Chemsyn Science Laboratories in Lenexa, Kansas. Dr. Subotkowski and his wife, **Dr. Lidia Kupczyk-Subotkowska** (postdoctoral fellow, 1990-92), have become permanent residents of the United States.

**Jim Sweet** (B.S., 1991) and Stacey Teague were married in August 1992.

**Pei-Pei Tang** (B.S., 1991) is pursuing her graduate degree in the Department of Chemistry at Stanford University.

**Shan-Shue Wang** (Ph.D., 1989) was recently employed by the Pharmaceutical R&D Laboratories of the Development Center for Biotechnology in Taipei, Taiwan.

**Richard Wolcott** (B.A., 1976, Ph.D., 1980) is currently a Group Leader in the Inorganic Materials Science and Characterization Section at Dow Chemical, Midland Michigan.

**Roseanne Woo-Haltresht** (B.S., 1977) has left Meade Company to become the Product Line Manager for Pitney Bowes Corporation's Monarch Marking Division in Dayton, Ohio. She has also entered law school as an evening student at Northern Kentucky University.

**Dr. Ibrahim Yilmaz** (postdoc, 1986-88, visiting associate professor, 1989) is now the manager of the Quality Control Department of Fako Ilacari, Turkey's largest pharmaceutical company, in Istanbul.

**Joe P. Young** (M.S., 1989) has been transferred to a position as Blending Engineer in the Specialty Fuels Division of Phillips 66 Corporation.

#### **Donations to the Department and the Alumni Scholarship Fund**

Thanks to our supporters who have generously donated to our department, including those who are helping us to reach the yet-to-be-attained \$10,000 needed to endow our first Alumni Scholarship. We are pleased to acknowledge the following individuals who have contributed generously to our programs. (Please contact us if your name should have appeared here; we may have missed you due to a recordkeeping error!).

Joseph B. Ashton

Bong Rae Cho

John H. Crow

Kim Hailey

Michael D. Hampton

J.B. McClellan (matching funds from Mobil Foundation)

Donald C. Mente

Rita Read (matching funds from Mobil Foundation)

Matthew T. Ryan

Hideharu Shintani

#### **1992 and 1993 Chemistry & Biochemistry Graduates**

The following students completed their degrees in Chemistry or in Biochemistry since the last report in the previous TestTube newsletter (Please send corrections to this information to the TestTube editor). Congratulations to each, and will all Chemistry and Biochemistry alumni please stay in touch with us?

##### Bachelor of Science in Chemistry

###### December 1991

Paul Scott Carman

David Larrell Richard

James Daryl Sweet

###### May 1992

Peter Jeffrey Brown

Eric Tung Lam Cheung

Robbye Gene Dildy III

Thomas Richard Johnston

Richard Andrew Muyschondt

Kimberly Jo Smith

###### August 1992

Robert Smead Hogan

Patricia Lynn Malone

Nachiketa Pandya

Matthew Scott Wehmeyer

###### December 1992

Tracy Renee Bryans

Dustin Lee McMinn

Roberto Mendez, Jr.

James Bryon Nichols

###### May 1993

Stacy Janette Clinton

Yanghong Li

Sheilendra Suresh Mehta

Aaron Lynn Odom

Rudolf Michael Reetz

Stephen Dwight Starnes

Steven Eric Twaddle

##### Bachelor of Arts in Chemistry

###### December 1991

Jolanda Marie Wimmer

###### May 1992

George Robert Aguilar

David Christopher Henson

Tammy Rene Stephens

Thomas Wayne Stevens

James Todd Wagner

###### December 1992

Jill Douglas Wingate (double major in Chemistry and English)

###### May 1993

Phillip A. Conlin

Russell Wayne Reddell

Steven Patrick Stowers

##### Bachelor of Science in Biochemistry

###### August 1991

Hope Yvonne Betts

Shannon Slade Myrick

Michele Louise Williams

###### December 1991

Clinton Kenneth Murray

Deborah Sue Switalski

###### May 1992

John Christopher Choate

John El-Attrache

James Michael Gardner

Jessie Joe Guerrero

###### August 1992

Michael Gene McPherson

Anant Nanubhai Patel

###### December 1992

Victoria Richards Harkins

Thomas Ferenc Holly

###### May 1993

Skylar Kirk Bizzell

Ann Marie Carr

Meifan Chen

Lance Duane Green

Gerald Wesley Gwartney

Kathryn Elizabeth Mitchell

Joel Alan Pratt

##### Bachelor of Arts in Biochemistry

###### December 1991

Edward Henry Holmes IV

###### May 1992

Amy Corinne Brueckner

Tori Gea Irlbeck

Mark Jeffrey Jenkins

Bryan Kirk Kemper

###### August 1992

Joe Eric Johnston

James Paul Yezuita

###### May 1993

Charles Victor Bayouth

Mark Darrow Bogar

William Travistor Cain

Steven Dwade Cook

Abdolreza Darigan

Jeffrey Ross Lane

Jeremy Allan Langohr

Mukesh Ramanbhal Patel

Mehrdad Pedram

Gregg Louis Puluka

Maria Louise Russell

James Phillip Wagner

##### Master of Science in Chemistry

###### August 1991

Leah P. Bitalac (Organic - Dr. Bartsch.

"Synthesis of Lipophilic 16-Crown-5 Compounds and Studies of their Alkali Metal Complexation Behavior")

###### December 1991

Aftab Ahmed Siddiqui (Analytical - Dr. Foley.

"Electrochemistry of Unmodified and Prussian Blue-Modified Glassy Carbon Electrodes")

###### May 1992

John Monte Knobloch (Organic - Dr. Bartsch.

"Covalent Attachment of 18-Crown-6 to Polystyrene")

*August 1992*

Connie Dee Dunn (Analytical - Dr. Dasgupta. "Determination of Carbonyl Compounds in Organic Solvents")  
Ittycheriah P. Ittycheriah (Inorganic - Dr. Whittlesey. "Synthesis and Characterization of Compounds of Copper, Indium, and Selenium Containing Trifluoromethyl Groups")  
Jing Tan (Biochemistry - Dr. Knaff. "Soluble Cytochrome c and HiPIP as Electron Donors in *Chromatium vinosum*")

*May 1993*

Dan Walker Knight (Organic - Dr. Walkup. "Oxidation of Diels-Alder Adducts Formed From Alpha, Beta-Unsaturated Dithioesters")

#### Doctor of Philosophy in Chemistry

*August 1991*

Rajalakshmi Krishnan (Physical - Dr. Robinson. "Experiments in Weak Acid Dissociation and Theories of Activated Rate Processes")  
Douglas Lee Strong (Analytical - Dr. Dasgupta. "Electrodialytic Membrane Eluent Generators and Suppressors for Ion Chromatography")

*December 1991*

Johnny Lindell Hallman (Organic - Dr. Bartsch. "Synthesis of Naphtho[f]naphthridin and Synthesis of Polymer-Supported Crown Ethers")

*May 1992*

Ronald J. Biediger (Organic - Dr. Marx. "The Total Synthesis of Phytuberin")

*August 1992*

Saadettin Guner (Biochemistry - Dr. Knaff. "Studies on the Cytochrome bc<sub>1</sub> Complexes of Purple Non-Sulfur Photosynthetic Bacteria")

*December 1992*

Jong-Back Gang (Biochemistry - Dr. Harman. "DNA Structure and Cyclic AMP Receptor Protein-Mediated Lactose Operon Promotor Activation")  
Miin-Liang Horng (Physical - Dr. Quitevis. "Picosecond Spectroscopy of Molecular Aggregates")  
Donald Wayne Mittanck (Biochemistry - Dr. Nakashima. "Gene Expression in Cancer")  
Jeffrey Wade Seale (Biochemistry - Dr. Nakashima. "Phosphorylation of Hexokinase by Tyrosine and Serine/Threonine Specific Kinases")  
Thomas Francis Tekut (Inorganic - Dr. Holwerda. "Perturbations of the HOMO Level of Oxo-Bridged Chromium(III) Dimers")  
Marty Dean Utterback (Organic - Dr. Bartsch. "Synthesis of Lipophilic Acyclic Polyether Dicarboxylic Acids and Lipophilic, Chromogenic, and Fluorogenic Crown Ethers")  
William Christian Wigley (Biochemistry - Dr. Nakashima. "Hexokinase RFLP's in Tumor Versus Normal Cells and Evidence for Multiple Hexokinase Genes in Hepatoma Cells")

*May 1993*

James Lynn Myers (Biochemistry - Dr. Shaw. "The Role of the Metal Ion in the Catalytic Cycle of beta-Lactamase II")

#### **Scholarships in Chemistry & Biochemistry**

It is a pleasure to acknowledge the ongoing generous support of our scholarship programs by Dow Chemical USA and Hoechst Celanese Corporation. The contributions from these industries allow us to recognize the accomplishments of our undergraduate students in a meaningful way. In addition to the yearly support offered by our friends in industry, funds for scholarships are available from the interest generated by the generous endowment given to us by Dr. and Mrs. Joe Dennis. The fruit from these investments in the careers of chemistry students will be abundant.

#### **Jeanette and Joe Dennis Scholarships**

*1992-1993*

Mr. Forrest Combs  
Mr. Robert Hogan  
Ms. Kathryn Mitchell  
Ms. Julie Ray

*1993-1994*

Mr. Janel Short  
Mr. Emery Swenson  
Mr. Mohammed Ayoub  
Ms. Amanda Malouf

#### **Dow Chemical USA Scholarships**

*1992-1993*

Mr. Sean Christian  
Ms. Amy Clark  
Mr. Robert Ertner  
Mr. Van Thuy Ha  
Mr. Brian Livengood  
Mr. Joel Pratt

*1993-1994*

Ms. Amy Clark  
Mr. Van Thuy Ha  
Mr. Arnold Ruymgaart  
Mr. Timothy Mooring

#### **Hoechst Celanese Scholarships**

*1992-1993*

Mr. David Bessire  
Ms. Ann Marie Carr  
Ms. Yanghong Li  
Mr. Aaron Odom  
Mr. Patrick Proffer  
Mr. Stephen Starnes

*1993-1994*

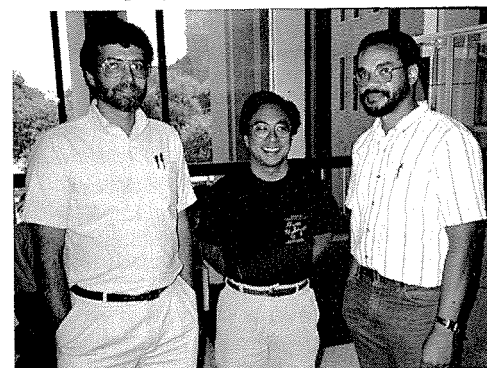
Mr. Patrick Proffer  
Mr. Seth Atkins  
Mr. Jacobo Sanchez  
Mr. Richard Bui



David Knaff (far left, in the uncharacteristic coat and tie) congratulates the 1992 Outstanding TA awardees (l to r) Michael Mosher, Ahmed Abbas, and Tom Klinger.



Don Love, Departmental Stockroom Supervisor for over 34 years, relishes the cake at his retirement party.



P-Chem Power Trio. Greg Gellene, Ed Quitevis, and Allen Headley (left to right) digesting lofty scientific matters (and barbecue) at the departmental luncheon, September 1992.



David Knaff congratulates the 1992 Outstanding Graduating Senior, Richard Muyschondt.

**Dear Family, We are fine, please send money.**

The cutbacks suffered by the department as a result of financial hardships in the state have made us, 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 crucial endeavor? As stated before, contributions in any amount would be welcome. Furthermore, contributions designated for any "cause" related to the department, or those designated for unrestricted use, are welcome. Among some specific aims for departmental development which would be appropriate for designated gifts are (1) the continued enhancement of the **Alumni Scholarship**; (2) new endowments (or one-time contributions) for **Undergraduate Student Scholarships**; (3) endowments (or one-time contributions) for the establishment of **Graduate Student Scholarships**; (4) endowments (or one-time contributions) for the establishment of **Lectureships** (funding to cover expenses for visits to TTU by eminent seminar speakers); and (5) endowments (or one-time contributions) for **Equipment Purchases for Teaching or Research Laboratories**. Of course, you might have other specified donations in mind. All are welcome.

Please consider helping 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.

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**Donation Response Form**

Enclosed please find a check, made out to "The Department of Chemistry & Biochemistry - TTU," in the amount of \$ \_\_\_\_\_.

I wish to designate this contribution for the following growth program in the department: \_\_\_\_\_

\_\_\_\_\_  
(If this is left blank, then your donation will be considered to be "unrestricted," and the funds will be applied at the Departmental Chairman's discretion).

My employer participates in a matching program for donations by employees. Please contact

\_\_\_\_\_  
at my place of employment about this.

Name: \_\_\_\_\_

Address (or enclose "Information Update Form" given above):

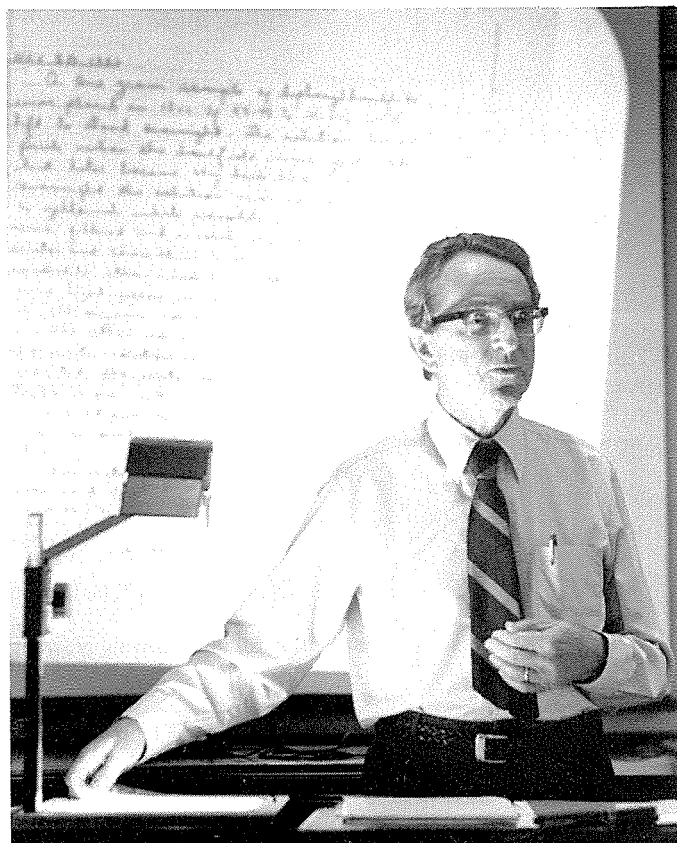
\_\_\_\_\_  
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                                 **Texas Tech University, Lubbock, TX 79409-1061**

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Present and Past Coworkers of Henry Shine who attended the Shine Symposium. Front row (left to right): Stanislaw Lochinsky (postdoc 1988-90), Hari Das Mandal (current student), Dong Hak Bae (Ph.D., 1982, postdoc 1983-4), Kyongtae Kim (Ph.D. 1975), Professor Shine, Lydia Kupczyk-Subotkowska (postdoc 1984-6, 1990-2), Ewa Gruszecka-Kowalik (postdoc 1981-3), Mansurul Hoque (Ph.D. 1990), Shi Ming Wu (Ph.D. 1977), Wang Yueh (current student). Back row (left to right): Shishue Chiou (Ph.D. 1988), Sang Rok Do (current student), Bogdan Boduszek (postdoc, 1986-8), Witold Subotkowski (postdoc 1983-6, 1990-2), William J. Heilman (Ph.D. 1962), Charles M. Baldwin (Ph.D. 1970), John C. Tisler (Ph.D. 1959), Jiin-Duey Cheng (Ph.D. 1973).



Henry Shine, discussing "How I Stumbled on and Got Hooked by Electron Transfer," displays a page from one of his early research notebooks which recorded one of his important discoveries.



Debbie Seitz (at left) and Denise Phillips (at right), of Hoechst Celanese, congratulate the 1992 Hoechst Celanese Scholarship Winners (1 to r) Stephen Starnes, Tracy Bryans, Aaron Odom, Yanghong Li, Patrick Proffer, David Bessire, and Ann Marie Carr.





David Knaff (left) poses with an assortment of 1993 student awardees (l to r): Kim Smith and Andy Bessire, 1993 TTU Teaching Assistant Awardees; Vikki Van Duzee, winner of the 1993 Samuel Hunt Lee Memorial Award and the 1993 CRC Press Freshman Achievement Award; David Bessire, winner of the 1993 Walter J. Chesnavich Memorial Award; and Matt Monzyk, the 1993 TTU Outstanding Graduate Student Teaching Awardee



1992 Jeanette and Joe Dennis Scholarship Awardees, Kathryn Mitchell and Rob Hogan.



Departmental chairmen, past and present, at the Shine Symposium. Left to right: Horn Professor David B. Knaff (chairman, 1989-present), Horn Professor Henry J. Shine (chairman, 1969-1975), Dr. John L. Kice (Chairman, 1975-1981), and Horn Professor Richard A. Bartsch (Chairman, 1981-1989). Regretably missing was professor emeritus Joe Dennis (Chairman, 1950-1969), who could not attend the symposium due to illness.



Professor Emeritus Joe Dennis (left) is presented the 1992 South Plains ACS Special Recognition Award by professor John Marx.



Professor Robert A. Holwerda (left) is presented the 1992 South Plains ACS Special Service Award by professor John Marx, the omnipresent secretary for the South Plains ACS.



David Babb (center) of Dow Chemical USA, poses with two of the 1993 Dow Chemical USA Scholarship award recipients, Timothy Mooring and Arnold Ruymgaart (l to r). Not pictured are the other Dow Scholarship award recipients, Amy Clark and Van Thuy Ha.

**TTU Connections at ACS National Meetings!**

All current and former faculty, staff, students, and friends of the Department of Chemistry and Biochemistry of Texas Tech University are invited to meet together during the upcoming Spring and Fall ACS National Meetings to be held at San Diego (March 13-18, 1994) and Washington, DC (August 21-26, 1994)! At press time for this newsletter, no

specific details for such a reunion have been made. It is possible that our reunion will be held concurrently with similar reunions hosted by other Texas universities. Another possibility is that we will simply create an ad hoc reunion by agreeing to meet at a specific place and time during the meeting. If you plan to attend either of these meetings, please contact Bob Walkup (registered at the meeting as "Robert D.

Walkup"), Jerry Mills (registered as "Big Jerry Lee" [sic]), or any other faculty for details either ahead of time, or at the meeting. In particular, if you have some ideas for agenda items and entertainment for such reunions, then please let us know. We hope to establish such reunions as a regular event at the national ACS meetings. 'See you there!

**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 my errors about you! It would be a tremendous help to us if you could help us to update our information about you and that, in turn, would help you to be better informed about what's going on here at Tech. Please, at least, fill out the form below and send to the TestTube editor, your ever-so-humble servant.

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**Information Update for TTU Chemistry & Biochemistry Alumni File**

Name \_\_\_\_\_  
Last First Middle Maiden Name

TTU Degree (Circle all that apply): BA BS MS PhD Postdoc

Year(s) of Degree(s) \_\_\_\_\_

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\_\_\_\_\_  
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\_\_\_\_\_ Check here if this address is different from the one printed on your issue of the TestTube, or if you did not receive an issue of the TestTube

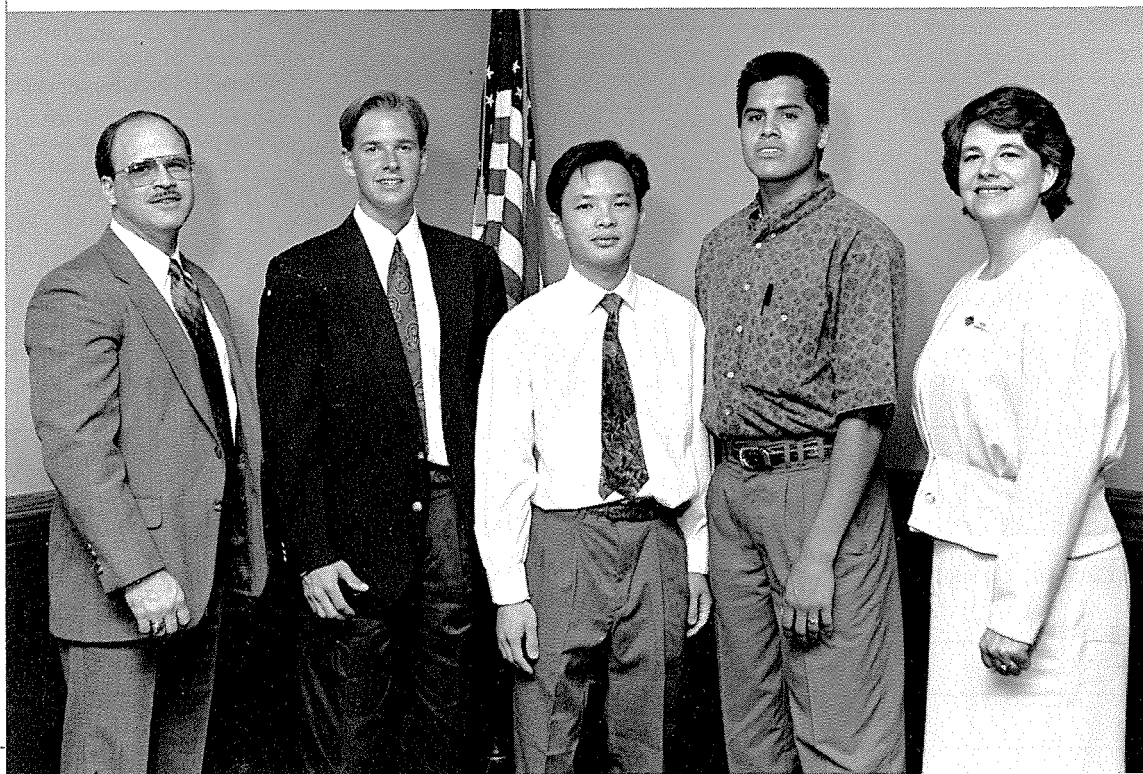
Employer: \_\_\_\_\_ Position: \_\_\_\_\_

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Comments, Corrections, News (photos are welcome!):

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Mark Seidlitz (at left) and Mary Smith (at right) of Hoechst Celanese Corporation congratulate 1993 Hoechst Celanese Scholarship awardees (l to r) Patrick Proffer, Richard Bui and Jacobo Sanchez. Not pictured is another awardee, Seth Atkins.

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