

the Test Tube

1986 NEWSLETTER

THE DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

Texas Tech University Lubbock, Texas

Editor: Henry J. Shine

Editorial Assistant: Jane Bradley



The past year has been an exciting one in terms of continuing departmental development. In September, we changed our name to the Department of Chemistry and Biochemistry. The name change was coincident with the institution of Bachelor of Science and Bachelor of Arts in Biochemistry degree programs. These new degree programs are proving to be very popular, with thirty majors enrolled so far.

Very recently, final approval was given to a 6.5 million dollar Chemistry Building Renovation Project to be supported by the new Higher Education Assistance Fund (HEAF). In this project, the interior of the original building portion will be gutted and completely refurbished to provide laboratories for general chemistry, classrooms, biochemistry laboratories, a room for computer-assisted instruction, shop facilities and departmental instrument rooms. Renovation activities will commence this spring and will hopefully conclude in time for this portion of the building to be used in the fall of 1987.

Other good news includes the funding of our proposal to the National Science Foundation for a super-conducting nuclear magnetic resonance spectrometer. Within six months, we will have a high field multi-nuclear NMR of at least 300 megahertz.

Searches are also underway for faculty additions to the Analytical Chemistry Division and the Biochemistry Division (a molecular biologist). These are replacement positions generated by retirements of Professors Draper and Guerrant.

Unfortunately not all the news is so cheery. State funding for Texas Tech University decreased for the 1985-1986 academic year and the Department of Chemistry and Biochemistry suffered significant losses in our departmental operating expense budget. We also lost one half of a departmental staff member's position and several graduate teaching assistantship positions. It now appears that even deeper cuts will be required for 1986-1987. This may include an inability to fill the faculty position resulting from the retirement of Professor Rekers at the end of this summer. With continuing decreases in oil prices it would appear that our department and Texas Tech University are in for some hard times. More than ever before we will be relying upon assistance from former students and friends.

Sincerely yours,

Richard A. Bartsch

Richard A. Bartsch
Chairman

The Old Order Changeth—

Yielding place to new. This is the way Tennyson said it when he wrote of the Passing of Arthur (as those of you who took English Lit may still remember). And, this is the way we must say it now about our Department. Major changes are taking place which will alter the "order" or character of the department considerably. If you examined the masthead of this Seventh newsletter and if you read, first, the message from Chairman Dick Bartsch you will know that we are no longer the Department of Chemistry. Instead, effective with the fall semester, 1985, we became the Department of Chemistry and Biochemistry. This change, sanctioned by the State of Texas, was made in order to reflect the changing world of chemistry and the emphasis being placed in it on molecular biology and biotechnology. The Department will be adding a molecular biologist to its biochemistry division. An undergraduate major in biochemistry as well as in chemistry is now available in the Department. It is anticipated that more of our students will be seeking training in biochemistry, whether or not they major in biochemistry, in future years. The trend toward the biological side of chemistry is also to be seen in some industrial giants, such as DuPont and Monsanto, companies which have begun selling off traditional parts of their industrial empires, such as in heavy chemicals and petroleum based processes, and which have entered research and development in biotechnology in a large way. Our Department is taking steps to see that its students are being prepared for the future. Further changes in curricula are likely to be seen.

Another major change in the offing is a physical one, the renovation of the old chemistry building. The renovation will entail building new teaching and research laboratories, shops, lecture rooms and an office complex for general chemistry. The attic of the old building, which, within all our memories, has been used mainly for storage, will be reconstructed, too, for new teaching and research laboratories. The third



Having trained in faster-than-sound air machines, Capt. Gerald Walzel (B.S. '73, M.S. '76), has graduated, it may seem, to guarding the frontiers in the good old way. No, it's not "one riot, one ranger". Gerald is still with the USAF.

floor of the new chemistry building and the renovated attic will be connected wings of flourishing analytical chemistry and biochemistry. The renovation will entail "gutting" of the old building, for which reason it has now been vacated completely. All of the service shops, research and teaching functions of the old building have been crowded into the new. All classes and labs will be held in the new building while renovation takes place in the old. This has called for very tight scheduling of laboratories, particularly. The next couple of years will be crowded ones for students, faculty and staff. The renovated old wing will no longer be recognizable by former occupants.

In its early history our Department was conjoined with Chemical Engineering. In its earliest days it shared the old building with Biology, Geosciences, and Physics. Certainly, the first-comers in our Department's history could not have foreseen the changes which were to take place and the developing character of the Department.

Traditionalists (like the Editor) can be comforted with knowing that no changes will be made in the outer appearance of the old building. We will still be able to recite HeLiBeBCNOF from the outer wall, and gaze nostalgically at alchemical signs of past centuries.

Another change to be noted, but not likely to be so permanent as the ones already recorded, is in the writing of this Newsletter. This time it is being written on the other side of the Atlantic, by the fireside (alas, gas, no longer coal), and interspersed with walks along the banks of the Thames and trips "up west" to the theatres and galleries of chilly, overcast, sunless London.

In Memoriam

Larry Flukinger (B.S., 1971; M.S., 1973, Dr. Mills) died on March 16, 1985, in Hempstead, TX. Larry had been a chemist for Dow Chemical in Freeport, TX, and also a teacher in a small college in Colorado. For a few years prior to his death Larry had been an artist in the medium of neon lighting structures.

Undergraduate Degrees, 1985

Daniel W. Barnett, B.A.
Richard Quinn Bligh, B.S.
Kenny M. Brantley, B.A.
James A. Burke, B.A.
Stephen Glenn Dalton, (Cum Laude), B.A.
Jill Price Demin, B.A.
Aloice N. Dimbah, B.A.
Parvin Dinyarian, B.S.
Teresa Golden, B.S.
James Hogan Goldsmith, B.A.
Stephen W. Hall, B.S.
James Paul Haney, B.A.
Paul T. Hazuka, B.A.
Susan C. Jack, B.S.
Robert Lowell Johnson, B.A.
Sonja B. Kristiansen, B.A.
Melissa M. Leike, B.A.
Janet G. McInnis, B.A.
Anita Misra, B.A.
Alan James Oty, B.A.
Denise A. Phillips, B.A.
Delroy Anthony Poyser, B.A.
Dan William Pulsipher, B.A.
Rebecca R. Reamy, B.S.
Michael Thomas Schreiber, B.S.
James Chia-Tai Shih, B.S.
Felicia Fawn Simpson, B.A.
Shelley Renee Johnson Tardy, B.A.
Mark Neal Thurman, B.A.
Linda Jo Bagwell Wofford, B.S.

Graduate Degrees, 1985

Clinton H. Anderson, M.S. (Dr. Holwerda), "Mechanistic Flexibility in the Reduction of Copper(II) Complexes of Aliphatic Polyamines by Mercapto Amino Acids."
David Babb, Ph.D. (Dr. Bartsch), "Synthesis and Metal Ion Complexation of Synthetic Ionophores."
Hae-Sun Kang Baek, Ph.D. (Dr. Holwerda), "Kinetic and Redox Studies of the Copper(II)-Mercaptide Complexes."
Hollis J. Boss, M.S. (Dr. Bartsch), "Synthesis of Lipophilic Monoaza Crown Carboxylic Acids."
Dale Francis Gaul, Ph.D. (Dr. Knaff), "Biophysical Characterization of Several Hemoproteins from the Protosynthetic Bacteria, *Chromatium vinosum* and *Rhodospirillum rubrum*."
Hoon Hwang, Ph.D. (Dr. Dasgupta), "Determination of Trace Levels of Gas and Aqueous Phase Hydrogen Peroxide."
Alojzy Kajstura, M.S. (Dr. Shine), "Single Electron Transfer Reactions of Thianthrene Cation Radical."
Grace Manyi Ndip, M.S. (Dr. Bartsch), "Complexation of Alkali Metal Cations by Novel Ionizable Polyethers."

David Wayne Purkiss, M.S. (Dr. Kice), "The Decomposition of tert-Butyl Benzenethiol seleninate."
La Quetta Dianne Moore Purkiss, M.S. (Dr. Mitchell), "Organic Acid Analysis in Texas Grapes and Wines."
Byungki Son, Ph.D. (Dr. Bartsch), "Synthesis of Crown Ether-Containing Polymers and Functionalized Crown Ethers."
Abdul Salem Muhamed Ali Thannoun, M.S. (Dr. Shaw), "Production and Purification of Beta-Lactamase II from *Bacillus cereus*."

Postdocs and Research Associates

Dr. Bogdan Boduszek, from the Technical University, Wroclaw, formerly postdoctoral fellow at TTU (1980-1982) with Dr. John Kice, returned to TTU in October, 1985, to do further postdoctoral research with Dr. Shine.

Professor Witold Charewicz from the Technical University of Wroclaw, Poland, returned to TTU for the Summer, 1985, to teach at the undergraduate and graduate-levels.

Professor Zaifu Huang and Mr. Zong-Yuan Yu from Wuhan University, People's Republic of China have joined the research group of Dr. Bartsch as research associates.

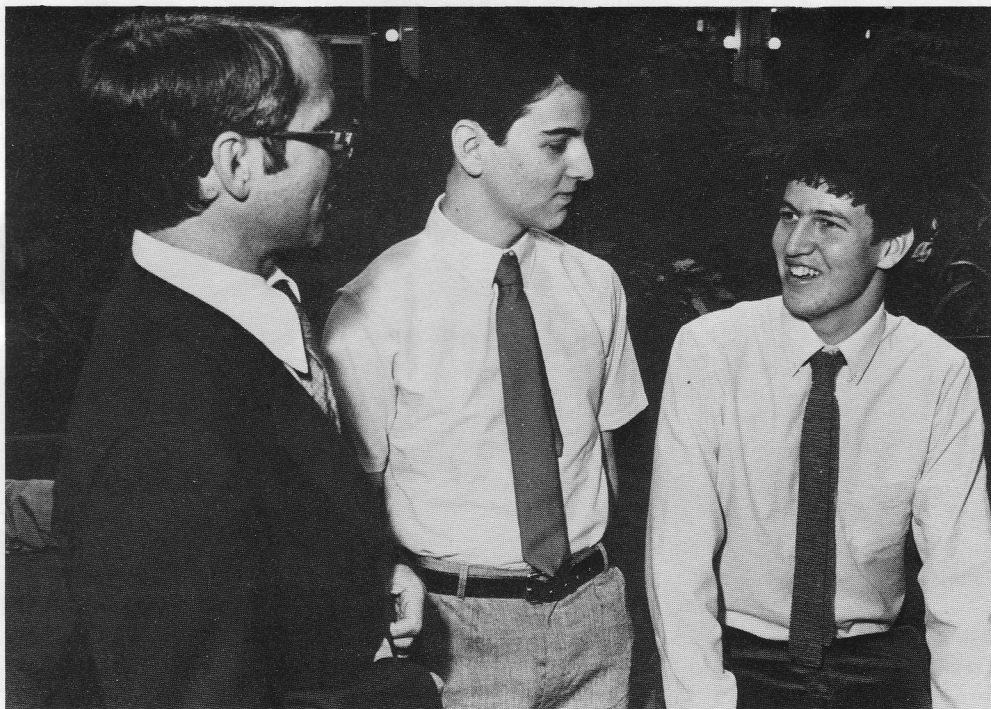
Professor Ja Hong Kim, Cheon Buk National University, Korea, has joined Dr. Song's group as a visiting professor, sponsored by the Korean Government.

Dr. Jacek Koszuk has completed his postdoctoral study with Dr. Bartsch and has returned to his home University in Lodz, Poland.

Dr. J. P. Shukla, senior scientist, from the Bhabha Atomic Research Centre, India, has joined Dr. Bartsch's research group as a postdoctoral associate.

Dr. Miroslaw Soroka, postdoctoral fellow with Dr. Shine during 1983-85 has returned to his home University in Wroclaw, Poland.

Dr. Wladyslaw Wolkowiak completed his postdoctoral study with Dr. Bartsch and has returned to his home University in Wroclaw, Poland.



Chemistry Olympiad participants: Coach Royace Aikin with students Kevin Nelson and Darren Vengroff.

The Chemistry Department— American Chemical Society Annual Awards Banquet

The Awards Banquet took place in the Faculty Club on the Campus on April 25, 1985. We were fortunate that Mr. Ed Bradshaw could join us again this year to present the Weymouth-Campbell Scholarships. We had the pleasure, also of Mr. Ric Massie's attendance to present the Dow Chemical USA scholarships. The banquet speaker was Prof. Russell D. Larsen, who took us back into chemical and scientific history with his talk: "On the Shoulders of Giants."

Students who were honored with scholarships and awards are listed separately. Also honored at the banquet with the South Plains Section Award as Outstanding High School Chemistry Teacher were Royace Aikin (Lubbock High School) and Pam Thomas (Estacado High School). This year was marked also by participation of area high school students in the preliminary trials for the International Chemistry Olympiad. Recognized at the banquet were three finalists among local high school competitors, all from Lubbock High: Kevin Nelson, Eric Roberts, and Darren Vengroff. Also recognized was their teacher and coach, Royace Aikin.

Scholarships and Awards to Undergraduate Students, 1985

The Samuel Hunt Lee Memorial Award (to an outstanding freshman chemistry major), **Christopher Shelton**.

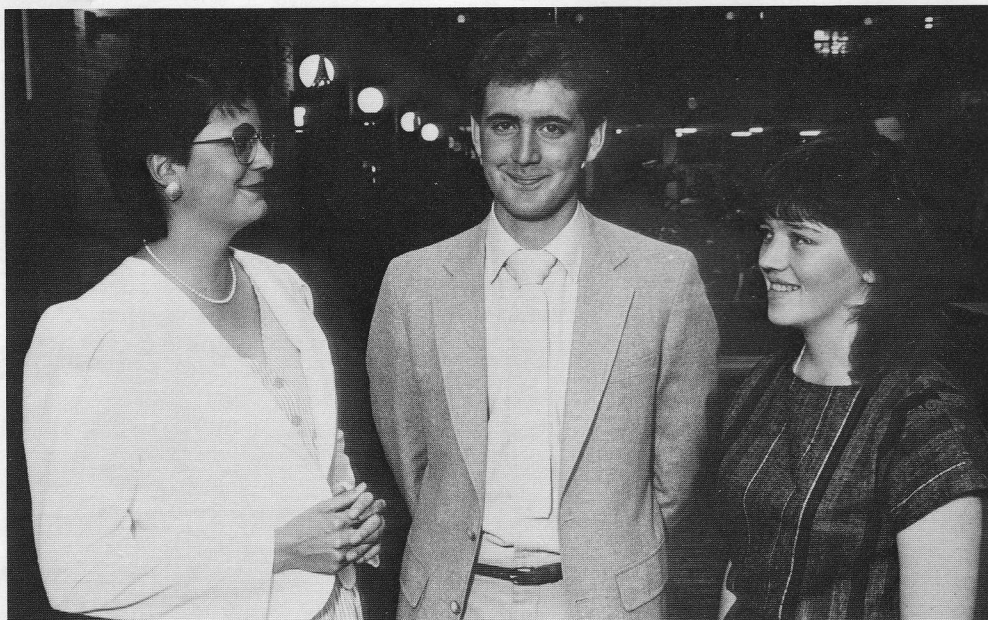
The William Barnett Guerrant Award (to an outstanding student in organic chemistry), **Kevin MacReady**.

The CRC Press, Inc., 37th Annual Freshman Chemistry Achievement Award (to an outstanding student in freshman chemistry), **Michelle Clark**.

American Chemical Society Student Affiliate Scholarship (to an outstanding sophomore chemistry student), **Jonathan Metzler**.

The Texas Institute of the American Institute of Chemists, Student Award (for outstanding accomplishment in a baccalaureate program in chemistry or chemical engineering, and potential as a professional chemist), **Linda Bagwell Wofford**.

The Merck Index Award (for outstanding achievement by a graduating senior), **Quinn Bligh, Stephen Hall, Susan Jack**.



Undergraduate awardees, left to right: Susan Jack, Quinn Bligh and Linda Bagwell Wofford.



Graduate Students Abdul Thannoun, Don Kyle and Rabi Prusti receive their awards from Associate Chairman Dr. Robert Holwerda.

The Weymouth-Campbell Scholarships: for superior performance (as a freshman chemistry major) **Christopher Shelton, Raymond Smola**; (as a sophomore chemistry major) **Ingrid Dearmore, Edward Garza, Kevin MacReady, Jonathan Metzler, Jeffrey Nichols**; (as a junior chemistry major), **Karin Strout**.

Dow Chemical Company Scholarships for outstanding achievement as a junior chemistry

major: **Bradley Bufkin, Jerry McLaughlin**.

Teaching Assistant Awards to Graduate Students

Texas Tech University Outstanding Graduate Student Teacher Award:

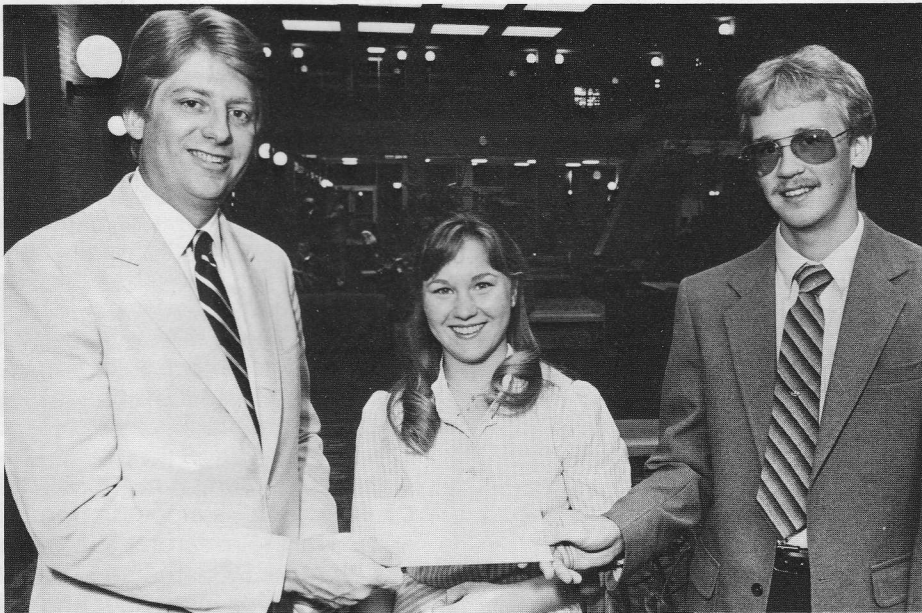
Rabi K. Prusti.

Department of Chemistry Award for Superior Performance as a Teaching Assistant:

Don Kyle, Abdul S. Thannoun.



Mr. Ric Massie (right) presents a Dow Chemical USA award to Jerry McLaughlin.



Mr. Ed Bradshaw presents Weymouth-Campbell Awards to Karin Strout and Jeffry Nichols.



Jerry Mills (left) accepting in behalf of the Department an unrestricted grant from Dow Chemical USA's representative, Mr. Ric Massie.

News of Alums

Clinton Anderson (M.S. 1985, Dr. Holwerda) is the head of the analytical chemistry division, Texas Instruments, Lubbock.

Dr. David A. Babb (Ph.D., 1985, Dr. Bartsch) has joined Dow Chemical USA, Freeport, TX.

Dr. Haesun Kang Baek (Ph.D., 1985, Dr. Holwerda) is an assistant professor of chemistry at Northwestern State University, Natchitoches, Louisiana, where she is working on the platinum chemotherapy of cancer. Haesun is expecting her second child in the Summer, 1986.

Howard Bailey (B.A., 1981; M.B.A. and J.D., 1985, TTU) is working with Arthur Andersen Co. as a tax consultant.

Kelia Allen Ballou (B.S., 1972) and computer consultant husband live in Houston. Formerly a chemist at Dow, Kelia now devotes her time to family life with the Ballou's six-year old son and three-year old daughter.

Dr. Earl R. Beaver (Ph.D., 1970, Dr. Draper) returned to TTU to give two lectures about his work and the company (Monsanto) where he carries it out.

Robert H. Behal (B.A. in Chemistry and History, 1983) is a graduate student at UT, working on a Ph.D. in biochemistry.

Prof. Bong Rae Cho (Ph.D., 1980, Dr. Bartsch) has received a \$30,000, three-year grant for Studies of Elimination Reaction Mechanisms from the Korea Science and Engineering Foundation. This is the highest award KOSEF can make, and Prof. Cho is the youngest chemist to have received it.

Dr. Andrea Cobb (Ph.D., 1984, Dr. Knaff) is a post-doctoral fellow with Prof. Wendell Leavitt, TTUSM.

L. Roy Custer (B.S., 1964) is manager of the packaging unit at Wyeth Laboratories, Mason, Mich. Daughter Allison graduated from TTU in December '85 in Ch.E. The editor of this Newsletter was the organic chemistry instructor for Allison and her father, which attests to his (the editor's) advancing years.

Dr. Victor L. Davidson (Ph.D., 1983, Dr. Knaff) is now assistant professor in the Department of Biochemistry, University of California, San Francisco.

Dr. J. D. Donaldson (B.A., 1936) has retired after 36 years as a pediatrician in Lubbock. Donaldson received the M.D. degree from UT in 1941, spent four years in the U.S. Navy, and two years in the Children's Hospital, St. Louis, before entering practice in Lubbock.

Dr. David R. Douglas (B.S., 1968) is a research scientist with Philip Morris U.S.A., Richmond, VA.

Dr. Robert D. Fugate (Ph.D., 1978) returned to the Department to greet old friends in January ('86) just as this newsletter was in its final stages. Bob graduated in biochemistry (with Dr. Song) and having used so much instrumentation in his research work was attracted into working for one of the companies which made part of his instruments. Now he is Sales Vice-President of that company, SLM-Aminco, and resides in Urbana, IL.

Dr. Dale F. Gaul (Ph.D., 1985, Dr. Knaff) is a postdoctoral fellow with Prof. Bruce Selman, Department of Biochemistry, University of Wisconsin.

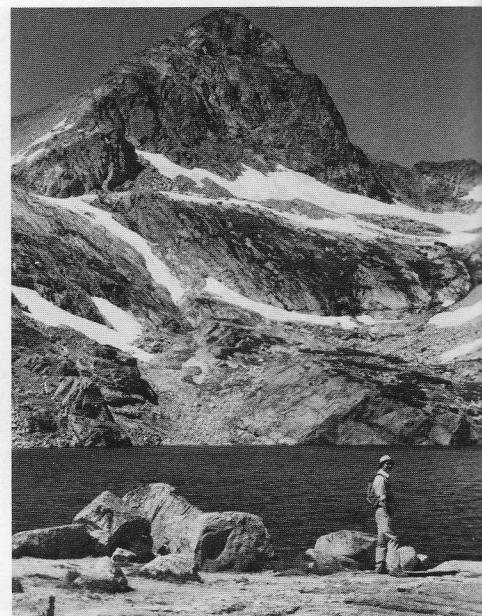
Dr. Gary O. Gray (Ph.D., 1984, Dr. Knaff) is a postdoctoral fellow with Dr. Wendell Leavitt, Department of Biochemistry, TTUSM.

H. Wayne Henry (B.S., 1975) received the M.Sc. in Systems Technology, 1985 from Naval Postgraduate School, Monterey, CA, and is now a Captain in the USAF Tactical Information Systems Division, Langley AFB, VA.

Jeff Herr (M.S., 1984, Dr. Wilde) is pursuing graduate work in materials science at U.T. Arlington.

Louis Irwin (B.A., 1965), now full professor of biology at Simmons College, was the subject of an article on keeping campaign promises, which appeared in the Newton Graphic, February 20, 1985. Irwin is described as that unusual politician—one who keeps a campaign promise. Irwin was elected Alderman-at-large in Newton, and has kept a campaign promise to keep his constituents informed of actions by the Board of Aldermen by writing periodic newsletters. We thank Prof. Kenneth Davis of TTU's English Department, and friend of the Irwins, for sending us the news clipping.

Dr. O. Wayne Isom (B.A., 1961) is head of thoracic surgery, New York University Hospital.



The new habitat of John Kice, now Chairman of Chemistry at DU, and vaguely visible on the lake shore.

Dr. O. B. Jackson, Jr. (B.A., 1967) is a pediatric ophthalmologist in Austin, TX. and asks for news of Dr. Song's work with riboflavin and lumiflavin. Please see the faculty news section for news of Dr. Song.

Dr. Linda L. Jagodzinski (Ph.D., 1979, Dr. Sevall) is now a senior scientist in a biotechnology research lab in Rockville, MD. Linda is married and has a year-old daughter, Linda Dawn.

Dr. Randy Johnston (Ph.D., 1984, Dr. Holwerda) is a postdoctoral fellow at the Naval Research Laboratories, Washington, DC, studying fixation of carbon dioxide by copper and rhenium compounds.

Hossein Karimi (B.A., 1953; M.S., 1962, Dr. Draper), and now in Washington, DC, made a pleasant, surprise visit to the Department this year.

Harvey Mallory, III (M.S., 1961) and wife, Betty, who won the "Name the Newsletter" Award last year, kindly donated the \$25 award to the Department's fund of unrestricted gifts. Harvey has sent us news of Wayne Isom, for which we send our thanks.

Jim Moore, who was a chemistry major at TTU (TTC, really) 30 or so years ago, and who is now manager of the Laboratory at Lubbock's Methodist Hospital, was recently honored for 30 years of service to the

hospital. Jim has a degree in Health Care Management from nearby Wayland Baptist University. For the nostalgia record, the editor of this Newsletter was, during his first year at TTC, Jim's lab instructor.

Prof. Thomas A. Moore (Ph.D., 1975, Dr. Song) of Arizona State University, Tempe, is the 1985-86 recipient of the American Society for Photobiology's Outstanding Research Award for his work on the spectroscopy of biological molecules and photosynthetic model systems. He will be presented with an Award plaque and \$1000 at the Society's next annual meeting, June, 1986.

Mrs. Lou Bryant Noto (formerly Mattie L. Bryant, B.S., 1947, M.S., 1950) is living in San Diego, CA.

Dr. Edwin D. Parker (B.A., 1937; M.S., Tulane, 1946; Ph.D., UT, 1962) is now retired and lives in Lafayette, LA.

Zan M. Shafer (B.S., 1982) is a plant chemist for West Texas utilities' coal-fired power plant, Oklaunion, TX.

Dr. Byungki Son (Ph.D., 1985, Dr. Bartsch) is now a postdoctoral fellow with Prof. Leo Paquette, Ohio State University. Prior to going to Ohio, Son was a postdoc at Ball State University, Muncie, Indiana.

Dr. Michael (Mike) T. Stephenson (Ph.D., 1981, Dr. Shine) is now Supervisor of the Operations Engineering Group in Texaco's Houston (Bellaire) Research Center. Work-related travel has taken Mike to Angola and Colombia as well as over most of the U.S.

Nga Tran (B.S., 1978) received the M.S. degree in petroleum engineering in 1980, and has been employed by Chevron Corp. since that time. Nga lives in Dana Point, CA.

Dr. R. Max Wynn (M.S., 1983; Ph.D., 1986, Dr. Knaff) will become a postdoctoral fellow with Prof. Richard Melkin, Division of Plant Biology, University of California, Berkeley, in June 1986.

Dr. Il Woo Yang (Ph.D., 1981, Dr. Bartsch), now Associate Professor of Chemistry in Korea Military Academy, Seoul, Korea, spent 1985 at TTU conducting postdoctoral research.

Names sent to us: Anyone have news of these former students?

Robert Reeves (B.A., Chem., 1964) and **Walter R. Studhalter** (B.ChE., 1942).



London isn't the ONLY place where it rains!

News of the Faculty

Dr. Kice leaves; Dr. Draper retires

The Department has lost two of its stalwart members this year. **Dr. John L. Kice**, who came to Texas Tech in 1975 from Vermont to be Chairman of the Department and, at the same time, to be nearer his native Colorado, has now moved to Denver, even closer to his boyhood home of Colorado Springs. John has become Chairman of the Chemistry Department at Denver University, where he will concentrate on building, particularly, a first-rate program for undergraduate majors. We miss the strengths and University wisdom of our former colleague.

Dr. Draper has returned also to the place of his roots, to Bowling Green, Kentucky. There he will spend part of his time cultivating family land and also serving as Adjunct Professor of Physical Chemistry in the University of Western Kentucky. Arthur plans to write a textbook in physical chemistry. He will be remembered at Texas Tech not only for his many years of teaching and research in the Department, but also for his contributions to the greater University community as Associate Dean of the College of Arts and Sciences.

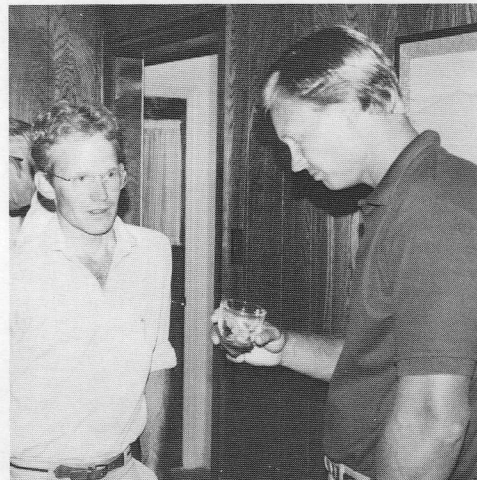
To both Arthur and John and their wives, Joan and Ellen, we record our fond farewells.

Changes on High

Moves in the upper, upper administration of TTU have had their effect on our Department. One Academic Vice President bit the administrative dust and the Dean of Arts and Sciences (Conroy) became a Vice President in neighboring New Mexico State University. In the subsequent shuffle our own **Associate Chairman Holwerda** was appointed Associate Dean of the College of Arts and Sciences, creating thereby a hole in Departmental administration. This has been filled temporarily for the 1985-86 year by **Jerry Mills** who will hold down the fort until **Dick Wilde** returns in May from development leave in England. We raise our hats to these colleagues who are and will be helping Dick Bartsch with not only the normal administrative burdens



Art and Joan Draper cut the farewell cake at Art's retirement get-together, August 25, 1985.



Bob Walkup and Dan Armstrong at Art Draper's retirement party. Weighty discussion underway.



Embraceable Nadine and Dick Bartsch. Embracer is Bob Holwerda. Bartsch gives the photographer the Bronx cheer at Art Draper's retirement party.

but now the additional ones brought on by the renovation of our old building.

Continuing with the domino effect of administrative changes, **Dan Armstrong** has taken over (from Bob Holwerda) as Chairman of Graduate Student Admissions, and **Bob Walkup** will take over (from David Knaff) as Graduate Student Advisor.

Dr. Joe Adamcik continues with his heavy contributions to the American Chemical Society as a member of its Board of Directors. Joe is Chairman of the Board Committee on Professional and Member Relations, and Vice-Chairman of the Committee on Chemical Abstract Services. He is also a member of the Board Committee on Public Affairs and Public Relations and of the Committee on Planning. These committee appointments and Chemical Abstracts Task Force assignments have taken Joe to Board and ACS meetings in Baltimore, Columbus and Washington, D.C. several times during 1985.

Dr. Dan Armstrong's research in chromatographic separations of enantiomers with the use of cyclodextrin-bonded packings, and in liquid chromatographic separations of polymers attracts growing general and industrial interest. He has received a year's research support (\$8000) from the Dow Chemical Company, and is also a joint awardee (with Dick Bartsch and Sandy Dasgupta) in membrane separation studies funded by the Texas Advanced Technology Program.

Interest in Armstrong's work led to his giving invited lectures at the 36th Pittsburgh Conference in New Orleans in February, and at the Eastern Analytical Symposium in New York in November. In addition, Armstrong gave 10 lectures at industrial laboratories and universities during the year.

Dr. Richard Bartsch was an invited speaker at the Gordon Conference on Separation and Purification in New London, N.H., in August. He also described recent research results in a poster session of the 10th Symposium on Macrocyclic Compounds, Provo, Utah, in August. Dr. Bartsch's research work is supported by grants from the Department of Energy (\$82,500), the Robert A. Welch Foundation (\$17,000), Technicon Instruments, Inc. (\$42,500), Miles Laboratories (\$20,000) and Serpentix Conveyor Corporation (\$20,000). In addition, Bartsch, Dan Armstrong and Sandy Dasgupta are the joint recipients of a \$335,000 grant from the Texas Advanced Technology Research Program for research in Synthetic Membrane Technology, over a 20-month period beginning January 1, 1986. That's a great way to begin the new year.

Apart from research, teaching, and Departmental administration, Dick Bartsch is on the search committee helping the University find a new Vice President for Academic Affairs and Research.

Dr. Walter Chesnavich has been given departmental approval for tenure and promotion to associate professor. The Welch Foundation has also signified its support of Dr. Chesnavich with a three-year grant of \$60,000 for his studies in theoretical chemistry.

Dr. Sandy Dasgupta was promoted to associate professor, effective the Fall semester 1985. Dr. Dasgupta's research in analytical chemistry and separation techniques has been recognized by his being appointed Chairman of an Intersociety Subcommittee on the Analysis of Atmospheric Sulfur Compounds. This subcommittee is comprised of 14 member societies, including the ACS. Other recognitions of Dasgupta's research achievements are the award of a \$190,000 grant from the USEPA to build a field instrument to measure the parts-per-trillion level of hydrogen peroxide, and a \$33,000 grant from the Dow Chemical Company for membrane-differentiated, gas-phase, flow-injection analysis.

Dr. Robert Holwerda, as noted earlier in this Newsletter, was appointed Associate Dean for Research in the College of Arts and Sciences in the Fall, 1985. Administrative work will reduce some of Bob's duties in the Department, but his research commitment continues unabated, and will be supported by a new, \$35,000 grant from the Petroleum Research Fund of the American Chemical Society effective September, 1986.

Dr. David Knaff relinquished (to Bob Walkup) his duties as Graduate Student Advisor at the end of the calendar year to make way for national, professional responsibilities. Knaff has been appointed to the NSF Panel on Postdoctoral Fellowships in Plant Biology, and also to the USDA Photosynthesis Program's Competitive Grant Panel. These appointments recognize Knaff's experience and expertise in these fields and call for his attending periodic panel meetings in Washington, D.C. Knaff's research work is supported by grants from the NSF (\$178,500), USDA (\$180,000) and Welch Foundation (\$60,000).

Dr. Russell Larsen, coordinator and supervisor of the Department's program in general chemistry, is the Chairman of the Science Education Section of the Southwestern and Rocky Mountain (SWARM) division of the AAAS, and also Co-Feature-Editor of "Chemical Principles Revisited" for the Journal of Chemical Education. Larsen's contributions to chemical education are wide in scope. He spoke on "Computer Graphics in Chemical Education" at Angelo State University (February) and gave an invited workshop on "Computer Graphics in the Teaching of Chemistry" for Octobersoft '85 (elementary and secondary school teachers), in Lubbock. The variety in Larsen's interests can be seen further in other talks and lectures he gave in 1985. "Boxes, Faces and Lizards" and "Diffraction without Bragg" in invited workshops for the Association of Chemistry Teachers of Texas; "Kekule's Benzolfest Speech: Beyond the Ouroboros", an invited paper at the Midwest Regional ACS meeting, Carbondale, Ill.; "The Wide World of Helium", at the National ACS in Chicago; "Inferring the Unseen through Interference", at the meeting of the Texas Academy of Sciences, UT-Dallas; "Births of Time: Rediscovery in Science", a seminar at UTEP, and at the SWARM/AAAS meeting in Tucson. Dr. Larsen also spoke on "Airships: Gas Laws Aloft (the Good Years)" in the Saturday Seminar Series for High School Students at TTU on October 12, and visited Drexel University and the University of Michigan under support of a Mini Development Grant to Aid Education, awarded by TTU's Office of the Academic Vice President. In line with his interests in using computers in education, Dr. Larsen represented the TTU faculty and described the faculty perspective at the dedication ceremonies for the new Advanced Technology Learning Center, a center for computer usage which has been established in TTU's library with the help of a \$130,000 gift from Apple Computer.

Dr. Ed Quitevis has received a \$60,000 research grant from the Welch Foundation for "Picosecond Studies of Photoisomerization in Liquid Xenon" and an \$18,000 grant from the Research Corporation for "Picosecond Vibrational Dephasing Studies of Molecules Adsorbed on Colloids". He presented seminars on his research work at Exxon Research and Engineering Company, Annondale, N.J., the University of Toronto, and Tarleton State University.

Dr. Richard Redington continues to spend several months each year, following his Development Leave, in Cambridge, MA at MIT to assist the change he is making in his research emphasis from infrared to uv-vis, pulsed-laser spectroscopy. He works at MIT while seeking equipment to establish his laser program at TTU. An article on Redington and his research on the tropolone molecule appeared recently in the "Personality" feature of *The Spectrograph*, the MIT Laser Research Center Newsletter. This article, by the way, also carried an extra "home" touch in the way of the first published photoportrait (of Redington) by the rising Lubbock photographer (and physchem colleague), Walt Chesnavich.

Dr. Henry Shine is the recipient of a Senior U.S. Scientist Award from the Alexander von Humboldt Foundation, Germany. Shine was nominated by the University of Hamburg, where he and Mrs. Shine will spend the summers of 1986 and 1987. No official duties are required in the award, so Shine will spend the time in Germany in lecturing and writing about his research work at TTU. During 1985 Shine was a speaker at the International Conference on Theory of Organic Reactions, Gargnano, Italy (June). In September, he gave invited lectures at the Second International Symposium on the Synthesis and Applications of Isotopically Labeled Compounds, Kansas City, and at the ACS Symposium on Structure and Reactions of Organic Cation Radicals, Chicago.

Dr. Pill-Soon Song has been appointed to his fifth, consecutive three-year term as Editor-in-Chief of the international journal *Photochemistry and Photobiology*. This event took place in New Orleans in June at the annual meeting of the Photobiology Society. Song has been re-appointed also as a member of the Biophysics and Cellular Biophysics Study Section-NIH, his first term of membership having been during 1974-78. Among Song's accomplishments this year also is the appearance of the 330-page, Plenum-Press book "Sensory Transduction in Aneural Organisms", co-edited with G. Colombetti and F. Lenci. Dr. Song was an invited speaker and session chairman at the Symposium on Photomorphogenesis in Wageningen, The Netherlands, in April, and an invited speaker at the Symposium on Biochemical Applications of Luminescence in New York in November. He presented also an Institute Seminar at the Roche Molecular Biology Institute, Nutley, NJ, in November. New research grants awarded to Dr. Song in 1985 were: "Photosensory Transduction in Stentor" (\$260,587 for four years from the NIH), "Light Utilization by Stentor" (\$10,000 from the Center for Energy Research, TTU), and a \$5000 Nato Grant for international cooperative phytochrome research between TTU and the University of Munich.

News of Emeritus Faculty

Prof. Charles Shoppee continues to carry out research in his laboratory at La Trobe University, Melbourne, Australia, where he is Hon. Visiting Professor. Prof. Shoppee's latest paper on the photochemical transformation of tetrabromofuran appeared in the *Journal of the Chemical Society (London)* in early 1985.

Dr. Robert Walkup has been voted Chairman-elect of the South Plains Section of the ACS. He will hold this office in 1986 after having served as Section secretary during 1985. Bob will add to his good offices in public relations the role of Graduate Student Advisor, beginning with the Spring Semester 1986. His research work in organic synthesis received additional grant support in 1985 with a two-year, \$25,000 Type-G (starter) grant from the Petroleum Research Fund of the ACS for "Novel Syntheses of Heterocycles via Alkenes", and a one year, \$3,375, TTU-SORF Grant for "Nucleophilic Ring-Openings of Cyclopropyl 2-Oxazolinium Salts". Dr. Walkup and graduate student Ray Cunningham were awarded an \$800 TTU Graduate School Summer Research Assistantship for research in "A Novel Means to Transform Alcohols into Carbanions". In July, Dr. Walkup presented a poster paper on some of his work at the Gordon Research Conference on Natural Products.

Dr. Richard Wilde has been awarded one of the University's Faculty Development Leaves, with which he will spend the Spring Semester, 1986, at the University of Durham in England. Dick will need to make the most of his recuperation time, because when he returns to Lubbock he will take on the duties of Associate Chairman in the Department.

Prof. Morris Stubbs writes that, beginning January 1, 1986, he and Mrs. Stubbs (Fidelia) will leave their apartment in Albuquerque and move into the La Vida Llana retirement center. Their new address will be 10501 Lagrima del Oro, N.E., Apt. 4313, Albuquerque, NM 87111. We suspect that, as in the past, the latchstring will always be out for old friends and visitors. Although living in a new location, Prof. Stubbs will continue his activities in the Kiwanis Club and the ACS, and Mrs. Stubbs similarly with the AAUW, PEO, and Albuquerque Music Club.

S³: THE SATURDAY SEMINAR SERIES

Dr. Russell D. Larsen

The Saturday Seminar Series is a Department of Chemistry program for high school students who either are taking chemistry or are interested in chemistry. The first S³ program was held in the Spring of 1984. Most of the talks have been in the Chemistry Building at Texas Tech.

At monthly intervals in the fall and spring semesters S³ speakers have presented programs on interesting chemically-related topics. A talk is followed by a cookies and soft-drink break (soft drinks have been contributed by the Lubbock Coca Cola-Sprite Bottling Company) after which there is usually a project or demonstration. Most of the speakers have been from our own department although, because of the great resource that Tech represents, other departments have contributed. High schools that have attended have included Lubbock, Coronado, Dunbar, Levelland, and Sundown.

Last year Dr. Bennett Hutchinson from Abilene Christian University gave a magnificent talk on the rudiments of spectroscopy, and students made their own small spectrometers. This year there has been a diversity of topics. Dr. Larsen and Dr. Mitchell teamed up for "Airships—Gas Laws Aloft (The Good Years)". This program launched a year-long project in which the students are designing and constructing large (7-8 feet long) radio-controlled, helium-filled airships. Roy Mitchell was designated Admiral of the Fleet and is coordinating the upcoming official flight and competition. Lubbock High and Coronado High are the principal competitors. The local model-airplane club, Wings, has provided consultants for the high school airship clubs and the community sponsors for each school have contributed financial support where needed.

Dr. Julian Spallholtz in the Department of Nutrition, gave a program entitled "The Elements of Life." His interesting talk was about the chemical elements that seem to be necessary for the creation and sustenance of a living organism. Dr. Bob Walkup, of our department, presented the program "Fragrance Chemistry (What the Nose Knows)." This program was especially enjoyed by the students as Dr. Walkup had everyone try to classify several dozen small samples of organic substances by their smells, using an industrial classification index which employs such classes as chocolate, mint, fecal, floral, etc.

In December the group met in the new Classroom 2000 of the Advanced Technology Learning Center. This classroom contains MacIntosh computers. Various computer programs in chemistry were demonstrated after which the students were turned loose to "drive" the computers on their own. Ray Cunningham, a graduate student in our department, has an extensive collection of Mac programs and provided some of these for use at that time.

Our fine high school chemistry teachers in this area have supported the S³ program by their own attendance, participation, and encouragement. We are already looking ahead to next year. The big project will be the construction of a functional robot. Laboratory robotics is expected to play a major role in the future of chemistry. Our high school students can get a head start in this new field. Suggestions for topics and speakers are always welcome—volunteers are especially welcome!

Susan Jack and Tracey Price at ease away from the lab in a graduate student get together.



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