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NEWSLETTER 1989

THE DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

Texas Tech University Lubbock, Texas

Editor: Henry J. Shine

Editorial Assistant: Jane Bradley



## To Our Readers:

The past year has been a period of change and continued development for the Department of Chemistry and Biochemistry.

By the end of Spring Semester 1988, we occupied all of the classrooms, offices, instructional and research laboratories, instrument rooms, and departmental shops in the completely-renovated north wing of the Chemistry Building. In January, 1989, Dr. Kasem Nithipatikom (Ph.D. in Analytical Chemistry from Marquette University, Postdoctoral positions at Oklahoma State University and Duke University) will join the faculty as Assistant Professor.

The availability of instrumentation for teaching and research continues to improve. New departmental UV-visible, Fourier-Transform infrared (FTIR), and fluorescence spectrophotometers were purchased. Also, we gratefully acknowledge the donation of used instrumentation and equipment by Dow Chemical USA and Shell Development Company. A proposal has been submitted to the NSF for an X-ray diffractometer. Once again we wish to thank our friends in industry for their financial support of our programs. Unrestricted grants from Dow Chemical USA, Hoechst Celanese, and Pennzoil Products Company are being utilized primarily to fund undergraduate scholarships. Also, I am pleased to report that many of you responded to last year's plea for Alumni Scholarship Fund donations. We received almost half of the \$5,000 needed to endow the first Alumni Scholarship. I hope that the response will be even stronger this year to complete this important step in providing scholarships that will enable us to attract and retain highly-qualified students.

At the end of 1989, a change in departmental leadership will take place. Effective January 1, 1990, Horn Professor David B. Knaff will become Chairman and I will return to full-time teaching and research. I am most enthusiastic about the prospects for the future of the department since we appear to be poised for a period of further development and maturation for our instructional and research programs. Dr. Knaff is just the person to lead us during the next period of growth.

Sincerely,

*Richard A. Bartsch*

Richard A. Bartsch, Chairman



## Dr. David B. Knaff: Chairman Elect

National elections were not the only ones of consequence to us this 1988 fall. Dave Knaff received the faculty's nod to replace Dick Bartsch who has resigned his chairmanship of the Department. Formal appointment of David was made by the Dean of Arts and Sciences in mid-November. Ordinarily, David would begin his term as Chairman on September 1, 1989. However, he was, earlier, awarded one of Tech's development leaves for the fall semester, 1989. Dick Bartsch has kindly consented to stay on as Chairman for that semester, therefore, while David is developing in Switzerland.

## ... Nine, Ten, and Out!

This is my tenth newsletter, and no matter how we say it—ten years, a decade, three and a third grant periods—it's a long time, and time enough to stop. It has been a pleasure recording the Department's accomplishments and changes, the news of alums and students. Now, the time has come, not, as the walrus said, to talk of many things, but to let someone else do the talking. The tenth then is the last for me, a good round number. A new editor will send out the eleventh, wherein you will find me still, but under News of the Faculty. To all of you who have sent in news in past years, my many thanks. To Misselaineous, at News and Publications, and to Jane Bradley, my special thanks. It has been so easy to turn over to Misselaineous, cheekily each year, a sheaf of typed pages and photos, saying: Here's the Newsletter, and to get, in return, a finished, polished layout. And, without editorial assistant, Jane Bradley, there would be neither sheaf of typed pages nor painless (to me) bulk mailing. Thanks and adios to all.



The '88 Welch Scholars, Resident Assistant Bobby Livengood (dark glasses), and Dr. Larsen, Texas Tech Site Coordinator.

## SCHEME '88

### Summer Chemistry Experience '88

A new approach to building interest in chemistry as a career was adopted this year by the Robert A. Welch Foundation and Texas Local Sections of the American Chemical Society. The approach is directed toward high school students, and was conducted at three university sites this summer under the acronym SCHEM.

Scheme stands for Summer Chemistry Experience. This unique research participation program in chemistry is a four-week residential program during which the participants all stay in a dorm complex on campus. Room and board and all program expenses are paid for by the Welch Foundation with local scholarship support partially contributed by Texas Local Sections of the American Chemical Society. The program was conducted jointly at the University of Texas at Austin, University of Houston, and Texas Tech University. Each site had fifteen of the finest high school students in Texas, all having previously shown high accomplishment in high school chemistry courses. The students, called Welch Scholars, were selected primarily on the basis of their high class rank.

Whereas each of the sites expressed the program slightly differently and each provided somewhat different experiences, the

key element of the program at all sites was intensive involvement in laboratory work and chemical research.

At Texas Tech the first week consisted of an intensive, so-called Immigration Course (IC), during which the Welch Scholars became embedded in, and were prepared for, the essential aspects of a research experience during the subsequent weeks of the program.

The IC consisted of introductory lectures on the essence of scientific inquiry, illustrated by lecture demonstrations and experiments, leveling lectures on chemical kinetics and transition metal and coordination chemistry, followed by an introduction to experimental chemistry and laboratory work preparing the students for Projects AcAc in the second week. During the IC an entire day was devoted to Chemical Instrumentation, especially the techniques of infrared spectroscopy and chromatography. An entire day was spent in the General Chemistry Computer Lab in which the essentials of data analysis were introduced—an important aspect of a modern experimental science. The students learned how to use a powerful statistical package, the new technique of exploratory data analysis, the technique of linear regression epitomized within chemical kinetics, and learned the various ways by which data may be plotted, transformed, and presented. During this work the students were

learning how to use the computers to prepare reports which would be necessary during the course of the program, including preparation of their research papers. The last day of the IC was spent in the Texas Tech Library with a staff chemistry librarian who introduced participants to key resources in chemistry, including Beilstein and Chemical Abstracts. The students learned how to do an online search of a chemical database.

The Welch Scholars began Project AcAc in the second week. This research course involved a lecture on transition metal and coordination chemistry each day, followed by a laboratory experience in the synthesis, purification, and characterization of the metal acetylacetonate family of metal ligand complexes.

The Welch Scholars were assigned to research groups in the second week and began a research project in collaboration with their Research Mentors. Subsequent afternoons were devoted to those research projects.

A central aspect of the Scheme '88 program at Texas Tech was the two lecture series especially organized for the Scheme '88 Welch Scholars. The two series are listed here:

#### **The Welch Summer Lecture Series**

- Dr. Mario Feola, Professor of Surgery, Texas Tech University Health Sciences Center, "Artificial Blood".
- Dr. Henry J. Shine, Horn Professor of Chemistry, Texas Tech, "Serendipity and the Benzidine Rearrangement".
- Dr. Richard A. Bartsch, Horn Professor of Chemistry, Texas Tech, "Structure and Application of Crown Ethers".
- Dr. David Knaff, Horn Professor of Chemistry, Texas Tech, "Cytochrome Structure/Function Studies".

#### **Advances in the Chemical Sciences Lecture Series**

- Dr. Witold Charewicz, Vice President and Professor of Chemistry, Technical University, Wroclaw, Poland, "Applications of Hydrometallurgy".
- Dr. Robert Holwerda, Professor of Chemistry, Texas Tech, "Bioinorganic Reactivity Studies".
- Dr. Robert Shaw, Assistant Professor of Chemistry, Texas Tech, "Metalloenzymes and Antibiotic Resistance in Bacteria".
- Dr. Robert Walkup, Assistant Professor of Chemistry, Texas Tech, "Perspectives on the Synthesis of Pamamycin".
- Dr. Richard Nakashima, Assistant Professor of Chemistry, Texas Tech, "Mechanisms of Regulation of Tumor Cell Glycolysis".
- Dr. Bruce Whittlesey, Assistant Professor of Chemistry, Texas Tech, "Advances in Organometallic Chemistry".
- Dr. Sandy Dasgupta, Professor of Chemistry, Texas Tech, "Atmospheric Acidity, A Chemical Perspective".

#### **Scheme '88 Welch Scholars at Texas Tech University**

Chris Bennett	Coronado High Lubbock
Albert Chang	Cypress Creek High, Houston
Dolon Das	Clements High Sugarland
David DeFrance	Coronado High Lubbock
Melissa Dyckes	Jones High Houston
Kelly Goolsby	Dimmitt High Dimmitt
Mai Hoang	McKinney High McKinney
Son Hoang	Irvin High El Paso
Martin Lin	Dulles High Sugarland
Thomas Lee	Stratford High Houston
Steve Lim	Western Hills High Fort Worth
Aaron Odom	Dimmitt High Dimmitt
Kathy O'Steen	Alvin High Alvin
Denise Powers	Wichita Falls High Wichita Falls
Toshi Teruya	Steven F. Austin High, Austin

#### **Networking the Department**

Plans are nearing completion for radically changing the ways of intra- and inter-Departmental communication. A Local Area Network (LAN) is within early reach. The Department has received a grant of \$27,000 from the Higher Education Assistance Fund (HEAF). With this grant and an allocation from Departmental funds, Macintosh SE computers will be purchased for each member of the faculty. Each member of the staff will be equipped with MacPlus computers that the Department already owns. The funds will also be used to purchase network software, electronic mail packages, and two "Kinetics Fastpath" bridges, which will be used to interface the LAN to the campus DecNet network.

The LAN will be a communication channel of wide and impressive scope. First, it will connect together all faculty and staff offices. Therein lies its primary purpose, to provide electronic communication among faculty and staff. Next, it will provide direct access from faculty offices to the MacLab, and to other departments on campus when they establish LANs. In addition the LAN will allow for direct access not only to the campus mainframe computers from faculty and staff offices, but also to national and international networks such as BitNet, ARPANet, and NSF-Net. An interesting aspect of the last access will be seen in grant applications. That is, it will be possible to send an application which has been prepared on a Macintosh directly electronically to the NSF. (Wouldn't it be nice if they could then wire back the money?)

Original plans for the LAN were laid out by none other than our own computer maven, Walt Chesnavich. Final planning is in the hands of the Departmental Computer Usage Committee, namely Walt, John Marx and Ed Quitevis. Installation of the network components will be carried out by Departmental electronic technician, Jerry Walton.

## How Does It Go with Our Scholarship Funds?

### Alumni Scholarships

Last year we appealed to you for help to establish a new fund for scholarships in the Department. The result was encouraging but, alas, not overwhelming. We received a total of \$2,125 from alums, faculty and staff. Can't we do better? This Newsletter goes out to about 1000 alums and others friends. If each recipient were to donate \$10 we'd be well on the way to be awarding scholarships to deserving students. How about that—one dollar for each of the editor's Editor years? Make it two or more if you like. He won't complain. Use the enclosed loose page, please. Be generous toward your former Department—and future students. We are happy to list 1988's donors.

Dr. Joseph B. Ashton (PhD, 1959)  
Dr. Richard A. Bartsch (Faculty)  
Mrs. Margret S. (Smith) Brown

(BS, 1966)

Dr. Jiin Duey Cheng (PhD, 1974)  
Dr. Bong Rae Cho (PhD, 1980)  
Dr. Jung-Kap Choi (PhD, 1987)  
Mr. Robin L. Cooper (BS, 1983)  
Mr. Kim Hailey (BS, 1972)  
Ms. Elynore M. Hanson (BA, 1965)  
Dr. Marque Hunter (BA, 1980)  
Dr. Anthony P. Johnson (entered medical school after 3 yrs as undergrad.)

Dr. George T. Linder (BSChE, 1954)

Mr. Jorge L. Lopez (Staff)  
Mr. David R. Lorenz (BS, 1980)  
Mr. Donnell O. Love, Jr. (Staff)  
Dr. Richard A. Nakashima (Faculty)

Mr. Cecil Pinkerton (BA, 1942)  
Dr. Rabi K. Prusti (PhD, 1987)  
Dr. James F. Ryder (BA, 1983)  
Miss Mary M. Sufall (Staff)  
Dr. Henry J. Shine (Faculty)  
Mr. Scott D. Windahl (BS, 1984)  
Dr. David Wright (BA, 1986)  
Ms. Wendy Wymer (Staff)  
Dr. Tachiyong Zyung (PhD, 1986)

### Industry's Help

The Department is receiving modest but increased support from industrial friends. Noteworthy is that graduates from the Department are respected employees in these industrial companies. The Department has received:

From Dow Chemical USA, Freeport, TX:

\$4,000 for undergraduate scholarships

\$1,000 for the Departmental seminar program

\$1,000 for support of research  
From Hoechst-Celanese, Bishop, TX:

\$2,000 for undergraduate scholarships

From Pennzoil Products Company, Houston, TX:

\$1,000, for undergraduate scholarships

We are pleased to list the graduates of our Department who work for these friends.

*Dow Chemical USA:*

Dr. David Babb

Mr. Larry Bratton (just accepted a position with Dow)

Ms. Kelly (Patton) Conzel

Dr. Alan Croft

Mr. Al Parrott

Dr. Richard Wolcott

*Hoechst-Celanese*

Ms. Mary Bodner

Mr. John Clemmer

Ms. Susan Jack

Mr. Charles O'Rear

Ms. Denise Phillips

Mr. J. L. Trammell

Ms. Sawnra Webb

Ms. Leanne (Meyerlee) Harvey

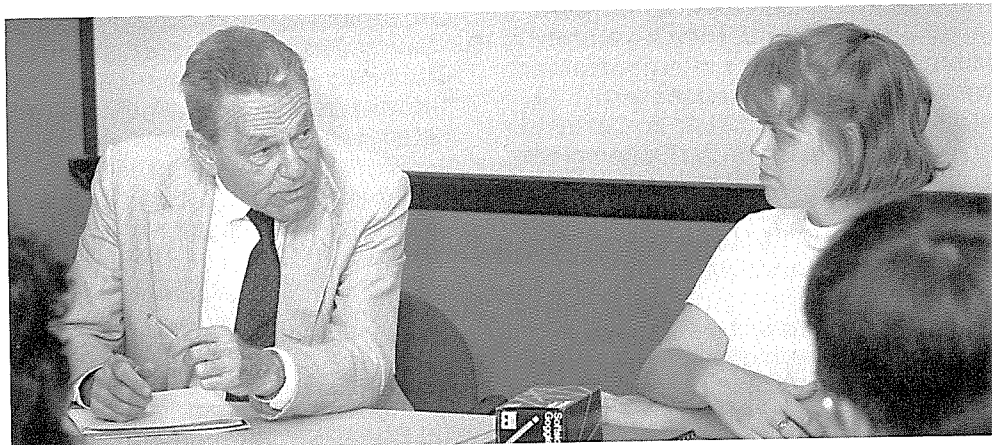
*Pennzoil Products:*

Dr. William Heilman

Dr. Dong Hak Bae

### The Jeanette and Joe Dennis Scholarships

With a gift of \$10,000 from these old friends of the Department, and matching funds from Tech, the Dennis Scholarships are on a firm and fine footing."



*Dr. Norman Hackerman, Chairman, Scientific Advisory Board, Robert A. Welch Foundation, talking with Welch Summer Scholars during his site visit to Texas Tech.*

## Texas Tech Forms an Institute of Biotechnology

At their September meeting the Texas Tech University Board of Regents approved the formation of the TTU Institute of Biotechnology and named Dr. David Knaff as its first director. The Institute is charged with facilitating and encouraging graduate basic research in modern aspects of biochemistry, molecular biology, and cell biology. The initial activities will involve approximately 30 faculty drawn from our Department, the departments of Biological Sciences, Agronomy and Horticulture. Although they are not official participants, informal collaboration with several departments in the TTUHSC and with scientists at the U.S. Dept. of Agriculture's Lubbock Experiment Station will provide additional

research opportunities for students participating in the Institute. Five graduate research fellowships for Ph.D. students for the 1988/89 academic year have already been awarded and the Institute Executive Committee has begun to evaluate candidates for 1989/90 fellowships. The Institute will sponsor a distinguished lecturer seminar series during the Spring, 1989, semester and run a training workshop in molecular biology techniques during the summer. Seven Institute members headed by Dr. Knaff, are currently preparing a \$500,000 instrument proposal to be submitted to the NSF Biological Facilities Program to enhance TTU's capabilities for molecular biology research.

## News of Faculty

**Dr. Richard Bartsch** presented an invited lecture on "Recognition in Solvent Extraction and Liquid Membrane Transport of Metal Ions by Proton-Ionizable Crown Ethers" in the Symposium on Molecular Recognition and Selectivity. The Symposium was part of the Third Chemical Congress of North America, held in Toronto, in June.

During July and August, Dr. Bartsch spoke on "Proton-Ionizable Crown Ethers: Synthesis and Applications in Metal Ion Separations" at Los Alamos National Laboratories, E. R. Squibb and Sons (New Brunswick, NJ), and Kingston Separations (Dayton, NJ).

Dr. Bartsch and a group of his research students (Johnny Hallman, Joe McDonough, Tom Robison, Marty Utterback, and Louis Whaley) journeyed to Orange Beach, AL, in September to present a series of four papers on their work at the 5th International Symposium on Inclusion Phenomena and Molecular Recognition. Dr. Bartsch was a member of the Program Committee for that Symposium.

**Dr. Walter Chesnavich**, in his continuing drive to extend and upgrade the use of computers in the Department, received a grant of \$350 from Apple Computer toward purchase of new programming software. The software will be used to adapt a transition-state-theory package to a Macintosh II. This package was developed originally by Walt for mainframe computers.

**Dr. Sandy Dasgupta's** research in analytical instrumentation and ion-chromatography has brought him increasing demands for lectures in 1988. He has given invited lectures at home and abroad: "Chelating Fluorogenic Surfactants for the Trace Determination of Metals", Society of Photo-optical Instrumentation Engineers, Los Angeles, in January. "Membranes in Analytical Chemistry. A Personal Tour", Jadavpur University, Calcutta, and Vishwa-Bharati University, Santiniketan, India, in January; Baylor University, in February, UT San Antonio, in April, and Oklahoma State University, in October. "After Mercury: Still Slippery as Ever" Arizona Instruments, Phoenix, in March. "Analytical Research Smorgasbord at Texas Tech", Dow Chemical, Midland, MI, in June. "Ion

Chromatography at Texas Tech: Carry Coals to Newcastle?", Dionex Corp., Sunnyvale, CA, in August. "Diffusion Scrubber Coupled Ion Chromatography" and "Stopped-flow DC Identification of Eluting Anions", First International Ion Chromatography Forum, Boston, MA, in September. "Adventures in Suppressed Ion Chromatography" and "Measurement of Mercaptans in Gasoline", 15th Annual Meeting of the Federation of Analytical and Spectroscopy Societies, in November. In addition, Sandy made a video-poster presentation on "An Automated Micro Batch Analyzer" at the 4th International Conference on Batch Analysis, Las Vegas, in April.

Recognition of the work of Dasgupta's group came also in its being one of the select few invited to contribute a paper to the USA Honor Issue of the International Journal of Analytical Chemistry, *Talanta*, commemorating the 95th birthday of Prof. I. Kolthoff. Prof. Kolthoff, of the University of Minnesota, is the world's doyen of analytical chemistry.

**Dr. David Knaff** gave an invited lecture "The Role of Cytochrome-C<sub>2</sub> in Bacterial Photosynthesis" at the 6th International Congress of Prokaryotic Photosynthesis, in Noordwijkerhout, the Netherlands, in August. A lecture on the same topic and another on "Complex Formation between *Paracoccus denitrificans* Electron Carriers" were given at the 32nd Annual Meeting of the Biophysical Society, Phoenix, in February. David gave seminars during the year at Arizona State University and at the Universities of New Mexico, Nebraska, California (Berkeley), Maryland, and Leiden (Netherlands).

David completed his year as Head of the USDA Photosynthesis Program with a presentation to the USDA Competitive Grants Policy Committee, in Washington, DC. Completing this work comes just in time for him to begin the contemplations, soul-searchings, and strength-giving-meditations incumbent on being the chairman-elect of the Department, about which more is said elsewhere.

**Dr. Russell Larsen's** activities ranged from being President of the Southwestern and Rocky Mountain Division of the American Association for the Advancement of Science (SWARM/AAAS) to being the Adopt-A-Classroom Faculty Associate at Monterey High School. As SWARM President he gave the Presidential address, "On the Shoulders of Giants", at the annual SWARM meeting held in Wichita, KS, in April. Russ is also the Co-Feature Editor for Chemical Principles Revisited in the *Journal of Chemical Education*, and a member of Science Day Organizing Committee.

During 1988 he gave seminars at North Texas State, Abilene Christian, and Purdue Universities. Russ was a very active participant in the 44th Annual Southwest Regional ACS meeting in Corpus Christi, early in November, contributing to the general papers "Chemical Literacy: What Every American Needs to Know (About Chemistry)", to the Symposium on A Look Ahead in Chemical Education "Descriptive Chemistry: Truth, Chaff, and the Future", to the General Chemistry Coordinator's Workshop, and to a Panel Presentation on "The Welch Summer Research Participation Program for High School Students."

**Dr. Jerry Mills** attended the 10th Biennial Conference on Chemical Education, held at Purdue University. There, with former TTU graduate Dr. Mike Hampton, he organized and chaired a symposium on "Microscale Laboratories in the High-School and Undergraduate Curriculum." Jerry also gave a workshop and presented a paper on "Microscale Experiments in General Chemistry" at the Conference. Seminars on "Microscale Laboratory in General Chemistry" were given at the University of Alabama, Birmingham, in April, and Texas A and I University, Kingsville, in November. Jerry presented an invited symposium lecture at the Southwest Regional ACS Meeting, Corpus Christi, in November, on "Descriptive Chemistry Using Microscale Techniques." The expertise in microscale laboratory techniques, evident in the news above, led also to the publication, with co-author Mike Hampton, of *Microscale Laboratory for General Chemistry*, by Random House, 1988.

Working along a line entirely non-mi croscale (we hope), Jerry was appointed Vice President of Lubbock's newest winery, Teysha Cellars. Unlike copies of his book, copies of this product are not available (generally) for re-use sampling.

**Dr. Richard Nakashima** was an invited speaker on "Mitochondria-bound Hexokinase as a Potential Target for Cancer Chemotherapy" at the joint meeting of the American Physiological Society and American Society for Pharmacology, in Montreal, Canada, in October.

**Dr. Edward Quitevis** was a Visiting Scientist, Exxon Research and Engineering Co., Annandale, NJ for six weeks during the summer. Ed spoke at the SPIE Symposium on Laser Spectroscopy, Los Angeles, on "Role of Torsional Dynamics in the Photophysics of Xanthine Dyes", in January. He gave seminars on "Picosecond Laser Spectroscopy" at Abilene Christian University in January, and Pan American University, in March. A paper on "Picosecond Electronic Energy Transfer, Dynamics in Dye Aggregates" was given at the Southwest Regional ACS Meeting, Corpus Christi, in December.

**Dr. Richard Redington** continued with his laser spectroscopy research program during the summer months at MIT. While there he had the opportunity to show his lab to visitors Ed Quitevis and Lori Wilde, daughter of colleague Dick Wilde, while she was spending six weeks at the Woods Hole laboratories. Dr. Redington gave a seminar on "Tunneling in Internal Hydrogen Bond Molecules" at Villanova University, in April.

**Dr. G. Wilse Robinson** presented an invited paper on "Molecular Level Laser Studies of Condensed Phase Chemistry" at the SPIE Meeting, Los Angeles, in January, and on "Nonlinearities, Colored Noise and Local Nonequilibrium from Strong Chemical Forces" at the Lake Arrowhead Conference on the Role of Nonlinear Dynamics in Reaction Kinetics, in March. Wilse was the chairman of the session on Hydrated Electrons at the Gordon Conference on Radiation Chemistry, in July. He gave seminars on his research at the University of Nebraska, in April, and Louisiana State University, in September.

**Dr. Henry Shine** gave invited lectures at the Electrochemical Society Meeting, Atlanta, in May, on "Reactions Induced by Electron Transfer to Cation Radicals" and in the Symposium on Free Radicals at the Southwest Regional Meeting of the American Chemistry Society, in November, on "Formation of Radicals by Oxidation of Organometallics with Thianthrene Cation Radical'.

Dr. Shine was appointed by Tech's Board of Regents to the Advisory Committee for selecting the short list of candidates for the President of Texas Tech. The committee began its work in December, 1988.

**Dr. Richard Wilde** presented a paper on "Raman Study of KSCN in Aqueous Solution" at the 11th International Conference on Raman Spectroscopy, London, in September. Less well heralded or recognized is Dick's continued work as Associate Chairman of the Department.

### Three "Old-Timers" Retire

This year saw the departure of three people who have been long-time members of and made years-long contributions to the Department.

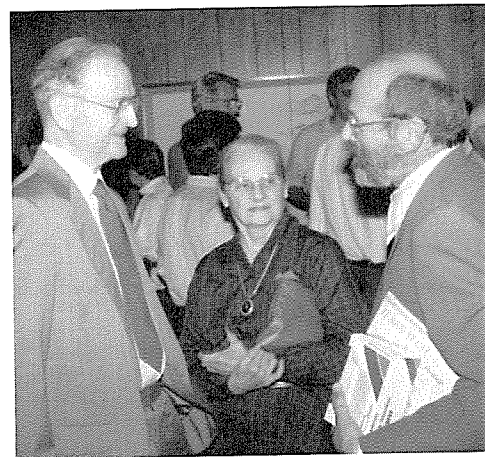
**Miss Mary Sufall**, secretary to the chairman of the Department since 1962, **Dr. Joe Adamcik**, member of the faculty in organic chemistry since 1957, and **Dr. Roy Mitchell**, member of the faculty in inorganic chemistry since 1967, have retired.



Retirement Party, September 10, 1988. Retirees, Mary Sufall and Roy Mitchell.

### Fourth Horn Professor for the Department — Dr. Richard A. Bartsch

Chairman of the Department, Dr. Richard A. Bartsch, was named Paul Whitfield Horn Professor by Tech's Board of Regents on March 25, 1988. Bartsch was recognized for the national and international regard for his innovative work in crown-ethers and their use in separations of ions, and for his work in mechanisms of elimination in organic compounds. He joins Dr. David B. Knaff and Dr. Henry J. Shine as Horn Professors in our Department. Coincidentally, 1988 is also the 20th anniversary of Dr. Shine's award of this honor. Dr. Pill Soon Song, was formerly a Horn Professor in the Department, and is now at the University of Nebraska.



Retirement Party September 10, 1988. Former, long-time head of the Department, Joe Dennis, Mrs. Dennis and retiree, Roy Mitchell.

Mary Sufall was not just the secretary to the chairman, but solver of problems for students, faculty and staff, fount of knowledge about University bureaucracy, and memorizer of countless students who passed through our hands. The door to Mary's office was always open. She loved to be among and available to people, and in her office every enquiry, whether trivial or not, received her courteous attention. Mary herself was, in fact, a graduate of TTU and perhaps this in part underlay her courteous reception of all students, from those who were lost in the building to those who were lost in academics. Mary Sufall has retired to enjoy doing the things that service in our Department held at bay.





*Retirement Party, September 10, 1988.  
Former faculty member, Margret Stuart.*

Both Joe Adamcik and Roy Mitchell have retired to begin new careers. Joe is now a student in TTU's School of Law. It was recognizable in our many faculty meetings, in his service on the faculty senate as member and parliamentarian, and in his long service on the Board of Directors of the American Chemical Society, that Joe had an uncommon grasp of legal procedures. Eventually, he plans to combine his chemical and legal training in the practice of environmental law.

Roy has become the winemaker of Lubbock's newest winery, Teysha Cellars. Wine making is not new to Roy's repertoire of skills. He was one of the pioneers, along with Dr. C. M. "Mac" MacPherson and horticulture professor Robert Reed in establishing grape growing in Lubbock. In those early years Roy set up the analysis of wines in this Department. Later, he became an adjunct member of the wine-making venture by the University of Texas in lands south from Lubbock. From under those lands is pumped oil, while on their surface grapes are grown. For some years, Roy was involved with the analysis of UT's wines. Most recently Roy received that well-known offer—the one that he couldn't refuse. To his success we raise a glass, be it full of Teysha's or someone else's brew.

## Postdocs and Research Associates

**Dr. James Allaway**, postdoc with Dr. Bartsch, 1974-1975, is a Senior Scientist in the Polymer Science Department of S. C. Johnson and Son, Inc., Racine, WI.

**Dr. B. K. Bandlish**, postdoc with Dr. Shine, 1973-1977, has moved to Charlotte, NC, to work in the research labs of Sandoz.

**Dr. Bogdan Boduszek** has returned to his position at the Institute of Organic and Physical Chemistry, Technical University, Wroclaw, Poland, after completing three years of research with Dr. Shine.

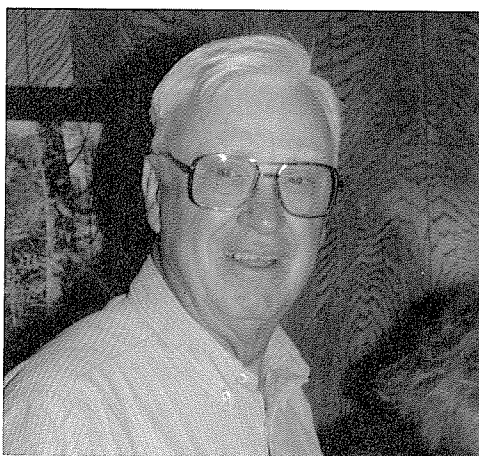
**Dr. Anna Czech**, postdoc with Dr. Bartsch, 1982-1985, is a Senior Chemist with Union Carbide Corp., Tarrytown, NY. **Dr. Bronislaw**

**Czech**, postdoc with Dr. Bartsch, 1982-1985, has received an Outstanding Technical Achievement Award from Technicon, Tarrytown, NY, and has been promoted to Project Scientist.

**Dr. Dhimant Desai**, postdoc with Dr. Bartsch, 1984-1987, has a new position with the American Health Foundation, Tarrytown, NY.

**Dr. Qiao Feng**, Ph.D. Nebraska, joined Dr. Wilde's group, January 1988.

**Dr. Masakazu Hirasawa**, postdoctoral fellow, 1988, has been named Research Assistant Professor in the Department, to continue research with Dr. Knaff.



*Retirement Party, September 10, 1988.  
Former member of our faculty, Dr. Clinton "Mac" MacPherson.*

**Prof. Young Doo Kim** (Chungnam National University) and **Prof. Hwang Huh** (University of Ulsan) are visiting faculty from Korea, collaborating in research with Dr. Bartsch.

**Mr. Wang Keun Lee** has returned to Texas Tech after two years in his home University in Korea, to continue his Ph.D. degree research work with Dr. Shine.

**Per F. Lindgren**, doctoral student from the University of Umea, Sweden, spent the calendar year 1988 with Dr. Dasgupta.

**Dr. Stanislaw Lochynski**, Institute of Organic and Physical Chemistry, Technical University, Wroclaw, has joined Dr. Shine for postdoctoral research.

**Dr. Braj M. Misra** from the Separation Technology Section, Desalination Division, Bhabha Atomic Research Center, Bombay, India, and **Dr. Jan Krzykowski**, from the Silesian University, Katowice, Poland, have joined Dr. Bartsch's research group.

**Prof. Duck-Chul Oh** has returned to his position in the Biology Department, Chenju National University, Korea, after completing a sabbatical year with Dr. Knaff.

**Dr. Tetsuo Okada**, has returned to his post as Assistant Professor, Shizuoka University, Japan, after spending nine months in research with Dr. Dasgupta.

**Dr. Mark Ortalano**, Ph.D. Louisiana State University, joined Dr. Robinson's research group on June 15, 1988.

**Dr. J. P. Shukla**, postdoc with Dr. Bartsch, 1985-1987, is a Senior Scientific Officer, Radiochemistry Department, Bhabha Atomic Research Centre, Bombay, India.

**Dr. Lyle W. Spruce**, postdoc with Dr. Bartsch, 1987-1988, is a research chemist with Cortech, Inc., Denver, CO.

**Dr. T. Krishnan (Venku) Venkatachalam**, formerly postdoc with Dr. Shine, is a postdoctoral fellow, Ohio State University.

Following two years of postdoctoral research, **Dr. Ibrahim Yilmaz** is spending a third year at Texas Tech with an appointment as a Visiting Professor. At the same time he is continuing collaboration in research with Dr. Shine.

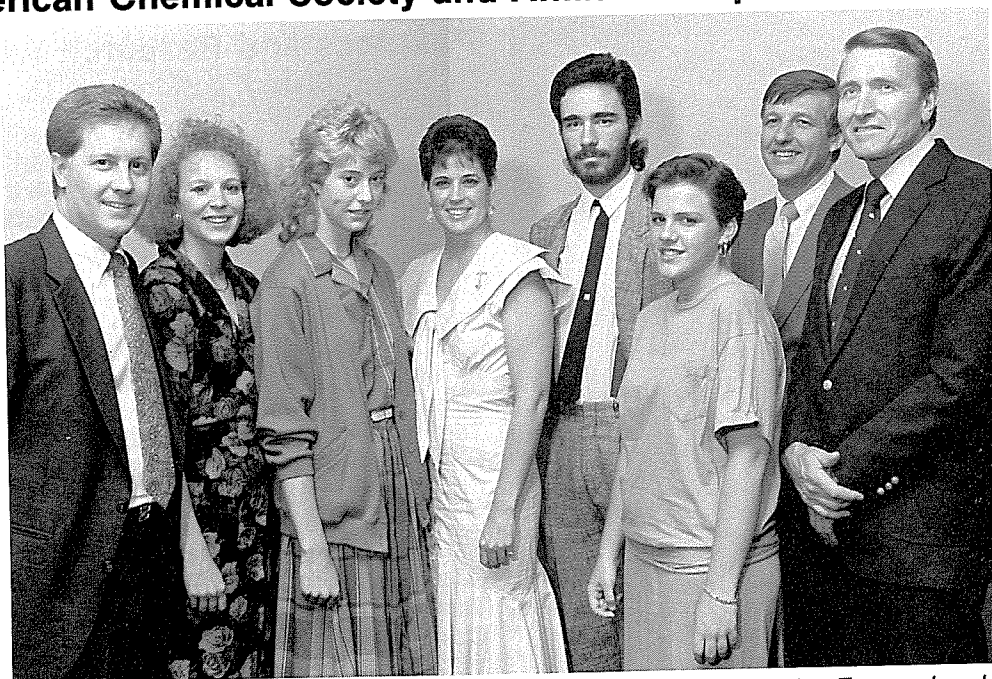
## Awards Banquet for the American Chemical Society and Affiliated Departments

Observant readers will notice the new heading to this report of our annual banquet. Those of you who can reach back into the past will know that the Department, in years past, held its annual banquet in collaboration with the local chapter of the Society of Sigma Xi. In time the Department and ACS contributions to the proceedings became large enough to warrant separating from Sigma Xi, and the two entities began holding separate, annual affairs. Our own celebration has now grown in scope, to include, last year, our neighbor, South Plains College's Department of Chemistry. This year, the net of expansion has been cast even further to include Departments from Eastern New Mexico University, Wayland Baptist University, and Lubbock Christian University. Hence, the new heading to our report.

Inclusion of high-school scholars and teachers in these annual gatherings signifies a communal, regional commitment in the teaching of chemistry. We are supported furthermore by industrial representatives, and that, as it is said, is the way it should be.

Our list of scholarship awards no longer includes, to our regret, those from the Weymouth-Campbell Foundation. The Foundation has had to cut back on its funding. On the other hand, we report the first awards of the annual Jeanette and Joe Dennis Scholarships, made possible by the generosity of former chairman of our Department and his wife. Also, listed for the first time are the Hoechst-Celanese Scholarships. These, and those from the Dow Chemical Company, were presented, in fact, by company representatives who are graduates of our Department, an extra touch of friendship.

In addition to awards from our Department, awards were made to students from the four sister institutions, and to the outstanding high school teacher, Mr. Bill Bennett of Crosbyton High School. Last, a special service award was presented to Prof. Joe Adamcik for his long service to the American Chemical Society, beginning as local section councillor and ending as a member of the National Board of Directors.



*Awards Banquet. Hoechst-Celanese visitors and awardees. Visitors Jay Trammel and Denise Phillips (left) and Ade Becker and Ladin Moore (right) bracket awardees Karen Rogers, Dana Langley, David Blann and Catherine Lebeda.*



*Awards Banquet. Dr. Russell Larsen presents ACS awards to Dr. Joe Adamcik (center) and Mr. Bill Bennett (right).*

*Awards Banquet. Dr. Robert Holwerda with Jeanette and Joe Dennis Scholarship awardees, Susan Coombes, Preeti Patel and Raymond Smola.*





Prof. Adamcik's service to the ACS was, in fact, the subject of his banquet address: The Scenery Along the Way: Reflections on my Thirty-seven Years in the American Chemical Society. As reported elsewhere in this Newsletter, Joe Adamcik has retired from our Department to begin a new career in law.

## Scholarships and Awards to Undergraduate Students, 1988

The Samuel Hunt Lee Memorial Award (to an outstanding freshman chemistry major), **Sean Kennedy** (Snyder, TX).

The CRC Press, Inc., 41st Annual Freshman Chemistry Achievement Award (to an outstanding student in freshman chemistry), **Sean Kennedy**.

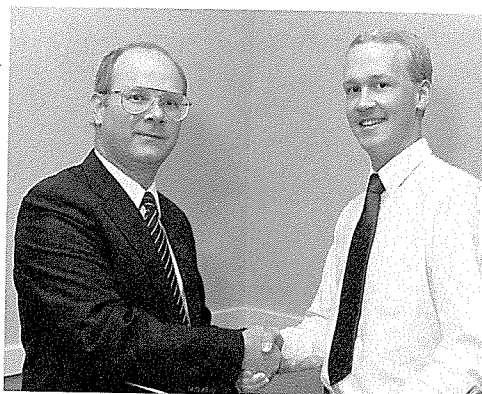
American Chemical Society Student Affiliate Scholarship (to an outstanding sophomore chemistry student), **Robert Livengood** (Plains, TX).

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), **Sherri Fugate Clark** (Idalou, TX).

The Merck Index Award (for outstanding achievement by a graduating senior), **Jeffry Nichols** (Katy, TX).

Dow Chemical Company Scholarships for academic achievement (as a freshman biochemistry major) **Joseph Mogan** (Lubbock, TX); (as a freshman chemistry major) **Sean Kennedy** (Snyder, TX); (as a sophomore biochemistry major) **Charles Britton** (Lubbock, TX); (as a sophomore chemistry major) **Robert Livengood** (Plains, TX), **Wayne Fleitman** (Lindsey, TX), and **Kimberly Smith** (Lubbock, TX).

Hoechst Celanese Scholarships for academic achievement (as a freshman biochemistry major) **David Mann** (Lubbock, TX); (as a freshman chemistry major) **Catherine Lebeda** (Los Alamos, NM); (as a sophomore chemistry major) **Karen Rogers** (Lubbock, TX), and **Suzie Langley** (Cockerly, TX); (as a junior biochemistry major) **Brian Simmons** (Lubbock, TX); (as a junior chemistry major) **Mark Corwin** (Big Spring, TX).



Awards Banquet. Dr. Richard Bartsch presents the Merck Index award to Jeffry Nichols.

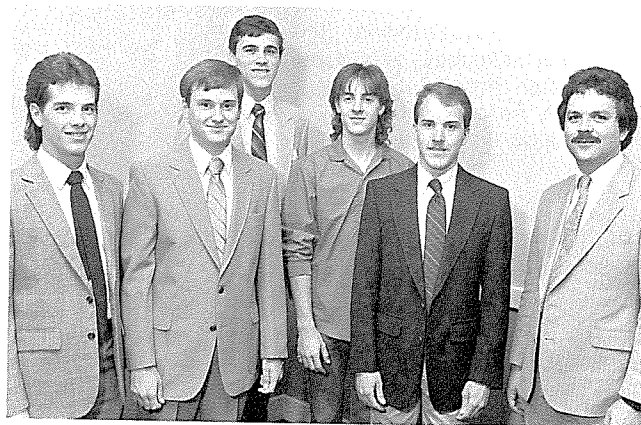


Awards Banquet. Dr. Perry Mason of Lubbock Christian University presents awards to Jay Brewster and Joe Brazell.



Awards Banquet. Dr. Robert Walkup (right) with South Plains Chemical Research Symposium award winners (L to R): Bill Edgemond, Alfonse Walker, Kelly Casey, and Don Robertson.

Awards Banquet. Dow Chemical USA Scholarship awardees (L to R) Charles Britton, Robert Livengood, Wayne Fleitman, Sean Kennedy and Joseph Mogan with Dr. David Babb.



Awards Banquet. Dr. and Mrs. John W. Kenney, III (far right) and award winners from Eastern New Mexico State University (L to R), Jill Langendorf, Pamela Harbuck, Tim McLellan, Erin Campbell, and Durwin Striplin.

Awards Banquet. Teaching Assistant awardees ( L to R) Bill Edgemond, Susan Jack, and Ron Biediger.



Jeanette and Joe Dennis Scholarships for academic achievement (as a junior biochemistry major) **Susan Coombs** (Lubbock, TX), and **Preeti Patel** (Sonora, TX); (as a senior chemistry major) **Raymond Smola** (Sweetwater, TX).

## Teaching Assistant Awards to Graduate Students

Texas Tech University Outstanding Graduate Student Teacher Award: **Ronald Biediger** (Mico, TX).

Department of Chemistry and Biochemistry Award for Superior Performance as a Teaching Assistant: **Susan Jack** (Borger, TX), and **William Edgemond** (Austin, TX).

## South Plains Chemical Research Symposium Awards

For outstanding presentation: **Donald T. Robertson** (Texas Tech), graduate; **Durwin Striplin** (ENMU), undergraduate. For excellent presentation: **William Edgemond** and **Kelley Casey** (Texas Tech), graduate; **Alfonse Walker** (Texas Tech), undergraduate.

## International Chemistry Olympiad, South Plains Section Finalists

**Aaron Clements** and **Robert Hogan** (Lubbock High School, Mr. Royace Aikin, teacher and coach); **Christopher Bennett** and **David DeFrance** (Coronado High School, Mr. Edgar Jarman, teacher and coach); **Kevin Gibson** (Monterey High School, Ms. Jeanelle Culp, teacher and coach).

## Chem Majors Accepted for Medical / Dental School 1988

The names of these students and their destinations were submitted by the Preprofessional Health Careers Committee: Chairman Jerry Mills and Counselor Brenda Sanders. Our thanks to the PHCC and best wishes to the students named.

**Hai Phuc Dang**, Houston  
**Andrew Weldon Hoover**, Texas Tech  
**Gregg Douglas Rice**, Southwestern  
**Roger James Wolcott**, Texas Tech

Awards Banquet. Mr. and Mrs. James Leggitt and award winners from South Plains College (L to R) Christopher Rose (with Mrs. Rose), Vispin Menon, and Traci Nance.

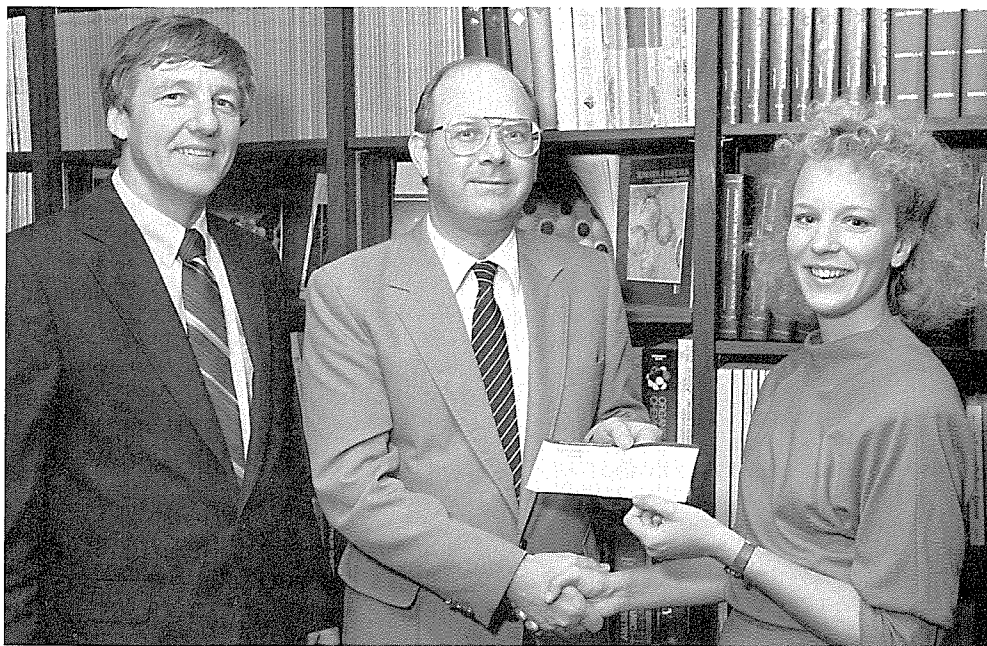


Awards Banquet. International Chemistry Olympiad finalists and their coaches. (L to R) Jeanelle Culp, Kevin Gibson, Christopher Bennett, David DeFrance, Aaron Clements, Don Coleman and Royace Aikin.



Awards Banquet. Regional high school teachers: Royace Aikin (Lubbock HS), Jeanelle Culp (Monterey HS), Bill Bennett (Crosbyton HS), Don Coleman (Coronado HS) and Hugh Smith (Lubbock HS).





*Hoechst-Celanese representatives Ade Becker and Denise Phillips present a check for \$2,000 to Dr. R. A. Bartsch, October 6, 1988. The check provides for undergraduate scholarships.*

## Graduate Degrees, 1988

**Kelly G. Casey** (Ph.D., Dr. Quitevis) "Studies of Solvent-solute Interactions in the Photophysics of Laser Dyes".

**Sung-Yung Chen** (M. S., Dr. Quitevis) "Picosecond Spectroscopic Studies of H-Aggregates of 1,1'-Diethyl-2,2'-Dicarbocyanine on Colloidal Silica".

**Shishue Chiou** (Ph.D., Dr. Shine and Dr. Kice) "Reactions of Araldoximes Induced by Cation Radicals", and "Rates and Mechanisms of the Oxidation of *o*-Nitrobenzeneselenyl Compounds".

**Raymond Thomas Cunningham** (Ph. D., Dr. Walkup) "Model Studies for the Total Synthesis of Oscillatoxin A".

**Mary Ettel** (Ph.D., Dr. Mills) "Studies of Trialkyl Phosphine Carbon Disulfide Adducts and Chalconide Phosphorus Cages".

**Kevin A. Gray** (Ph.D., Dr. Knaff) "Protein:Protein Complexes in Plant and Bacterial Electron Transport Systems".

**Johnny L. Hallman** (M.S., Dr. Bartsch) "Synthesis of Mono- and Diazadibenzo Crown Ethers and Ionizable Pendant Groups".

**Cecil W. Harkey** (M.S., Dr. Shaw) "Subcloning of the *Bacillus cereus* 5/B/6  $\beta$ -Lactamase Gene into an *Escherichia Coli* Expression Vector".

Susan Jack (M.S., Dr. Mills) "Phase Transfer Oxidation of Phosphorus".

**Eok-Giu (Joshua) Jeon** (Ph.D., Dr. Bartsch) "Separation of Alkali Metal Cations and Alkaline Earth Cations Using Ionizable Crown Ethers".

**Woo-Yeong Jeong** (Ph.D., Dr. Holwerda) "Synthetic, Spectroscopic and Mechanistic Studies of Pd(II)-Carbon Bonding in Chloroanilapalladium(II) Complexes".

**Young-Ae Kim** (Ph.D., Dr. Knaff) "Amino Acid Transport in *Chromatium vinosum*".

**Aidas Kriauciunas** (M.S., Dr. Knaff) "The Isolation and Characterization of the Quinol: Cytochrome C Oxidoreductase from *Rhodospirillum rubrum*".

**William Lawson McDowell** (Ph.D., Dr. Mitchell) "Determination of Anion and Cation Concentrations in West Texas Grapes".

**Gyoosoon Park** (Ph.D., Dr. Walkup) "Stereoselective Syntheses of Functionalized Tetrahydrofurans Via Intramolecular Oxymetallations of Allenes and Syntheses of Methyl Nonactate Homologues".

**Jeou-Der Sung** (M.S., Dr. Knaff) "Characterization of Ferredoxin-dependent Enzymes from Plants and Cyanobacteria".

## Undergraduate Degrees 1988

**Marwan Paul Batrice** (B.S., Biochemistry)

**Wen-Cheng Chuang** (B.S., Chemistry)

**Hai Phuc Dang** (B.A., Biochemistry, magna cum laude)

**Sherri Denise Fugate** (B.S., Biochemistry, summa cum laude)

**Andrew Weldon Hoover** (B.A., Biochemistry)

**Ittycheriah Poovakunnel Ittycheriah** (B.S., Chemistry)

**George Peter Kampas** (B.A., Chemistry)

**Kelly Lockwood Klein** (B.S., Biochemistry)

**Rodney R. Marchand** (B.A., Biochemistry)

**Rogelio Leal Martinez** (B.A., Chemistry)

**Donald Wayne Mittanck** (B.S., Biochemistry)

**Jeffry Curtis Nichols** (B.S., Biochemistry, magna cum laude)

**Charles Vaughn O'Rear** (B.S., Chemistry)

**Monte Joe Pullig** (B.S., Chemistry)

**Gregg Douglas Rice** (B.A., Biochemistry, cum laude)

**Jeffrey Shaun Roach** (B.S., Chemistry)

**Raymond Samuel Smola** (B.S., Chemistry)

**Todd Alan Wells** (B.A., Biochemistry)

**William Christian Wigley** (B.S., Biochemistry)

**Roger James Wolcott** (B.A., Chemistry)



## News of Alums

**Dr. David A. Babb** (Ph.D. '85) and **Dr. Alan P. Croft** (Ph.D. '83) are senior Research Chemists with Dow Chemical USA, Freeport, TX.

**Dr. Dong Hak Bae** (Ph.D. '82) has been promoted to Senior Research Chemist at Pennzoil Research Labs, The Woodlands, TX.

**Dr. Bert Boyer** (B.A. '82) received the Ph.D. degree in Physiology from LSU Medical Center, New Orleans, in August, 1988, for research on the regulation of branched-chain ketoacid dehydrogenase activity in feedback inhibition and phosphorylation. Dr. Boyer has received a three-year individual National Research Service Award from the National Institute of Neurological and Communicative Disorders and Stroke to conduct postdoctoral research at the Jackson Laboratory, Bar Harbor, Maine. His area of research will be in molecular biology and genetics. Dr. Boyer was married in July, and he and Mrs. Boyer now reside in Seale Harbor, Maine.

**Dr. Kelly G. Casey** (Ph.D. '88) is a postdoctoral fellow at the IBM Thomas J. Watson Research Center, Yorktown Heights, NY.

**Victor Cason** (M. S. '86) is an Associate Chemist with ICF Technology, Dallas.

**Robin L. Cooper** (B.S. '83) finished his Ph.D. in physiology at the TTU Health Sciences Center in the summer, 1988.

**Dr. Vistor Davidson** (Ph.D. '82) has accepted a position as Associate Professor of Biochemistry, University of Mississippi Medical School, Jackson.

**Dr. Mary Ettel** (Ph.D. '88) is doing postdoctoral research at Utah State University.

**Ronnie E. Foster** (B.S. '65, M.S. '66) who has been at Rohm and Haas Texas, Inc. since graduating almost 23 years ago and is now Quality Assurance Manager there, has become a proud grandfather—twice!—with twin granddaughters.

**Dr. Kevin Gray** (Ph.D. '88) has won a European Molecular Biology Organization post-doctoral fellowship to study molecular biology of photosynthetic bacteria at the Max-Planck-Institut für Biochemie, Martinsried, FRG. Noteworthy is the fact that all of 1988's Nobel Laureates in Chemistry worked at the Martinsried lab. Good luck, Kevin!

**Dr. Scott Grundy, M.D.** (B.S. '55) made the national news in 1988 for his work with Dr. Andrea Bonanome on the role of stearic, palmitic, and oleic acids in the human diet (Time Magazine, May 23, 1988). Apparently, stearic acid has a good role in dropping the level of blood cholesterol.

This finding has given rise in beef-eating quarters to the mistaken belief that it's now all right to eat plenty of beef which is rich in stearic acid fat. Not so, said Grundy. Moderate portions of lean beef are OK.

**Kim Lloyd Hailey** (B.S. '72)—Marvel of marvels, Kim Hailey dropped into Lubbock after 16 years of absence and spent an hour or so reminiscing about the good old days in Lubbock (where else?) with your Editor. Kim had with him his bright and charming 12-year old daughter, Nicole. Kim (vice president) and brother Shawn (president) have their own semiconductor software and services company (Meta-Software) in the Silicon Valley. They are doing innovative things in chip-construction simulation programs, having worked their way up from one-room to garage to a dedicated building since founding their now 20-employee company. Don't wait another 16 years, Kim.

**Cecil W. Harkey** (M. S. '88,) has accepted a position as research technician, TTUHSC, Amarillo, in the Department of Pediatrics.

**Dr. Tom Hayes** (B.S. '80) paid a visit to alma mater TTU in the summer '88 while on his way from Penn State (Ph.D. '88) to the University of California, Irvine, where he has a postdoctoral position. Tom was accompanied by his wife Claire who also has a postdoctoral position in Irvine. The Hayes have a 3-year old daughter, Kristin.

**Dr. Gwi Suk Heo** (Ph.D. '83) is a Senior Researcher for the Korea Standards Research Institute, Daejeon, Korea.

**Dr. Marque A. Hunter, M.D.** (B.A. '80) who has a fellowship in pulmonary medicine at the UT Medical Branch, Galveston, sent a question to Dr. Mills "How's the beer in the basement." After going there to find out, Dr. Mills is still sampling.

**Susan Jack** (M.S. '88) is with Hoechst-Celanese, Bishop, TX.

**Dr. Pedro N. Juri** (Ph.D., '79) is working in the Quality Assurance International Division, of E. R. Squibb and Sons, New Brunswick, NJ.

**Dr. Sang Ihn Kang** (Ph.D. '83) is a Research Scholar at the University of Southern California Comprehensive Cancer Research Center, Los Angeles.

**Dr. Young-Ae Kim** (Ph.D. '88) has begun postdoctoral research with Prof. Lewis Hersch, Department of Biochemistry, Southwestern Medical Center, Dallas.

**Aidas Kriauciunas** (M.S. '88) has joined Eli Lilly Pharmaceutical Labs, Indianapolis, for research in metal-containing enzymes. Aidas and another TTU alum, **Tracey Price** (B.S. '84, M.S. '87) have announced their plans to wed. Tracey is also working at Eli Lilly.

**Dr. Jim Liang** (Ph.D., '81,) is a researcher at the Wright-Patterson AFB, Dayton, Ohio.

**Dr. C. A. Buck Lively, M.D.** (B.A. '80) graduated from TTUHSC School of Medicine in 1988 and began a residency in Obstetrics and Gynecology.

**David Ray Lorenz** (B.S. '80) is a chemist with Southwestern Public Service Company, Amarillo, TX, where he has been since graduating in 1980.

**Harvey E. Mallory** (B.S. '60, M.S., '61) has moved from Wilmington, Delaware, to DuPont's fiber business location in Richmond, VA.

**J. Lynn Myers**, whose doctoral studies will be completed in the Spring, 1989, has begun work as a research scientist, with Midland Certified Reagents, Midland, TX.

**Dr. Jae-Song Rhee** (Ph.D. '86) and **Dr. Eun-Sook Rhee** (Ph.D. '86,) have returned to Korea where Jae-Song has accepted a position with the Korea Advanced Institute of Science and Technology.

**David Siller** (M.S. '79) is the Technical Sales Representative for Kenrich Petrochemicals, Inc., Sugarland, TX.

**Dr. Byungki Son** (Ph.D. '84) is a Senior Chemist with Lucky Central Research Institute, Daejeon, Korea.

**Dr. Douglas A. Webb** (B.S. '82) received the Ph.D. in Chemistry from Cornell in January, 1987, and now works for Texas Instruments in Dallas. Doug and wife Joanie are proud parents of Stacey Anne, born February 13, 1988.

**Roger James Wolcott** (B.A. '88) was one of the 62 Tech seniors selected for listing in the 1988 edition of Who's Who in American Universities and Colleges. Selections for this honor was made by a committee of faculty, staff and students, and was based on outstanding achievement in scholarship, leadership and service while at Tech. Roger was one of the Arts and Sciences Ambassadors, and has now entered TTU's Medical School.

**Dr. Jesse Yeh** (Ph.D. '87) is a Visiting Assistant Professor, Texas A and I University.

## South Plains Section of the American Chemical Society

This year was an active year for the South Plains Section. The officers were Dr. Russell Larsen (Texas Tech), Chairman; Dr. John and Inga Kenney (Eastern New Mexico University), Chairpersons-Elect; Royace Aikin (Lubbock High), Secretary; Dr. John Marx (Texas Tech), Treasurer; Dr. Jerry Mills (Texas Tech), Councilor; and Brian Walker (Texas Tech), Alternate Councilor. The Coronado Circuit tour speakers who spoke in the Department were: Dr. Milos Novotny (Indiana Univ.), "Chemical Communication in Mammals"; Dr. Robert Lyle (Southwest Research Institute), "Microencapsulation"; and Dr. John C. Bailar, Jr. (Univ. Illinois), "Some Current Trends in Inorganic Chemistry." Dr. Bailar's visit was a special treat in that Bailar is one

of the legends of modern inorganic chemistry. He is 84, has been at the University of Illinois for 60 years, and has had 90 students receive doctorates under his guidance. The third, annual Tri-Sectional Meeting, jointly sponsored by the Permian Basin, Panhandle Plains, and South Plains Sections, featured Dr. David M. Prescott of the Department of Cellular, Molecular, and Developmental Biology at the University of Colorado. The Tri-Sectional Meeting is highlighted by a lecture devoted to the Public Understanding of Science. Prescott, a member of the National Academy of Sciences, presented the provocative lecture: "Diet, Life-Style, and Cancer Prevention." Biochemist Dr. Joseph Nagyvary's (Texas A&M University) visit was an unusual ACS

event in that he gave the lecture, "Decoding the Stradivarius: The Secret Revealed," in Allen Theatre. His lecture was followed by a violin recital by Barbara Barber of the Texas Tech School of Music on two of Nagyvary's new violins (the Nagyvarius). Another special event

## New Research Grants

### Dr. Richard A. Bartsch

Technicon, Tarrytown, NY: Sixth year contract for further development of "Chromogenic Crown Ethers for Determination of Metal Ions in Blood", one year, \$60,000.

Serpentix, Golden, CO, "Metal Ion Complexing Agents", one year, \$25,000.

Los Alamos National Laboratory: "Reagents for Actinide Extraction", one year contract, \$35,000.

### Dr. Sandy Dasgupta

U. S. Department of Energy: "Novel Approaches to Ionic Chromatography" \$170,000, ending December 31, 1989.

Electric Power Research Institute: "Diffusion Scrubber Coupled Ion Chromatography for the Measurement of Trace Atmospheric Gases", \$200,521 for three years, ending December 31, 1990.

Dow Chemical Company: "Pulsed Gas Carrier Continuous Flow analysis", \$70,031 for two years, ending May 30, 1989.

Arizona Instruments, Inc.: "Jerome Postdoctoral Fellowship. Measurement of mercury in Aqueous samples with a Gold Film Sensor", \$24,600, one year, ending December, 1988.

### Dr. James Harman

National Science Foundation: "DNA Structures and CRP-Mediated Promoter Activity", 3 years beginning Jan. 1, 1989, \$165,000.

### Dr. David Knaff

National Science Foundation: "Electron Flow in Photosynthetic Bacteria", \$180,000, for three years, ending June 30, 1991.

### Dr. Russell Larsen

Robert A. Welch Foundation: Scheme '88. The Welch Summer Research Participation Program at Texas Tech. \$18,030.

### Dr. Jerry Mills

Los Alamos National Laboratories: "Synthesis of Tripod Organophosphorus Complexing Agents in Actinide Extraction", \$35,000, one year ending September 31, 1989.

### Dr. G. Wilse Robinson

Robert A. Welch Foundation: "Water as a Pure Liquid and as a Solvent", \$50,000, one year, ending May 31, 1988. State of Texas Advanced Research Program: "Chemical Studies at the Frontiers of Time: A Molecular Level Approach to Kinetic Studies", \$252,000, one year, ending August 31, 1989.

### Dr. Robert Shaw

Robert A. Welch Foundation: "The Role of Metal Ions in the Mechanisms of Enzymatic Reactions", \$75,000 for three years.

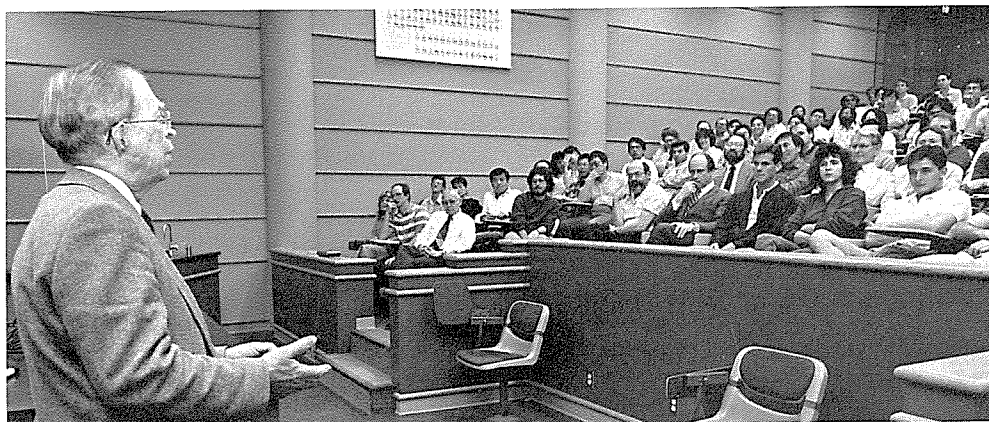


Dr. Gordon Nelson

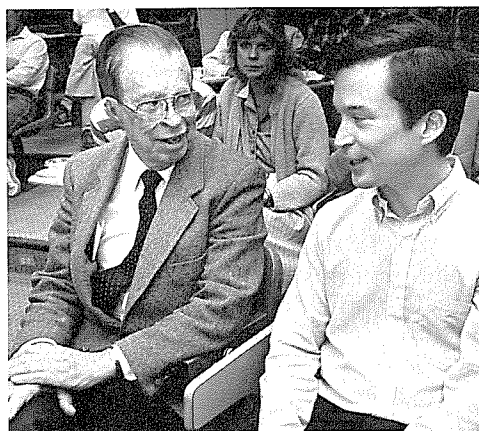
was the visit to the section by the 1988 ACS President, Dr. Gordon Nelson from the University of Southern Mississippi. Dr. Nelson is a polymer chemist. His talk was entitled, "The ACS: A State of Excitement." Nelson was introduced by Dr. Joe Adamcik who served with Nelson on the ACS Board of Directors for 8 years. The South Plains Mini-Research Symposium, held in April, was organized by Drs. Robert Walkup and John Marx and featured talks by undergraduate and graduate students in chemistry and biochemistry. Special events are being planned for 1989 by John and Inga Kenney, the 1989 South Plains Section Chairpersons—next year is the 25th anniversary of the South Plains Section.

## Dr. R. Bruce Merrifield, Nobel Laureate, Visits Texas Tech

The Department was fortunate this year to host the visit to our campus of the 1984 Nobel awardee in chemistry. The visit was one of a continuing series brought about by the Texas Tech Dads and Moms Association. Dr. Merrifield, who is a Professor of Biochemistry at the Rockefeller University, New York, spent several days on the campus. He gave a public lecture on "Solid Phase Peptide Syntheses" on February 29, and a lecture on "The Chemical Synthesis of Biologically Active Peptides" to the Department on March 1. Further, Dr. Merrifield visited a number of classes at their regular periods to meet with and have discussions with students. Dr. Merrifield's Nobel prize was awarded for his discovery and development of the process for building proteins on a solid-phase support by stepwise additions of amino acids. This, now known as the Merrifield bead process, is a standard item in modern textbooks and has become the model for analogous syntheses of large biological molecules, such as polynucleotides. Dr. Merrifield, in his courteous, unassuming manner, was an instant hit, with students and faculty, alike.



*Dr. Bruce Merrifield at one of his several lectures, March 1, 1988.*



*Dr. Bruce Merrifield and Dr. Bruce Whittlesey.*

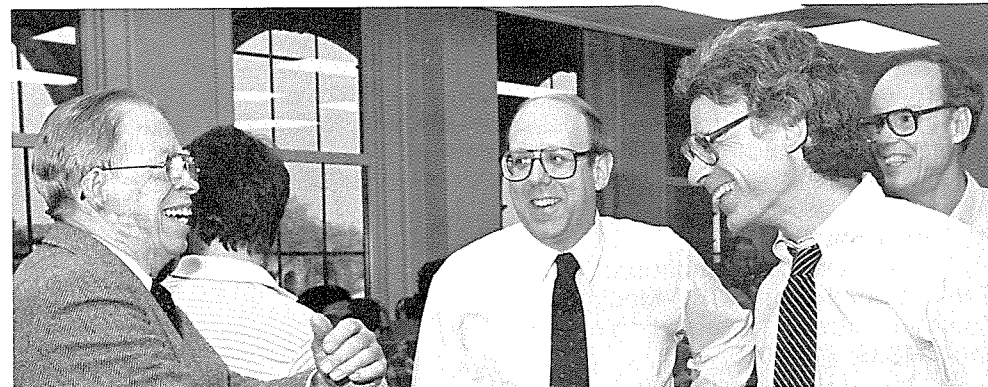


*Drs. Bruce Merrifield, Robert Shaw and Don Haragan (Vice President for Academic Affairs and Research).*

*Dr. Bruce Merrifield with graduate students, Gary Corson, Savita Shanker, Newton Hilliard, Chang Ho Chung.*



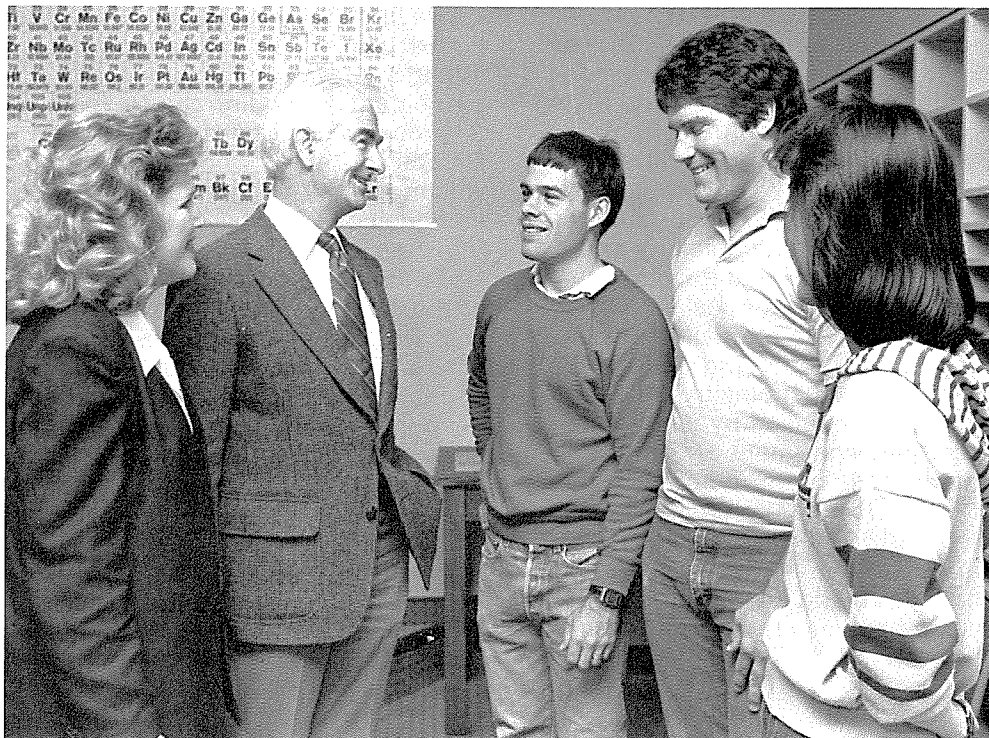
*Drs. Bruce Merrifield, Robert Shaw, David Knaff and John Anderson.*





## sigMAChem Conference

A day-and-a-half conference was held in the Department of Chemistry and Biochemistry in October sponsored by sigMAChem (a national, special interest group on the Macintosh in chemistry). Dr. Russell Larsen organized the conference along with Dr. Allan Smith of Drexel University. Larsen and Smith founded the sigMAChem group in 1986. Apple Computer sponsored the conference. The conference showcased the general chemistry computer lab which consists of a local-area network of 24 Macintoshes, 4 printers, and a fileserver. Sessions were held both in classrooms using state-of-the-art projection equipment and in the MacLab, where conferees had access to hands-on software. Speakers were from Notre Dame University, Oklahoma State, Texas Tech, Drexel University, UCLA, Texas College of Osteopathic Medicine, Texas Tech Health Sciences Center, and Southwest Texas State. The two plenary speakers were Stew Rubenstein, president of Cambridge Scientific Computing, Inc. and the developer of ChemDraw and Chem 3D, and Mary Ellen Verona, of Blair Magnet School in Silver Spring, Maryland.



*Charlotte Kaslik and Dr. Robert Dear of Pennzoil Research with graduate students Joe McDonough, Ron Biediger and Mi-Ja Goo. The occasion was the presentation of Pennzoil's gift for scholarships.*

## Classnotes

Do you enjoy reading about friends and classmates? Why not return the favor—drop us a line and a (preferably black and white) photo.

- |                                    |  |   |
|------------------------------------|--|---|
| <input type="checkbox"/> Married?  | <input type="checkbox"/> New Job?        | <input type="checkbox"/> New Baby?        |
| <input type="checkbox"/> Promoted? | <input type="checkbox"/> Take a Trip?    | <input type="checkbox"/> See a Classmate? |
| <input type="checkbox"/> Moved?    | <input type="checkbox"/> Back in School? | <input type="checkbox"/> Other?           |

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## Where are you, alums?

Let your news pour in. Send it *now* before you forget, and before your good intentions join all others in paving the road to you know where.

## The Saturday Seminar Series (S<sup>3</sup>)

The Saturday Seminar Series for High School Chemistry Students continues to grow in size and extent of participation by high schools in the South Plains. The program, started in 1984 by Dr. Russell Larsen, is sponsored by the Department of Chemistry and Biochemistry and by the Coca-Cola Bottling Company. The 1988 program consisted of three lectures in the Fall, all held in the Chemistry Building. This year's theme was geochemistry. All three lectures were given by faculty/staff from the Department of Geosciences. The purpose of the program is to attract students into chemistry and the sciences. It also enables the department to interact with colleagues who are chemical and science educators in West Texas

high schools. This year a record attendance was again set with 81 participants attending the November S<sup>3</sup> program. October's speaker was Dr. Calvin Barnes who talked about volcanos and the chemical composition of volcanic magma—the rhyolites, including granitic rocks. November's speaker was Bryan Small of the Tech Museum, a collaborator with Dr. Sankar Chatterjee, an eminent paleontologist at Texas Tech. Small discussed the Texas Tech involvement in the Antarctic Expedition and the search for dinosaurs and other early vertebrates there. The speaker in December was Dr. Tom Lehman, whose topic was the exciting evidence for the extinction of the dinosaurs based on the iridium layer at the Cretaceous-Tertiary boundary.

Texas Tech University  
Department of Chemistry & Biochemistry  
Lubbock, Texas 79409

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