



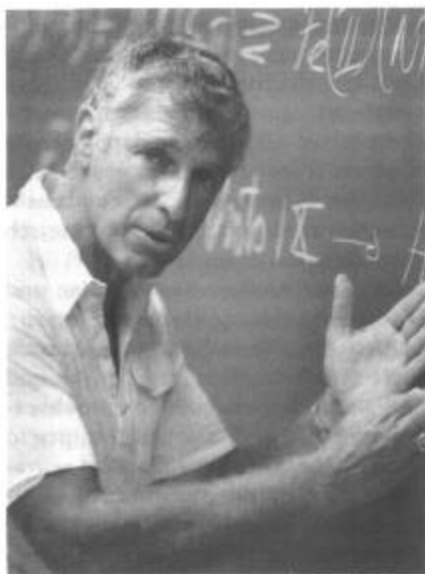
CHEMISTRY DEPARTMENT NEWSLETTER

August 1986

No. 11

DR. PAUL SALTMAN, 7th ANNUAL DISTINGUISHED LECTURER

by Darwin Mayfield



Dr. Paul Saltman, 7th Distinguished Visiting Lecturer

Dr. Paul Saltman, raconteur, athlete teacher and biochemist at UC San Diego, was guest of the department in late April as 7th Annual Distinguished Lecturer. This year the series of lectures was supported by the Chemistry Department Advisory Council. When first the invitation was extended, it was mentioned that three major lectures were expected during the two day visit. "What else do you want me to do?" was Saltman's immediate reply. "Why not exploit me?" And exploit we did.

The initial lecture was titled, "For Want of a Nail: The Role of Trace Elements in

Biological Systems." It established an experimental base for the general lecture the following day, "Breakfast of Champions: Nutrition in Sports — Are We What We Eat?" This noon lecturer drew an audience of well over 150 from departments ranging from physical education to home economics.

Dr. Saltman had not a moment of free time from 9:30 am to 9:30 pm during his second day. He began with office visits on research matters with several faculty members, moved to the big noon lecture, continued to lunch with ACS student affiliates, made a visit to a Chem 111A lecture section where he ran an impromptu derivation of the Michaelis-Menten equation, delivered the third lecture in the series, proceeded to a reception to meet more students, faculty and guests and concluded the day with a multicourse dinner at a Chinese restaurant in Huntington Beach.

With his third lecture, "The Kinetics and Mechanism of Electron Transport in Proteins," Saltman challenged some traditional views of the roles of hemoglobin and myoglobin, and proposed mechanisms for electron transfer in these proteins. Red blood cells will reduce Fe^{3+} to Fe^{2+} ; Saltman proposed that hemoglobin itself is the reductant in this process, via a mechanism that generates methoglobin but does not involve superoxide. Electron transfer apparently occurs in part by a site-specific mechanism, which also involves Cu^{2+} , and in part by what Saltman describes as an electron

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Chemistry Under the Golden Arches



Christopher Appleton, McDonald's Corporation.



Most of us at one time or another have had a quick meal at McDonald's, and as we munched on a Big Mac few of us have given any thought to the extensive chemical and biological research and controls behind the scenes. For the record, Chris Appleton, BS 1972, is Manager of the Quality Assurance Laboratory for McDonald's Corporation, located in Westmont, Illinois.

When he joined the company, McDonald's was expanding the technical facilities at the J & R Double Arch Ranch in the mountainous area north of Santa Barbara, California. There he helped begin a systematic program for checking the quality of food products purchased for the res-

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Chairman's Report

As can be judged from the **Faculty Notes** column, our faculty have been professionally active during the past year. The number of external grants to the Chemistry Department increased over previous years, and we are outgrowing our research facilities because of the relatively large number of graduate and undergraduate students participating in directed research. Student involvement in the activities of the department is gratifying and is largely due to the enthusiasm and energy of the members of the Student Affiliates of the American Chemical Society. It is not unusual for student attendance at department social affairs to exceed one hundred. SAACS members are excellent at public relations, and they are responsible for recruiting significant numbers of students as majors in chemistry.

There are several people who have been especially helpful to the department by performing duties outside regular assignments, and I would like to recognize them in this editorial. I am especially grateful to **Paz Eilat**, President of SAACS, for his creative and energetic leadership and for organizing the students to help with the sale of lab glasses and aprons, to assist with chemistry exhibits and demonstrations for the science open house, to sponsor noontime seminars and to plan well for the numerous social events which have drawn students and faculty closer together. Thanks also to the graduate coordinators, **Dr. Henry Po** and **Dr. Jeff Cohlberg**, for their successful efforts to recruit graduate students; to **Dr. Tom Maricich** for his tireless work upgrading safety in the department, a task requiring constant attention with little gratitude; to **Dr. Darwin Mayfield** and **Dr. Gene Kalbus** for putting together an outstanding seminar series; to **Drs. Jack Berry, Louis Perlgut** and **Les Wynston** for authoring the Biochemistry BS program, which is now in the Chancellor's Office waiting final approval, and to **Dr. Bob Loesch** or his innovative leadership in our Freshman Chemistry Program.

Our enrollments in chemistry have drifted downward slightly but are still quite healthy. We have over 200 undergraduate majors and about 40 graduate students. Some interesting trends among our majors are noticeable. There are fewer pre-medical and pre-dental students, and more students are indicating an interest in teaching careers, which is a heartening development in view of the

acute shortage of teachers of science in the junior and senior high schools. The quality of preparation of our students has appeared to improve somewhat, perhaps as a result of tightening admission requirements for the California State University system.

Beginning this fall we will be searching for an additional organic chemist to join our faculty. Although we have about 35 faculty positions, we have only 21 tenured and tenure-track faculty teaching full time. Because of released time given to faculty for research, committee work, and administration and preparation of new courses, about 50% of our teaching assignments are met by temporary or part-time faculty. Our department has a long-term program to increase the proportion of its tenured faculty. Meanwhile, we are indeed fortunate to have an excellent group of part-time and temporary faculty to assist with our instructional program.

The department has completed plans for a \$5,000,000 renovation project to upgrade our undergraduate instructional laboratories. Actual construction may begin as early as this winter and will result in temporary inconvenience. Emphasis will be placed on installation of individual hoods for students in organic, qualitative analysis and quantitative analysis laboratories. With the help of Dr. Fred Shair of the Chemical Engineering Department at Caltech, a complete redesign of the air handling system was undertaken to minimize recycling of effluents from hoods.

Our graduates continue to distinguish themselves. The level of acceptance of our students into professional schools and the finest graduate schools is exceedingly high. Presently, four of our graduates are studying for the PhD at CalTech, and former students are also enrolled in doctoral programs at Cornell, Berkeley, UCLA, UC Irvine, UC Riverside, and UC San Diego among others.

Finally, the faculty at CSULB look forward to hearing from you. We have installed a bulletin board in the faculty mail room where I post letters and *Newsletter* responses from you for all to read. We continue to be interested in you, your whereabouts and your work. Please take time to fill out the alumni response form at the back of this Newsletter. Best wishes to you from the faculty and staff.

Ken Marsi

FACULTY NOTES

Dr. Roger Acey. Our current grants have been renewed for the upcoming year. They include work on a citrus tree virus and detection of a brain parasite commonly found in humans.

We have initiated a new research project involving the effects of phthalate esters on developing *Artemia salina*. Results of these studies will be presented by David Tomlinson and Patty Healy at the upcoming Pacific Slope Biochemical Conference in Vancouver, BC.

Benton Yoshida and Jeff Stack, my MS students, will be entering PhD programs at Cal Tech in the fall.

Two new graduate students will be joining our group this fall. One will be coming from USC and the other over from Germany.

Dr. Dennis M. Anjo. The research my students and I have been undertaking has centered about three areas: 1) photoacoustic spectroscopy, 2) the voltammetry of a new pyrolytic carbon film and 3) the reactivity of singlet oxygen with sensitizers. Jim Bonander and Beth Simmons spent the last year optimizing and automating the operation of the photoacoustic spectrometer we have constructed. Chris Presutti and Coleman Smith have been working on a project that uses the photoacoustic system to depth profile photoactive compounds in mammalian skin. We expect some serious breakthroughs in the photoacoustic research this summer.

Art Rojo, Andrew Rosenstratten and Tracy Wheeler contributed to the research on the carbon film electrode characterization. The work by Art and Andrew has been submitted for publication. We still have a lot of territory to cover on the characterization and activation of the electrode, and my new graduate student, Stuart Nowinski, will not be short of work.

The singlet oxygen work has just begun and we are in the process of setting up a lab for flash kinetic work. Victor de La Loza has been working on setting up the laser flash spectrometer and interfacing a computer to the flash digitizer.

I have been fortunate in that all three areas of research have received outside funding. The NIH is supporting the photoacoustic research, and the Research Corp. and the Petroleum Research Fund contributed starter grants to the other projects.

Chinh Tran and I have just finished retooling the multicomponent analysis experiment used in Instrumental Lab. We have interfaced an Apple computer to the

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Saltman: from Page 1

"leaping" mechanism, in which electrons jump directly from the metal to an exposed edge of the porphyrin ring. Copper is implicated both by enhanced rates of electron transfer and tighter binding of the Fe^{3+} -nitrilotriacetate complex to the protein in the presence of Cu^{2+} . In the presence of Cu^{2+} -NTA, a specific cysteine is required for methemoglobin production. Additionally, in the case of myoglobin, six histidines have been identified that show perturbation when Cu^{2+} binds, based on NMR data; of these two (*his-81* and *-82*) appear to be the Cu^{2+} binding site.

Two New Full-time Lecturers Join Chemistry Department

Dr. Thomas H. Duffy and Dr. Thomas E. Goyne have received two-year appointments as full-time lecturers in biochemistry and organic chemistry, respectively.

After receiving his bachelor's degree from Whittier College in 1975, Dr. Duffy entered the Peace Corps, spending a year in Ghana, West Africa, and two years in Belize, Central America. Following his return to the United States in 1978, he entered a PhD program in the Department of Chemistry at the University of Notre Dame, where he became interested in biological aspects of chemistry. His PhD research involved the use of multinuclear high resolution NMR to map the active site of phosphoenolpyruvate carboxykinase, a key enzyme in gluconeogenesis. After receiving his PhD in 1982, he accepted a postdoctoral fellowship at Scripps Clinic and Research Foundation in La Jolla. His work dealt principally with identification and characterization of methotrexate resistant forms of the enzyme dihydrofolate reductase. Dr. Duffy's extracurricular activities include swimming, bike riding and windsurfing with frequent camping trips to Mexico to keep fluent in Spanish.

Dr. Goyne received his BS degree in Chemistry in 1978 from Union College in Lincoln, Nebraska, and his PhD in organic chemistry from UCLA in 1983, where he was a student of Dr. Chris Foote. Since receiving his PhD he has been employed by the Molecular Biology Institute at UCLA and as a part-time adjunct lecturer in the Chemistry Department. His two-part PhD thesis research was directed toward understanding the oxygen-dependent mechanism by which white blood cells kill bacteria, and he also investigated the mechanism of the 9,10-dicyano-



Dr. Thomas Duffy, Lecturer in Biochemistry.



Dr. Thomas Goyne, Lecturer in Organic Chemistry.

anthracene-sensitized photooxygenation of cholesterol using photochemical kinetics. Dr. Goyne held NIH Traineeships in Carcinogenesis and Tumor Biology and was twice honored with Outstanding Teaching Assistant awards. His work with the Molecular Biology Institute involves the elucidation of the mechanism whereby DNA is oxidatively cleaved by the 1,10-phenanthroline-cuprous complex and hydrogen peroxide. In his spare time Dr. Goyne enjoys backpacking, snorkeling and reading about history and current events.

McDonald's: from Page 1

restaurants or "stores" as they are called. As McDonald's grew rapidly through the sixties and seventies, they recognized the need to establish strict controls over the quality of food products purchased for restaurant operations.

In 1979, he moved to Illinois, to McDonald's headquarters in Oak Brook, spending a year writing specifications, auditing production sources for quality and working on related projects.

The basic functions of the Quality Assurance Laboratory are to evaluate the performance of food suppliers by critically analyzing chemical, physical, microbiological and sensory attributes of food products as measured against McDonald's specifications. Another important function is to develop and test out improvements to all ingredients and menu items, part of an on-going program for product improvement. Changes that improve products can result in food cost increases or decreases.

In addition to traditional laboratory furnishings and equipment, his lab has kitchen equipment to match a McDonald's Restaurant. Samples can be evaluated just as they would be presented to customers. "Eating these foods is a regular part of my job," and he points out that, in spite of this aspect of his work, his weight is still only 164 pounds.

"I can assure you that the food industry is an exciting place to work in these times. The value of the foods available to us is increasing every year. Being near the front lines, where customers judge your products millions of times a day and many competitors are looking for the edge they need to catch you, is a rewarding and exciting way to go."

Just for the reader's information, nutritional data for a typical Big Mac are: weight, 200 g; Calories, 570; protein, 29.6 g; carbohydrates, 39.2 g; fat, 35 g; cholesterol, 83 mg.

Corporate Gifts to Chemistry

The value of equipment, supplies and funds given to the Chemistry Department this year amounts to approximately \$60,000. We are grateful to the following companies and foundations for their valuable assistance.

Baxter-Travenol Laboratories, Inc.
California Foundation for Biochemical Research
Chevron Oil Field Research Co.

Hughes Aircraft
IT Analytical Services
McDonnell Douglas
Nichols Institute
Niklor Chemical Co., Inc.
Specialty Laboratories
TRW

To put into perspective the significance of these gifts, the Chemistry Department received \$66,000 in equipment from State funding, including lottery money, during 1985-86.

Faculty Notes: from Page 2

Shimadzu spectrophotometer, and the experiment is essentially automated.

Dr. Roger D. Bauer. The assignment as Dean of the School of Natural Sciences has been busy but very rewarding for the year. The school enrollments were strong and the quality of the students is improving in many areas. The student organizations, including the Student Affiliates of the American Chemical Society, were very active this year and contributed to the quality of life on the campus. The generous work of the students and staff in Chemistry made the science component of the University open house one of the highlights of that special day.

A good balance seems to be struck in the teaching and research functions of the School. The faculty in Chemistry are among the very best examples of these scholar/teachers. The School led the University last year in receiving the highest amount of external grant support for research and training.

I have received a great deal of personal satisfaction from working as the Project Director of the Minority Access to Research Careers (MARC) grant from the National Institutes of Health. I am especially pleased that two of the MARC students are majors in chemistry and that they are receiving a very fine introduction to research from their faculty mentors.

This fall promises to be a most interesting one since I received a grant from the National Science Foundation to visit several Universities in Thailand. This is part of the NSF Cooperative Science Programs designed to develop exchanges of scientific information, ideas and techniques between nations. This also is part of the efforts at CSULB to enhance our international activities and become more active in Pacific Rim programs.

Dr. Jack Berry's laboratory is busy this summer with 8 people (6 students and 2 technicians). He spent a week in the Canadian Rocky Mountains in July resting and relaxing before the start of the 1986-87 academic year.

Dr. Stuart Berryhill will be spending his sabbatical year in Montpellier, France, pursuing his interests in organometallic chemistry.

Dr. Jeff Cohlberg. I have had a busy year teaching and working on my NSF-sponsored research on intermediate filaments. My group currently includes three graduate students and three undergraduates. Some interesting results have been obtained on the solution chemistry of neurofilament proteins, and both elec-

tron microscopy of negatively stained protein preparations and immunofluorescence microscopy of filaments in cultured cells are now being done routinely.

Dr. Dorothy Goldish. I continued to serve on the Planning and Educational Policies (PEP) Council — as Secretary in 1985-86. I'll be chair in 1986-87. (Other committees: Academic Senate and PEP subcommittee on (1) Admissions and Academic Standards and (2) General Education).

Dr. James Jensen had the second year of his NSF grant, "Hemiacetal Breakdown," renewed. A paper was published in *J. Organic Chemistry* on the "Mechanism of Acid-Catalyzed Anomerization of Methyl D-Glucopyranosides," with Jane Tsuang (former graduate student) and Arif Usulan, who spent a post-doctoral year at CSULB from Ege University, Bornova-Izmir, Turkey. Results of this current research, "Kinetics and Mechanism of the Hydrolysis of O,S-Acetals of Benzaldehyde, promoted by Hg (II)" were presented by Ty Smith (MS 1986) at the 1986 Pacific Conference on Chemistry and Spectroscopy, held in San Francisco in October.

His 1986 students, Ty Smith and Larry Klein, will enter PhD programs at UCI and UCLA, respectively, in the fall of 1986.

Dr. Jensen is still serving as Associate Dean, School of Natural Sciences.

Dr. Gene Kalbus is still involved with the Statewide Energy Consortium which is currently considering sites for storage of low radioactive waste for the State of California. Dr. Kalbus coauthored a paper entitled "Analysis of Cleaning Solutions," delivered at the ACS regional meeting in San Francisco and will be coauthoring a paper on Consumer Chemistry to be delivered at the ACS National Meeting in Anaheim in the fall of 1986.

Dr. Margaret (Peggy) Kline is looking forward to teaching another semester of Chem 200. Meanwhile, she has been keeping busy attending horse shows during the summer.

Dr. Van Lieu was awarded two grants from the City of Long Beach: (1) Development of Analytical Method for Determination of Oil in Brine," 1985-86 and (2) "Development of Micellar-Polymer Formulation for Enhanced Oil Recovery," 1985-86.

He presented four papers: two on enhancement of oil recovery to the Department of Oil Properties, City of Long Beach; a paper entitled, "Potentiometric titration of acidic and basic compounds in household cleaners," to the ACS/SAS

Pacific Conference on Chemistry and Spectroscopy; and a paper entitled, "An evaluation of the determination of extractable organic halides in solids using solvent extraction and microcoulombic titration," presented to the 57th Annual California Water Pollution Control Association.

Dr. Ken Marsi has been reelected Chairman for three additional years. He presented seminars at San Jose State University, the University of Kansas and California State University, Los Angeles. He continues his service with the Southern California Section of the American Chemical Society.

Dr. Darwin Mayfield. I have continued my explorations into the beginnings of chemistry with occasional visits to the Huntington Library in San Marino. The genealogy tree in this issue is a sidebranch in this work. I arranged the graduate-faculty seminar series during the spring semester and left immediately thereafter for three weeks in China.

Dr. Tom Maricich. Chemical safety has been receiving a great deal of attention in both the Chemistry Department and the School of Natural Sciences. I have been representing the Department on both School and University safety committees with the goal of implementing more effective measures for environmental health and safety. Special emphasis has been placed on housekeeping, proper labeling of chemicals and documented safety training. I have conducted safety training sessions for the faculty and staff during the previous fall and spring terms. During the summer, I will work with Jeff Mellon, our School Safety Officer, to produce video safety training tapes that could be used for both students and staff.

Dr. Steven McDowell received the Outstanding Lecturer Award from SAACS for 1985-86. His research projects involve the activation of dioxygen by transition metal complexes (Carter White, Undergraduate) and the reactions of superoxide ion with halogen-containing organometallic complexes (Dave White, Graduate).

He reports that he has enjoyed his first year at CSULB immensely and is looking forward to the second year of his teaching career.

Dr. Margaret Merryfield. The Merryfield "group" expanded and settled in during my second year at CSULB. In September we received funding from the NIH for two years (Academic Research Enhancement Award) for studies on the regulation of branched chain α -keto acid dehydrogenase. Three graduate students are now involved: Ed Louie is look-

Faculty Notes: from Page 4

ing for the site(s) of action of calcium on the enzyme, David Thomas is developing methods to separate phosphorylated peptides, and Joyce Setsuda has just joined the lab. (David will leave for a PhD program at UC Davis in the fall.) Cary Acuña and Chris Stinson (undergraduates) will be working through the summer to keep us supplied with enzymes.

Dr. Henry Po. This summer I am attending the Fourth International Conference of the Royal Society on the Mechanisms of Reactions in Solution at the University of Kent in Canterbury and will present a paper on the redox chemistry of silver (II) cyclams. The co-author of this paper is Roswita Trismitro, who has done marvelous work on this research. Roswita will be returning to Indonesia to help run the family business in international trade in chemicals and pharmaceuticals. Two new students who have just begun their research this summer are Liz Brinkman and Zar Shariff. Hung-Dwan Lee and Jeane Sinsheimer graduated this spring and have assumed jobs in industries. Giving their theses the finishing touch are Janet Kiang and Monica Keindl. Janet is doing well at her job at ARCO and plans to enter a doctoral program next year. Monica presented her research on the molecular complex of iodine and imidazolidine last October in San Francisco at the Pacific Conference of Chemistry and Spectroscopy. She is now a graduate student at UCI.

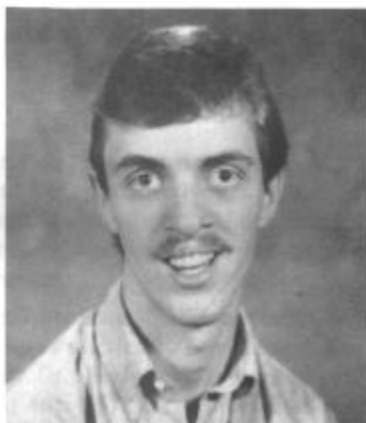
Dr. Nail Senozan received an American Heart Association (California Affiliate) Grant for \$20,000 for the first year. The grant is renewable annually. He also received the Ray Thomas Award of the Heart Association for the outstanding proposal which he submitted. He sold 19 general chemistry problems to be published in "General Chemistry Exam File," Engineering Press, Inc., San Jose.

Dr. Leslie Wynston served as president, 1985-86, of the Western Association of Advisors to the Health Professions and presided at their annual meeting at Asilomar April 27-30, 1986.

All expenses associated with the production and printing of the *Chemistry Department Newsletter* have been met by contributions of alumni and friends of the Chemistry Department.



Paz Eilat, President, SAACS.



Peter Ferrera, Vice President, SAACS.

Student Affiliates of the American Chemical Society

by Paz Eilat, President and Peter Ferrera, Vice President

The Student Affiliates of the American Chemical Society, better known as SAACS, has had a very successful year. The main goals of our organization are to promote interaction between the students and faculty and to serve as a service organization to the Chemistry Department.

Among our many activities, one of particular note was our free tutoring program which was open to all interested students. Tim Brady deserves special thanks for organizing and carrying out this successful service. One of our other weekly events, the Friday coffee-donut hour, was also very popular, with a turnout of between 50 to 60 faculty and students every week (and the consumption of about 6 to 7 dozen donuts). The coffee-donut hour gives students and faculty a chance to meet in a social environment, free from the formality of the classroom.

We were pleased to have Dr. Roger Acey give a presentation about the research he is currently conducting. The presentation entitled, "From Orange

Trees to Sea Monkeys: A Biochemist's Playground," was stimulating and well received. Another presentation that we sponsored was offered by John Leeb, an alumnus (BS 1966, MS 1972) of the Chemistry Department who currently works for the Department of Defense at the Seal Beach Naval Weapons Station. Mr. Leeb's presentation included a description of his own work as well as a discussion of opportunities for careers in chemistry. This was of particular interest to those students who want to pursue careers in chemically related fields.

We were involved in furthering the interest of high school students in chemistry and other basic sciences by giving demonstrations for Kaleidoscope, the campus-wide open house. We were also involved in High School Science Night, providing demonstrations and giving presentations about chemistry and SAACS in hopes of recruiting future students.

The fall and spring lab-garb sales were extremely successful this year and allowed us to start a tradition that we hope will be continued, that of financially supplementing the 15 departmental scholarships that are awarded to students every year. Awards were also given to students who worked very hard to make this an outstandingly successful year for SAACS.

We are proud to recognize Dr. Nail M. Senozan and Dr. M. Steven McDowell as the recipients of the SAACS Outstanding Lecturer of the Year Award for 1985-86.

We would also like to give a special thanks to Dr. Peggy Kline and Dr. Steve McDowell, whose office adjoined the SAACS room. They had to put up with our noise and traffic.

This year we held seven parties, all of which were major successes due to a large student and faculty participation. Special thanks to Dr. and Mrs. Marsi for hosting two of the parties!

We express our special thanks to our faculty advisor, Dr. Ken Marsi, for his advice and support throughout the year.

The 1985-86 officers were President, Paz Eilat; Vice-President, Peter Ferrera; Treasurer, Julianne Atsumi; Secretary, Duane Gergens.

The 1986-87 officers are President, Jerry Middleton; Vice-President, D. J. Caughey; Treasurer, Angel Kallah; Secretary, Rachelle Blue; Activity Director, Pauline Yee; Publicity Director, Suzanne Boggs.

Because all the new officers were active this past year, we are extremely confident that they will do an outstanding job with SAACS in 1986-87.

THE O-CHEM FAMILY TREE AT CSULB

by Darwin Mayfield

Chemistry is a relatively young science — barely two centuries old. Chemical lineage traverses only a few generations. It is a fairly easy matter to prepare genealogical charts, and this has been done for several departments around the country in the past decade. The most cited table is probably that by Aaron Ihde for the department at the University of Wisconsin, Madison [*J. Chem. Educ.*, 59, 93 (1979)].

If one accepts the genesis of modern chemistry as marked by the work of A. Lavoisier (1743-1794) and associates by explaining combustion, then it can be reasonably proposed that there are only three ancestors from whom most chemists are descended in their graduate education. C. L. Berthollet (1748-1822) and A.F. Fourcroy (1755-1809) were associates of Lavoisier. They had completed advanced studies before joining Lavoisier's group in Paris. They were acting in a sense as post-doctoral fellows when they assisted in hastening the demise of the phlogiston theory, a theory which had so greatly retarded the entry of chemistry as a modern science. The third ancestor, the Swede J. J. Berzelius (1779-1848), though taught by a phlogistonist, came to appreciate the ideas and experiments of Lavoisier and associates. He taught his graduate students this new way of understanding chemical changes.

Six members of the tenured organic group at CSULB have descended from Berthollet through several branches. Drs. Goldish and Jensen trace back to Berzelius while the late Dr. Henderson had two graduate mentors and can claim both Berthollet and Fourcroy as first ancestors. Familiar names abound such as August Kekule, Friedrich Wöhler, Roger Adams, Emil Fischer, Ira Remsen, Justus Liebig and J. L. Gay-Lussac.

Refer to the genealogical chart on the opposite page.

*** Watch this space next year ***
Do physical, analytical and inorganic chemists have ancestors?
Are biochemists legitimately begotten?
*** Watch this space next year ***



Former Faculty: Where Are They Now?

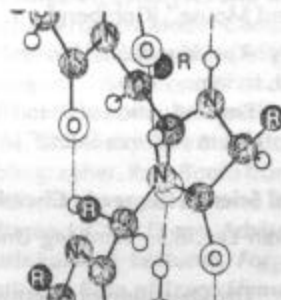
Dr. Linda McGown (Assistant Professor 1979-83) and her husband, Steve, announced the birth of their second child, Michael Randolph, born April 9, 1986. Dr. McGown is Associate Professor of Chemistry at Oklahoma State University in Stillwater.

Dr. Pearl A. Monroe (Lecturer 1979-80) who was a visiting lecturer in our department, passed away last year following an extended illness. He was Professor of Chemistry at the Oswego campus of the State University of New York, and one of the original faculty members of that department. The current chairman at the Oswego campus is **Dr. Augustine Silveira**, a Lecturer in Chemistry at CSULB in the fall of 1976.

Dr. Poly Ping (Part-time Lecturer 1982-83) and her husband, Ping, announced the birth of a son, Timothy, born May 2, 1985. Polly is working as a synthetic organic chemist.

Dr. Terry Shaw Speakman (Lecturer 1980-83) was married to David Speakman last year. Dr. Speakman is Senior Market Analyst for US Borax, investigating new markets for their products and acting as a coordinator between the chemists and the marketing department. She and Dave bought a new 44' sailboat which occupies most of their spare time.

Dr. Andrew Wong (Lecturer 1982-84) is Assistant Professor of Chemistry at Occidental College. According to *Research & Invention*, a publication of Research Corporation, Dr. Wong recently received a \$18,000 grant to study "The synthesis of cationic transition metal silylene complexes."



Gifts by Individuals to the Chemistry Department

During the past year the Chemistry Department received 44 separate gifts from 39 individuals totaling \$2800. This represents a new record in the number of donors and in the amount given.

Of this sum, two grants of \$750 each were awarded to two graduate students as summer graduate research fellowships; a

total of \$400 was awarded to thirteen students in the form of scholarships for excellence in various areas of chemistry (see "Awards to Graduates and Current Students" column); \$500 was used for the purchase of a Faraday magnetic susceptibility balance from UC Riverside, an instrument of considerably greater value; and the remainder of the funds was used for seminar and Newsletter expenses and for the purchase of emergency supplies.

Your help is greatly appreciated and makes a significant difference in the quality of the chemistry programs we can offer. You are invited to become a contributor or to renew your giving for the 1986-87 academic year. Gifts are acknowledged with a personal letter from the Department Chairman, and the Alumni Office is also informed so that your name will appear in the annual alumni publication. Make any checks payable to: *CSULB Foundation* and send them to the *Department of Chemistry, California State University, Long Beach, Long Beach, CA 90840*.

The 1985-86 contributors are:

Lawrence E. Andrews
Dr. Christos Angeletakis
Jerry A. Aspland
Thomas Augimeri
Dr. Marc Barajas
Danute Basiulis
Prabha Bhalla
James S. Bonander
James P. Brophy
Ancel R. Calloway
Nicholas G. Champlin
Dr. Tim Erwin
Stephen M. Fritch
Dr. Scott D. Greer
Stephen E. Headrick
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Dr. Marianne Marsi-Manning
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Dr. John S. Nelson
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Dr. Arie A. Passchier
Dr. Louis E. Perlgut
Karen M. Rogers
Dr. Nail Senozan
Dean E. Sequera
Dr. William R. Shoemaker
Kent W. Showman
Teresa J. Speakman
Dr. Curtis B. Winters
Gerald E. Wuenschell

Staff News

by Bernadine Sparta

1985 was very special for **Joyce Kunishima**, a stockroom technician, and her husband, Dennis, due to the arrival of their daughter, Cheryl, on October 1, 1985. They are thoroughly enjoying watching her grow.

"We spent as much time as possible in our Palm Springs condo this past year," says **Fran McLuen**, Secretary, who with her husband, Chuck, enjoys tennis, biking and swimming. Sons, Chuck II and Scott, are working and attending CSULB.

Anne Hanh Nguyen and her family moved to the Long Beach area from Dallas, Texas, more than two years ago. She joined the Chemistry Stockroom Staff on September 16, 1985. Anne says she enjoys her work, as well as her colleagues in the laboratory and department. She hopes her stay here will be long. Anne's husband, Richard, is an Associate Professor in the Civil Engineering Department at CSULB. They have two children, Clara, seven, and Walter, five. The children attend elementary school in Cypress; they both like California, particularly the weather, people and the beaches.

After many years of skiing and hiking, the rugged beauty of the San Juan Mountains in southwestern Colorado has drawn **Jeannette Santage**, Department Secretary, and her husband, Spencer, to a second home in Telluride, Colorado. If the snows don't come early, their condo should be completed by this ski season!



Anne Hanh Nguyen, Chemistry Stockroom Staff Member.



Minh Tran, Chemistry Stockroom Staff Member.

This past year has been very busy for **Bernadine Sparta**, Secretary. IBM computers have been a welcome addition to our office. She has been taking advantage of various computer workshops that the University has offered. Adapting to the computer has been challenging and very interesting; a most efficient means of completing office tasks. There is always something new to learn when using a computer.

Minh Tran, a former Aircraft Maintenance Officer of the South Vietnam Air Force, came to San Diego in September, 1975. He received his BA in Chemistry from UC San Diego and then worked in the San Diego Chemistry Department Stockroom as a Lab Assistant. Minh moved to Long Beach in July, 1984, with

his wife, Ann, and son, Louis. He joined the Chemistry Stockroom Staff in November, 1985, after having been an Equipment Technician with the School of Natural Sciences.

Editor's Note: During the past year three staff members have resigned to accept positions elsewhere. **Bob Clark** and his family have moved to Windsor, California, and he works in Petaluma. Bob is our former glassblower. His move gives him more opportunity to pursue his interests in gardening. **Bob Glenn**, former stockroom employee, has taken a position with McDonnell Douglas in Long Beach, while **Bil Benaquista** has moved to Cal Poly Pomona where he is a stockroom assistant.

The Chemistry Graduate Program

The Chemistry Department has approximately 40 Master's students, about equally divided between the Chemistry and the Biochemistry programs. Of this number about 15 are supported as teaching assistants and 9 as graduate assistants. Several graduate students were listed for graduation at the spring commencement. Their thesis titles and faculty sponsors are given. It is interesting to note that all but two came to our department from other universities.

Master of Science Degree in Biochemistry

- Aron D. Thall, B.A., Kalamazoo College
Thesis: "The Existence of Cadmium Binding Proteins in Developing *Artemia salina*" (Acey)
- Rita C. Reggio, B.A., Concordia College

Thesis: "Characterization of Thyrotropin-Induced Increase in Iodothyronine Monodeiodinating Activity in Dog and Mouse" (Cohlberg)

Benton N. Yoshida, B.S., University of California, Irvine

Thesis: "Zinc Induction of Metal Binding Proteins in *Artemia Salina*" (Acey)

Master of Science Degree in Chemistry

Hung-Dwan Lee, B.S., Tamkang University, Taiwan

Thesis: "The Oxidation of Triethylamine, Trimethylamine and Dimethylamine by Hexachloriridate (IV)" (Po)

Dwayne Ishida, B.S., California State University, Long Beach

Thesis: "Methods of Preparation and Structural Studies of Cyclopentadienyl iron Pi-Allyl Complexes Containing Phosphorus Ligands" (Berryhill)

Yucl F. Burdulu, B.S., Hacettepe University, Turkey

Thesis: "Synthesis of Ring-Substituted Derivatives of Dicarboxylcyclopentadienyl-Iron Alkyl Complexes" (Berryhill)

Janet C. Kiang, B.S., Providence College, Taiwan

Thesis: "One-Electron Oxidation of Thiols" (Po)

Larry D. Klein, B.A., California State University, Long Beach

Thesis: "Effect of the Leaving Group on Catalysis of Benzaldehyde Hemiacetals" (Jensen)

Jeane H. Sinsheimer, BS, Loyola Marymount

Thesis: "Electrochemistry of Ferrocenes" (Po)

Tyrrel W. Smith, Jr., A.B., Occidental College

Thesis: "Kinetics and Mechanism of the Mercury (II)-Catalyzed Hydrolysis of Benzaldehyde O-Ethyl, S-Phenyl Acetal" (Jensen)



Richard J. Stegemeier, President, Unocal.

Mr. Stegemeier, Member of Chemistry Advisory Council, Elected President of Unocal

Mr. Richard J. Stegemeier, member of the Chemistry Advisory Council since its formation in 1978, was appointed president and chief operating officer of Unocal Corporation on December 2, 1985. Under the new structure, Mr. Stegemeier is in charge of coordinating the activities of the operating divisions to meet the company's business objectives.

Since joining the company in 1951 as a research engineer, Mr. Stegemeier has held positions of increasing responsibility in both domestic and international operations. He was president of the Science & Technology Division from 1977 until 1980, when he became senior vice president in charge of corporate development.

FACULTY/GRADUATE STUDENT SEMINAR SERIES

The weekly departmental seminar series featured 26 speakers from research institutions throughout the state during the 1985-86 academic year. The Wednesday afternoon sessions started as usual with cookies and coffee and moved on to lively examinations of current and past research. The scope of these presentations can perhaps be best appreciated by a scanning of titles.

Fall Semester

Bruce L. Geller, UCLA, *Membrane Biogenesis; Yeast Mitochondrial Protein Delivery and Bacterial Inner Membrane Protein Translocation*; Thomas Moore, Arizona State University, *Artificial Photosynthesis*; W. Ron Fawcett, UC Davis, *Analysis for Selenium in Water Sources*;

William V. Willis, CSU Fullerton, *Trace Elements in Hair: A Potential Veterinary Diagnostic Aid*; Lloyd N. Ferguson, CSU Los Angeles, *Chemical Aspects of Cancer Chemotherapy*; Clair C. Patterson, Cal Tech, *Lead in Ancient Human Bones*; Masayasu Nomura, UC Irvine, *Control of Ribosome Synthesis in E. Coli: Translational Regulation and Feedback Loops*; Robert McIver, UC Irvine, *Surface Analysis and Structural Elucidation by Laser Ionization Mass Spectrometry*; Peter Ford, UC Santa Barbara, *Reaction Dynamics of Reactive Organometallic Intermediates*; Charles E. Grimshaw, Scripps, *Aldose Reductase: Microheterogeneity and Kinetic Anomalies*; Robert H. Cravey, Orange County Office of the Sheriff/Coroner, *The Application of Chemistry to Forensic Toxicology*; Arieh Warshel, USC, *The Molecular Dynamics of the First Step of the Vision Process*.

Spring Semester

Dwayne Ishida, CSULB, *Studies of Cyclopentadienyl Iron Pi-Allyl Complexes Containing Phosphorus Ligands*; Kenneth Jenkins, CSULB, *The Molecular Ecology of Trace Metals*; Todd Wipke, UC Santa Cruz, *CAD Chem: The Design of Synthesis, Reactions and New Uses for Chemicals*; Fred Grieman, Pomona College, *Molecular Spectroscopy of Ions in the Gas Phase*; Clayton Heathcock, UC Berkeley, *Stereoselective Organic Syntheses: Historical Perspective and Current Practice*; Don Young, Union Oil Research, *Inorganic Adduct Compounds*; Henry Offen, UC Santa Barbara, *Fluorescence Studies of Phospholipids at High Pressures*; Charles Castro, UC Riverside, *The Ligations and Reduction of Fe (III) Porphyrins by Amines*; William Hersch, UC Los Angeles, *Syntheses and Reactions of Fischer-Tropsch Model Compounds and Other Organometallic Delights*; Maria Pellegrini, USC, *Control and Coordination of Ribosome Biosynthesis*; William Cole, Chemistry Rare Book Collector and Bibliographer, *Rare Books from the Dawn of Chemistry — Lavoisier to Dalton*; Paul Saltman, UC San Diego, Advisory Council Distinguished Lecturer, *For Want of a Nail: The Role of Trace Elements in Biological Systems*; *Breakfast of Champions: Nutrition in Sports — Are We What We Eat?*; *The Kinetics and Mechanism of Electron Transport in Proteins*; Reid Bowman, Dow Chemical Company, *Pharmaceutical Process Development*; Hendrik Keyser, CSU Los Angeles, *Phenothiazines: Tranquilizers in Solution*.

Special thanks are extended to the Advisory Council and the Chemistry

Alumni for their support of this important academic endeavor.



Elizabeth Brinkman, Henderson Scholar.



John M. Watcher, Henderson Scholar.

Brinkman and Watcher: 1986 Henderson Memorial Scholars

Elizabeth A. Brinkman and John M. Watcher, both 1986 BS graduates in chemistry, jointly received the prestigious Robert B. Henderson Memorial Award in Chemistry. The award is given to graduates who offer outstanding promise for a career in chemistry and who best exemplify the excellence of scholarship and commitment to chemistry of its namesake, Dr. Robert B. Henderson, who was a member of our faculty during the period, 1955-1983.

Miss Brinkman accumulated thirteen awards during her undergraduate career, including election to Phi Beta Kappa. She was one of only twelve students out of a graduating class of approximately 5,000 who were so named. Miss Brinkman will study for her MS in chemistry at CSULB under the direction of Dr. Henry Po and then will enter a PhD program in chemistry elsewhere. Miss Brinkman's cumulative GPA for her undergraduate years at CSULB is 3.95/4.0.

Mr. Watcher was the recipient of six undergraduate awards at CSULB and graduated with a 3.65 GPA. He is presently working as a summer employee at McDonnell Douglas but will enter the PhD program in chemistry at UCLA this fall.

HONORS TO 1986 GRADUATES AND CURRENT STUDENTS

Karin L. Beloussow	Award in Biochemistry
Timothy Brady	Chemistry Alumni Scholarship
Rebecca Breton	Honors for Service in Chemistry
	Award in Biochemistry
Elizabeth A. Brinkman	Chemistry Alumni Scholarship
	Graduation with Great Distinction
	Election to Phi Beta Kappa
	Award in Physical Chemistry
	Award in Inorganic Chemistry
	Robert B. Henderson Memorial Award
	Election to Phi Lambda Upsilon
	Chemistry Alumni Scholarship
	Alumni Summer Graduate Research Fellowship
	American Institute of Chemists Award
Anne T. Carey	Election to Phi Lambda Upsilon
Paz Eilat	Toni Horalek Award for Service to the Chemistry Department
	Chemistry Alumni Scholarship Award
	Honors for Service in Chemistry
Peter Ferrera	Honors for Service in Chemistry
Patricia Healy	Who's Who in American Colleges and Universities
	California Foundation for Biochemical Research
	Summer Graduate Research Fellowship
Henry L. Hudson, III	Rachelle Medal, Outstanding Graduate Student in Biochemistry
	Chemistry Alumni Scholarship
	Who's Who in American Colleges and Universities
S. W. Frank Hwang	Chemistry Advisory Council Tuition Scholarship
	Chemistry Alumni Summer Graduate Research Fellowship
John T. Jones	Graduation with Distinction
	Election to Phi Lambda Upsilon
Brett S. Kislin	Rachelle Medal, Outstanding Graduate Student in Chemistry
	Chemistry Alumni Scholarship
Lily Anne Lim	Graduation with Distinction
Hung V. Luu	Freshman Chemistry Award (CRC Handbook)
	Chemistry Alumni Scholarship Award
Marco Marcantoni	Merck Award in Organic Chemistry
	Chemistry Alumni Scholarship
Mark D. McLain	Freshman Chemistry Award (CRC Handbook)
	Chemistry Alumni Scholarship Award
Kevin Miller	Graduation with Great Distinction
	Award in Physical Chemistry
	Election to Phi Lambda Upsilon
	Chemistry Alumni Scholarship
	David L. Scoggins Memorial Scholarship
Bharat S. Patel	Graduation with Distinction
	Election to Phi Lambda Upsilon
Kenny Pimanmas	Merck Award in Organic Chemistry
	Chemistry Alumni Scholarship
Deborah Simon	Graduation with Distinction
	Dean Rhodes Award
Tyrrel W. Smith, Jr.	Rachelle Medal, Outstanding Graduate Student in Chemistry
	Chemistry Alumni Scholarship
	Election to Phi Lambda Upsilon
Jennifer Ann Sweet	Award in Physical Chemistry
Jerzy Tomasik	Chemistry Alumni Scholarship
	Graduation with Distinction
John M. Watcher	Award in Analytical Chemistry
	Robert B. Henderson Memorial Award
	Election to Phi Lambda Upsilon
Benton Yoshida	California Foundation for Biochemical Research Summer Graduate Research Fellowship

ALUMNI NEWS

The news contained in this section is based upon alumni responses to the Newsletter mailing. We would request that you use the inside of the back page of this Newsletter, together with the enclosed, post-paid envelope, to tell us something about yourself for the 1987 Newsletter. If you enclose a photo, preferably black and white, we will attempt to print it, space providing. Please let us hear from you.

1958

Philip L. Anthony, BS; MS U of Hawaii; is a management consultant and currently serves as an elected director of the Orange County Water District, representing the western part of Orange County. The district is responsible for management of the ground water basin of the Santa Ana River, the source of about 70% of the domestic water supply.

1961

Dr. Arie A. Passchier, BS, MS 1963; PhD U of Washington; is Manager of Research at Rockwell International in Anaheim, CA.

1962

Dr. Robert O. Hutchins, MS, has been named Drexel University Research Scholar. Other awards received by Dr. Hutchins include the Christian R. and Mary E. Lindback Award for Outstanding Undergraduate Teaching in 1980 and the Drexel University Research Achievement Award for Outstanding Contributions to Research in 1982.

1963

Dr. Michael Monahan, BS; PhD UC San Diego; will continue in his second year as a full-time lecturer in organic chemistry at CSULB.

Joanne Ehteshamzadeh Myers, BS, MS 1967, is Industrial Hygienist with the State Compensation Insurance Fund. She travels between Redding, Sacramento, Fresno, San Jose and San Francisco, doing air sampling and risk evaluation for occupational disease. "A lot of my time is spent explaining hazard communication standards to small businesses." In February, 1986, she and William H. Myers were married.

CURRENT ACTIVITIES OF SOME OF OUR 1986 GRADUATES

(This is an incomplete list based upon information available to the Editor at the time the Newsletter went to press. Seventy-seven students were candidates for degrees: 34 BA, 29 BS, 13 MS.)

Zailuddin B. Ariffin, BS	Government service, Malaysia
Faridah H. Badrun, BS	Government service, Malaysia
James Bonander, BS	Rogerson-Hiller Corp.
James Brophy, BS	USS Chemicals
Elizabeth A. Brinkman, BS	MS program, CSULB
Paz P. Eilat, BA	Medical school, Hungary
Peter E. Eleopoulos, BA	Pharmacy, Long Beach Community Hospital
Peter Ferrara	Medical school, Hungary (accepted before completion of BA)
Dwayne Ishida, MS	IT Analytical Services
John T. Jones, BA	Medical school, St. Louis University
Lily Anne Lim, BS	IT Analytical Services
Kevin R. Miller, BA	MS program, CSULB
Lenora M. Noroski, BA	Medical school, Cornell University
John D. Olson, BA	US Air Force
George Payba, BA	Hughes Aircraft, Malibu, CA
Michael G. Peters, BA	Medical school, UC Irvine
Patrick J. Petti, BA	McDonnell Douglas, Long Beach
Paul C. Serra, MS	Medical school, UC Davis
Zarila M. Shariff, BS	MS program, CSULB
Deborah M. Simon, BA	MS program, CSULB
Jeane H. Sinsheimer, MS	Imperial Oil & Grease
Tyrrel W. Smith, Jr., MS	PhD program, UC Irvine
Robin Underwood, BA	Graduate studies in genetic engineering
John M. Watcher, BS	PhD program, UCLA
Benton N. Yoshida, MS	PhD program, California Institute of Technology

Alumni News: from Page 10

1964

Neil R. Benham, BS, is a chemist with Monarch Rubber Co. in Baltimore, MD.

Dr. Evord F. Knights, BS; PhD Purdue U, MBA CSU Fullerton; is Vice President of Planning and Development for Unocal in Schaumburg, Illinois.

William Timberlake, BS; MS UCLA; has been elected Treasurer of the UCLA Alumni Association for 1986-87.

1965

Ron Noble, BS, is a Surfacing Design Engineer for the Oregon Department of Transportation in Salem, OR. He worked for 13 years as a chemist for Rockwell International and two years as a research chemist at Aerochem, Inc., a chemical milling company. In 1974 he moved to Oregon to work in the Chemistry and Paint Laboratory of the Materials Section of the Oregon Highway Division. After working in the air pollution group of the Environmental Section, he studied for and became a registered civil engineer, and two years later assumed his present position.

1966

Dr. Oliver M. Brown, BS; PhD Kansas State U; is Associate Professor in the Department of Pharmacology at the State University of New York Upstate Medical Center, Syracuse, New York. His research interests include neuropharmacology and neurochemistry, including neurochemical mechanisms underlying autonomic control of the heart. He is also interested in mechanisms of action of psychoactive drugs and aspects of drug abuse.

James M. Nobile, BS, MS 1968, is Research Associate in the Research and Education Institute, Harbor-UCLA Medical Center in Harbor City, CA.

1967

Dr. Ralph Knights, BS; PhD Purdue U; is Senior Research Scientist with Mead Johnson and Co. in Evansville, IN. "A challenge in chemistry, immunology, metabolism, and nutrition is providing infant formulas for children with special needs. Craig is now three and is slowing down so we can catch up. To keep my fingernails dirty, I am redoing a '59 Ford for my new car this year."

1969

Dr. John S. Nelson, BS; JD Loyola Law School. "My practice in the area of Environmental Law and Toxic Tort Litigation continues to expand. I am currently serving on the Toxic Substances Litigation Subcommittee of the Tort and Insurance Practice Section of the American Bar Association, and also on the Environment and Energy Committee at the Orange County Chamber of Commerce. There is a great need today for informed scientific input into the daily debate over use, storage and disposal of toxic substances."

1970

William Hulbrook, BS, MS 1974, is a Manufacturing Engineer working at Beckman Instruments in Brea, CA, with the Diagnostic Systems Group in the area of immunochemistry manufacturing.

Robert MacPhee, BS, MS 1972, is Scientific Director, Immunology, at Nichols Institute in San Juan Capistrano, CA.

1971

Dr. Bruce W. Adams, Student, received a Doctor of Dental Surgery Degree and a BS Degree in Dental Hygiene from the UC San Francisco School of Dentistry in June, 1986.

Alan J. Rosenstein, MS, is a Research Associate in Psychobiology at UC Irvine. "I'm still working on dopamine receptor autoradiography, now investigating their characteristic binding with various radioligands in conjunction with allied systems such as pre-synaptic neurotransmitter uptake systems. If anyone of you from the old days are out there, please give me a call. Those years were very intense and novel times for me."

1972

Christopher Appleton, BS, is Quality Assurance Laboratory Manager in the Quality Assurance Laboratory for McDonald's Corporation in Westmont, Illinois.

Richard L. Jacobs, MS, is President of a manufacturing company, Polymer Engineering Corp., located in Los Angeles.

Dr. Mark J. Ontkean, Student; DC Los Angeles College of Chiropractic; has his own chiropractic office in Orange, CA.

1973

Robert J. Deal, BS, is a research chemist with US Borax in Anaheim, CA. His work supports the Geological Exploration Group of US Borax through the analysis of

rocks, soils drill cores, etc. for various metals, primarily gold and silver.

Dr. Michael Locke, BS; MS, PhD UC Irvine; is Senior Chemist with Rockwell International in Newport Beach, CA.

1974

William E. Campbell, BA, MPA 1979; BA in Economics Stanford U; is Director of Data Processing at Tarzana Regional Medical Center. "I have worked for American Medical International virtually continuously since 1975, having been based at hospitals in Corona, West LA, El Cajon, Anaheim, North Hollywood, and Tarzana." Bill and Carol Orell were married in 1981 and have a daughter, Gwendolyn, born October, 1984.

Pete Ladjimi, Jr. BS, MS 1976, is a chemist for the Mobil Oil Refinery Laboratory in Torrance, CA.

Dr. Marina Larson, Student; PhD USC, JD Pace U; is a patent agent with Brumbaugh, Graves, Donohue & Raymond, 30 Rockefeller Plaza, New York City.

Richard Miller, BA, is involved in automated chemistry for Physicians Reference Laboratory in Huntington Beach, CA. He is presently writing two programs for Atari computers: an organic chemistry text and a program for identification of organic compounds.

1975

Prabha J. Bhalla, MS, is very much involved in raising her two children, Kiran, 5, and Asheesh, 1.

Peter Harney, Student; MS U of Hawaii; will begin a PhD program in microbiology at USC in the fall, 1986.

Dr. David Kanne, MS; PhD UC Berkeley; is employed by Stauffer Chemical Co. which was recently acquired by Chesebrough-Ponds, Inc. The Kanne family now lives in Corte Madera.

Stuart Nowinski, BS, has taken a leave of absence as high school chemistry teacher at Los Alamitos High School to study for the MS degree in Chemistry at CSULB. He will continue to teach an Advanced Placement section of chemistry at Los Alamitos.

1976

John Crider, BA, is Senior Technical Service Chemist at Grefco, Inc. in Torrance, CA.

Dr. Neal Dixon, BA; MD USC; has just completed his surgical residency at Los Angeles County-USC Medical Center and has moved to Camarillo, CA, with his

wife, Janet, and three sons: Matthew, Joseph and Peter. He has opened a practice in Camarillo.

Dr. Scott D. Greer, MS; MD U of Utah Medical School, "Having completed the 27th grade and passed the gastroenterology boards, I am now staff gastroenterologist at Parkway Medical Group in San Diego. The Greer family will soon move into their first house this year in Del Mar, and Scott, Sue, Lael (7 months) and John W. (3 years) will no longer be sharing rooms. I would love to hear from any of the '75-'76 Chemistry Department Softball Team!"

Dr. Ercan Unver, MS; PhD Ismir U, Turkey; after successfully completing a project on nitrogenase in the Department of Chemistry at USC, accepted a position as Research Associate in the Department of Neurobiology at USC, where he worked with the isolation and characterization of the protein kinase C from the squid nervous system. He is currently employed by Diagnostic Products, Inc.

1977

Tom Augimeri, Student, is a computer programmer in Financial Data Processing Systems for the Radar Systems Group of Hughes Aircraft Co.

Dr. Kenneth Bell, BA; PhD UC Irvine; is a Senior Research Chemist with Unocal Corporation, Unocal Science & Technology Division, Brea, CA. "I started work at Unocal during the summer of 1985 after four years at Monsanto's Research Center in St. Louis, MO. I work in the Products Research section at Unocal on diesel and jet fuel problems. My children, wife and I are very happy to be back in California.

Dr. Thomas B. Dillon, Student; DDS USC; has his own dental practice in Downey, CA.

Raymond A. Johnson, BA, is a stockbroker with Merrill Lynch, Long Beach. "With the preparation received while studying chemistry, I was able to key in on common sense. That has led me to become an Assistant Vice President and Senior Financial Consultant. I appreciated all the faculty guidance I received."

1978

Dr. Betty Jane Burri, MS; PhD UC San Diego; is a research chemist with Western Human Nutrition Research Center of the US Department of Agriculture. She and her husband, Kurt, live in San Rafael.

Dr. Norman W. Hegler, BS; PharmD UC San Francisco; is a clinical pharmacist at Kaiser Hospital in San Francisco, CA.

Dr. Larry Horowitz, BA, owns and operates his own chiropractic clinic in Long Beach. Dr. Horowitz is a diplomate of the Natural Board of Chiropractic Examiners.



Dr. Luis Lomeli

Dr. Luis A. Lomeli, BA; MD UCLA; completed his three-year residency in family medicine at Scenic General Hospital in Modesto, CA. He and his family have moved to Walla Walla, WA where he will be working for the Public Health Service. Luis writes, "I would like to share with you with great enthusiasm my recently receiving The Outstanding Resident Award for the graduating class of 1986 in Family Medicine of Scenic Hospital. This makes me very proud since Scenic's three-year residency in Family Medicine is one of the most highly rated on the West Coast. At this time I would like to express my appreciation to my professors at CSULB for having prepared me so well for a career in medicine."

Dr. Raymond E. Lyons, BA; MD U of Minn; has completed a research appointment at the Comprehensive Epilepsy Program at the University of Minnesota, authoring two publications. Following a Transitional Residency at Sioux Valley Hospital, Sioux Falls, SD, he started a neurology residency at St. Louis University Hospitals in St. Louis, MO.

Dr. Marianne Marsi-Manning, BS; PhD UCLA; continues as a research chemist in the Polymers Division of DuPont in Wilmington, Delaware. She will chair a session and present a paper at the 192nd ACS National Meeting to be held in Anaheim, CA, September 7-12, 1986.

Fred D. Montague, BS, is Technical Supervisor for Hughes Aircraft Co. in El Segundo, CA.

Dr. Josh D. Prager, BS; BS and OD Southern California College of Optometry; has

begun a one-year residency program in rehabilitative optometry (low vision) at the Eastern Blind Rehabilitation Center, VA Hospital, West Haven, CT.

Dr. Chris A. Pritsos, Student; PhD U of Nevada, Reno; after 2 1/2 years of post-doctoral research at Yale University in the Department of Pharmacology, has recently been appointed Assistant Professor in the Department of Biochemistry at the University of Nevada, Reno, School of Medicine. His research deals with the role of oxygen radicals in cancer chemotherapy. He and his wife, Karen, are expecting the birth of their first child in October.

Robert Proffitt, BA, is a programmer with the Space and Technology Group at TRW. The Proffitts report the birth of their second son, Eric, on March 18. They have also recently purchased a new home in Long Beach.

Dr. Frank N. Roja, BA; DC Cleveland Chiropractic College; is a chiropractor in San Pedro, CA.

Gerald E. Wuenschell, BS, is completing his PhD at USC and is writing his thesis and applying for college and university teaching positions and post-doctoral appointments.



Gayle Doyle and son, Shane.

1979

Gayle Doyle, BS, is Senior Thin Films Engineer with Zilog, Inc. in Boise, ID. Their first child, Shane Patrick, was born in October of 1985. The Doyles live on Lucky Shamrock Ranch where they raise Arabian horses for endurance racing competition.

Stephen M. Fritch, MS, is a criminalist with the Long Beach Police Department. His laboratory recently received a Varian Gas Chromatograph with capillary columns and TSD detectors.

Patrick McKay, MS, has celebrated his 6th anniversary as a biochemist with Genen-

tech, which qualifies him for a six-week sabbatical.

Dr. Fred McKibben, MS; MD USC; is taking his residency in anesthesiology at Los Angeles County-USC Hospital.

Donald Muir, BS; DMD Washington U, St. Louis; is practicing dentistry at 666 East Ocean Blvd. in Long Beach, CA.

Duane Smith, BS, MS 1982, will begin his second year in the PhD program in Chemistry at Cornell University. Duane passed all the required entrance examinations for the PhD program. His wife, **Vivian**, BS 1985, is employed as a research scientist at Cornell.

Dr. Curtis Winters, BS; MD USC; continues his residency in anesthesiology at the UCLA Medical School.

1980

Dr. Mark Brisley, BA, has completed the DDS degree at the USC School of Dentistry, and will begin practice in Laguna Beach, CA.

Dr. Frederick (Fritz) Coffman, MS, received his PhD in Biochemistry from UC Riverside in January, 1986. His dissertation was entitled, "Zinc, Calcium and the Associative Behavior of Insulin," work completed under the direction of Dr. Michael Dunn. He has accepted a post-doctoral position in the Division of Biomedical Sciences at UC Riverside, working in the laboratory of Dr. Carl Ware.

Brian C. Dubow, BS, is an engineer with General Dynamics in San Diego. He was recently promoted to Program Manager: Submarine Vertical Launch Cruise Missile Program, A.U.R. Cruise Missile Program Office.

Dr. Robert Klenck, BA; MS U Arizona; received his MD degree from USC and will begin a five-year Orthopaedic Surgery Residency at Los Angeles County-USC Medical Center. His wife, Susan, is now a Senior Customer Service Coordinator for IBM in Los Angeles.

Bette Korber, BS, continues her PhD work in biochemistry at California Institute of Technology.

Kathy Dennis Lardizabal, BS and her husband, Al, have returned from a one-year stay in Japan. They are parents of a son born August, 1985.

K. Scott Marsi, BA; MS San Diego State U; continues as a sales executive with GAF Corporation in Irvine, CA.

Dr. Joseph Mario Molina, BS; MD USC; is completing his residency at the Johns Hopkins Hospital in Baltimore, MD. Later this year he will join the medical staff at the UC San Diego School of Medicine.

Dr. Laurie Duke Montgomery, BS; DDS UCLA; is currently in private dental practice in Bellflower. "My husband, Scott, and I have a son born September, 1985. We are thoroughly enjoying combining our careers with the joys of parenthood."

Karen M. Rogers, BA, BS Criminalistics 1979, is a quality assurance technologist for Taco Bell in Santa Ana, CA.

Dean Sequera, BA, MBA 1984, is a Marketing Specialist with Beckman Instruments in Fullerton, CA. "I am currently enjoying my role as a marketing specialist where expertise is needed in both chemistry and business. I was married to Pamela Long, a CSULB MBA graduate, in 1983. We've bought a home in Stanton and both enjoy our career development. The technical and business backgrounds we have received have given us the flexibility of tremendous choice and opportunity."

Cheryl Shimazu, MS, is a part-time faculty member of the Chemistry Department at CSULB.

Anne L. Tolles-Sanchez, BS, MS 1984, worked as an immunochemist at the Beckman Research Institute of The City of Hope, where she investigated causes of Alzheimer's disease under the direction of Liane Gerber-Bologa, PhD. Anne is currently studying for a teaching credential for the physical sciences.

Dr. Kenneth S. Yamaguchi, BS, MS 1982; PhD UC Riverside; is a chemist with L'Air Liquide (Commerical Gas Co.) in Versailles, France.

1981

Dr. Gregory Downs, BA; MD Medical College of Wisconsin; is presently interning at St. Luke's Hospital in Milwaukee, WI. He did a residency in Anesthesiology at Case Western Reserve University and published an article entitled, "New Set of Decompression Tables for Caisson Workers," in *Aerospace Medicine*. His current research deals with intrapartum injection of demerol vs. nalbuphine and neonatal depression.

Dr. Timothy P. Erwin, BA; PharmD USC; graduated from USC School of Pharmacy in May, 1985, and passed the California Boards in June, 1985. He is now a licensed Registered Pharmacist and completed his Pharmacy Residency program at San Bernardino County Medical Center. He and Kim are parents of a second child, Michael Peter, born in April, 1986.

Larry D. Klein, BA, is presently employed as a scientist for Beckman Instruments Health Care Group. He has been accepted for graduate studies at UCLA

and will return to school in the fall to work towards a PhD in organic chemistry.

Dr. Huong-Anh Ngo Long, BA; MD UC Davis; is now interning at the UC Irvine Medical Center in Physical Medicine and Rehabilitation.

Dr. Larry Manes, BA, PhD UC Santa Cruz, early this year began work at Syntex, identifying foreign-related substances (FRS) in batches of pharmaceutical agents. "Unfortunately, this means no more trips to Tonga and Fiji! Syntex does have a plant in the Bahamas, and I hear there's good surf there, too!"

Dr. Paul Manos, BA; DDS UCLA; has his own dental practice in Westminster, CA at 15751 Brookhurst St.

Carl Martin, BA, is a chemist in the analytical laboratories of Allergan Pharmaceuticals in Irvine, CA.

Dr. Ikuhisa Sawada, Student, has completed his PhD in Biochemistry from UC Davis in June and will postdoc at Yale University with Professor Weissman and at Columbia University with Professor Cantor. "I haven't forgotten how much fun I had at Long Beach, and how great you guys were!"

Dr. Erika Schneider, BS; PhD UC Berkeley; is a postdoctoral associate at Cambridge University in Cambridge, England.

Gary Steelman, BA, is a chemist for Imperial Chemical Industries in Wilmington, DE.

1982

Kerwin C. Bennett, Student, received a law degree from Gonzaga University in Spokane and has passed the bar examination.

Dr. Gary Clevenger, BA, MS 1983, continues in the PhD program in organic chemistry at UCLA, working in Dr. Michael Jung's group.

Renee G. Hermes, BA, is a chemist in Quality Administration at ARCO Petroleum Products Co., Carson, CA. "The BA degree in Chemistry provided me the foundation for a quality control position in the petroleum refining industry."

Joseph Kaufman, BS, is employed with Beckman Instruments.

Annie N. Luu, BS; MS UC Riverside; is a Development Chemist with Beckman Instruments, Inc., where "I have enjoyed working with **Bret Seaton** (MS 1985), **Larry Klein** (BA 1981) and **Nik Jones** (MS 1980). I miss being a part-time instructor in the CSULB Chemistry Department."

John Platt, BS, a PhD candidate in Computer Science at California Institute of Tech-

nology, was one of 26 nationwide recipients of AT&T Bell Laboratories Scholarships. The scholarships are granted to outstanding graduate students in chemistry, computer science, electrical engineering, materials science and physics at universities throughout the United States. The scholarship, generally four years in duration, includes a stipend, tuition, books and living and other expenses. In addition, AT&T Bell Laboratories will give each student the opportunity to work during the summer at one of the company's locations in collaboration with a scientist or engineer specializing in the student's field of interest. While an undergraduate at CSULB, John received nine awards for his scholarship, an all-time record. The awards included election to Phi Beta Kappa and Outstanding Graduate of the School of Natural Sciences.

Douglas Schoon, BA; MS UC Irvine; is Research and Development Manager for Bacon Industries in Irvine, CA, and is involved in polymer research, especially epoxy degradation.

Dr. William Shoemaker, BS; MD UC San Francisco; began his residency in Internal Medicine at the UC Irvine Medical Center and looks forward to living in Southern California again.

1983

Dr. Marc Barajas, BA; PharmD UC San Francisco; has been accepted to the University of Michigan Hospital as a Clinical Pharmacy Resident.

Bradley G. Davis, BA, is in his final year of study at College of Osteopathic Medicine of the Pacific. He is looking forward to a residency in family practice.

Don Dillon, Student, is in his last year of dental school at USC, performing clinical dentistry. He will graduate in April, 1987.

Douglas Infiesto, BA, has accepted a position with Northrup Corporation as a test engineer.

Anna Martinez, MS, is a chemist in the Physical Sciences and Environmental Test Branch of the Naval Weapons Station in Seal Beach, CA.

Paul V. Mosher, BS, is a coatings chemist with Hitco in Gardena, CA.

Armando Samaniego, BA, has completed his third year of medical school at Harvard University. "I came out of the year leaning toward surgery, but I will be taking a year off to attend the John F. Kennedy School of Government to study health policy. I will graduate in 1988 with a combined MD and Master of Public Policy. This summer I will be teaching two ses-

sions of endocrinology to pre-medical students in the Harvard Health Professions Program."

Johan-Chanh M. Tran, MS, is presently working for his PhD in biochemistry at UC Riverside and expects to finish in 1987. His research is in the field of regulation of steroid metabolism, and his thesis work is on the isolation and characterization of cytochrome P-450 from chick kidney mitochondria.

1984

Rodolfo Areola, Jr., Student, is a second-year medical student in the Brown University Program in Medicine. Rudy taught in the Upward Bound program at CSULB during the summer of 1986.

David Cook, BA, completed his PhD orals in biochemistry at UC Berkeley. He attended a conference this summer at the U of Wisconsin where he presented a paper on his work dealing with the purification of an RNA polymerase from photosynthetic bacteria. About his background in chemistry he says, "As the biological sciences become more molecularly oriented, it will be advantageous to understand the principles of chemistry and to be able to think in detail about molecular structure and function." David was named one of six outstanding TAs in the Department of Chemistry at Berkeley. The selection was based primarily on evaluation by students.

Brad W. House, BA, is an ink chemist with Day-Glo Color Company in Cudahy, CA. "My current job duties include the formulation of printing ink vehicles, overprint varnishes, and aqueous gloss coatings for the graphic arts industry as well as the establishment of manufacturing and quality control procedures and the supervision of a quality control technician."

Scott Lothamer, BA, is continuing his dental studies at UCLA School of Dentistry, completing his second year.

Craig Owens, BA, is a medical student at Tufts University School of Medicine.

Theresa M. B. Rohr, BA, is a medical student at Cornell University Medical School in New York City. "New York is an exciting place to live, and I am enjoying the cultural events as much as possible. This year, along with other activities, I have helped to reactivate Phi Delta Epsilon Medical Fraternity, Alpha Chapter, and am proud to say that it is becoming an active, vital group in the Cornell community."

Yut Chuan Lan Siet, MS, is an analytical chemist with Shankman Laboratories in Los Angeles.

Richard Uyehara, Jr., BA, is a chemist with the State of California Department of Food and Agriculture, Division of Measurement Standards for Petroleum Products in Anaheim, CA.

1985

James Bonander, BS, is a chemist with AeroComposite in Port Angeles, WA. He is in charge of the laboratories conducting experiments in process development and quality control for composite materials and structures and cure cycles and testing of experimental resins.

James P. Brophy, BS, is involved in technical service and sales for USS Chemicals in Colton, CA.

Joy Condon, BS, will enter the School of Pharmacy at USC this fall.

Bernard Degnan, Student, is pursuing a PhD in biology in Queensland, Australia. "The Australian system is similar to the British, so I'm doing practically all research. This year, being my qualifying year, I have major exams in December, and after that it's all research."

Hung-Dwan Lee, MS, is employed at IT Analytical Services in Cerritos, CA.

Gene Lin, Student, began medical studies at the UCLA School of Medicine in the fall of 1985.

Michele Miller, BS, is a chemist with McGaw Laboratories, formerly a division of American Hospital Supply.

Martha Molina, BA, continues her second year as a medical student at UC Irvine.

Lenora Noroski, BA, is a student at Cornell Medical College in New York City.

Rick Pagliery, BA, is presently attending the USC School of Pharmacy and is serving as student-faculty liaison for Level II students for the 1986-87 school year.

Deborah H. Schwyter, MS, continues in the PhD program in biochemistry at UCLA, working with Dr. Emil Reisler at the Molecular Biology Institute in which she is investigating some molecular aspects of muscle contraction.

Kent Showman, BS, is an analytical chemist with Shankman Laboratories in Los Angeles and reports that he greatly enjoys his work.

Jeffrey Stack, MS, has been accepted into the PhD program at California Institute of Technology in biochemistry.

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