

Chemistry and Biochemistry Department

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Number 16

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A Year in Izmir, Turkey,
as a Fulbright Lecturer

by Nail M. Senozan

On January 17, 1991, midway through my sabbatical and the day the Gulf War broke out, I was scheduled to give a final examination in general chemistry at Ege University in Izmir, Turkey. There were about eighty students in the class, including some Africans, Iranians and two Arabs, one from Baghdad. Turkey and Iraq are neighbors, but the border is more than one thousand miles from Izmir, and for the most part we felt safe and distant from the hostilities. Yet, as the final peace efforts failed, some apprehension and fear crept into our lives. Newspapers displayed daily, various models of gas masks, and the state-run TV showed how a peasant woman kept her family safe from a gas attack by sealing her house with pieces of clothing soaked in a common detergent. Some experts suggested keeping a rooster and checking to see whether the bird was alive before opening a door. If each family listened to this advice, over two dozen roosters would have been roaming the hallways of our apartment house!



Dr. Nail Senozan in his office at Ege University, Izmir, Turkey, surrounded by a group of general chemistry students.

Military specialists agreed that Saddam's missiles could reach Ankara, but there was a dispute as to whether or not Istanbul and Izmir were also within their range. The US embassy issued bulletins and warned us about becoming a terrorist target and emphasized the importance of keeping a varied and unpredictable schedule.

My final examination was to begin at 10:30. The morning passed uneventfully, and the examination finished on schedule at 12:15. Ahmad, the fellow from Baghdad, was courteous and pleasant as always. We exchanged addresses. He said he hoped someday I would visit him at his family's date gardens

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Dr. Bruce Ames: 1990-91 Unocal Distinguished Visiting Lecturer.

Dr. Bruce Ames: Twelfth Distinguished Lecturer

by Margaret Merryfield

Dr. Bruce Ames, the director of the NIEHS Environmental Health Sciences Center at UC Berkeley and the inventor of the "Ames test" for potential carcinogens, was the 1991 Unocal Distinguished Lecturer. His visit was the twelfth in an annual series.

Dr. Ames, who has been a member of the faculty in the Division of Biochemistry and Molecular Biology at

Berkeley since 1968, has had a distinguished career marked by numerous awards, including both the General Motors Cancer Research Foundation Prize and the Tyler Prize for environmental achievement. He was elected to the National Academy of Sciences in 1972, and is the twenty-third most cited scientist, in all fields, between 1973 and 1984.

He is best known for developing a rapid, relatively inexpensive screening test for mutagens that has become known as the Ames test. In

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Chairman's Report

This has been a good-news-bad-news kind of year, a year of accomplishments and disappointments. But I suppose that this is a reflection of life itself, which is a series of advances and retreats. First the good news.

The Good News

1990-91 Graduating Class. Forty eight students received BA, BS, and MS degrees in Chemistry and Biochemistry at the May 31, 1991, Commencement. Of that number there were 10 BS Degrees in Chemistry, 14 BS Degrees in Biochemistry, 11 BA Degrees in Chemistry, 7 MS Chemistry and 6 MS Biochemistry Degrees. Once again our department ranks among the most productive in the nation in terms of number of degrees granted.

Report of the ACS Committee on Professional Training for 1989-90. This report, appearing in May 20, 1991, issue of *Chemical & Engineering News*, pp 29-37, shows our department to rank **twelfth** in the nation in terms of the number of bachelor's graduates, with 50 students graduating, placing it among the highest 2% of ACS-certified degree programs in chemistry. It ranks **highest** among departments not offering the PhD degree.

While the number of bachelor's students graduating nationally has declined each year for the last seven years, our department has experienced a slow growth in its majors.

Sabbatical Leaves. Four faculty will be on sabbatical leave during the 1991-92 Academic Year. **Dr. Peter Baine** will spend a year at UC San Diego as a visiting professor, teaching and participating in research; **Dr. Jack Berry** will be in residence for his year-long sabbatical; **Dr. Jeff Cohlberg** received a sabbatical-year appointment at the College de France in Paris; **Dr. Henry Po** plans a semester sabbatical at UC Irvine.

Renovation of Facilities. Although a mixed blessing because of the disruption and chaos created, Peterson Hall 3 (Science Building 3) is undergoing a long-planned, but limited renovation. Air conditioning will be installed and a better air-handling and fume hood system will be put in place.

Private gifts to the Department. Last fall the department initiated a campaign to raise \$100,000 in contributions from corporate donors. I am pleased to report that the campaign was a success and succeeded in netting \$106,485 in cash and in-kind gifts. Other gifts to the department, including alumni contributions and the Monahan memorial legacy, brought total gifts for the year to \$135,104. Details are given elsewhere in this *Newsletter*. An enthusiastic thanks to everyone who contributed and to those who assisted with fund-raising activities! Private funds are increasingly important as the cost of educating students in the sciences rises and state support declines!

Professional Activity. As can be judged from the *Faculty News* section of this publication, our faculty continue to be energetically involved in productive research and other professional activities, and honors, grants and publications have resulted from their efforts.

The Bad News

As nearly everyone knows by this time, the State of California has experienced a \$14.3 billion budgetary short-fall. A tidal wave of repercussions has washed across our own campus, and as a result it is estimated that about 755 faculty and staff, mostly part-time personnel, will not be rehired this fall. The Chemistry/Biochemistry Department has suffered a 7% reduction in its overall budget, with an estimated 10% cut in enrollment. It is possible that additional reductions will be made as the full impact of the State's budgetary problems is realized. To cope with a decreased budget, the department will experience a 13.3% slash in teaching positions. In order to accommodate the maximum number of students with a reduced faculty, a number of lecture sections have been combined to create larger classes. Obviously this is not conducive to the best student-teacher interaction, but it does minimize the number of disappointed students who will be turned away. Not only are there reductions in faculty, but also in operating expenses. This will require unprecedented resourcefulness in managing our programs so that our students will not be denied a quality education.

One by-product of the financial "squeeze" was the cancellation of all tenure-track hiring. Unfortunately, this announcement came after our department conducted a national search for an inorganic chemist which netted a large number of excellent applicants. Fortunately, we had not begun the interviewing process.

I hope and believe that next year will be a better one. Meanwhile, keep us in mind! We appreciate the excellent interaction we have with alumni, and we hope that you will continue to communicate. The back page of this *Newsletter* provides a brief form for letting us know about yourself. Please take a few minutes to fill it out and return it to us. We would like to hear from you!

Ken Marsi

Fulbright Lecturer: *from page 1*
by the Euphrates near Baghdad. "Someday when times are better," he added hastily.

"Compared to America, the students are generally better prepared in mathematics."

Ege (Aegean) University is one of 29 such institutions in Turkey. Over 30 thousand students attend Ege, and all major disciplines, including law, medicine and agriculture are represented. Entrance to a Turkish university is very competitive; only 10% of high school graduates are able to continue their education at the college level. Compared to America, the students are generally better prepared in mathematics. Many, however, are burnt out by the battery of national examinations they must go through to find a slot at a university. "Premature aging of the intellect is a common syndrome among the Turkish freshmen," a colleague once remarked.

"Many of my colleagues attended my lectures...[they] helped me gain a fresh perspective on the subjects I have been teaching for years."

Turkish universities nowadays try to emulate American institutions of higher education, and the language of instruction is gradually shifting to English in the sciences, engineering and medicine. Fulbright lecturers are in great demand and held in high esteem as representative of American scholarship. The lecturer is given complete freedom in selecting the materials and methods for the courses to which he is assigned. Many of my colleagues attended my lectures, and their questions and comments helped me gain a fresh perspective on the subjects I have been teaching for years.

Being away from one's home institution and living in an environment of different systems and structures stimulates research along some unexpected paths. An idea that came to me during an uneasy moment one October day has kept me busy ever since. I was going to Istanbul. A good way is via Bandirma, a port city on the southwestern coast of the Sea of Marmara. The drive from

Izmir to Bandirma takes five hours, the ferry to Istanbul another four. The boat arrives in Istanbul at sunset and docks against the shadows of the Topkapi Palace and Saint Sophia's.

"Many victims of fire die of a heart attack."

After watching the enchanting skyline of the city for sometime, I went downstairs to the garage to retrieve my car. After getting into the car we made some progress towards the exit when a large truck got stuck at the gate. Every car in the enclosed garage had its engine running. In Turkey, cars have no catalytic converters, and the carbon monoxide content of their exhaust can be as high as 6%. As the truck struggled to extricate itself from the ferry and the engines continued to idle, I remembered a conversation I had had with a physician from the Long Beach Memorial Hospital. "Many victims of fire," the physician had told me, "die of a heart attack." High levels of carbon monoxide and low oxygen pressure can apparently precipitate a fatal arrhythmia.

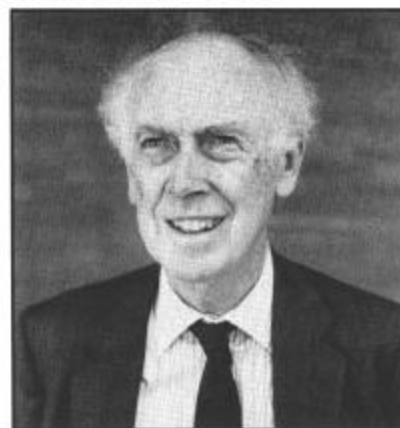
The truck soon managed to exit, but the question of just how long it might take to induce a dangerous arrhythmia in the enclosed garage of the ferryboat has evolved into an interdisciplinary project involving automotive and environmental engineers, cardiologists and myself. ❀

NEWSLETTER
CSULB
Chemistry and Biochemistry Department
August 1991, Number 16

An annual publication of the Department of Chemistry and Biochemistry for past and present students and friends of the department. News items, photos, and comments are eagerly invited. All articles not signed in this issue of the *Newsletter* were researched and written by the Editor.

Kenneth L. Marsi, Editor

Nobel Laureate



Dr. James D. Watson, Nobel Laureate.

On April 11, 1991, as part of the sixteen-year tradition of inviting a Nobel Laureate to CSULB, James D. Watson spent the day with faculty and students, visiting and speaking. Dr. Watson, who shared the 1962 Nobel Prize in Physiology and Medicine with Dr. Francis Crick, is currently Director of the National Center for Human Genome Research of the National Institutes of Health, and is also Director of the Cold Spring Harbor Laboratory. His noon lecture was a nostalgic reminiscence of his life as a scientist. His personal and scientific relationship with George Gamov, a physicist with a passionate interest in unravelling the structure of DNA, constituted a large portion of his remarks.

In the evening he was hosted at a dinner attended by faculty, students and off-campus guests. His after-dinner talk described the Human Genome Research Project, which is attempting to map the genetic messages encoded within our DNA molecules to provide the ultimate answers to the chemical underpinnings of human existence. It is hoped that knowledge obtained from this information, which will take many years to gather, will explain the role of genetic factors in a multitude of diseases such as cancer, Alzheimer's disease and schizophrenia that diminish the individual lives of so many millions of people.

Dr. Watson's appearance was sponsored by the School of Natural Sciences Student Council, the Associated Students and TRW. ❀

Ames: *from page 1*

this test, a specially engineered strain of Salmonella, is exposed to the suspect chemical and grown under conditions that require a particular gene mutate for the organism to survive. Thus, the number of surviving cells is a measure of the rate of mutation.

His testimony on the likely carcinogenicity of the flame retardant Tris led to a ban on the use of Tris in children's clothes. Another celebrated application of the Ames test was the discovery that flame-broiled burgers (and other charred meats) contain carcinogens.

"The Causes of Cancer," was the subject of Dr. Ames' noon talk for a general audience, while his more specialized afternoon lecture discussed, "Oxidation and Aging." In both presentations, he contrasted the hazards associated with exposure to man-made chemicals to that of exposure to "natural" toxins. Plants, for example, produce their own pesticides, several of which are known or suspected carcinogens. In some cases, it has been shown that "organically grown" produce contains more of these chemicals than produce grown with the use of man-made pesticides.

Professor Ames' current research interests lie in the role of oxidation in aging, including the importance of antioxidants in preventing cell damage. A lifetime of exposure to oxygen causes gradually accumulating damage to tissues, including changes in DNA. Cancer rates, one measure of degenerative change, go up as the fifth power with age. One area that Dr. Ames is studying is the relative importance of various chemical antioxidants that are available to cells.

Perhaps the most controversial aspect of Professor Ames' presentations is his analysis of risks and benefits associated with the use of pesticides and other toxic chemicals. Working from the assumption that studies of cancer frequency at high dosages of suspect chemicals cannot be extrapolated to very low exposures, he concludes that risk from pesticide residue (not occupational exposure) is essentially zero, and is lost in the background of risk associated with naturally occurring chemicals. However, even if broccoli contains a few toxic chemicals, he points out, it also contains plenty of beneficial substances. Thus, he advocates moderation in diet on a personal level and concentration of time, money and effort on lowering the few major and well-established cancer risk factors. ❀



Dr. Fred Shair, Dean, School of Natural Sciences.

Challenges to Chemistry and Biochemistry

*by Fred Shair,
Professor of Chemistry and Dean,
School of Natural Sciences*

On the horizon are opportunities to make major advances in our understanding of life and physical processes. Over seven million different compounds have been synthesized and characterized.

(Continued on page 5)

Salary Survey of CSULB Chemistry Graduates

As part of her requirements for the MS Degree in Management of Business Administration at UC Irvine, Janet Kiang (MS Chemistry 1987) sent questionnaires to 206 of our alumni who graduated during the period 1982-88 with bachelor's and master's degrees in chemistry. Of that number, 95 questionnaires were completed and returned (46.1%). The primary purpose of the survey was to gain information about salaries of our alumni. The results are given below for 1990 and differ somewhat from the means reported by the ACS. It must be realized that most of these alumni work in Southern California, that they are relatively recently employed, and that the kinds of work opportunities for chemists in Southern California are not representative of those for the nation as a whole. Salaries reported are mean salaries.

Salaries by Degree

BA/BS	\$35,439
MS	\$39,545
PhD	\$37,143

Salaries by Employer

Private	\$39,545
Public	\$39,043
Academic	\$27,143

Salaries by Function

Academic	\$27,778
R&D	\$38,500
Technical	\$35,938
Sales	\$42,778
Management	\$37,000

Salaries by Experience

0-2 years	\$28,800
3-4 years	\$35,192
3-4 years	\$35,192
>7 years	\$43,750

Salaries by Gender

Male	\$39,068
Female	\$32,500

Distribution by Job

Academic	9.5%
R&D	21.0%
Technical	34.7%
Sales	9.5%
Management	25.3%

Challenges: *from page 4*

Innovative techniques, both theoretical and experimental, will enable humankind to produce new materials with properties that are important (i) to the practice of medicine, (ii) to preserving our environment, and (iii) to stimulate the world economy. Improving our understanding of life processes on the molecular level will enable humankind to reduce suffering significantly and improve the quality of life.

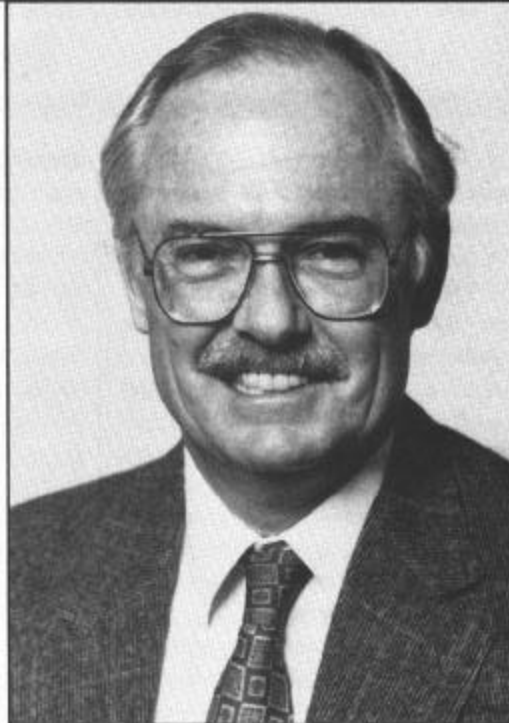
Ironically, just as we can rejoice on one hand, society (of which scientists are also a part) seems to be experiencing a loss of direction, coupled with a failure of will. It is ironic that the "Nation-State" of California should be reducing its support of public education at a time when providing all citizens access to a high quality education is so important.

The students, staff and faculty in the Department of Chemistry and Biochemistry have made remarkable achievements in the development of their human potential--in the face of much adversity. As State resources have continued to dwindle during the past decade (with a major decrease last year) we have had to approach private donors in order to provide quality education to our students. The first of our annual campaigns was successfully conducted! We are now gearing up for the next. If you wish to contribute and/or know of colleagues who might like to do so, please contact Ken Marsi. We need your help.

Editor's note: Dean Shair is the National President of Sigma Xi, the Honorary Research Society.



**Dr. Fred Dorer:
CSULB
Distinguished
Alumnus
for 1991**



Dr. Fred Dorer: 1990-91 CSULB Distinguished

Honored at the 1991 School of Natural Sciences Commencement on May 30, 1991, was Dr. Fred Dorer, BS Chemistry 1961. Addressing the Commencement audience, Dr. Dorer paid tribute to the faculty who had influenced his life by their examples. He is presently Vice President for Academic Affairs at California State University, Bakersfield, but his career spans several institutions and positions within the California State University System. Following receipt of the PhD in physical chemistry from the University of Washington, he began his academic career as a faculty member in the Department of Chemistry at California State University, Fullerton. He then served as department chairman at San Francisco State University for several years and subsequently became Dean and then Academic Vice President at California State University, Sonoma, prior to his present position.

As Academic Vice President at CSU Bakersfield for the past seven years, he has been a key person in planning for and supervising the rapid growth and development of that campus. He is a recognized authority in chemical reaction kinetics, and because of his scientific reputation, he was asked to serve as a program director for the National Science Foundation while on the faculty at Fullerton. He has had key committee assignments in the Chancellor's Office where he has helped shape policy.

Dr. Dorer joins other CSULB chemistry alumni who have been similarly recognized over the years as distinguished graduates: Dr. Robert O. Hutchins, MS 1962 (Professor and Chairman, Department of Chemistry, Drexel Institute); Dr. Evord Knights, BS 1964 (Vice President, Unipure Division of Unocal); Ms. Dana Basiulis, MS 1977 (Manager, Materials Science Department, Hughes Aircraft Company).

Fan Mail

- ... "Great Newsletter!" Dr. Arthur Harralson, Associate Professor, School of Pharmacy, U of the Pacific, BA 1972.
- ... "I appreciate your time and effort in putting this Newsletter together." Dr. Ralph Knights, Research Chemist, New Zealand Milk Products, Inc., BS 1967.
- ... "Thank you for your great Newsletter." Jon H. Regnier, Associate Vice President, Physical Planning and Facilities Management, CSULB.
- ... "Thank you for sharing with me your Newsletter and the sense of accomplishment it entails." Karl W. E. Anatol, Provost and Senior Vice-President for Academic Affairs, CSULB.
- ... "It is always a treat to get the CSULB Chemistry Department Newsletter." Dr. Tom Goynes, Valparaiso University.

Faculty News

* **Roger Acey** is dividing his sabbatical year between Baxter Healthcare Laboratories in Santa Ana and Worcester Polytechnic Institute in Massachusetts.

* **D. Mark Anjo** spent last fall on sabbatical on campus. "I was able to get a number of new projects off the ground.

"Kimberley Corkery, who just graduated with a BS in Chemistry, has agreed to return to work on a summer project. We are near publication on carbon electrode applications, and results of her work were presented at the Pacific Conference in 1990.

"Eloisa Gonzales presented her research work at the Minority Biological Research Support/Minority Access to Research Careers Conference in Nashville, and on campus at the Student Research Conference. She received second place at the campus conference and proceeded to the state-wide competition. She will participate in a research internship at the NIH this summer in Washington, DC.

"Wendy Greiner, who received her BS in Biochemistry in May, attempted the preparation of buckminsterfullerene (the C60 soccer ball molecule).

"Kurt Hansel has been working on imaging activated electrodes using scanning electron microscopy. We have found some startling changes on the electrodes following activation."

* **Peter Baine** will participate in teaching and research at UC San Diego during his sabbatical year. While there he will share living quarters with his son, Michael, who is an undergraduate student at UCSD.

* **Roger D. Bauer** continues as Director of the Minority Access to Research Careers (MARC) training grant sponsored by the National Institutes of Health. He has also started another new program supported by the Department of Energy which will assist undergraduate students who are preparing to become teachers of science at the high school level. He was named Outstanding Mentor by the Student Alumni Scholars Association, a student-selected

award. He is also continuing his work in producing workshops on a variety of topics, including teleconferences which are broadcast on a national level.

* **A. J. "Jack" Berry** will spend his 1991-92 sabbatical leave in residence.

* **Stuart Berryhill** served as the chairman of the tenth-annual Undergraduate Research Conference held at CSULB in April, 1991. This conference is sponsored by the Southern California Section of the American Chemical Society and draws undergraduate researchers and their faculty sponsors from colleges and universities from Santa Barbara south to San Diego.

* **Jeff Cohlberg**. "I've had a busy year! I made two presentations at the Gordon Conference on Intermediate Filaments last summer, one at the meeting of the American Society for Cell Biology, and another at the first Long Beach Research Symposium. A paper, 'Phosphorylation of bovine neurofilament proteins by protein kinase F_A (glycogen synthase kinase 3),' coauthored with student Rong Ji Guan and Dr. Balwant S. Khatra, appeared in the *J. Biol. Chem.* **267**, 8262-8267. Another paper written with Rong and Frederick L. Hall of USC, 'Proline-directed protein kinase (p34^{cdc2}/58 cyclin A) phosphorylates bovine neurofilament proteins,' has been submitted to *J. Neurochem.* Manuscripts based on the work of other students should be out by the end of the summer.

"Roy Guillermo, Alexander Novcen (formerly Farshad Mogadam), Rong Guan and Tom Wroblewski all completed their MS theses this year! Miki Aurang, Melissa Primus and Chip Stevens were also hardworking members of my lab group, and Rick Justice wrote the software to interface the analytical ultracentrifuge with a Macintosh.

"Next year I'll be on sabbatical leave at the College de France in Paris, working in the laboratory of Marie-Madeleine Portier. I'll be continuing my work on neuronal intermediate

filament proteins with a shift in emphasis away from test tube biochemistry and toward work with cultured neurons. I've received a grant from the French Ministry of Research and Technology to help support my project. I'm excited about the science going on in Portier's laboratory and also about the opportunity to spend an entire year living in Paris. Feel free to drop by for a visit if you're in town (I'll be across the street from the Sorbonne). Au revoir!"

* **Thomas Feeley**. (Editor's note: *Dr. Feeley is a professor of chemistry on the faculty at Cork Regional Technical College in Ireland, and has just completed a sabbatical year in our department.*) "My first impression of the CSULB campus was how beautifully landscaped it was. California State University is a different educational system than I am used to. In English-speaking Europe, instruction and assessment are based on the academic year. Furthermore, chemistry, like other subjects, is taught and assessed as a composite unit rather than in modules. Since teaching is the art of communication of knowledge and the skills of comprehension, analysis and problem solving, course structure is not particularly important and assessment is carried out much less frequently. Again there is no formal requirement to have office hours to meet students, but this is usually done on an informal basis. Obviously, these situations at CSULB increase the workload of an instructor considerably.

"I was rather taken aback when first entering a chemical laboratory at CSULB. It appeared bare and stark because of the absence of reagent bottles on the shelves over the benches. I did learn later that safety is of primary consideration, and that chemicals not of immediate need are kept in the stockroom.

"My time at CSULB passed all too quickly, and it is with great regret that I leave. It was an instructive and informative period. I am sincerely grateful to CSULB and, in particular, to Dr. Marsi for bringing me to Long Beach.

Faculty News

I will remember this "land of endless sunshine in my land of rainy skies and gales."

* **Dorothy M. Goldish** reports, "I continue to serve the University in a variety of roles. I participate regularly as a member of an accreditation visiting team for the Western Association of Schools and Colleges (WASC), and this year co-chaired a campus committee preparing one section of the University's self-study for our own WASC accreditation visit next year. As Vice-Chair of the Financial Affairs Council, I was a member of the Resource Planning Committee that made recommendations to the President concerning next year's budget. (Editor's note: Nearly all recommendations of this committee were subsequently accepted by the President!) This was a particularly difficult and painful activity, since we had to deal with the effects of an as-yet-unknown, but clearly disastrous state budget. Faced with the possibility that support next year would be approximately 10% below the budget needed to maintain the already-depleted 1990-91 level, the University must cut the number of classes offered, reduce a variety of services to students, and eliminate many of the amenities that make a campus attractive to students. Trying to maintain quality instruction under these conditions is a difficult challenge."

* **James L. Jensen** is still Project Director of the Minority Biological Research Support Program, which is funded by NIH through 1994 (\$2,000,000). Thirteen other faculty participate in this program including Roger Acey, Mark Anjo, Jeff Cohlberg, Marco Lopez, Margaret Merryfield and Henry Po. This past year NSF funded Dr. Jensen's research proposal, "Lewis Acids: Electron Transfer Reagents?" for \$120,000 through 1994. In addition, the Howard Hughes Medical Institute funded a proposal "CSULB Response to the HHMI Biological Science Initiative," for \$750,000 through 1996; Dean Fred Shair is co-project director. Several of Dr. Jensen's students have entered PhD programs during the past

year: Art Dixon at UC Santa Barbara, Rick Pagliery at Penn State and Gary Martinez at UC Santa Cruz. Clyde Jones presented his research results at the MBRS Symposium in Nashville. His talk was entitled, "Use of the HP 84351A Diode Array Spectrometer to Investigate the Effectiveness of Redox Reagents in Promoting O,S-Acetal Hydrolyses." Clyde will enter the PhD program at Tufts this fall. The excellent work carried out by Dave Maynard (1988), Richard Kanner (1984) and Greg Shaw (1987) made its first appearance in print.

* **Gene Kalbus** has a paper, "Titration of Chromate-Dichromate Mixtures," soon to be published in *J. Chem. Educ.* He will also present a paper entitled, "Spectrophotometric Determination of Oxalates in Natural Products," at the 4th Chemical Congress of North America and 202nd National ACS meeting, August 29, 1991, in New York City.

* **Van Lieu** presented three papers at the American Chemical Society Meeting in Washington, DC, in August, 1990. He and Dr. Kalbus had a paper entitled, "Dietary Fat and Health: An Experiment on Determination of Iodine Number of Fats and Oils by Coulometric Titration," in *J. Chem. Educ.*

* **Robert Loeschen** oversees planning and renovation, not only of Chemistry/Biochemistry facilities, but also for the School of Natural Sciences. He reports, "You may have read in previous newsletters that the Chemistry/Biochemistry Department was hoping to have a major renovation of its space. Well, due to a lack of funds, that renovation has been reduced to include only a major renovation of the air-handling facilities in Peterson Hall 3 (Science Building 3). I am involved as the faculty representative in this process which began this summer and will continue until the fall of 1992. Hopefully, at that time, all the hoods in PH3 will work properly, the building will be air conditioned, the laboratories will have proper fume removal, and the heating system will work in the winter. Meanwhile, if

you wish to visit the department during the winter of 1991-92, you had best bring warm clothing with you because we probably will not have any heat. It promises to be an interesting two semesters as we attempt to teach and conduct research around the construction activities."

* **Marco Lopez** reports, "Departing our group this year will be Mitra Basiri, who is finishing her Master's thesis. She leaves our department with a perfect 4.0 GPA and received the Advisory Council Graduate Award and the Graduate Dean's Award. She gave three presentations of her work during the last year as well as taught members of our group, myself included, different aspects of computational chemistry."

"New to our group (the "Heme Team - CSULB") is Cynthia Ybarra, who is funded by the CSULB Minority Biological Research Support Program. Though a new addition, she has already made a presentation of her work at the recent conference on undergraduate research held here at CSULB. She has been accepted into the 1991 summer research program at UC Irvine. Recently, Long Beach Community Television interviewed both Cynthia and me as part of a documentary series on the activities of college students."

"Also leaving our group this summer is Stephanie Hyatt. She is moving to the midwest, but will be back for graduation next year. Stephanie has synthesized and supplied our group with two important iron porphyrins. She has also performed several binding constant measurements which will be submitted for publication."

"Last fall six members of the "Heme Team" (James Odasso, Mitra Basiri, Stephanie Hyatt, Mark Tanji, Todd Dickman and Phil Zlaket) and I attended the Pacific Conference on Chemistry and Spectroscopy in San Francisco. Each of the six presented their work. In addition, James, Mitra, Stephanie, Todd and Phil presented their work at the Conference on Computational Science in Industry and the

(Continued on page 8)

Faculty News

(Continued from page 7)

Comprehensive University held in Pomona last fall. James Odasso also presented his work at the 5th EUREKA National Conference on Undergraduate Research held at Caltech this spring, and at the Undergraduate Research Conference held here at CSULB.

"Mark Tanji has graduated and has been accepted into the Master's program at CSULB starting this fall. He assures me he will remain with the Heme Team."

✳ **Tom Maricich** notes, "During the past three years I have been Acting Associate Dean in the School of Natural Sciences for two Acting Deans and our new Dean, Fred Shair. With the recent reorganization of the Dean's Office, my responsibilities are shared between teaching and administration. I am still Faculty and Staff Relations Coordinator, supervisor of the Technical Services Group (shop and electronics personnel), have responsibility for coordinating Plant Operations projects and construction projects for the School of Natural Sciences and monitor enrollments and faculty position utilization. This has been an enriching and rewarding experience. Bob Loeschen and I have been involved with the renovation project in Peterson Hall 3 (Science Building 3). Hopefully, I will be able to get involved in the lab again to resume my research. It was refreshing to be thinking and teaching chemistry again last semester."



Mr. Berry Yolken (left), TRW, and Dr. Kenneth Marsi (right), at 1991 Commencement.

✳ **Kenneth Marsi** continues as department chair (his seventeenth year). He was accorded the TRW Scholar/

Teacher Award, conferred for the first time this year. The award consisted of a plaque and \$1,000. The citation states, "The School of Natural Sciences and the TRW Space and Technology Group congratulate Dr. Kenneth Marsi for being selected by the School Deans, with the concurrence of the other Department Chairs, as the outstanding Teacher/Scholar among the tenured faculty of the School of Natural Sciences for the 1990-1991 academic year. We commend him for his decades of sustained dedication and leadership in teaching excellence, service to the University, and for his long-term, sustained scholarly activities in organophosphorus chemistry and stereochemistry. We applaud him for being selected as the CSULB Outstanding Professor in 1984, for being selected as the CSU Trustees' Outstanding Professor in 1985, and for his effective work with his many graduate and undergraduate students who now are some of our most loyal alumni." The award was presented at the Commencement of the School of Natural Sciences in May by Berry Yolken, Manager of the TRW Space and Technology Group.



Dr. Darwin Mayfield and former chemistry student, Dr. Bernard Degnan, on exotic Heron Island.

✳ **Darwin L. Mayfield**, although an Emeritus Professor, continues to teach in our department. In addition, he organized and directed the Forty-Niner Chemistry Forum, a group of 16 area

high school teachers who met monthly for discussion and instruction.

Dr. Mayfield spent a once-in-a-lifetime visit to Heron Island, a Mecca for lovers of nature, where he walked the tidepools and snorkled on the reef. Heron Island is a speck of coral and sand about 50 miles off the Queensland Coast of Australia at the southern end of the 1,500 mile long Great Barrier Reef. Of his visit, he said, "The island is so small one can walk around it slowly in 20 minutes. On it is located a reef research station of world renown. While there I encountered Dr. Bernard Degnan (CSULB Chemistry Student 1984) who had just completed his PhD at the University of Queensland in Brisbane, Australia. Bernie specializes in molecular embryology, is now a post-doctoral research associate at UQ and recently married a PhD candidate from the same department. He visits Heron Island briefly twice a year to collect research specimens (sea squirts which he views as a possible link between vertebrates and invertebrates). He recalled that Dr. Roger Acey first turned him on to biochemistry. Heron Island—what a place to suffer in the pursuit of

pure knowledge for knowledge's sake!"

✳ **Margaret Merryfield** says, "This year the Merryfield group is saying goodbye to Dana Gilchrist (entering a doctoral program at Notre Dame), Jose Sanchez (dental school at UCLA) and Judith Hicks (pharmacy school at USC). Judith presented her research this spring at EUREKA, the National Conference on Undergraduate

Research, at Caltech. Two undergraduates who began in the lab in the fall will also be leaving for graduate programs; Don Wigington will pursue a master's degree at San Francisco State

Faculty News

and Jeff Ichikawa will enter the PhD program in biochemistry at UCLA. Newcomers include Kelly Robinson and Conrad Winn.

"I finished my second year as president of California Women in Higher Education, and am looking forward to not doing it again next year! This summer I will spend six weeks at Boston University learning basic techniques of molecular biology, while Kent and the kids spend their time at Fenway Park."

✳ **Ken Nakayama.** "I have had the opportunity to teach the one-year sequence of organic chemistry (Chemistry 321AB) on two occasions now. While my list of "must-be-covered" topics has worked itself out, I've realized how shallow my knowledge is regarding many of these topics. Teaching has been and will continue to be a constant learning experience for me. This year my co-workers in research include two graduate students (Pat Middleton and Hossein Razavi) and two undergraduates (Brian Nolan and Juan Noveron). Brian gave a talk at this year's Undergraduate Research Conference, and Hossein will be making a presentation at the 1991 Pacific Conference on Chemistry and Spectroscopy at Anaheim.

✳ **Henry Po** reports, "We had a busy year. Gary Beck, Za Shariff, Shu-Chin Shen and Ming Fang Yuen graduated. Za returned to Malaysia, and Gary and Ming are chemists with local companies. Shu has decided to stay at CSULB for her postgraduate work, and Jeff Masse will be attending UCLA in the fall to pursue his PhD. Two papers based on the research of these students have been accepted for publication. Finally, I am looking forward to my sabbatical leave in the fall. I plan to do some computational chemistry at UC Irvine in collaboration with Professor Hehre."

✳ **Kimberly Schugart's** graduate student, James Noblet, is finishing his thesis on the chemical and physical properties of the bisulfite ion, an ion significant in atmospheric chemistry and

implicated in the deterioration of antarctic ozone. Jim will be attending UCLA this fall in the Doctorate of Environmental Science program. This year, graduate student, Melanie Concepcion, gave talks at several local conferences on her work, which concerns the nature of sulfur trioxide adducts, also found in the earth's atmosphere. Melanie earned first place at the CSULB research

competition this year, and attended as one of two finalists in the physical sciences and mathematics category. Melanie is currently putting together her work for publication. Undergraduates, Joyce Harpt and Trevor Roberti, also gave talks at a CSULB conference for undergraduate research. Trevor, a newcomer in our group as of the spring semester, participated in the conference with a talk on his work, which is related to Melanie's, on sulfur trioxide-water adducts. Joyce's work focuses on theoretical aspects of experimental investigations the Berryhill group has made.

✳ **Nail Senozan** is concluding a year as Fulbright Lecturer at Ege University in Izmir, Turkey. During their stay in Turkey, Nail and Diane Senozan



Dr. Nail Senozan at the ruins of the Temple of Apollo in Western Turkey with daughter, Erin, and friend.

became parents of a son, Sean Kenan Senozan, born May 2, 1991. Dr. Senozan's student, Armond Byati, completed his thesis dealing with the mechanism of hemoglobin oxidation by Cu(II).

✳ **Leslie Wynston** continues to be involved with teaching and coordinating Chemistry 300, organic and biochemistry for Nursing and Home Economics students, as well as advising pre-health professional students. This fall he will again, after an interval of several years, be the chairman of the School of Natural Sciences Pre-Health Professional Committee. He has now been teaching his wine classes (in the Home Economics Department) for 18 years and biochemistry in our department for 26 years.



Former Faculty: Where Are They Now?

Dr. Tom Goyne, Lecturer 1986-88, is a faculty member in the Chemistry Department at Valparaiso University in Indiana. The Goynes announce the birth of a son, Christopher Evan, born March 15, 1991. Last semester Tom taught a new biochemistry course with a laboratory at Valparaiso. "It is a big challenge and a lot of fun." He is spending the summer involved in his research program.

Dr. Linda B. McGown, Assistant Professor 1979-83, has been promoted to Professor of Chemistry at Duke University. She is currently Director of Graduate Studies for the Department of Chemistry.



Melissa Primus presenting a paper at the Undergraduate Research Conference at CSULB.

On April 20, 1991, our department hosted the Southern California Section of the American Chemical Society Undergraduate Research Conference. Now in its tenth year, the ACS-sponsored event is held each spring at a campus of one of the southern California colleges or universities. The first conference was convened at Cal State Long Beach in 1982.

This year thirty students presented papers based on research projects carried out under the direction of a faculty member. The speakers included six students from the Department of Chemistry and Biochemistry at CSULB who are involved in research with Drs. Cohlberg, Lopez, Nakayama and Schugart. The conference concluded with a luncheon at which awards were given for the best paper presentation in each of the four sections.

Support for the conference was provided by CSULB, the Southern California Section of the American Chemical Society, Chevron Oil Field Research, Beckman Instruments, Inc. and Fisher Scientific.

Editor's Note: This year's conference was ably organized and chaired by Dr. Stuart Berryhill, Professor of Chemistry at CSULB.

Staff News



• **Katrina Brinkman**, Office Student Assistant, is a major in Interior Design. "Working part time has kept me on a six-year program. In October I acquired a pen pal. John, a Navy photographer, was stationed in Saudi Arabia for the Persian Gulf War. After the exchange of letters and phone calls, we finally met in May--Universal Studios was the setting." Katrina will graduate in May, 1992.

• **Judy Ferraro**, Secretary, during "Operation Desert Shield," became a pen pal to two Marines stationed in the Gulf. "They are Camille Hamadani (Glendale) and Steve Torres (Wisconsin). I am glad to report that both of these young men are back in the States, safe and sound. I am also corresponding with a young Native American, Masson Manson who lives, during the week, at the Kinlechee Boarding School in Ganado, Arizona. He is a third-grader, and his teacher, Pat Rigby, a former CSULB graduate, and I have been corresponding also. I hope to have the opportunity to visit both of them someday."

• **Joyce Kunishima**, Director of Laboratories, has been busy relocating her office because of the Peterson Hall 3 (Science Building 3) asbestos removal project which is being conducted this summer. She is also in charge of and preparing for laboratory course fee collection this fall. This will be the first semester the department has charged a course fee for laboratory courses.

• **Bob Mattice**, Director of the Stockroom, has spent another successful year coaching soccer, "a few wins and no heart attack! I am finally qualified to take undergraduate business courses." Bob is a part-time student, working toward the MBA degree.

• **Fran McLuen**, Secretary, also doubling as the Newsletter assistant and alumni record keeper, says, "Hi! to all my friends who have taught in or graduated and moved on from the department over the years." As she has for the past sixteen years, Fran is still working her afternoon shift, and she and husband, Chuck, spend much of their time relaxing in Palm Springs and San Diego, where their younger son, Scott, is now living.

Department Hosts Undergraduate Research Conference

by Stuart Berryhill

Staff News

• **Anne Nguyen**, Instructional Support Assistant. "The arrival of my new-born son, Alan Nam Nguyen, is a great joy for all of us. Now we have one daughter and two sons. My daughter, Clara (12), is a big helper. Walter (10) will be in the GATE program next fall. They have been studying karate for the past three years, and this summer they will be taking tennis lessons." Anne's husband, Richard, is Professor of Engineering at CSULB.

• **Jeannette Santage**, Department Secretary. "This year the office staff participated in the First Annual CSULB Halloween Spooktacular. With almost 50 departments participating in the contest, the judges gave the 'Wacky Lab in Chemistry' honorable mention. In June the department 'did' Yosemite. About 20 faculty, staff and graduate and undergraduate students (past and present) participated. We camped in the valley, hiked to Yosemite Falls and Half Dome, did some easy valley floor hikes, floated on river rafts and had a great time around the camp fires. Some stories probably will never be repeated!"

• **Bob Soukup**, Electronics Technician, is celebrating his fifteenth year with the department. "When my daughter, Jennifer (2), visits the department she can't leave the typewriters and computers alone. What will be next, the mass spectrometer?" After much detective work, Bob has repaired the DuPont mass spectrometer! When not at work, or at home doing repairs, Bob and his family can be found at their Idyllwild cabin relaxing.

• **John Tomaszewski**, Instructional Support Technician, received his BS in Biochemistry in May. "I got engaged to Grace Nakatsukasa, who will be completing her Physical Therapy program this coming spring, and then she will join me in Seattle. I'll be at the University of Washington pursuing a PhD in organic chemistry." John will leave his position in August and will be greatly missed.

• **Chinh Tran**, Instructional Support Technician, is in her fourth year of service in the Chemistry Stockroom. "I am anticipating the arrival of my mother and six sisters and brothers from Vietnam. They will be staying with us for a while. I was planning on going on a diet anyway!"

Student Affiliates of the American Chemical Society

by *Burt Secrest, President*

With moral support from our faculty and staff, the Student Affiliates of the American Chemical Society (SAACS) Chapter at CSULB continued to be a viable organization. SAACS brings together learning and social interaction in such a way that everyone can participate in and enjoy what chemistry has to offer.

To start off the 1990-91 year, we reviewed old ideas and kicked around a few new strategies. Our major fund raiser was the sale of safety glasses and lab coats, with profits going to support social activities and student awards. With volunteer shifts
(Continued on page 13)



Burt Secrest, President,
SAACS

Honor Roll of Individual Contributors, 1990-91

Anvar, David J.
Appleton, Christopher
Aspland, Jerry A.
Augimeri, Thomas D.
Augustine, Frank E.
Baine, Peter
Basiulis, Danute
Battaglia, Paul J.
Bauer, Roger D.
Calloway, A. R.
Christofferson, Kathy
Cohlberg, Jeffrey
Elser, Clare
Erwin, Tim
Fritch, Stephen M.
Fukuda, Daryl
Gagliardo, Mary
Ghamssari, A. A.
Goldfish, Elihu & Dorothy
Goyne, Thomas E.
Gufrey, Tom
Hermes, Renee
Hudspeth, Richard L.
Johnson, Thomas M.
Jordan, Paul M.
Knights, Ralph
Lake, Robert D.
Lake, William C.
Lesniewski, E. Ken
Loeschen, Robert L.
MacLean, Kurt & Stephanie
Maricich, Tom
Marsi, Kenneth L.
Mayfield, Darwin
McGown, Steven R.
McKay, Patrick A.
McKibben, Fred
McLaughlin, Anthony
McLuen, Charles & Frances
Middleton, Dorothy
Molina, Martha
Monahan, Michael (Estate)
Moone, Michael A.
Moothart, Daniel
O'Bell, Philip J.
Patterson, Melanie M.
Rohr-Kirchgraber, Theresa M.
Rona, Robert J.
Scotty, Anthony Jr.
Senozan, Nail
Senzel, Alan
Shair, Fred
Shupe, Neal
Siegfried, Elizabeth
Smith, Coleman A.
Smith, David M.
Smith, Duane & Vivian
Stemler, Leo M., Jr.
Tast, David
Unver, Ercan

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Some 1990-1991 graduates and faculty. *Front Row, left to right:* Jeffrey Ichikawa, Brian Moore, Trevor Roberti, Robert Blantz, Alvin Dong, John Molloy; *Middle Row, left to right:* Dr. Dorothy Goldish, Melissa Primus, Lauren Miyaguchi, Sandra Engstrom, Coleen Fong, Diane Dieringer, Donald Wigington, Vanh Phonhsiri, Burt Socrest, Tomas Wroblewski, Mitra Basiri, Carina Fryer, Dr. Kenneth Marsi, Wendy Greiner; *Back Row, left to right:* Michael Muegge, Dr. Marco Lopez, Dr. Jeffrey Cohlberg, Kimberly Corkery, Cynthia Stromen, Clyde Jones, Tom Kowalke, John Tomaszewski. Graduates may obtain a copy of this photograph from Dr. Marsi.

Hyun K. Ahn, BA Chemistry
Roy T. Avalos, MS Biochemistry
Gary J. Beck, MS Chemistry
James G. Breitenbucher, MS Chemistry
Michael Bundy, MS Biochemistry
David K. Butler, BS Biochemistry
Coleen Fong, BA Chemistry
Rong G. Guan, MS Biochemistry
Roy Q. Guillermo, MS Biochemistry
Denis C. Guttridge, MS Biochemistry
Joyce A. Harpt, BS Chemistry
Jeffrey K. Ichikawa, BS Biochemistry
Clyde C. Jones, BS Biochemistry
Camil Joubran, MS Chemistry
Thomas M. Kowalke, BA Chemistry
Martha E. Lopez, MS, Biochemistry
James Noblet, MS Chemistry
Alexander Noveen, MS Biochemistry
Samuel N. Nyenke, BA Chemistry
Richard H. Pagliery, MS Chemistry
John D. Rainier, MS Chemistry
Jose Sanchez, MS Biochemistry*
Zarila M. Shariff, MS Chemistry
Shu-Chin Shen, BS Chemistry
Kiana S. Tabibzadeh, BA Chemistry
Mark Tanji, BS Chemistry
John Tomaszewski, BS Biochemistry
Donald P. Wigington, BA Chemistry
Ming Fang Yuan, MS Chemistry

PharmD program, UC San Francisco
MD/PhD program, UC Los Angeles School of Medicine
Allergan Corporation, Irvine, CA
PhD program, UC Riverside
GeoTest, Long Beach, CA
MD program, Wisconsin Medical College
PharmD program, U Southern California
Research Associate, Harvard U School of Medicine
Research Chemist, Baxter Healthcare, Santa Ana, CA
PhD program, UC Irvine
McDonnell Douglas, Long Beach, CA
PhD program, UC Los Angeles
PhD program, Tufts U
PhD program, Arizona State U
Kendall McGaw Laboratories, Irvine, CA
Research Associate, UC Irvine School of Medicine
PhD program, UC Los Angeles
PhD program, U Southern California
Stuart-Ironside, Inc., Long Beach, CA
PhD program, Pennsylvania State U
PhD program, UC Riverside
Dental School, UC Los Angeles
Returned to Malaysia
MS program, CSULB
MS program, CSULB
MS program, CSULB
PhD program, U of Washington
MS program, San Francisco State U
Molecular Ecology Institute, CSULB

*Accepted to dental school before receiving master's degree.

Honors to 1990-91

Graduates and Continuing Students

Mitra Basiri	Graduate Dean's Award; Election to Phi Lambda Upsilon; Advisory Council Outstanding Graduate Student Award
Sherilyn M. Bauer	Election to Phi Lambda Upsilon; Organic Chemistry Award (Merck Index); Alumni Award
Armond M. Bayati	Election to Phi Lambda Upsilon
David K. Butler	Graduation Cum Laude
Donald M. Crow	Organic Chemistry Award (Merck Index); Alumni Award
Sandra E. Engstrom	Graduation Cum Laude; Election to Phi Lambda Upsilon
Dana Gilchrist	California Foundation for Biochemical Research Summer Fellowship
Rong Ji Guan	School of Natural Sciences Outstanding Thesis Award; Election to Phi Lambda Upsilon; Advisory Council Outstanding Graduate Student Award
Jeffrey Ichikawa	Biochemistry Award; Alumni Award
Clyde C. Jones	Departmental Honors
Ian M. Lockey	Graduation Cum Laude
Maria G. Meraz	Organic Chemistry Award (Merck Index); Alumni Award
Shawn M. Misialek	Election to Phi Lambda Upsilon; ACS Polymer Division Award in Organic Chemistry; Alumni Award
Gayle R. McClosky	Freshman Chemistry Award (CRC Handbook); Alumni Award
James A. Noblet	Robert D. Rhodes Award; Election to Phi Lambda Upsilon
Trevor Roberti	Inorganic Chemistry Award; Alumni Award
Kelly D. Robinson	Organic Chemistry Award (Merck Index); Alumni Award
Michael L. Schlador	Election to Phi Lambda Upsilon
Paul R. Schrater	Stern Award in Physical Chemistry
Shu-Chin Shen	Robert B. Henderson Award; Election to Phi Lambda Upsilon; Analytical Chemistry Award; Alumni Award
Burt A. Secrest	Departmental Honors; Toni Horalek Award for Service; Alumni Award
James H. Thurmond	Election to Phi Lambda Upsilon
John Tomaszewski	Departmental Honors; American Institute of Chemists Award; Alumni Award
Kathy Wang	Freshman Chemistry Award (CRC Handbook); Alumni Award

Student Affiliates:

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between 8 am to 2 or 3 pm, many more students were able to find us. I pulled out my hair trying to make sure that those time periods were filled with volunteers. SAACS also sponsored and funded the weekly Friday morning Coffee/Donut Hour, where faculty, staff and students gather to interact and review the week activities. Believing that there must be an alternative to donuts, we began serving muffins, too. Our only complaint was when the muffins ran out.

Social events were always well and enthusiastically attended by undergraduates, graduate students and some faculty. Social activities included the Halloween Dance, the Taco Feast, the Winter Holiday Party, and the Pizza Awards Luncheon. The Awards Luncheon is always a festive and happy affair; it provides the occasion for recognizing students for scholarly achievements and service. Brian Nolan, a research student of Dr. Nakayama, was this year's winner of the \$300 SAACS summer undergraduate research award. Tom Gufrey, a part-time faculty member in the department, was presented with the SAACS Lecturer-of-the-Year Award.

SAACS's specially designed T-shirts were a hit again this year. They featured the periodic table as a stack of building blocks, with the legend, "Chemistry is Child's Play." The Darling molecular model sets, which we also sold, were a popular item as well.

I want to thank my cabinet for a wonderful and exciting year. Sharon McKelvey, my vice-president, was always there with her help; Don Crow was our committed publicity officer; and Thea Finney, our irreplaceable secretary, offered many ideas and much information.

Next year's officers are: Steve Laven, president; Don Crow, vice-president; Sophia Lin, treasurer; Thea Finney, secretary; Jon Spencer, activities; and Kristina Gaus, publicity.



Endowed Awards in Chemistry/Biochemistry

Henderson Award



Shu-Chin Shen: 1990-91
Henderson Scholar.

This year's Robert B. Henderson Memorial Award was given to **Shu Chin Shen**, who received her BS in Chemistry at the May, 1991, Commencement. Miss Shen will continue with her graduate studies for the Master's

Degree in Chemistry at CSULB, and will work under the direction of Dr. Henry Po. Miss Shen eventually plans to study for her PhD. A much-honored student, she has received several other awards while a student in the department including election to Phi Lambda Upsilon, the Freshman Chemistry Award, the Analytical Chemistry Award, the Alumni Award (1990 and 1991), and the Student Affiliates of the American Chemical Society Undergraduate Summer Research Scholarship.

The Henderson Award is presented to a graduate, either BS or MS in Chemistry, who best exemplifies the scholarship and commitment to the profession of chemistry shown by the late Professor Robert B. Henderson. Dr. Henderson was a member of our department for 28 years (1955-1983) and served as its first chairman.

Stern Award

The John H. Stern Memorial Award was presented this year to **Paul R. Schrater**, who is a Special Major in Neuroscience. This major combines coursework in Chemistry and Anatomy and Physiology. After graduation in May, 1992, he plans to work toward the PhD in Neuroscience and eventually to teach and continue with his research interests in a university setting. The Stern Award is given to the most outstanding student in the year-course in physical chemistry.

The Stern award memorializes Dr. John H. Stern, a faculty member in the department for 29 years (1958-1987). Dr. Stern was well known and highly regarded for his research in solution thermodynamics and for his inspired teaching and mentoring of his classroom and research students. *



Paul Schrater: 1990-91 Stern Scholar.

Advisory Council News

The Chemistry and Biochemistry Advisory Council is an organization of twenty-five scientists and executives from business and industry who meet twice each year with the Chemistry and Biochemistry faculty, the Dean of the School of Natural Sciences, the Provost, and the President of the University to discuss matters relating to the department. Members of this group, all very committed supporters, advise the department concerning its instructional program, inform us of opportunities for interaction with the community, and offer personal assistance in securing material support. New members added during the past year are:

Dr. Steven S. Kuwahara. Dr. Kuwahara is Manager of Test Technology for the Hyland Division of Baxter Healthcare Corporation where he has been employed for the past nine years. Prior to joining Baxter he was employed for nine years by the Michigan Department of Public Health in a number of capacities. Before entering the medical research profession, Dr. Kuwahara was a staff member of the Department of Developmental and Cell Biology at UC Irvine and also served as Assistant Professor of Chemistry at CSULB from 1967-71. Dr. Kuwahara earned his BS in Biochemistry at Cornell University and his PhD in Biochemistry at the University of Wisconsin. We are delighted to welcome him back to CSULB in this new role after a twenty-year absence! Dr. Kuwahara will join Dr. William Lake, who is the Council representative from the Fenwal Division of Baxter Healthcare Corporation.

Joseph C. Ochsner. Mr. Ochsner is Plant Manager for Monsanto Company, which has an installation in Long Beach. He received a BS in Chemical Engineering in 1976 from the University of Nebraska-Lincoln and has been employed with Monsanto at several locations since that time. He is responsible for a facility which produces phosphoric acid and sodium tripolyphosphate. Both products are used in the detergents industry. Phosphoric acid has additional applications in metal treating, agriculture and foods. Mr. Ochsner replaces Charles Murrell who has been transferred to another site. We have enjoyed an association with Monsanto since the inception of the Advisory Council in 1977.

Hewlett-Packard Awards Department Gas Chromatograph/Mass Spectrometer

As part of their undergraduate science grants program, Hewlett-Packard Company awarded our department a benchtop gas chromatograph/mass spectrometer (GC/MS) system valued at \$54,210. This instrument was accepted as a corporate gift and included as part of the 1990-91 Corporate Annual Fund Campaign. Only eight other GC/MS systems were given to colleges and universities in the United States during 1991. In consultation with the National Science Foundation, HP determined that a benchtop GC/MS with an easy-to-use data system would make the greatest positive impact on undergraduate chemistry curricula.

(Continued on page 16)

GIFTS

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GIFTS

by Individuals..

Gifts to the department amounting to \$42,304, including a bequest from the Michael Monahan Estate, were received from 64 individual donors between August, 1990, and July, 1991. **If you are considering a gift to the department and you are not certain, you might investigate whether or not your employer will match your gift.** Matching gifts obviously multiply the value of your contribution. **If you are contacted by students during the annual Phonathon requesting a gift to the University, we would appreciate that you state your contribution is for the Department of Chemistry and Biochemistry, unless you wish your gift to be used for some other purpose.** Otherwise, unspecified gifts are shared among departments. (Unfortunately, the names and amounts of contributions of those giving via Phonathon were not available at the time of publication of this *Newsletter*. Thus, individuals and the total giving will exceed the numbers stated above.)

Each donor will acknowledge the Department of Biochemistry.

Funds received for Alumni Scholar-publication expenses *Biochemistry* emergency supplies us, faculty, staff and your help in enabling us to continue to provide the best education possible for our students.

When you return the form inserted in this Newsletter you might wish to enclose a gift. If so, you may make your check payable to:

CSULB Foundation/Chemistry Fund
Department of Chemistry and Biochemistry
California State University, Long Beach
1250 Bellflower Boulevard
Long Beach, CA 90840-3903



receive a personal from the Chairman of Chemistry and

from alumni are used ships and Awards, of the *Chemistry and Newsletter*, and for and services. All of students, appreciate

..from Organizations

The value of all gifts to the department during the past year was \$135,104. **Total giving amounted to approximately two-and-one-half times the funding provided by the State of California for our operating expenses.** Most of the cash gifts will be deposited in endowment and scholarship accounts to earn interest. The interest earned will be used to help support the programs of the department. By any measure, our programs in Chemistry and Biochemistry are underfunded by the State, and we have come to depend upon gifts of alumni, businesses and other organizations to meet the expenses of maintaining a quality program in our department. We are most grateful for these gifts!

Of particular note was this year's first Annual Corporate Fund Campaign for the department. Hewlett-Packard's lead gift of over \$54,000 in equipment launched the campaign. The campaign netted a total of \$106,485, surpassing its

first-year goal of \$100,000. Donations included \$10,000 from Baxter Healthcare (Fenwal Division), and \$5,000 each from ARCO and GAF Chemicals. Unocal provided over \$7,000 in equipment and money, and Chevron Oil Field Research gave \$3,000. The department received \$2,500 from Nichols Institute in San Juan Capistrano, and \$2,000 each from TRW and Hughes Aircraft. The faculty of the department also contributed over \$4,000 to the Corporate fund. It is planned that each year a similar fund drive will be conducted. Alumni wishing to assist with the 1991-92 campaign are invited to contact Ken Marsi at (213) 985-4941.

We would like to express our gratitude to all companies and other organizations listed for their very generous assistance:

Aerospace Corp.*
ARCO Foundation*
ATMAA
Atlantic Richfield Corp.*
Baxter Healthcare
(Fenwall Division)*
Chevron Oil Field Research Co.*
CIBA-GEIGY
Dow USA*
GAF Chemical Corp.*
Hughes Aircraft Co.*
Johnson & Johnson
MacDonald-Stephens Labs, Inc.
McDonald's Corp.
Monsanto Fund*
Nichols Institute*
Niklor Chemical Co., Inc.
Poms, Smith, Lande & Rose
Princeton Corp. Consultants
Student Affiliates of the ACS
TRW*
Unocal*
World Marine & Trade

*These companies are represented on the Chemistry and Biochemistry Advisory Council

THANKS!

THANKS!

THANKS!

THANKS!

Hewlett Packard: *from page 15*

Hewlett-Packard Gas Chromatograph/Mass Spectrometer: a gift to our department.

"The purpose of the grants is to help upgrade the level of undergraduate chemical education by exposing students to modern instrumentation," according to James W. Serum, grant program administrator and R&D manager for HP's Analytical Products Group. "By helping to reduce the critical shortage of instrumentation, we expect to provide more undergraduates with hands-on experience and to encourage more students to pursue careers in chemistry."

Among criteria used to select recipients were the number of students who would have direct, hands-on access to the GC/MS system, and the impact GC/MS would have on a school's undergraduate educational programs, including plans to integrate the instrument into its curriculum.

The award consisted of an HP 5890 Series II gas chromatograph, HP 5971 mass selective detector (mass spectrometer), HP ChemStation (DOS-based, data system/controller) with appropriate software and libraries, and system installation.

Hewlett-Packard Company, an international manufacturer of measurement and computation products and systems, has 92,000 employees and recorded a revenue of \$13.2 billion in 1990.

Dennis Dingle, district sales manager for Hewlett-Packard with offices in Fullerton, is a member of the Chemistry/Biochemistry Advisory Committee and is also a member of the department's Corporate Campaign Committee.

1990-91

Annual Corporate Campaign Fund Committee Members

The 1990-91 Campaign Committee for the first year of the Annual Corporate Campaign in the Department of Chemistry and Biochemistry was composed of dedicated alumni and corporate supporters who worked diligently to secure gifts for the department. Without their enthusiasm and assistance, the campaign, which culminated in gifts amounting to \$106,485, would not have been successful. The department recognizes and appreciates the following:

Richard J. Stegemeier, Chairman, President and CEO of Unocal, a long-time supporter and member of the Chemistry/Biochemistry Department Advisory Council. A graduate of Texas A&M, he served as the campaign's first chairman, providing critical leadership and support for our efforts.

Jerry Aspland (MBA 1971) graduated from the California Maritime Academy in 1962. He joined the Atlantic Richfield Company (ARCO) in 1977 and now serves as President of ARCO Transportation.

Danute Basiulis (MS 1977) completed her undergraduate work at the University of Massachusetts. A member of the Advisory Council, she has served as a manager with the Hughes Aircraft Company since 1984. Dana has been designated a CSULB Distinguished Alumnus.

Vickie Clawson graduated from San Jose State University and worked at Lawrence Radiation Laboratory and NASA before joining Dow USA in 1975. A member of the Advisory Council, she is an analytical chemist, concentrating on industrial hygiene programs.

Dennis Dingle, Sales Manager for Hewlett-Packard in Fullerton, did his undergraduate work in chemistry at the University of Windsor in Canada and received his master's from West Coast University. In 1961 he moved to the United States and in 1966 went to work for HP. He serves on the Advisory Council.

Steve Jones (MS 1979) received his PhD in analytical chemistry from UC Riverside. He is presently Laboratory Director of Terra Tech Laboratories in Santa Ana and is a member of the Chemistry/Biochemistry Advisory Council.

Evord Knights (BS 1964), Assistant Chairman of the Corporate Campaign, was awarded a PhD in organic chemistry from Purdue University and the MBA from California State University, Fullerton. Evord is Vice President of Unipure, Unocal Chemicals Division. Dr. Knights has been designated a CSULB Distinguished Alumnus.

(Continued on page 17)

Campaign Fund:

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John Kuebrich received his PhD in organic chemistry from the University of Kansas, is Director of the Quality Administration Southwest and Analytical Services for ARCO Corporation and works at the Carson Refinery. Dr. Kuebrich is a member of the Advisory Council.

William Lake (BS 1967, MS 1969) obtained his PhD in biochemistry from Purdue University in 1973. He is Director of Research and Development for the Fenwal Division of Baxter Healthcare Corporation, where he has worked since 1980. He serves on the department's Advisory Council and is an Adjunct Professor in the Department of Chemistry and Biochemistry.

Kurt A. MacLean (BA 1978), a patent attorney and partner in the firm of Smith, Poms, Lande & Rose, he attended UCLA Law School, receiving his JD in 1982. He is currently practicing in Orange County.



Members of the Corporate Annual Fund Campaign Committee. Seated, left to right: Dr. Evord Knights, Unipure, Assistant Committee Chairman; Dr. Kenneth Marsi, Chair, Chemistry and Biochemistry Department; Vicki Teas, Dow USA. Standing, left to right: Dr. Fred Shair, Dean, School of Natural Sciences; Kurt MacLean, Poms, Smith, Lande & Rose; Ms. Danute Basiulis, Hughes Aircraft; Mr. Dennis Dingle, Hewlett-Packard; Mr. Jerry Aspland, ARCO Transportation; Dr. John Kuebrich, ARCO. Not shown are: Mr. Richard Stegemeier, Unocal; Dr. Reid Bowman, Dow USA; Mr. William Brunson, GAF Chemicals; Dr. Steve Jones, Terra Tech; Dr. William Lake, Baxter Healthcare.

Richard J. Stegemeier

A Profile

Richard Stegemeier, Chair of the Department of Chemistry and Biochemistry's first Annual Corporate Campaign, is well known to Southern Californians in corporate, educational and philanthropic circles. Mr. Stegemeier carries the impressive titles of President, Chairman and CEO of Unocal, one of the nation's largest oil companies. A native of Illinois, Mr. Stegemeier graduated from the University of Missouri and earned his MS in petroleum engineering at Texas A&M in 1951. He holds three honorary doctorates.

Mr. Stegemeier joined Unocal in 1951 as a research engineer. He rose to become President and CEO in 1988 and was elected Chairman of the Board in 1989. He serves on numerous boards of directors, including those of First Interstate Bancorp, Northrop Corporation, California Chamber of Commerce, and the National Council of Business Advisors. His philanthropic involvements include the Hugh O'Brien Youth Foundation, the Eisenhower Exchange Fellowships and the Los Angeles Archdiocese Foundation, for which he co-chairs the Archdiocese's BASICS campaign.

These responsibilities and commitments, as well as many others, have not interfered with Mr. Stegemeier's continuing interest and involvement in CSULB's Department of Chemistry and Biochemistry. Since the inception of the Department's Advisory Council in 1977, Mr. Stegemeier has been an active member. In 1987 he initiated funding of the Unocal Annual Visiting Distinguished Lecturership for the department, which, since that time, has received continuous support.

When approached in 1990 to head the first Annual Corporate Campaign, he pledged Unocal's full support and involvement because of his respect for the quality and importance of the Chemistry and Biochemistry program at CSULB.



Mr. Richard Stegemeier, President of Unocal and Chairman of the Chemistry and Biochemistry Department's Corporate Annual Fund Campaign Committee

Alumni News

We enjoy hearing from you. The information which you send us about your career is sometimes shared with Chemistry and Biochemistry majors who are thinking ahead about their life's work. We will publish photographs, space permitting, if you care to send them. We have an Alumni Bulletin Board where current information about alumni is posted for faculty to read, and I can assure you that it is read with great interest.

There is sometimes a little confusion about graduation dates. For example, if you graduated at the end of the summer or fall semesters, you are officially listed as graduating the following year unless you have informed us of your actual graduation date. All degrees are in Chemistry, unless otherwise noted.

1961

Fred Dorer, BS (PhD U of Washington), continues as Academic Vice President at CSU Bakersfield. Fred received the 1991 CSULB Distinguished Alumnus Award for the School of Natural Sciences. The award was presented by the President of the Alumni Association at the May 30, 1991, Commencement Ceremonies.

1962

David Homer, BA Physical Science, MS Chemistry 1970 (PhD UC Davis), is Associate Scientist with Aerojet Propulsion Co. He and his wife, Barbara, have two children, Jason (19) and Michael (13). His primary work is in chemical vapor deposition processes for high temperature materials used in aerospace. The company's primary customer is NASA. He also does work in the area of high temperature chemical processes and in environmental chemistry.

1964

Paul J. Battaglia, Student, is Section Head for Process Services at Hughes Aircraft Co. in Torrance, CA.

Per B. Christiansen, BS, is President and CEO of Nalco Fuel Technology in Naperville, IL. Nalco is a new joint venture company whose principal current technology is directed at NOx reduction from stationary combustion units.

Kahirup Torre Shorr, MS, is Manager of Inorganic Analysis Section of the Southern Laboratory Branch, Monitoring and Laboratories Division, of the California Air Resources Board. Her laboratory is located in El Monte, CA.

1967

Ralph Knights, BS (PhD Purdue U), is Manager of New Business Technology for New Zealand Milk Products in Petaluma, CA. "Though most of what I am involved in is multivariable experimental design, long-term R&D plans and business strategy, I had to consult ye olde chem texts several times in the last week...Quant, Instrumental Analysis, Biochem, and of course the CRC Handbook."

Henry Mano, BS, is Manager of Organic Analysis Section of the Southern Laboratory Branch, Monitoring and Laboratories Division, of the California Air Resources Board in El Monte, CA.

Paul Rogers, BS, works as Computer Systems Manager for TRW in Redondo Beach, CA.

Alan J. Senzel, BS (MS, PhD UC Los Angeles), continues working in the Residue Chemistry Department at CIBA-GEIGY. His wife, Phyllis, is still Child Support Enforcement Supervisor for Wake County. Their son, Richard, is a junior political science major at Duke University, and their daughter, Lisa, is completing her first year in biology at Washington University in St. Louis, MO. Alan is also a consultant in analytical chemistry, specializing in editing and writing.

1968

Lance Eggenberger, BS, MS Criminalistics 1975, is with Data Chem Laboratories in Salt Lake City, UT. He states, "Following 10 years as Manager of Quality Assurance, I moved to Project Management. I have worked extensively with environmental clean-up and industrial hygiene chemistry. I currently manage an industrial hygiene analytical chemistry contract with National Institutes for Occupational Safety and Health (NIOSH-USDHHS)."

Alan DiStefano, BS, is Director of Marketing and Sales for Hamilton Co. in Reno, NV. "My emphasis over the last 7 years at Hamilton has been more in products for GC/HPLC, liquid handling and laboratory robotics. A concept I developed with one of my colleagues resulted in an instrument for automating the preparation of samples for analysis in microtiter plates. This instrument is now used in almost half the blood banks in the world for analyzing patient samples for infectious diseases such as HIV and hepatitis."

1969

Burton "Ron" Rawding, BS, MBA 1980, is Regional Sales Manager in chemical sales for Pilot Chemical Company in Santa Fe Springs, CA.

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1970

Neal Shupe, BS. "After graduation, I spent two years in the USNR as an ensign. For the next two years I was a products tester for a private company in the City of Commerce. Presently, I am a fire captain, working for the Los Angeles County Fire Department. When people ask what I do, I tell them, 'I'm in the field of rapid oxidation management.'"

1971

William Garrett, BS, Senior Project Engineer, works for the ARCO Los Angeles Refinery in Project Management in developing, engineering, and construction of various types of capital improvements, including environmental as well as refining additions. He lives in El Toro, CA, with his wife, Teri, and daughters, Lindsey (9) and Ashleigh (6).

1972

Arthur F. Harralson, BA (PhD UC San Francisco), is Associate Professor and Vice Chairman, University of the Pacific School of Pharmacy in Stockton, CA. "I am teaching graduate courses in drug metabolism and pharmacokinetics. My laboratory is involved in research in the areas of developmental pharmacology and pharmacokinetics."

Paul D. Schumann, BS, is a holistic health practitioner and lives in Oceanside, CA. "I have become very interested in health and have chosen to use my long lost chemistry knowledge finally to work with Chinese herbs and help people recover their health. I believe that diet and exercise are a major key to health and clarity of mind."

1973

Wayne E. Huddleston, BS, (MBA UC Los Angeles) is Director of Operations Administration for Southern Pacific Transportation Co. and lives in Hayward, CA.

Bob Rona, MS (PhD Rutgers U), was appointed Technical Supervisor at Products Research and Chemical Corp. in Burbank, CA. PRC's main products are adhesives, coatings and sealants for the aerospace and construction industries.

Aranong Sirirangkamanont, MS Biochemistry, is Deputy Managing Director of Betagro Co., Ltd., in Bangkok, Thailand.

1975

Chester Callaway, BA, is Staff Pharmacist with Sav-On Drugs in Pacific Beach, CA. Chet graduated a Rho Chi in pharmacy from Creighton U. in August, 1990. He made the Dean's Honor Roll for five semesters and earned a Burroughs-Wellcome Scholarship. "A chemistry background is the best preparation for a career in pharmacy."

1976

Ercan Unver, MS (PhD Aegean (Ege) U, Turkey), works as a research and development scientist, and is Director of Biochemistry, Allergy, and Iodination Departments with Diagnostic Products Corp. in Los Angeles, CA.

1977

Tim Erwin, BA, (PharmD U Southern California), is employed as Pharmacist Specialist at Kaiser Permanente's Riverside, CA, Medical Center. "At home, our family of three continues to grow. Jonathan is learning to play the piano, Michael is just learning how to ride a bike, and Shelby can walk." His wife, Kim, in addition to being housewife and mother, is a part-time teacher.

Ragnvald Mjanger, BA (MD U of Oslo, Norway), practices Obstetrics and Gynecology in St. Paul, Minnesota, where he is in private practice. He graduated from medical school in 1982 and was a General Practitioner in Norway for 1 1/2 years before returning to the United States. He and wife, Vicki, a special education teacher, have three children, Stian (19), Siv (14), and Erik (9).

John Spille, BA, is self-employed and the owner of his own business in Ventura, CA.

1978

Debbie Birdsall, BS, was named Director of Student Health Services at Mt. San Antonio College.

Melanie Grady, BA, works as a quality engineering specialist with Northrop B-2 Division. "I recently remarried and my new last name is Patterson. I have two beautiful children, ages 4 and 7.

Marianne Marsi, BS (PhD UC Los Angeles), is a project leader in membrane investigations in a joint research effort between DuPont and L'Air Liquide in Wilmington, DE.

Dan Peek, BA (MS, PhD Oregon State U), is employed as Senior Environmental Chemist with PTI Environmental

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Services in Lake Oswego, OR. "I left the secure world of the university last August to become a high-priced consultant. I am managing an investigation at a hazardous waste site in Eastern Washington. I remain a Laker fan, which is a dangerous thing to be in Portland."

David Smith, Student (PharmD U Southern California), is Staff Pharmacist with Longs Drugs, Inc. in Santa Cruz, CA. His wife, Sonya, is also a pharmacist. They have two children, a daughter, Serena (7), and a son, Chad (2).

Gerald E. Wuenschell, BS (PhD U of Southern California), a Research Fellow at California Institute of Technology, is performing research on new protein purification techniques in the laboratory of Dr. Frances H. Arnold. They have one child, Arthur Patrick.

1979

Bill Davenport, BS (MBA UC Los Angeles), is Chief Financial Officer for Kirkwood Dynalectric, National Electrical Contractors in Los Alamitos, CA.

Stephen Fritch, MS (BA U of Colorado), is Criminalist II with the Long Beach, CA, Police Department. He recently completed two training courses: one for a Syva ETS automated urine drug testing instrument which analyzes up to ten drugs by an enzyme technique, the other for an infrared breath instrument for alcohol analysis.

Paul M. Jordan, BA (MD U Southern California), is a family practice specialist with R. L. Thompson Strategic Hospital at Carswell Air Force Base in Texas. "We have twenty-four physicians in training. My primary responsibilities revolve around the curriculum areas of orthopedics, sports medicine, and health promotion (preventative medicine). My wife, Richelle, and I are eager to return to Southern California after fulfillment of my military commitment."

Patrick McKay, MS, is Senior Research Associate with Genentech, Inc., in South San Francisco. "Besides the merger with Hoffman-LaRoche, we've been kept busy with several new and interesting projects. My current project is DNase, Genentech's proposed treatment for cystic fibrosis. This is my first "high-visibility" project at Genentech. It's so "visible" that it made The National Enquirer. I offered a series of protein purification seminars to the operators in our Manufacturing group. It was a five-week course and covered topics including protein structure, ion-exchange chromatography, hydrophobic interaction chromatography, chromatofocusing, gel filtration chromatography, reverse-phase HPLC, silica gel chromatography and affinity chromatography."

Fred McKibben, MS (MD U of Southern California), is an anesthesiologist with Huntington Memorial Hospital in Pasadena, CA.

Anthony McLaughlin, BA (DDS U of Washington), is in his seventh year of dentistry and owns his own dental practice in Redmond, WA. Tony and Tracy were married on March 17, 1991, and they have a new home. Tracy is the Director of Continuing Education for the Washington Society of CPAs.

1980

Brian C. Dubow, BS, is Deputy Program Manager/Chief Engineer with Convair Division of General Dynamics, working as a systems engineering specialist on the Tomahawk Anti-submarine Warfare Capable Cruise Missile.

Leslie J. Gilpin, Student, BS Zoology, Teaching Credential, teaches Chemistry and Physical Science at Lakewood High School and will be on sabbatical during the 1991-92 academic year.

K. Scott Marsi, BA (MS San Diego State U), is National Sales Manager, Surfactants & Specialties Group, for Rhone-Poulenc, Inc. He and his wife, Linda, and daughter, Aiko (5), live in Huntington Beach, CA.

Michael A. Moone, MS Student, (BS UC Los Angeles), is an environmental consultant and proprietor of ECESIS. He is a registered environmental assessor and certified hazardous materials manager. His activities include developing hazardous materials business plans for universities, institutes and commercial businesses; developing hazardous waste management programs; preparing environmental impact reports; and preparing health and safety plans, accident prevention programs, and illness and injury prevention programs.

Duane R. Smith, BS, MS 1982, is completing requirements for his PhD in physical chemistry at Cornell University. His wife, **Vivian (BS 1985)**, will enter the PhD program in the Department of Food Science at Cornell in the fall of 1991. Duane and Vivian have a three-year old daughter, Diane.

1981

Laurene Duke, BA (DDS UC Los Angeles). "I am married to Scott Montgomery; we have three children 5 1/2, 3 1/2 and 11 months. I keep very busy handling my family and my dental practice in Bellflower that I now own. I work at the

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office three days a week and love being a dentist."

Richard Hudspeth, MS (PhD U of Southern California), is a molecular biologist and Project Director at Phytogen, Inc., in Pasadena, CA. "I am presently completing a manuscript that will be submitted to *Plant Physiology*. The paper discusses metabolic changes that result in plants genetically engineered with a gene, encoding the enzyme, phosphoenolpyruvate carboxylase. My work at Phytogen is shifting from studying genes involved in C4 photosynthesis to developing improved methods to genetically engineer plants, in particular cotton. Recently, I've had good success with a "gene gun" developed by DuPont, which shoots tungsten particles coated with DNA into plant cells."

Rebecca Rabano-Lally, BA (MS Industrial Hygiene, U of Southern California), is Senior Industrial Hygienist with Envirohealth, Inc., in Long Beach, CA.

1982

Renee G. Hermes, BA (MBA Pepperdine U), is Environmental Compliance Specialist with ARCO Products Co. in Los Angeles, CA. "I am responsible for permitting our facilities against air, water and hazardous waste regulations, and reporting information for EPA, Superfund, and State Waste Minimization Regulations."

Peter A. Riley, BA, MBA 1988, is an environmental chemist and Special Projects Manager for MacDonald-Stephens Laboratories, Inc., in Laguna Hills, CA.

1983

V. Greg Krall, BS, is presently in his senior year at the California College of Podiatric Medicine in San Francisco and will begin his first year of residency in July, 1992.

Ralf V. Reuland, BA, graduated with his MD degree from Wright State University School of Medicine in June and is a resident in family practice at Kaiser Permanente Medical Center in Fontana.

1984

Bernard Degnan, Student, has completed the PhD in Molecular Embryology at the University of Queensland in Brisbane, Australia.

Eric J. Derbyshire, BA (MBA U of Phoenix), is an engineer and group leader with ICI Advanced Materials in Tempe, AZ.

Michael Mosig, BA (DDS Georgetown U) and his wife, Mary Lynn, are practicing dentistry near Phoenix, AZ.

Joanne Parks, MS Student (MD U of Southern California), is a resident in psychiatry at New York Hospital-Cornell Medical Center. "After completing medical school in 1988 (during which time my daughter Alyssa was born), we moved to Cincinnati for my internship year. We then relocated to White Plains, NY, where I am completing a residency in psychiatry. My interests include patients with character pathology and eating disorders."

Theresa Rohr-Kirchgraber, BA (MD Cornell University Medical College), is a third-year resident in internal medicine at the University Hospital of Cleveland in Ohio.

Richard Uyehara, BA, is Petroleum Products Chemist II with the State of California, Division of Measurement Standards, in Anaheim, CA.

1985

Lenora Mendoza Noroski, BA (MD Cornell University Medical College), is Pediatric Resident at Cornell University Medical Center in the New York Hospital. "The smile of a child makes the long hours of residency worth it and the Metropolitan Opera makes the Big Apple enjoyable, but nothing is more peaceful than the beauty of a California sunset along the Southwest Coast!"

Richard Pagliery, BA, MS 1990, is attending Pennsylvania State U where he is working toward the PhD in Organic Chemistry. He is currently doing research in the area of organophosphorus polymer chemistry.

Vivian Lasiter Smith, BS 1985, will enter the PhD program in the Department of Food Science at Cornell U in the fall of 1991, with a concentration in food chemistry, specifically carbohydrates.

Van Woo, MS (MD St Louis University), is an intern at the UCI Irvine Medical Center. "I got married in January, 1990. My wife's name is Karen, and she is from Chickasha, OK. Karen works as a registered nurse. Following my internship, I will be going to the University of Kentucky for a residency in Radiation Therapy."

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1986

Kathy Christopherson, BS, is a chemist in pharmaceutical science with Allergan, Inc., in Irvine, CA. "Currently, my work involves developing pharmaceutical products for ocular applications."

George M. Payba, BA, works with the Bureau of Sanitation for the City of Los Angeles.

Ty Smith, MS, is continuing work on his PhD at UC Irvine. "I'm collecting more air in Papua, New Guinea, Saipan, Truk and Hawaii. In my free time I scuba dive on sunken WWII Japanese wrecks and explore tunnels left by the Japanese."

Robin Underwood, BA, (MS Environmental Engineering, U Southern California) is Senior Environmental Engineer at McDonnell Douglas in Long Beach, CA.

1987

Kelly Carroll, MS Biochemistry, is employed as Research Associate with Celtrix Laboratories in Palo Alto, CA.

Paul Fortaleza, BA, is currently a student at Iowa College of Osteopathic Medicine.

Bill Jeong, BA, works as a gas chromatograph supervisor with Enseco, Inc., in Garden Grove, CA. He supervises a staff of environmental chemists. He is in his last year of the MBA program at Pepperdine University.

Brett Kislin, MS, is enrolled in the PhD program at UC Santa Cruz after working three years in industry as a synthetic organic chemist. He is associated with Dr. Todd Wipke in the design of computer programs which will suggest target molecules to fit specific binding sites.

Reangsan Kousoum, BS, is Research Associate with Kendall McGaw Laboratories, Inc., in Irvine, CA. "I have been working on amino acid analysis in intravenous solutions using a Beckman Amino Acid Analyzer and also the PICO TAG method employing a regular HPLC system."

Coleman A. Smith, BS, is pursuing a PhD in Chemistry in Professor August H. Maki's research group at UC Davis. His research projects have dealt with biophysical chemistry; specifically, the low-temperature spectroscopy of proteins and other biopolymers. He is author of a paper soon to appear in *Chemical Physics Letters*. "I want to say that my undergraduate research with Dr. Mark Anjo and my excellent physical chemistry instruction from Dr. Nail Senozan were instrumental in my progress through graduate school."

1988

David Anvar, BS, MS 1990, is a PhD student at UC Berkeley, and is involved in magnetic resonance research related to optical pumping of xenon.

Michael Kahr, BS, has passed his written and oral examinations this year and is now a candidate for the PhD at UC Riverside. Michael is involved in full-time research on laser desorption fourier transform mass spectroscopy.

Tim Kneebone, Student, has completed his second year of podiatry school.

Gail Konishi, BA, has completed her third year of medical school at UC Los Angeles. "I am considering pediatrics, but whichever field I go into, I hope to enter academic medicine so I can combine teaching and clinical work."

E. Ken Lesniewski, MS, is Sales Representative for Texaco Chemical, with headquarters in Houston, TX. However, Ken lives in Irvine, CA.

Tom Rittenhouse, BA, is employed as a chemist at the Puget Sound Naval Shipyard in Bremerton, Washington. "My job-related responsibilities have included the process chemistry control of a metal-finishing facility where hazardous waste is generated. Our facility also has a Waste Treatment Plant where we treat the waste we generate in order to meet EPA discharge limits."

Anthony Scotty, BA, is pursuing a MS degree in Food Science at CSULB. His studies are directed toward waste management in the food industry.

Debbie Shahbani, Student, is a student at UC Irvine School of Medicine.

Elizabeth Anne Siegfried, BA, is a metals analyst with SCS Analytical Laboratory in Long Beach, CA, working with environmental samples using ICP and AA spectroscopy.

Leo J. Stemler, Jr, BS, is an applications chemist with Unocal/Unipure in Fullerton, CA.

1989

Daryl Fukuda, BA, Single Subject Teaching Credential, 1990, is a science teacher in the Saddleback Valley Unified

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School District at Mission Viejo High School.

Philip O'Bell, BS Biochemistry, is an air quality chemist with the South Coast Air Quality Management District in El Monte, CA.

David Tast, BS Biochemistry, is currently completing his second year of graduate school at U of Southern California. He is in the Pathobiology PhD program at the USC School of Medicine. "It is a very exciting time to be in this field."

1990

Miki Aurang, BA, will be attending Washington University School of Medicine in St. Louis, Mo. In July, Miki and Rick Csintalan were married. Rick, a physical therapist, was a pre-medical student at CSULB.

Guy Breitenbucher, MS, will begin his second year as a graduate student at UC Riverside, working on his PhD. Guy has passed all required written and oral examinations and is participating in research in Professor Steven R. Angle's laboratory in the area of enantioselective synthesis of highly-substituted 4,5-tetrahydropyridines.

Susan J. (Torian) Brenthall, Student, is Staff Pharmacist with College Hospital Pharmacy in Cerritos, CA.

Karen Curtis, BS Biochemistry, is a chemist with McDonnell Douglas in Long Beach, CA. "I've used the knowledge that I acquired at CSULB. The two most valuable classes for my work were organic chemistry and instrumental analysis. I am constantly referring to my textbooks and notes. The Chemistry Department at CSULB prepared me well for my job in industry."

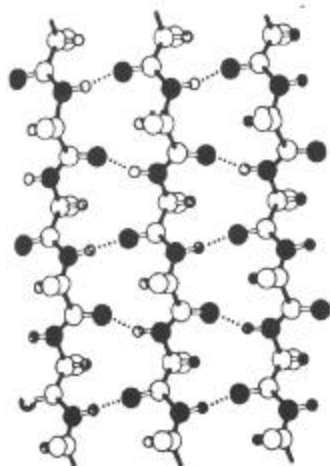
Clare Elser, BS Biochemistry, is Environmental Engineering Associate with Northrop Aircraft Division in Hawthorne, CA. She is continuing in the certification program at UC Irvine in Hazardous Materials Management.

Coleen Fong, Student, has entered the U Southern California School of Pharmacy.

Rong Guan, MS Biochemistry, is a research scientist at the Harvard University School of Medicine.

Jamie L. Hancock, BS Biochemistry, "I am in the second semester of my first year of Optometry School at UC Berkeley. This is a four-year OD program. I am active in a "Volunteer Optometric Services to Humanity" group which provides vision screenings and eyeglasses to thousands of needy people all over the world. This summer I am planning to go on a screening trip to Costa Rica to provide vision services to the people there. I am currently involved in a research project studying fluid transport in retinal pigment epithelial cells."

Greg Whitaker, BS Biochemistry, is an environmental chemist performing organic extractions. He works for Core Laboratories, in Anaheim, CA.



From the Archives: Annual Pizza Party, 1979. Left to right: Dr. Henry Po, Nik Jones, Brian Dubow, David Smith, Vivian Lasiter Smith.



Staff-student Outing in Yosemite. *Left to right:* Dr. Annie Bianchino, Mark Tanji, Michael Schlador, Dr. Richard Kanner, Suzanne Hawn, Jeannette Santage, Steve Laven. (See story on page 11.)