

CHEMISTRY

BIOCHEMISTRY

FOR PAST AND PRESENT STUDENTS AND FRIENDS OF CHEMISTRY AND BIOCHEMISTRY AT CALIFORNIA STATE UNIVERSITY, LONG BEACH • FALL 1998 • NUMBER 23

DR. LIJUAN LI JOINS FACULTY IN INORGANIC CHEMISTRY

Dr. Lijuan Li, currently Assistant Professor of Chemistry at McMaster University, will be joining the faculty of the Depart-



Dr. LIJUAN LI.

ment of Chemistry & Biochemistry at CSULB this fall. Dr. Li received her BSc Degree (Honors), and MS Degrees in Chemistry from Jilin University in Changchun, P. R. China. Her PhD was obtained from McMaster University in Hamilton, Ontario, Canada and involved magnetic resonance studies of organometallic cations and clusters. Her work included synthesis of novel transition metal cations and clusters and the investigation of reactions of organometallic cations with nitroso complexes by ESR. She studied mechanisms of carbonyl migration from the metal center by variable temperature high-field NMR and two-dimensional techniques.

Following receipt of the PhD she was appointed Post-Doctoral Research Fellow at McMaster and subsequently joined the National Research Council of Canada as a Research Associate. In 1995 she was hired to the tenure track at McMaster University. Dr. Li has supervised PhD, MS and undergraduate students in their research projects and has received over \$500,000 in research grants during her career as a

faculty member at McMaster. In her short career as a faculty member she has published nearly a score of papers in leading chemistry journals and has given forty scientific presentations and seminars.

Dr. Li is married with two children, 1 and 6.

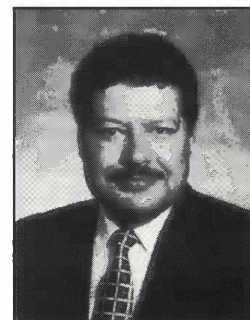


AHMED ZEWAİL: 18TH DISTINGUISHED VISITING LECTURER

BY NAIL SENOZAN

This spring we had the pleasure of welcoming Professor Ahmed Zewail as the 18th annual Distinguished Visiting Lecturer. Dr. Zewail received a BS and an MS from Alexandria University, Egypt, and holds a PhD from the University of Pennsylvania. He joined California Institute of Technology in 1976 at the age of 30, where he is currently Linus Pauling Chair and Professor of Chemistry and Professor of Physics. He is a member of the National Academy of Sciences and a recipient of numerous awards and honors, including the Welsh Award and the Wolf Prize.

In his lecture, Professor Zewail discussed his pioneering work in chemical dynamics—observation of molecules as they form or break chemical bonds. In 1972 railroad magnate Leland Stanford employed English photographer Eadweard Muybridge and gave him the task of showing that a galloping horse at one point lifts all four hooves off the ground. Using a series of cameras, each with a shutter that opened for only two-thousandths of a second,



Dr. AHMED ZEWAİL, 18TH DISTINGUISHED VISITING LECTURER.

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AHMED ZEWAIL

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Muybridge caught the horse on film in a state of flight and proved Stanford's contention. Dr. Zewail describes his work of catching molecules in a state of flight as being conceptually similar to Muybridge's photography. Forming and breaking of chemical bonds, however, occur on a time scale of a millionth of a billionth of a second (femtosecond) and the birth or breakage of molecules can only be observed by a technology that operates on a similar time frame. Between 1985 and 1987, using advanced laser systems, Dr. Zewail and his associates developed an exquisite set of experimental techniques and followed molecular events as they actually unfolded in femtoseconds. A femtosecond is to a second as a second is to 32 million years.

In one experiment, femtochemists showed that an energized molecule of sodium iodide oscillates with a period of 1,250 femtoseconds, and in the course of each oscillation it has a 10% chance of breaking into sodium and iodine atoms.

In the words of Nobel Laureate Rudolph Marcus, "Zewail's work has fundamentally changed the way scientists view chemical dynamics. The study of chemical, physical, and biological events that occur on the femtosecond time

scale is the ultimate achievement of over a century of effort by mankind to view dynamics of the chemical bond as it actually unfolds in real time." Indeed, implications of femtosecond dynamics go to the very roots of our understanding of chemistry. As the shutter speed of molecular cameras reaches femtoseconds, quantum mechanical fuzziness associated with vibrations and the whereabouts of atoms gives way to more precise specification of location, and quantum theory reverts to classical mechanics. Femtosecond probing will no doubt bring a new interpretation to such cherished concepts of chemistry as resonance, breaking and forming of chemical bonds, their energies, and their covalent or ionic nature.

Over lunch with students, Dr. Zewail reminisced about his early days in America. He described the emotions of the moment when he was informed that he had been awarded the Wolf Prize, Israel's highest honor for scientific achievement. The poignancy of the contrast struck us: a young Arab student, who had left his homeland at the height of a humiliating conflict, returning to receive one of science's most prestigious awards from the President of Israel.

At one point Dr. Zewail was asked which subjects should be most emphasized in introductory chemistry. "The chemical bond," he replied without hesitation. Coming from the Linus Pauling Chair of Chemistry, it was perhaps to be expected.

DR. WYNSTON
ELECTS
FACULTY EARLY
RETIREMENT

BY LESLIE WYNSTON

When Ken Marsi, editor of this *Newsletter*, asked me to write concerning my 33 years as a faculty member in the department, it really set me to thinking about lots of wonderful experiences and the opportunity to interact with many delightful people, most of whom were my students.

I came to what was then Long Beach State College in January of 1965. My BS in Chemistry was from San Diego State, and I had an MS and PhD in Biochemistry from UCLA (Medical School). It was my years of undergraduate research experience, mostly at Scripps Clinic in La Jolla, that redirected my interest from organic to biochemistry; and jobs as a junior faculty member in biochemistry at Northwestern University Medical School and, later, UCSF, followed by a post-doc for two years at a Max Planck Institute in Munich, Germany, made me realize that I enjoyed teaching and contact with students. It was a great time for protein biochemists in the '60s, and there were plenty of jobs to choose from! I know that I made the right choice coming to Cal State Long Beach. I was the third biochemist in the department, together with Roger Bauer and Don Simonsen, both now retired. I've taught biochemistry for nurses (Chem 302); for nutrition and med tech majors (Chem 448); for biochem majors, biologists, premeds, etc. (Chem 441A,B); and a graduate course (Chem 541) as well as Clinical Chem (Chem 447). I also taught several courses about wine through the Home Economics Extension program from 1973-96.

My research interests stayed mainly in the field of protein purification and characterization,



DR. LESLIE WYNSTON.

and a number of graduate and undergraduate students were able collaborators. I'll mention just two: Sonia Har, who was my very first graduate student who worked on insulin and pro-insulin oligomers; and my last graduate student, Pat McKay, who worked on cardiac myosin structure. Pat is now employed at Genentech. Several students went on to get MD or PhD degrees, and I'm proud of all of them.

For several years I consulted for the aerospace industry, working on such diverse projects as the biosatellite, Apollo and a future manned mission to Mars, where we found a chemical way to prevent disuse osteoporosis in the astronauts, a serious problem during weightlessness. I also was in research for the U.S. government in predicting mainland China's probable paths in chemistry and biochemistry development when China was closed to the outside world.

Ever since my first semester at CSULB I have been involved with advising our pre-health professions students. I served as president of the Western Association of Advisors for the Health Professions also; later I was secretary of the National Association of Advisors for the Health Professions. I still regularly attend their meetings to get the latest updates and to make CSULB better known as a source of good candidates for their schools. For many years I served as the faculty advisor to the Organization of Pre-Professional Students on campus. I've been actively involved with our International Education programs on campus and have served on numerous committees and councils.

I spent a sabbatical in Switzerland where I taught biochemistry and did research on myosin

at the University of Zurich Veterinary Medical School. On another occasion I took a leave to visit Taiwan where I taught biochemistry at National Chung Hsing University as a CSU Exchange Professor.

Now that I am electing early retirement, I'll be teaching clinical chemistry and biochemistry during the spring semesters only. The Faculty Early Retirement Program currently carries with it the provision that retiring faculty may choose to teach half time up to five years. Fall is always a good time to travel. Thus, in September my wife, Anna, and I will be off to Europe to visit friends and relatives—and new sights—in Germany, Denmark and Sweden (where my daughter, Lani, a UC San Diego biochemistry graduate, and her husband are moving this summer).

I hope that some of you, my former students, will take the time to write and let us know what you're doing now, and where. Best regards to all of you.

NOBEL LAUREATE,
THOMAS CECH,
VISITS

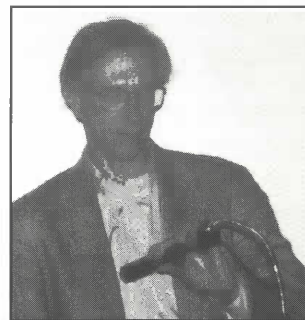
BY JEFFREY COHLBERG

One of the high points of the past year was the February 18th visit of Dr. Thomas Cech of the University of Colorado, winner of the 1989 Nobel Prize in Chemistry. Part of the year-long Odyssey Lecture Series on "The Earth: Origins, Evolution, and the Search for Meaning," Dr. Cech's visit as the Twenty-third Nobel Laureate Lecturer of the College of Natural Sciences and Mathematics, was sponsored by the College Student Council.

Dr. Cech received the Nobel Prize for his discovery of catalytic RNA. Before his work, it was thought that enzymes and other biological catalysts were exclusively proteins. Cech found that a ribosomal RNA from *Tetrahymena* was able to catalyze its own splicing—that the RNA molecule could spontaneously remove a piece from its middle and concomitantly join the ends together without the aid of a protein enzyme. This discovery led to a revolution in views on the origin of life and favored the theory that life was originally based on RNA, with DNA and protein coming later. In a noon lecture before a full house in the Small Auditorium of the University Union, Cech told the story of his original discovery and followed this with some discussion on the role of RNA in the origin of life.

Later that day, in a research seminar, Cech discussed more recent work which has shed light on the organic mechanisms of both the self-splicing RNA and another RNA enzyme called telomerase. This enzyme is responsible for synthesizing the DNA at the ends of the chromosomes. (The recent discovery that cells which make telomerase become "immortalized" so they can divide indefinitely, garnered considerable publicity in the popular press.) For both the self-splicing RNA and telomerase, studies with techniques ranging from X-ray crystallography to molecular biology to organic chemistry have revealed many aspects of the mechanism of the RNA enzymes, and Cech presented some of this work in an exciting research talk.

Cech's animated style, his talent for explaining complex things in a simple fashion, and the exciting science he presented, combined to make this visit a very special event.



DR. THOMAS CECH, NOBEL LAUREATE.

DR. MARIANNE MARSI NAMED
DISTINGUISHED ALUMNA

DR. MARIANNE MARSI, DISTINGUISHED ALUMNA.



Each year the College of Natural Sciences & Mathematics names an alumnus from among its past graduates to honor at the Annual Alumni Awards Banquet and at Commencement. The College consists of the Departments of Biological Sciences, Chemistry & Biochemistry, Geology, Mathematics, Physics & Astronomy, and Science Education. This year's award recipient was Dr. Marianne Marsi. Marianne graduated from CSULB with a BS Degree in Chemistry in 1978, *summa cum laude*, and was elected to Phi Beta Kappa during her senior year. While at CSULB she was involved in an

undergraduate research project with Dr. James Jensen, studying mechanisms of acetal hydrolysis.

She continued on for her PhD in organic chemistry, which she received from UCLA in 1982. While at UCLA she was a graduate student of Professor John Gladysz, now on the faculty of the University of Utah. Her doctoral dissertation dealt with the synthesis and investigation of transition metal formyl and metal silyl complexes. Following receipt of the PhD she was a Postdoctoral Fellow at Brandeis University, working with Professor Myron Rosenblum on organoiron complexes and their use as intermediates in organic synthesis.

In 1984 she was appointed Research Scientist at E. I. DuPont de Nemours and Co., in the Central Research and Development Department where she investigated catalysis of polymerization reactions and synthesized novel organometallic polymers. Subsequently she studied new applications for solid phase strong acid catalysts and developed membranes for the separation of N_2 and O_2 . Eventually she moved into Teflon technology and is now Manager of Technical Services and Application Development for Teflon products.

Marianne is the author of several patents, one of which has been taken to commercialization. In addition, she has presented numerous papers to scientific societies and published papers on organometallic syntheses and reactions and organometallic-moderated catalysis. About her undergraduate career she says, "Chemistry majors had a special camaraderie that was nurtured by the department through activities on and off campus."

Her husband, Dr. Lewis Manning, is also a technical manager with DuPont. They have two children, Teresa (10) and Gregory (6), and live in West Chester, Penn.

REMARKS BY THE CHAIR by Nail M. Senozan

As the 1997-98 academic year drew to a close, we took great pride in seeing our former and current students recognized for their accomplishments. Dr. Marianne Marsi (BS 1978) received the 1998 Distinguished Alumna Award of the College of Natural Sciences & Mathematics. After graduating from CSULB, Dr. Marsi completed her PhD at UCLA in organic chemistry (1982) and did postdoctoral work at Brandeis University. She joined DuPont in 1984, and advanced to her present position as the Product Line Manager in the Teflon Division last year.

The 1998 Outstanding Graduate Award of the College went to Jawdat Muhmed-Hussein (Al Bassam), a biochemistry major. Jawdat completed his bachelor's degree in three years with almost a perfect grade point average and an enviable record of independent re-

search. He will begin PhD work at Scripps Institute in La Jolla this fall. At the age of 21 Jawdat becomes the first graduate of the President's Scholars Program.

Some 6,000 undergraduates completed their baccalaureates this spring. Nine among them were selected to join Phi Beta Kappa, America's "first and foremost renowned honorary society." Although chemistry and biochemistry majors comprise only 1.6% of the new graduates, three (33.3%) of the nine students elected to Phi Beta Kappa, Mirta Gaus, Naomi-Tran Nguyen, and Tri Tien Vu are from our department.

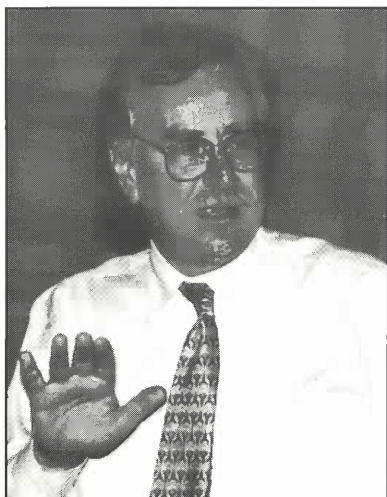
This September Dr. Les Wynston will join the ranks of faculty on the Faculty Early Retirement Program (FERP). The FERP faculty (Edwin Harris, Van Lieu, Gene Kalbus, Ken Marsi) teach one semester a year, except for Dr. Marsi who chooses to teach half-time for

the entire academic year. We are very happy indeed that Dr. Marsi also continues as the alumni correspondent, gift coordinator, and the editor of this *Newsletter*.

A new inorganic chemist, Dr. Lijuan Li from McMaster University, Ontario, Canada, will join us as an Assistant Professor in the fall, 1998. With Dr. Li, our department will have 17 full-time faculty. In addition, we have eight part-time instructors and 10-12 teaching associates (graduate students) who serve about 4,000 students a year. Only a small percentage of these students are chemistry or biochemistry majors; the number of chemistry majors, including BS and BA, stands at 118, and the number of biochemistry candidates at 192. We also have 10 graduate students in chemistry and 24 in biochemistry. Our department has traditionally strived to give a first-rate education and to prepare our students for professional schools, PhD programs, and technical positions in industry and government. While this remains our essential mission, we are well aware that we must expand and adapt parts of our curriculum to accommodate and encourage those who may opt for careers in teaching science in secondary schools.

Our college and department hosted a number of exciting events this year. A generous grant from the BACHEM made it possible for experienced chemists and students to join in a symposium dedicated to the role of peptides in modern drug therapy. And, as the department's 18th Distinguished Visiting Lecturer, Dr. Ahmed Zewail, Linus Pauling Professor of Chemistry and Physics at Caltech, discussed, in the words of one student, the "awesome" world of femtosecond chemistry and biology.

The distinguished lecturer program, as most other special events in our department, has been made possible through your support. We thank you for your generosity. Please keep in touch and tell us about yourself—drop a line or send an e-mail. (<nzenozan@csulb.edu.> or <kmarsi@csulb.edu.>).



DR. NAIL SENOZAN, DEPARTMENT CHAIR.

TEACHER EDUCATION AND SEAMLESS EDUCATION IN LONG BEACH

BY GLENN NAGEL, DEAN; COLLEGE OF NATURAL SCIENCES & MATHEMATICS



DR. GLENN NAGEL, DEAN;
COLLEGE OF NATURAL SCIENCES & MATHEMATICS.

Almost immediately following my arrival on campus in 1996, I was conscripted as a member of the Long Beach Seamless Education Initiative. Seamless Education is a vital enterprise in our community that is based on a partnership involving the University, Long Beach City College, and the Long Beach Unified School District. Long Beach Seamless Education is being recognized nationally as a model for collaboration among these types of educational institutions.

One of the major issues confronting California is the need to educate more teachers and better-prepared teachers, particularly in science and math. The crisis is particularly significant at the elementary level, due to the class-size reduction in grades K-3. Preparing more teachers might be simply an economic issue of scaling up, but the need to offer better programs is more daunting. Just what is needed?

Some rather unexpected conclusions come from the Third International Mathematics and Science Study (TIMSS) as reported this year.¹ TIMSS assessed student achievement in science and mathematics worldwide. As U.S. students progressed through our educational system, their performance relative to students in comparison countries, such as Japan and Germany, fell such that by the 12th grade, our scores were near the bottom; chemistry, physics, and mathematics were identified as especially weak areas for our students. The authors emphasized no single solution to this problem, but listed several key consequences of current practice that contribute to it:

- U.S. math and science students' practices reflect a splintered vision, a disarray that results from a lack of intellectually coherent, commonly accepted visions. In short, we have not developed uniform expectations of what students should know and be able to do.
- U.S. math and science curricula are a "mile wide and an inch deep." Our curricula contain far more topics presented in far less depth than in many other countries.
- Textbooks and tests reflect fragmentation and lack of coherence.
- Classroom instruction lacks coherence. Teachers are left trying to accomplish a mosaic of fragmented tasks without strong, central guidance.

TEACHER EDUCATION AND SEAMLESS EDUCATION IN LONG BEACH

CONTINUED FROM PAGE FIVE

TIMSS points out the urgent need for curricular change in science and math. Delineating "what students should know and be able to do" is the basis of the standards-based movement that is having a major impact on K-12 educational practice. National, state, and local standards are being written that provide the kind of curricular focus that TIMSS requires. We must prepare future teachers who know what standards are and who are able to apply them effectively in their classrooms.

To meet these challenges, we have chosen to align the CSULB core curriculum for teachers with forward-looking and challenging content standards. The aim of the Long Beach Standards-Based Teacher Preparation project is to develop a practical curriculum that is based on high, articulated standards, and provides the depth and focus of content that teachers need to be effective.

We don't think that "content" is the only answer though. Teachers must be taught how to teach as well as what to teach. Past practice, molded by California

legislation, has effectively separated content from pedagogy so that these two essential ingredients have not reinforced and enriched one another. We want Long Beach teachers to learn best educational practice as an integral part of the curriculum, not as an isolated fifth-year experience. "Teachers teach as they were taught" will become a positive statement about teacher preparation in Long Beach.

The project we are undertaking is aimed at a thoroughly integrated teacher preparation program, one that involves our entire community in a shared vision. The bold initiative we propose involves our three educational institutions in a multi-year goal which we will pursue collectively. Our aim is to have Long Beach identified as a model of cooperation and success in teacher preparation and the source of the best science and math teachers found anywhere.

¹*Facing the Consequences: Using TIMSS for a Closer Look at U.S. Mathematics and Science Education*, Kluwer Academic Publishers, 1998.

EDITORIAL

by Ken Marsi, Editor

Because most of news about the department is contained in other columns in this *Newsletter*, I thought that I would devote editorial space this year to extolling a few of the little known but noteworthy facts and accomplishments of our University and its alumni. As the University enters its 50th year this fall, it has matured into one of the leading comprehensive universities in the United States. Some of the information which supports this assertion is borrowed from an article written by President Maxson and appearing in the *Daily 49er*.

• CSULB had more graduates who received their doctorates in the sciences between 1991 and 1995 than any other comparable institution in the United States.

• Average SAT scores for students entering the University are steadily rising and now exceed 1000.

• CSULB ranks first among the 23 California State University campuses in fundraising from private sources. This fiscal year \$40,000,000 has been raised, more than for any UC campus, with the exception of Berkeley and UCLA.

• KLON, the CSULB radio station, is regarded as the No. 1 jazz station in the nation.

• CSULB has the largest nurse family practitioner program in the United States.

• CSULB is the only university in California which offers a BS Degree in Marine Biology.

• CSULB's College of Engineering is the largest of its kind in the Western United States.

• The first woman to write a screenplay for Disney was CSULB graduate, Linda Woolverton, whose screenplays include "Beauty and the Beast" and the "Lion King."

• Steven Spielberg created his first film while attending CSULB.

It is also noteworthy that the Department of Chemistry & Biochemistry continues to attract some of the most outstanding students on campus. Although only about 1% of the students at CSULB are chemistry and biochemistry majors, approximately 10% of the 1997 President's Scholars have declared their majors to be chemistry or biochemistry. The President's Scholars

Program provides qualifying valedictorians from accredited high schools and National Merit Finalists or Semi-Finalists a scholarship package including full payment of tuition and general student fees, an annual book allowance, and paid housing in the campus residence halls.

This year approximately 6,000 students graduated from the University. Of this number only nine were elected to Phi Beta Kappa, the nation's premier honor society. Three of the nine received degrees in chemistry and biochemistry!

Another accomplishment. For the fourth consecutive year, the CSULB chapter of the Student Affiliates of the

American Chemical Society (SAACS) has been designated a Commendable Chapter by the ACS for the 1996-97 Academic Year. Congratulations are in order for Maria Avina, Chapter President during that year. Of the more than 800 chapters of SAACS, only about 20 are recognized each year for a superior record of activities.

As Editor of this *Newsletter*, I appreciate the response we have received from so many alumni with information about themselves. Please keep us informed of your whereabouts and your current activities. The faculty and your fellow alumni are interested in keeping up with you. My e-mail address is kmarsi@csulb.edu. My phone number is (562) 985-7930.

FIRST BACHEM SYMPOSIUM

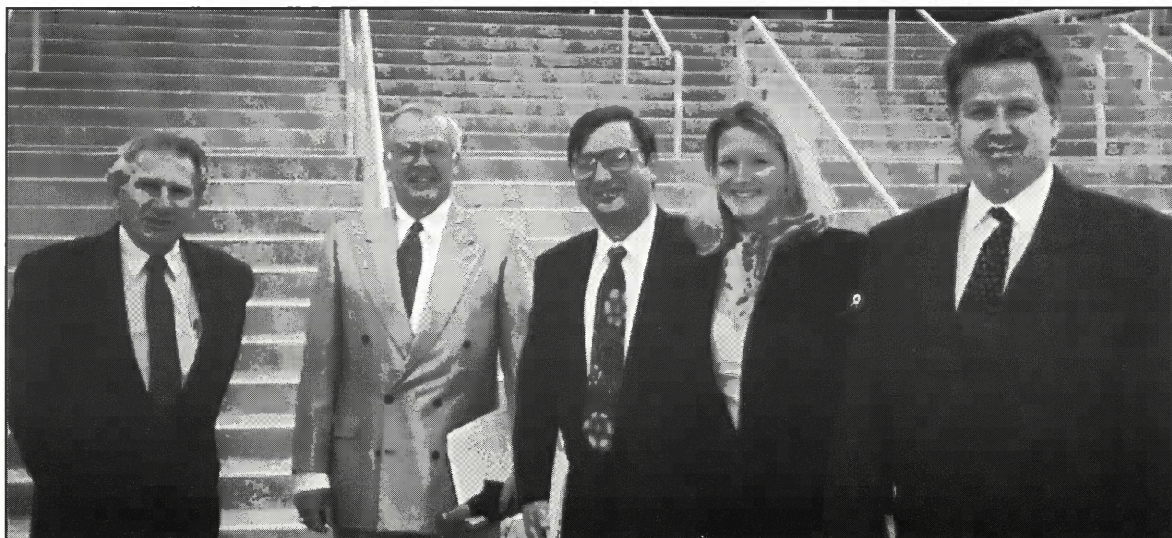
On March 27, the First BACHEM Symposium, entitled "Modern Drug Therapy: The Role of Peptides from Discovery to Market," was held at the Pyramid on the campus of CSULB. This conference was funded by a generous gift from BACHEM California, a major manufacturer of peptide products, and jointly sponsored by BACHEM and the College of Natural Sciences & Mathematics. Approximately 150 persons, faculty and students from CSULB, faculty from several nearby colleges and universities, and members of the non-academic scientific community were in attendance.

The purpose of the symposium was to acquaint interested individuals with the peptide industry and applications of peptides in drug therapy as antiviral agents and protease inhibitors. Sessions were also devoted to peptide synthesis and the pharmaceutical development of peptides.

The keynote speaker was Dr. Carl Dieffenbach, Associate Director of the Basic Sciences Program in the AIDS Division of the National Institutes of Health. This division supports basic and applied research into the causes, diagnosis, and prevention of HIV infection and AIDS. His topic was "Attacking HIV—Drug Discovery in the Era of Effective Antiviral Therapy." Other major presentations included: Dr. Michael Pennington, Director of Chemistry, BACHEM Biosciences, Inc., "Peptide Toxins as Drug Discovery Tools"; Dr. Firuz Shakoori, Director of Production, BACHEM, San Diego, "Synthesis of Peptide Drugs for Human Studies"; Dr. Michael Berman, President, Alpha 1 Biomedicals, Inc., "The Pharmaceutical Development of Thymosin β 4."

A late afternoon session was devoted to a discussion of career opportunities in the chemical sciences, especially designed for students. One discussion leader was an alumnus and BACHEM employee, Jennifer Lee (BS Biochemistry 1995).

BACHEM is represented on our department's Chemistry & Biochemistry Advisory Council by Dr. John Carlson, Vice President of Production at the Torrance facility.



BACHEM CONFERENCE PARTICIPANTS. LEFT TO RIGHT: DR. KEN MARS, PROFESSOR OF CHEMISTRY, CSULB; DR. JOHN CARLSON, VICE PRESIDENT, PRODUCTION, BACHEM; DR. JOSE DE CHASTONAY, PRESIDENT & CEO, BACHEM; JENNIFER LEE, CHEMIST, BACHEM; DR. MICHAEL BERMAN, PRESIDENT, ALPHA 1 BIOMEDICALS, INC.

REPORTS FROM FA

**(Editor's Note:
If information about
your favorite professor or staff
member is not included in this
column, it's because, after
entreaties by the editor, the
faculty or staff member did not
submit material for the
Newsletter).**

ROGER ACEY. We spent this year adjusting to our new surroundings in PH3-211 and PH3-209. We are really happy with the view of the campus from the lab. We've taken some photos and hope to add them to our Web package as a recruiting "incentive".

Things are going well in the lab. As usual, all the students are working hard. Brent Harpham completed his thesis this year and based on his results, we have been able to isolate the gene for metallothionein from *Artemia*. Monty Badger and Jason Atalla have completed their research and are currently writing their theses. I am pleased to report that Jason won first place in the campus Student Research Competition and second place in the statewide Student Research Competition. We are all proud of him.

Jenny Hong has been working on isolating the gene for butyrylcholinesterase from *Artemia*. Using PCR-based technologies, she has been able to clone a significant portion of the gene for this enzyme. The fact that the nucleotide

sequence is 98% homologous to the human gene should help us convince the NIH that the "garden variety sea monkey" is a worthy model for studying early embryonic development. We hope to take a line from Hollywood when we next approach the NIH—"Show me the money".

Tom Kelly and Hong Ma have nearly completed their research projects and have begun writing their theses. Eric Stevens hopes to complete his research by the end of the summer. Li-Li Heish's project has gotten off the ground and is proceeding nicely; she has been able to detect the presence of acetylcholinesterase in *Artemia* and is currently trying to purify the enzyme.

Mirta Gaus and Nabil Gerges continued in the lab as McNair Fellows. Nabil is spending his summer at the NIH and Mirta has taken a job at a local biotech company. A new undergraduate in the lab was Joshua Bryant, a President's Scholar. Joshua was working with me trying to isolate an antibody to trichloroethylene.

In last year's *Newsletter*, I indicated that Dr. Martin Jadus and I had taught an NSF sponsored faculty workshop on Molecular Immunology. As a result of this experience, we developed a new graduate course entitled "Research Techniques in Immunology" for the Department of Biological Sciences. The course was taught for the first time this year. It was a little strange teaching in the Department of Biological Sciences.

Finally, I have been granted a Leave for the 1998-99 Academic

Year. I will be joining Dr. Rainer Fischer's research group in Aachen, Germany. I am very excited about having this opportunity; I will be learning how to genetically engineer proteins, e.g., antibodies and enzymes, and express them in plants.

I'm sure everyone knows of Mike Mustillo. He is a local high school teacher who works at CSULB as a part-time Research Associate and Instructor. Mike has also decided to take a leave-of-absence from his job and spend the year with me in Dr. Fischer's lab. With a little arm bending we have also arranged for Joshua Bryant to spend the Spring Semester in Aachen. It looks like we'll add a little U.S. flair to the group in Aachen.

JEFF COHLBERG reports, "It has been another busy year. My National Science Foundation grant on 'Interactions of Neurofilament Proteins During Filament Assembly' was renewed. Funds were included for the purchase of a Jobin Yvon-Spex Fluoromax-2 spectrofluorometer, a sensitive instrument that will allow us to monitor filament assembly by fluorescence energy transfer. We were also able to purchase a computerized temperature control for the circular dichroism spectrometer at CSU Fullerton, which will allow us to use CD melting experiments to probe the stability of protein complexes.

"I was named a Dreyfus Scholar by the Camille and Henry Dreyfus Foundation. The foundation, which supports undergraduate education in chemistry, has provided funds for two years for a postdoctoral Dreyfus Fellow, Dr. Beth DeBeus, to work in my lab as well as teach in the department. Dr. DeBeus received a BS in Biophysics and Molecular Biology at Yale and a PhD in Cell Biology at Rockefeller U, and she has postdoctoral experience at Mount Sinai Medical School and at the U of North Carolina. We are excited about her joining the lab.

"A manuscript on 'The Pathway of Assembly of Intermediate Filaments from Recombinant α -Internexin,' by former undergrad Ihab Abumuhor, present undergrad Paula Spencer, and me, was submitted to the *Journal of Structural Biology*. This work was also presented at the Cell Biology meeting in Washington in December.

"Our resident molecular biology expert, Jawdat Al-Bassam, has graduated and is begin-

FACULTY AND STAFF

ning the PhD program in Macromolecular and Cellular Structure and Chemistry at Scripps. Paula Spencer and Leonard Preston hope to continue in the MS program after graduating in December. Current graduate students include Anne Simonson, Frank Le, and Jisheng Liu.

"As far as teaching is concerned, I've discovered the joys of computer graphics of protein and DNA structures. I used computer graphics in my Chem 441A lectures this spring and gave the students an assignment involving the use of the protein visualization program Cn3D. Hopefully, by the time you read this, various types of protein visualization software will be easily accessible to students in the new College computer lab which Marco Lopez is helping to set up. I am excited about the prospect of incorporating more computer graphics assignments into our biochemistry curriculum."

NANCY GARDNER, BS 1995, MS 1997, has been appointed a Part-time Lecturer in our department. "After graduating from CSULB with my MS in Chemistry, I began teaching introductory chemistry here at the University. I thoroughly enjoy teaching both the lecture and labs. Every



NANCY GARDNER, LECTURER.

semester offers new opportunities to meet students, to learn about their challenges and try to teach them something new and interesting. I enjoy learning from my students, and about their lives and cultures and sometimes their difficulties. Most of all, I enjoy observing their perspectives on chemistry and science in general."

DOROTHY GOLDISH. I've continued to serve on a number of University committees. Alumni might be particularly interested in one of these, an advisory committee working with Enrollment Services. The first issue we dealt with was "Grad Checks," a process that used to be notorious for lateness and difficulty. In the last few years Enrollment Services has been able to automate much of the process, so the reports have been produced promptly. Unfortunately, the reports were in a form that was often confusing and hard to read. Based on the committee's recommendations, a number of changes have now been made so future reports will be much more helpful. Now the committee is starting work on revisions to the *Schedule of Classes*, to make it more helpful to students.

This year I was fortunate to have an outstanding group of students, including a number of President's Scholars, in my Chem 111A classes. Many of the President's Scholars are science majors, and one of the things that attracts them is the outstanding records of our alumni in graduate and professional schools and jobs.

MARCO LOPEZ. This has been a

busy year for the Heme Team. Last summer, both Martha de la Rosa and Nancy Gardner finished their master's theses. Martha is off at UCLA working on her PhD, and Nancy has joined the faculty in our department as a part-time lecturer. Danny Ponce will be completing his thesis this year. New members joining the Heme Team are: Jing Leng, Hoang Phat, James Stinnett, Roland Nunez, and Vipal Patel. I will be concentrating on writing up their work for publication during the next academic year.

I was awarded a faculty Minority International Research Training (MIRT) grant and spent ten weeks last summer in Cambridge, England. I worked with Sir Dr. Tom Blundell, Chairman of Biochemistry, and his group, on computer simulation of protein structure. In this program Jeff Colhberg and I accompanied some eight students from the CSU campuses at Northridge, Fullerton, and Los Angeles. I have established continuing contacts with Tom Blundell and am currently preparing a manuscript of research completed there. I worked with and learned from several members of the Blundell group. My principal collaborator, Dr. N. Srinivasan, has returned to India, and we communicate over the internet.

One day the research group drove to the Medical Research Council building where Dr. Blundell was an invited speaker. I remembered that this was where the structure of DNA was solved by Watson and Crick! I asked if Max Perutz was still at this location. He was there when Watson and Crick did their work. I was told that he was, but retired now and working as a postdoc! I then asked if I could meet Dr. Perutz, who shared the 1963 Nobel Prize in Medicine for having published the first X-ray crystal structure of a protein, hemoglobin. A moment later I was introduced to Max Perutz! We had lunch together, and after lunch he invited me to his office where we continued talking of recent developments in hemoglobin chemistry. He gave me a couple of reprints, and he autographed one for me. I told him the following story which he found

FROM FACULTY...

CONTINUED FROM PAGE NINE

amusing: The previous summer I was called at home, and one of my students told me, "Perutz is dead!" I was stunned, and although I knew Max Perutz was quite elderly, I was saddened to hear of his passing. I asked my student where she had heard of his death, and she told me, "No! Not Dr. Perutz, but Perutz the computer!" It is customary to name computers, and I had named mine after Max Perutz. Dr. Perutz and Dr. Blundell were both amused by this story.

We returned to CSULB in time for the Student Science Symposium. This is a yearly event sponsored by the College of Natural Science & Mathematics and offers an opportunity for our students to communicate their research work in a poster presentation.

In October, Dr. Fung, Dr. Bauer and I accompanied several MBRS and MARC students to the National Minority Student Symposium in New Orleans. Students give their work in poster presentations, and our group from CSULB always does very well compared to students from across the country. These national meetings are a very good way for the students to obtain information on graduate programs and to network. They also allow me to meet with other Program Directors and officials from the NIH.

During the late fall and early winter, I assisted in writing and submitting a renewal of the competitive grant application for the

Minority Biomedical Research Support (MBRS) program. The current grant supports some 25 undergraduates and graduate students performing research in twelve labs in the Departments of Chemistry & Biochemistry, Biological Sciences and Psychology. It also provides some funds for travel, faculty release time and research supplies. The application will be reviewed in June, and we will know in September/October if we were successful.

In the spring I taught my graduate course in Bio-organic Chemistry; about one-fourth of the course deals with heme chemistry, my area of research. Class discussion has led to new projects in my research group.

During the late spring I was asked to review grant applications for the MBRS program at the NIH in Bethesda, Md. Reviewing grant proposals allows me to learn about programs in different parts of the country and gives me first-hand knowledge of the current NIH grant review process.

TOM MARICICH. Several students who have recently worked in my research group have been recognized for their accomplishments and are making progress with their careers. Matt Allan completed his master's degree with a thesis entitled, "Regioselective Alkylation of Arenesulfonamides. A Novel Method of Preparing Alkyl Arenesulfonimides." Matt Koutroulis was accepted into the PhD programs at the U of Kansas and UCI and will enter UCI this fall. Mirta Gaus received the Khalil Salem Award and was inducted into Phi Beta Kappa. New students in my research group are Andrea Chen (graduate student), Hanhna Doan and Wadie Marcos. Hanhna's project is supported by Niklor Chemical Company, Inc.

KEN MARS. I am on the Faculty

Early Retirement Program, teaching half time in the fall and spring semesters. In addition to my teaching duties, I continue as editor of the *Newsletter*, as coordinator of fund-raising activities for the department and as alumni correspondent. In April I acted as the external reviewer for the Department of Chemistry at CSU Dominguez Hills. It is always an interesting experience to visit other departments and study their curricula and how faculty are dealing creatively with challenges in teaching, research and budgetary management. Finally, it was wonderful to welcome our daughter, Dr. Marianne Marsi, back to her *alma mater* to receive the Distinguished Alumna Award at commencement ceremonies of the College of Natural Sciences & Mathematics. It doesn't seem possible that 20 years have elapsed since her graduation!

DOUGLAS McABEE. My first year as an assistant professor at CSULB was very busy. I arrived on campus in late July, 1997, and proceeded to get my laboratory space and office in good working order, but Jeanette Santage, Joyce Kunishima, and Bob Soule were very helpful in this regard. Just getting the dirt out my office took a lot of work. (Dr. Acey helped by removing his Detroit Lions posters from the office space!) I hired a technician in September, only to have her quit unexpectedly one month later, ostensibly because she couldn't bear doing rat surgery! George Liarakos, a graduate student in the department, joined the lab in October to work on identification and isolation of the rat liver iron-dependent lactoferrin receptor. George learned to do rat surgery, and between the two of us, we kept ourselves well supplied with isolated rat hepatocytes. Xin Jiang joined the lab in December, moving from China to become our technician. Xin has worked out wonderfully, doing all of the cell isolation and culture work, and she generated enough data within her first six weeks to produce a poster which was presented in May at the annual ASBMB meetings in Washington, DC. At present, I am writing up her work for publication sometime later this year. In January, two more graduate students joined the lab. Patrick Pierce is working to identify plasma components that modulate the interaction of lactoferrin with the Ca^{2+} -dependent lactoferrin receptor (RHL1) on hepatocytes. Daekeun Joo also joined the lab (despite having had me in Chem 441B and 443 the semester before!), and he is doing structure-function analysis on the RHL1-binding domain on lactoferrin. On June 1 of this year, another graduate student, Thanh Nguyen, joined the lab.

She is analyzing the molecular basis for the interaction of lactoferrin with hepatocytes using two homologous systems: human lactoferrin and HuH-7 cells, and recombinant mouse lactoferrin with isolated mouse hepatocytes. So, when everyone shows up, the lab is full, and they give the impression of being busy, too. I have devoted most of my time this year to writing: three manuscripts (one published, one in press, and one in preparation), the competitive renewal of my NIH grant ("Hepatic Metabolism of Lactoferrin"), and new lectures for Chem 441B and my graduate course in Cell Membranes. I feel like I've made the transition to CSULB, and I am enjoying teaching the biochemistry undergraduate and graduate students. I am indebted to Dr. Senozan, Dean Nagel, and the people in the Foundation office who have been very helpful to me in this first year. I look forward to another productive year in 1998 - 1999.

MARGARET MERRYFIELD. I always claim in these notes that the year just ended was the busiest ever. How can it be true every year? Yet that is how it seems. Here are some highlights, and a look ahead.

I continued as undergraduate advising coordinator, getting to know most of the new students. The majors in chemistry and biochemistry have been growing about 10% a year for the last three years. My "Top Ten List of Reasons to Major in Science or Mathematics at CSULB" has become a fixture at the first session of University 100 for the new freshmen. (Sample: You can have a career where you never have to say, "Do you want fries with that?")

The Women and Scientific Literacy project continued with a series of eye-opening workshops. My contribution was a

training day for teaching associates where we talked about stereotypes, inclusive language, and inclusive teaching strategies.

For the past several years I have been heavily involved in general education reform on campus; the result this year was final passage of a modified plan by the Academic Senate. Now the fun begins—trying to make it work. I have been asked to serve as the general education coordinator in 1998-99, as we get ready to implement the new plan in the fall of 1999. The negative consequences are that I won't be teaching biochemistry or advising in the fall. However, the rumor that I am leaving the department is inaccurate; you will still be able to find me and my students around the lab. Grad students Dao Lim and Keynes Tong are finishing up, while Avinas Patel is getting started. I am also fortunate to have a returning McNair Scholar, Sofia Agüero, and additional undergraduates Allison Dinh and Koorosh Mirfakhrai. And Cedrina Serrano, who just completed her dietetics internship, promises to get that MS in Nutrition any day now.

My yearly brag—I mean update—on the family: James made the honorable mention list in the U.S. Math Olympiad, placing him in the top 24 competitors in the country. Laura (now 8) will draw a good luck fairy for anyone who happens to stop by while she is in my office.

HENRY PO presented papers titled, "A molecular orbital study of the energies and conformers of dihydrodithiin," at the Pacific Conference on Chemistry and Spectroscopy in Irvine; and "Ab initio molecular orbital calculations of anomeric effects and conformational energies of 2-substituted 4H-1,3-dioxins," at the 214th National Meeting of the ACS in Las Vegas. He also co-authored a paper entitled, "Ab initio molecular orbital

calculations of 3,4-dihydro-1,2-dioxin, 3,6-dihydro-1,2-dioxin, 4H-1,3-dihydro-1,4-dioxin (1,4-dioxene)," appearing in the July 1997 issue of the *Journal of Computational Chemistry*, Vol. 18.

JEANNETTE SANTAGE, Department Secretary. As CSULB moves toward its 50th birthday, I am about to embark on my 20th year with the department. September meant the beginning of the academic year and running into a former alumnus, Jim Brophy, willing to assist with our Friday morning student/faculty coffee hours. In October I headed up to the Stanford University chapel to help celebrate the marriage of one of our former office student assistants, Katrina Brinkman. Then another wedding in November, that of Fran McLuen's younger son, Scott. Fran was for many years my office co-worker. Helping with the department's Advisory Council meetings gives me the opportunity to see more terrific alumni assisting the department. The holidays brought very welcome cards and photos. Then the academic year ended with a wonderful department Awards Banquet, and an opportunity to meet honors students' parents and guests."

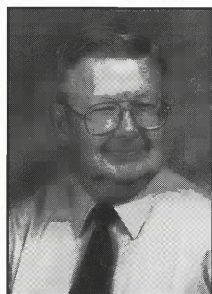
ROBERT SOUKUP, Instrument Technician. I am in my 23rd year with the department. I still have my Idyllwild hideaway and can be found there when I am not puttering around my Long Beach home, involved with my daughter's activities, volunteering at my daughter's school, or with our Girl Scout troop. Much of my time at CSULB is spent maintaining the department web pages (you can find it at <http://mercuric.natsci.csulb.edu>) in addition to working with instrumentation linked to computers and other more mundane instruments. I am also getting more involved with tracing my genealogy.

LA VONA THOMAS, Secretary. Besides managing a family and working full-time in the department office, I have just successfully completed my first year as a returning full-time student at CSULB by participating in the Staff Fee Waiver Program. This program gives staff a great opportunity to further their education for only \$3 a semester. I have also had the pleasure of seeing Dr. Acey's research group, my favorites, graduate this semester. Although it saddens me to watch them leave, I'd like to wish them all good luck in their future endeavors.

NEW ADVISORY COUNCIL APPOINTMENTS

Affiliated with our department is an active group of about 30 scientists and business persons who help us forge a link with the chemically-related community in the area. It is a mutual support group. Members of the Advisory Council help us place our graduates, are available for technical advice, and help provide resources for the maintenance of our educational programs. We in turn refer potential employees to them and offer our help in other ways; for example, use of our technical library, and occasional instrumental and consulting services. New representatives joining the Council in the past year:

• **Donald J. Ferm**, is Senior Research Chemist, Technology Department, U.S. Borax, Inc., in Valencia, Calif. Don is an alumnus of our department,



DONALD FERM, ADVISORY COUNCIL MEMBER

graduating in 1968 with a BS in Chemistry. He is a long-time employee of U.S. Borax (1964-present), working as a chemist while he attended CSULB in the evenings, and then becoming a professional chemist after receiving his BS degree. His work with U.S. Borax has included managing research projects involving fire-retardant additives, management of technical service operations and new product process development operations with contract manufacturers, and providing technical support for production of new and

existing products manufactured in company facilities. He is the author of 23 publications.

• **Janet Kiang**, a CSULB graduate, is Project Chemist with Earth Tech, a Tyco International Ltd. Co. with offices in Long Beach. She was previously employed as an analytical chemist with Arco Petroleum Products Co. in Carson, Calif. She is currently working as a data validator of analytical laboratory data, drawing on her experience with numerous laboratory techniques as well as her experience with QA/QC applications. She reviews laboratory quality control practices and data reports for compliance with EPA requirements for accuracy, precision and completeness. Janet received her BS and MS degrees in Chemistry from our department and her MBA degree, also from CSULB.



JANET KIANG, ADVISORY COUNCIL MEMBER.

• **Jon Swailes**, Account Manager with Lab Support, a division of On Assignment with an office in Carson, worked for five years with Abbott Laboratories in Chicago in quality assurance, product development and stability, planning, and production. He was subsequently employed with Pyramid Biological Corp. in Van Nuys as the sample handling manager in a blood bank. He has been with On Assignment, Lab Support since May of this year. He succeeds Marlon Martinez as the Advisory Council representative. Jon received his BS in Chemistry with Honors and Distinction (U of Iowa); he was a four year National Merit Scholar, and is a member of Phi Beta Kappa.

CORPORATE GIFTS TO THE DEPARTMENT

The total value of gifts to the department, in-kind and cash, during the fiscal year ending June 30, 1998 was \$61,718. Gifts from business and industry amounted to \$45,927 and included \$21,998 in cash and \$23,929 in in-kind gifts of equipment, supplies, and books.

Included in in-kind gifts received were HPLC and GC columns from Allergan; supplies from Chatz; Sephacryl and Sephadex column packing from Chiron Therapeutics; scientific calculators from Hewlett-Packard; automatic pipettes from 3M Pharmaceuticals; a HPLC instrument from TRW; a Macintosh computer; computer software from Hypercube, Inc.; four fraction collectors, four peristaltic pumps and one Sorvall Omni-Mixer from Diagnostic Products; two *Merck Indexes* from Merck & Co.; and a *Handbook of Chemistry & Physics* from CRC Press. We wish to acknowledge the help of the following persons in assisting us in securing gifts for the department: **Dr. Roger Acey, Richard Bondar, James Brophy, Dr. John Carlson, Gary Keehner, Dr. Ray Maddalone, Marlon Martinez, Michael Muegge, Dr. Steve Ruckmick, James Richards, Dr. Ercan Unver, Debra Weir.**

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for Biochemical Research
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Forty-Niner Shops
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National Starch and
Chemical Foundation (Ablestik Labs.)*
3M Pharmaceuticals
TRW*

MATCHING GIFTS

were received from the following companies (employees/friends whose gifts were matched are given in parentheses):

National Starch and Chemical Foundation (Ablestik Labs.)* (Dwight Gergens)
 ARCO* (Renee Hermes)
 Biogen, Inc. (Clyde Jones)
 Boeing* (Dr. Arie Passchier)
 Boeing* (Dr. Norman Byrd)

Hewlett-Packard* (Andrew D. Walker)
 MacPherson Enterprises (Behroz Mortazaei)
 Rhone-Poulenc (Dr. Stephen Castellino)
 The Young & Rubicam Foundation (Dr. William Thomasson)

*COMPANIES ARE MEMBERS OF THE CHEMISTRY AND BIOCHEMISTRY ADVISORY COUNCIL

GIFTS BY INDIVIDUALS

During the 1997-98 fiscal year the department received gifts totalling \$61,718. Of this amount, \$15,791 was in cash contributions by individuals to the department. The faculty, staff, and students of our department are very grateful for your generosity. Without your help it would not be possible to maintain the excellent programs which we have developed in chemistry and biochemistry. Cash gifts received are used for scholarships, awards, and purchase of supplies and equipment for which there is not adequate state funding. Also, the costs of publishing the *Chemistry & Biochemistry Department Newsletter* are met with private giving. In the future, you may give an income-tax-deductible gift directly to the department by making a check to:

**CSULB FOUNDATION/CHEMISTRY FUND
 DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY
 CALIFORNIA STATE UNIVERSITY, LONG BEACH
 BELLFLOWER BOULEVARD
 LONG BEACH, CA 90840-3903**

The Office of University Relations and Development is informed of all gifts, and you will receive a personal letter of acknowledgement from the department. You might investigate the possibility that your company matches employee gifts. In that way, the value of your gift to the department is increased. If you are contacted through the Phonathon program and a gift is requested, please specify the Chemistry and Biochemistry Department as the recipient of your gift, if that is your intention. Thank you!

HONOR ROLL OF INDIVIDUAL CONTRIBUTORS (JULY 1, 1997-JUNE 30, 1998)

- | | | | | |
|---------------------------|------------------------|---------------------------|---------------------------|------------------------------|
| Roger Acey, PhD | Violeta D. Dadufalza | Clyde Jones | Kenneth L. Marsi, PhD & | Thomas Payne |
| D. M. Anjo, PhD | John Dillon, PharmD | Steve Jones, PhD | Irene Marsi: | Mark Phillips, DDS |
| Leticia Arellano | Gregory J. Dorsman | Paul Jordan, MD | Lela Soukup Memorial | David Porzio, MD |
| Neary Arpajirakul | Danny Fong | Gene E. Kalbus, PhD: | Linda H. & K. Scott Marsi | George & Helen Riggins: |
| Aaron Bakly | Daryl Fukuda | Lela Soukup Memorial | Patricia J. Maxwell | Lela Soukup Memorial |
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| Norman R. Byrd, PhD | Denis Guttridge, PhD | E. Ken Lesniewski | Behroz Mortazaei | Diane Senozan |
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| Alan Cunningham, PhD | Thomas Ito, PhD | | Arie Passchier, PhD | |

WE HAVE BEEN FORTUNATE TO HAVE HAD THE SERVICES OF SO MANY PERSONS WHO MADE IMPORTANT CONTRIBUTIONS TO OUR DEPARTMENT OVER THE YEARS, BUT WHO, FOR VARIOUS REASONS, CHOSE TO CONTINUE THEIR CAREERS ELSEWHERE. A FEW HAVE RETIRED. WE REMEMBER SOME OF THEM IN THIS COLUMN. WE WOULD LIKE TO HEAR FROM OTHERS AS WELL.

• **DR. J. KENNETH BARTLETT** (Professor 1954-56) was the first chemistry faculty member hired by the University and the founder of what was to become the Department of Chemistry & Biochemistry. After leaving Long Beach State College, he joined the faculty at Southern Oregon State College in Ashland, Ore., where he was Professor of Chemistry and department chair and from which he is now retired. "I am enjoying standard retirement activities: travel, cabin, computer, exercise. It pleases me that your department keeps in touch."

• **DR. EDWIN BECKER** (Professor 1955-83), is active in volunteer work, the Emeriti Faculty Association and traveling—especially international. "In 1998 we will be enjoying our 12th International Home Exchange. This year we will be in Southern France for about one month."

• **DR. ANNIE BIANCHINO** (Lecturer 1981-84 and 1988-92) is Professor of Chemistry at Fullerton College. In June she organized and taught a summer Workshop on Small-Scale Chemistry at the Fullerton College Regional Small-Scale Chemistry Training Center.

• **MARGARET A. CARLBERG**, although not a former faculty member, is identified with our department through her active participation in the "Forty-Niner

Forum," a group of high school chemistry teachers who have met on campus monthly for the past five years under the leadership of **Dr. Darwin Mayfield**. Margaret is a much-honored teacher, having received the California Science Teachers Association Distinguished High School Science Teacher Award in October 1997 and the KNBC-TV Crystal Apple Award in September of 1997. She is the wife of **Dr. David Carlberg**, CSULB Professor of Microbiology. Margaret teaches chemistry at Cornelia Connelly School in Anaheim, a college-prep, private all-girls high school.

• **DR. TOM GOYNE** (Lecturer 1986-88), is Professor of Chemistry at Valparaiso University. He spent most of his sabbatical during the fall of 1997 at Hope College learning to use enzymes and whole cells to carry out stereospecific organic reactions. "I am also working on my 'old' research—HPLC analysis of chloramines, with the goal of answering questions raised by one of the referees of a manuscript that I submitted."

• **DR. MARGARET "PEGGY" KLINE** (Lecturer 1984-88), is Professor of Chemistry at Santa Monica College. "Our new science building is looking more

and more like a building and is scheduled for completion in the spring of 1999. The first classes will be held in it for the fall of 1999 semester. Then, it's good-bye trailers! We have been conducting labs and lectures in a collection that is politely referred to as modular buildings. We are also very proud of our virtual office hours project, started with the support of a Dreyfus grant and help from UCLA. Students can access exams and handouts and post questions to an electronic bulletin board where they can be viewed by the entire class and answered by the instructor for the class. Visit us at <http://voh.smc.edu/physsci/>."

• **DR. SHELLY KUMAR** (Lecturer 1985-87, 1988-89), is Professor of Chemistry at Governors' State College in Chicago, Ill. "I presented a research paper on photo-oxygenation-induced protein crosslinking at the regional ACS Meeting. I also coordinated two student research conferences. My wife has completed her master's in Library and Information Science and is working part time in a nearby junior college as a reference librarian."

• **DR. LARRY SCHALEGER** (Visiting Professor 1975-76), is Quality Assurance Coordinator/Project Manager for Jacobs Engineering based in Sacramento, Calif. His work involves remediation of DOD facilities; e.g., base closures. "It

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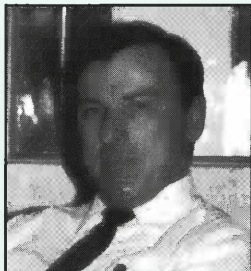
has been a fun year in our endless quest to answer the question, "How clean is clean?" We have investigated nerve gas degradates in dead sheep in Utah (many years after the fact), trace residues of demolished ordnance in Benicia, and lead at a former skeet range in Santa Rosa. The three children are pursuing careers in computer-related fields. As for me, I am pondering retirement and wondering what to take up for my next career.

• **DR. A. G. THARP** (Professor 1959-1987), after living in retirement in Quezon City in the Philippines since 1988, has returned to Lakewood, Calif. this year to live permanently.

• **DR. C. GRANT WILLSON** (Lecturer 1973-74), is Engineering Regents Chair and Professor of Chemistry at the University of Texas in Austin and a member of the National Academy of Sciences. His work is the subject of an article in the March 16, 1998 issue of *Business Week*. The article reads in part... "Finding a way to print chips for the year 2010 was supposed to cost at least \$1 billion. But C. Grant Willson, a chemist at the University of Texas at Austin, and a handful of graduate students may have pulled it off for roughly \$2 million. They have produced a laboratory circuit with lines so small they border on the ethereal—just 0.08 microns wide. Today's most advanced chips have 0.25-micron lines...Sematech Inc. coughed up \$2 million to develop it, and engineers from makers of chipmaking equipment, including DuPont Photomasks, ISI, Shipley and Tropel, flocked to Willson's laboratory to help. One photoresist supplier, Japan Synthetic Rubber Co., has already announced a commercial version of Willson's material."

IN MEMORIAM

• LARRY G. COPELAND •



LARRY G. COPELAND.

Larry Copeland, BS Chemistry 1967, MS Chemistry 1970 (with Dr. A. G. Tharp), passed away on October 23, 1997. He was a long-term employee of Pilot Chemical Company in Santa Fe Springs, Calif., a manufacturer of detergents. He subsequently joined Rykoff-Sexton, Inc., Los Angeles, a major restaurant supplier, as Technical Director of the Detergents Division. Larry was an active and valued member of the Chemistry & Biochemistry Advisory Council of our department at the time of his death. He is survived by Jan Schrick Copeland, BS Chemistry 1968, a chemist with U.S. Borax, and two children, Erin and Sean, all of Long Beach. Both children are currently students at CSULB; Erin is a junior Psychology major and Sean is a freshman majoring in Theater Arts.

• DR. PETER D. HARNEY •



DR. PETER D. HARNEY.

Dr. Peter Harney passed away on September 20, 1997. Peter received his BA in Chemistry at CSULB in 1975, his MS in Biochemistry and Biophysics from the University of Hawaii in 1983, and his PhD in Microbiology from USC in 1995. He was employed by Biogen Research Corporation in Cambridge, Mass. and subsequently with Diagnostic Products Corp., in Los Angeles. From 1986-92 he was a researcher in the Norris Cancer Center at USC. In 1992 he joined the Immunotherapy Division & Gene Therapy Business Unit of Baxter Healthcare Corp. in Irvine, Calif. as a Research Scientist. Peter also carried on an active research association with Dr. Roger Acey of our department which continued until his death. He is survived by his wife, Jennifer Harney; his children, Matthew, Christina and Brian Harney, all of Aliso Viejo, Calif.

• DR. RAYMOND E. LYONS •



DR. RAYMOND E. LYONS AND WIFE, EUGENIE.

Raymond Lyons, MD passed away on July 10, 1997 in St. Louis, Mo. as a result of an accident. A 1978 BA graduate of the Department of Chemistry and Biochemistry, he attended medical school at the University of Minnesota, and then practiced medicine in Minneapolis. In 1986 he moved to St. Louis in order to pursue his medical residency at St. Louis University Hospital in neurology and nuclear medicine. Complications due to multiple sclerosis cut short his medical career, and at the time of his death he resided at the Lutheran Convalescent Home in St. Louis. He is survived by his wife, Eugenie and two daughters, Elise and Rae, all of Minneapolis; and a son, Mitchell, of Lakewood, Calif.

• JERRYL W. NEHER •

Word has been received from his sister that Jerryl W. Neher, BS Chemistry 1976, passed away on October 10, 1997.

ALUMNUS ROGER CLARK
RECEIVES INDUSTRIAL AWARD

Dr. Roger T. Clark, BS 1966, MS 1970 (PhD, U of Utah), received the 13th Annual Elf Award for creativity and innovation.

Methyl mercaptan is an intermediate in the manufacture of methionine, methanesulfonic acid and numerous fungicides and pesticides. Its production is a catalytic process which yielded a byproduct, dimethyl sulfide, in amounts much greater than the commercial market could absorb.

Roger, Principal Scientist at Elf Atochem, located at the King of Prussia, Penn. research center, initiated an investigation to determine how the morphology and state of the catalyst surface influences its reactivity and selectivity and developed a new catalyst that was more active and yielded greater quantities of methyl mercap-

tan than previously. This was accomplished by gelling the catalyst support surface with a base, deactivating its catalytic potential, then reactivating it *via* high temperature treatment with hydrogen sulfide. Selexsorb K, as Roger named it, proved not only highly selective with respect to methyl mercaptan production, but it was shown to exhibit another important property. By varying the reaction conditions, a precisely controlled amount of dimethyl sulfide can be produced, enabling its production to correspond to market demand. He has obtained two patents which cover this invention.



DR. ROGER T. CLARK.

ROBERT STEVENS WITH THE SUN SETTING BETWEEN VOLCANOS TOFU'A AND KAO IN THE DISTANCE.

A PEACE CORPS ADVENTURE:
TROUBLE IN PARADISE

by Robert Stevens, BS Biochemistry, 1993

I served as a Peace Corps Volunteer in the Kingdom of Tonga from 1995 to 1997. My initial assignment was teaching general science at a church school for Forms 2 and 5, approximately 7th and 10th grades. After one year I decided teaching wasn't for me and changed jobs. The second year I worked as a Volunteer in the Tongan Government's Environmental Planning Unit. Most of my time was spent wondering why I was there. However, I was able to produce a commercial for

television promoting the recycling of aluminum cans and also a documentary on Tonga's participation in Clean Up the World Day.

Since Peace Corps Volunteers are barred from political activities, it is important that returning volunteers share their experiences with the public in hopes that they can make a positive impact on policy. Therefore, I am happy to be able to share my experiences with you.

Environmental degradation is a serious problem in developing countries; they want the conveniences of modern living, often without dealing

with the consequences of a changing lifestyle. Thus, with the expansion of global trade has come the destruction of many once beautiful areas. There is a dire need for international legislation to address this issue....

The bike ride was over; it was time to climb down the cliffside to Fungatave Beach. This was the "secret spot" my Peace Corps friends had been telling me about for so long. Now it was my turn to enjoy a slice of paradise. Walking out of the forest onto the beach, my excitement faded as I spotted the plastic detritus scattered among the shells. "Hmmp, must've come from passing ships," I thought. This beach was surrounded by 100-meter cliffs; isolated, inaccessible, except for the pounding surf carrying more than just shells across the sand.

The night was over; it was time to eat breakfast and head to work in Nuku'alofa. I hopped on my bicycle and pedaled along the roadside. My house was special by chance—it happen to be where

STUDENT AFFILIATES OF THE
AMERICAN CHEMICAL SOCIETY

by Peter Baine, Advisor

the traffic jam started. "This reminds me of LA," I thought, as I rode along the mile-long stretch of cars, trucks and buses, spewing prodigious volumes of petroleum combustion products into the unregulated atmosphere of Tonga. "Nah, this air is worse than LA's!"

Horses became obsolete when the steel ships crossed the Pacific, bringing automobiles. Sure, sell them used cars, and petrol, and oil, and ethylene glycol, and then what? Several years later the cars sit, rusting, leaking oil. Yes, the Palangi (white man) knows what the Tongan needs.

The long boat ride was over, it was time to set up camp and then swim in the crystal blue waters around the perfect cone of the volcano, Kao. The humpback whales entertained us before sunset, and later around the campfire we could hear the swoosh of their blowholes. Was this paradise? The next afternoon my friend and I made it to the top of the 1000-meter volcano. It was a perfect day—no clouds. We could see the entire Kingdom of Tonga. To the north was the newest addition to Tonga's 170 islands; steam rose from the distant spot, signaling the birth of an island. To the south was Tofu'a, another volcano used for agriculture. On its steep volcanic slopes a brush fire burned out of control, set by careless field workers. As I revelled in the beauty surrounding me, I wondered how long before Tofu'a and Kao, sister volcanoes in the South Pacific, would become just another Paradise Lost.

The Student Affiliates have been relatively inactive this year; this has been taken as a sign that they are deeply involved in their studies.

They did find time, however, to attend a fall party at the home of the Department Chair, Dr. Nail Senozan, and a few even joined with the chemical engineers to tour the Arco refinery in Carson. The Winter Party was also well attended; the lure of free food was a strong incentive for hungry students! Several chapter members participated in the Kaleidoscope festival for elementary school children, held on campus this spring.

AWARDS TO CHEMISTRY/BIOCHEMISTRY
STUDENTS AND ALUMNI

SUBJECT AREA AWARDS

Freshman Chemistry Award
Spyros Pathos Memorial Award
American Chemical Society Polymer Chemistry Award
Merck Award in Organic Chemistry
Analytical Chemistry Award
Biochemistry Award
Inorganic Chemistry Award

- Shafinaz Hussein & Jose Martin
- Kevin Phillips & Michael Eagan
- Huy Quoc Hoang
- Janet Hunting & Wajeeh Saadi
- Tram Bui
- Y. Julie Fukami
- Randall Goff

SPECIAL DEPARTMENT AWARDS

American Institute of Chemists Baccalaureate Award
American Institute of Chemists Graduate Award
California Institute for Biochemical
Research Foundation Award
David Scoggins Memorial Award
Departmental Honors
Diagnostic Products Corporation Award in Biochemistry
Horalek Award for Departmental Service
Kenneth L. Marsi Scholarship
Michael Monahan Memorial Summer Research Fellowship
Robert B. Henderson Memorial Scholarship

- Mirta Gaus
- Huilin Huang
- Monty Badger
- Naomi-Trang Nguyen
- Gail Jones, Mirta Gaus & Kyaw-Zwa Lynn
- Sofia Agüero & Huy Quoc Hoang
- Steven Kraatz
- Kareem Morgan & Jeffrey Suri
- Janet Hunting
- Jawdat Muhmed-Hussein (Al Bassam)

COLLEGE OF NATURAL SCIENCES & MATHEMATICS AWARDS

Outstanding Graduate of the College
Khalil Salem Award
Robert B. Rhodes Award
Distinguished Alumna of the College

- Jawdat Muhmed-Hussein (Al Bassam)
- Mirta Gaus
- Naomi-Trang Nguyen
- Marianne Marsi, PhD

AMERICAN CHEMICAL SOCIETY COMMENDABLE CHAPTER AWARD, 1996-97

Accepted for the Chapter by Maria Avina, Chapter President, 1996-97

ELECTION TO PHI BETA KAPPA

Mirta Gaus, Naomi-Trang Nguyen & Tri Tien Vu

MCNAIR SCHOLARS

Mirta Gaus, Nabil Gerges, Kareem Morgan & Naomi-Trang Nguyen

ELECTION TO PHI KAPPA PHI

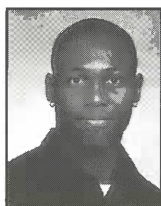
Jawdat Muhmed-Hussein (Al Bassam), Quoc Nguyen & Paula Spencer



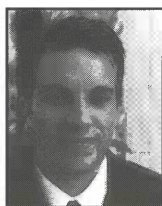
ENDOWED AWARDS




NAOMI-TRANG NGUYEN,
SCOGGINS AWARDEE.



KAREEM MORGAN,
MARSI SCHOLAR.



JEFFREY SURI,
MARSI SCHOLAR.



JANET HUNTING,
MONAHAN FELLOW.



JAWDAT MUHMED-HUSSEIN
AL BASSAM, HENDERSON SCHOLAR.



KEVIN PHILLIPS,
PATHOS AWARDEE.



MICHAEL EAGAN,
PATHOS AWARDEE.

DAVID L. SCOGGINS MEMORIAL AWARD

The Scoggins Memorial Award recognizes outstanding scholarship and promise by a chemistry or biochemistry graduating student who intends to pursue a career in one of the health-related professions. This award, established by Dr. A. G. Tharp, now Professor Emeritus, is in memory of David L. Scoggins, a graduate student in the Chemistry Department at the time of his death.

Naomi-Trang Nguyen, this year's recipient, is a BS Biochemistry May 1998 graduate. After a year of service in AmeriCorps, she plans to attend medical school. She was also this year's Rhodes Award recipient and was elected to Phi Beta Kappa.

KENNETH L. MARSI SCHOLARSHIP

This scholarship, established by faculty, staff, family, friends, and former students on the occasion of Dr. Ken Marsi's retirement, is used to defray registration fees of outstanding junior and senior chemistry or biochemistry majors. This year's scholars are:

Kareem Morgan, a continuing junior student, and last year's Lab Support Scholar, is a double major: BS Chemistry and BS Biochemistry. He intends to continue on for the PhD in chemistry after graduation.

Jeff Suri, a senior student and BS Chemistry major, works part time as a chemist with Applied Power Concepts and will graduate in December of this year. Jeff has plans to continue on for the PhD in the area of synthetic organic chemistry.

MICHAEL MONAHAN AWARD

This award was established through a bequest of Dr. Michael Monahan, an alumnus of our department who received his BS in Chemistry in 1963 and his PhD in 1968 at UC San Diego in physical organic chemistry. While an undergraduate he was a research student of Dr. Robert Henderson. He was a distinguished scientist who was a member of the faculty at the Salk Institute and was subsequently a Senior Research Scientist with Beckman Instruments; he was also the founder and president of California Medicinal Chemistry Corporation. In 1985-87 he served as a lecturer in our department. Dr. Monahan passed away in 1989. According to his will the income from his bequest is to be used to support student research in our department. This is the second year the award has been given.

Janet Hunting, a junior and last year's Monahan Fellow, was chosen to be recipient of this award again this year because of her outstanding work. During the past year she was involved in research in Dr. Henry Po's laboratory, synthesizing porphyrin ligands. She will continue as Dr. Po's research student. A BS chemistry major, she plans to continue her studies for the doctorate in chemistry following graduation in May 1999.

ROBERT B. HENDERSON AWARD

The Robert B. Henderson Award was established by Dr. Henderson's family, colleagues, and friends to honor his memory. Dr. Henderson was a member of the Chemistry and Biochemistry Department from 1955-1983, and a distinguished scientist and teacher of organic and general chemistry. Recipients for this award are chosen from among bachelor's and master's graduates as those best exemplifying Dr. Henderson's scholarship and commitment to the profession of chemistry. This year's award was presented to **Jawdat Muhmed-Hussein (Al Bassam)**.

Jawdat, a May 1998 *summa cum laude* graduate with a BS Degree in Biochemistry, is the first President's Scholar to graduate from CSULB. The President's Scholars Program, initiated by President Maxson in 1995, awards full, four-year scholarships to selected high school valedictorians. Funding for these scholarships comes from private contributions. However, Jawdat completed all degree requirements in just three years. He was an undergraduate research student of Dr. Jeffrey Cohlberg and will begin a PhD program in the area of molecular biology at UC San Diego. From this year's graduating class of approximately 500 students, Jawdat was chosen as the Outstanding Graduate of the College of Natural Sciences & Mathematics and honored at the May Commencement this year.

SPYROS PATHOS IV AWARD

The Spyros Pathos IV Award is presented annually to a student excelling in the second semester of general chemistry, Chemistry 111B. This year is the fourth year that the Pathos Award has been granted. This award is made possible by friends of Spyros Pathos IV, who was an undergraduate chemistry major in our department at the time of his death in 1993. There are two recipients this year, Michael Eagan and Kevin Phillips.

Michael Eagan is a BS Microbiology major who will begin his junior year this fall.

Kevin Phillips is a BS Biology major who will start his senior year during the fall of 1998. Kevin is a transfer student from Cerritos College

LAB SUPPORT SCHOLARSHIP
AWARDED TO
IRVINE VALLEY
COLLEGE STUDENT



DANIELLE JARAMILLO, LAB SUPPORT SCHOLAR.

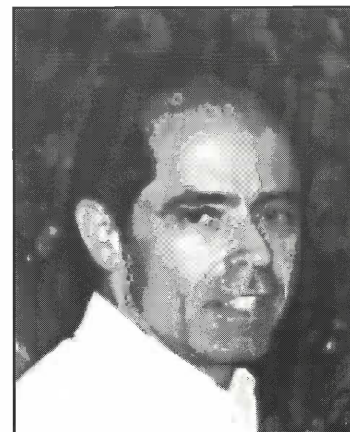
Lab Support, a division of On Assignment, Inc., an agency which provides temporary professional assignments in laboratories, has established a scholarship for area community college transfer students who intend to major in chemistry or biochemistry at CSULB. This is the third year of the award's existence. Previous

awardees have transferred to CSULB from Cypress College, Citrus College and Mount San Antonio College.

The awardee for 1998-99 is Daniele Jaramillo, a transfer student from Irvine Valley College, who intends to continue on to medical school after receiving a BA degree in Chemistry. She has been on the Dean's List every semester at IVC.

The purpose of the scholarship is to identify outstanding students for our chemistry and biochemistry programs and to foster closer relationships with nearby community colleges. The department would like to express its gratitude to Marlon Martinez of Lab Support's Carson office for facilitating this scholarship. Mr. Martinez was a member of the department's Chemistry and Biochemistry Advisory Council.

CALIFORNIA FOUNDATION FOR
BIOCHEMICAL RESEARCH
SUMMER FELLOWSHIP



MONTY BADGER, CALIFORNIA FOUNDATION FOR BIOCHEMICAL RESEARCH SUMMER FELLOW.

This year's California Foundation for Biochemical Research Summer Fellow is Monty Badger, a graduate student in Biochemistry. Monty received his BS Degree from Cal Poly Pomona in Biology, and after working for several years entered Cerritos Community College to take prerequisite courses to enable him to enter the MS

program in Biochemistry at CSULB. He is a graduate student of Dr. Roger Acey, working on glycosylation of proteins found in cell nuclei of the brine shrimp, *Artemia*. The \$2,000 award will enable him to spend the summer pursuing his research interests. After receiving his MS late this year, Monty plans to enter the job market in the biotechnology field.

CAREER PLANS OF SOME OF OUR 1997-98 GRADUATES

Aaron Bakly, BA Chemistry	•U.S. Army
Daniel Brooker, BA Chemistry	•Chemist, ChemMex
Surural A. Bamigbaiye, BS Biochemistry	•MS Program, CSULB
Jason D. Cain, BS Biochemistry	•Pharmacy School, U of the Pacific
Stuart Brian Chinn, BS Biochemistry	•Law School, Loyola U
Kyle Findly, BA Chemistry	•Applying to Dental School
Mirta F. Gaus, BS Biochemistry & Chemistry	•BACHEM, Torrance, Calif.
Phuonganh La, BS Biochemistry & Chemistry	•Pharmacy School
Jawdat M. Muhmed Hussein (Al-Bassam)	
BS Biochemistry & Chemistry	•PhD Program, Scripps
Lam-Hien Thi Ngo, BS Biochemistry	•Pharmacy School, U of Minnesota
Naomi-Trang Nguyen, BS Biochemistry	•Applying to Medical School
Rachirong Vinyaratn, BS Biochemistry & Chemistry	•Research Harbor/UCLA Hospital
Vincent K. Yee, BS Biochemistry & Chemistry	•MS Program, CSULB

CSULB
CHEMISTRY & BIOCHEMISTRY
DEPARTMENT NEWSLETTER

FALL 1998, NUMBER 23

AN ANNUAL PUBLICATION OF THE DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY FOR PAST AND PRESENT STUDENTS AND FRIENDS OF THE DEPARTMENT.

NEWS ITEMS, FEATURE ARTICLES, 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

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ALUMNI NEWS

We very much appreciate the time you have taken to inform us about yourselves, and we always enjoy hearing from you. The information which you send us about your careers is often shared with students who are considering professions in chemistry, biochemistry, medicine, dentistry, pharmacy, law, etc. We have an Alumni Bulletin Board where communications from alumni are posted for faculty to read. All degrees noted are in Chemistry unless otherwise specified. Alumni having both bachelor's and master's degrees from our department are listed under the year they received their bachelor's degree. CSULB degrees are in bold type. To communicate about the **Newsletter** or to send information, write to: Dr. Ken Marsi; Department of Chemistry/Biochemistry, California State University, Long Beach; Long Beach, CA 90840. FAX: (310) 985-8557. E-mail: kmarsi@csulb.edu.

1957-1969

• **PAUL BATTAGLIA, GRADUATE STUDENT 1964**, has been employed at Hughes in Torrance in Materials & Processes Engineering for the past 20 years. His field is metal finishing: metal cleaning, electroplating and organic coatings. "Since General Motors sold off a large portion [of Hughes] to Raytheon, we went from a 65,000 employee company to a 13,000 employee company. Hughes is strictly a telecommunications and space company now. We are the world's largest supplier of commercial and military satellites. DIRECT TV is a Hughes company also."

• **ALLAN D. BIKE, BS 1960, MA 1961**, has retired after working for Shell Oil Company for 31 years (23 years in chemicals, 6 years in mining and 2 years in export/import) where he rose to senior management positions. "I was the first student at CSULB (Long Beach State at that time) to receive a master's degree in chemistry. My thesis advisor was Dr. Darwin Mayfield." Allan and Wanda Bike have two children: a daughter, Dr. Stacy Bike-Birmingham, who is Assistant Professor of Chemical Engineering at the U of Michigan, Ann Arbor; and a son, Lon Bike, an architect who owns an architectural firm in Santa Ana, Calif. The Bikes recently moved from Ohio to Ann Arbor, Mich. to be near their grandchildren.

• **WILLIAM BOPE, BS 1962** (MS in Environmental Engineering 1976, UC Irvine), is Atmospheric Measurements Manager for the South Coast Air Quality Management Department (AQMD) in Diamond Bar, Calif. He has worked for 35 1/2 years in air pollution measurements: source testing, ambient monitoring, chemistry laboratory and in quality assurance.

• **REID H. BOWMAN, BS 1969** (MS, Princeton; PhD, UC Santa Barbara), after retiring from Dow USA, is now Director of New Products for Applied Process Technology, Inc. in Lafayette, Calif.

• **ROGER T. CLARK, BS 1966, MS 1970** (PhD, U of Utah), received the 13th Annual Elf Award for Chemical Innovation. (See article elsewhere in this *Newsletter*.) Carol's and Roger's twin sons, Bill and Jim, graduated with their degrees in engineering and now are employed as engineers.

• **ROSS R. DAVIS, BS 1957** (MD 1961), is a surgeon and Chief Medical Officer for the Department of Corrections at the Avenal State Prison, Avenal, Calif.

• **ALAN DiSTEFANO, BS 1968**, is employed as Vice President, Sales & Marketing with Baldwin Environmental, Inc. in Reno, Nev. "We recently returned to Northern Nevada after a four-year absence. Three of our four children, and three grandchildren live in the Reno area. The fourth works in Yosemite as an environmental scientist. Baldwin Environmental manufactures equipment for air pollution monitoring."

• **MICHAEL EASTERLING, BS 1969**, works as Technical Director for GenCorp in Auburn, Penn. Last year he received the GenCorp Technology Award. *Congratulations!*

• **DAVID FAGERBURG, BS 1967** (PhD, U of Washington), has been named Senior Research Associate at Eastman Chemical Co. in Kingsport, Tenn. where he has been employed for 27 years. David is a polymer chemist and a member of the Society of Plastics Engineers and the American Society for Testing and Materials. He and his wife, Maureen, live in Kingsport.

• **DONALD J. FERM, BS 1968**, is employed as Senior Research Chemist in the Technology Department of U.S. Borax, Inc. in Valencia, Calif. Don was appointed to CSULB's Chemistry & Biochemistry Advisory Council this year. See an article on the Advisory Council elsewhere in this *Newsletter*.

• **NORMAN HESTER, BS 1968** (MS and PhD, UC Riverside), is Technical Director at Truesdail Laboratories in Tustin, Calif.

• **MARGARET ANN HOHLY, BS 1967, MS 1971** (MS, CSU Fullerton), works in two capacities. She is Professor of Computer Information Systems at Cerritos College in Norwalk, Calif. and is also employed by IBM in Rochester, Minn. where she has developed and delivered training on new operating systems prior to their release.

• **ROBERT O. HUTCHINS, MS 1962** (PhD, Purdue University), has been named G. S. Sasin Professor of Organic Chemistry at Drexel U in Philadelphia, Penn. where he also continues to serve as department head. Bob was named a CSULB Outstanding



ALLAN BIKE WITH DAUGHTER, STACY, AND GRANDCHILDREN, MISS AND KATE.



DR. DAVID FAGERBURG.

Alumnus in 1987. His wife, Dr. MaryGail (CSULB 1961-62, PhD Drexel U), has a business, "Hutchins Safety Consulting,"

- **ROBERT JORDAN, BS 1967, MBA 1976**, is water quality laboratory manager with the Santa Margarita Water District in Mission Viejo.
- **ALBERT A. KAMEGO, MS 1967** (PhD, UC Santa Barbara), is Senior Engineering Specialist in Materials and Processes Engineering at Lockheed Martin Vought Systems in Dallas, Tex.
- **JAMES L. LUCAS, BS 1965, MS 1970** (MBA, UC Irvine), is employed as Senior Vice President for Administration with Environment & Energy, Inc. in Carpinteria, Calif. He is co-founder of EEI, a company that specializes in converting agricultural wastes (straw, etc.) into high energy fuels.
- **RAYMOND E. OUELLETTE BS 1968**, is an environmental engineer/consultant with Ouellette Consulting. He is a hazardous waste regulatory compliance expert qualified to perform regulatory compliance audits, prepare hazardous waste permit applications, teach hazardous waste management principles and is a qualified Environmental Professional by the Institute of Professional Environmental Practice. Ray is chairman of the MTBE (methyl tert-butyl ether) Committee of the Orange County Section of the ACS. Ray regularly writes a column for the *Section Newsletter* dealing with this controversial gasoline additive.
- **ARIE A. PASSCHIER, BS 1961, MS 1963** (PhD, U of Washington, Seattle), is Senior Engineering Specialist and Manager of the Materials & Processes Laboratory with Boeing in Anaheim, Calif. "I have worked for Rockwell International since 1968, and for Boeing since December, 1996, as a consequence of the Rockwell-Boeing merger. I manage a Materials and Processes lab supporting the manufacture of inertial guidance instruments. Deanna and I have two sons. Eric graduated in 1997 from UCLA as a language major, but is now taking night classes in pursuit of a CPA degree. Jason graduated from UC San Diego in 1998 with a degree in physics. He has joined the Navy and will attend their nuclear engineering school with the object of becoming a nuclear engineer aboard a nuclear submarine."
- **RON RAWDING, BS 1969, MBA 1980**, is employed as a Distributor Specialist in chemical sales for Witco Corporation. He reports that he now has four grandchildren.
- **HARRY SCHMUS, BS 1968**, is an Application Scientist with Hitachi Instruments, Inc. in Danbury, Conn.
- **JAMES R. SCOTT, BS 1968** (DDS, USC), works as a staff dentist with United Health Centers of the San Joaquin Valley, Inc. "I have remained a staff dentist at a rural migrant health center in the San Joaquin Valley for the past 15 years. My wife, Michele, has begun dental hygiene training. We continue to be challenged by, and enjoy our 3- and 5-year old boys, Charlie and Kevin."
- **WILLIAM THOMASSON, MS 1966** (PhD, Caltech), reports "I have started a job at Cohn & Wolfe Public Relations. I'm glad not to be covering medical meetings any more; the amount of writing all in one indigestible chunk just didn't fit well with my work habits and preferences." **Wife, Penny (Heine), BS 1966**, works as a chemist for a company which manufactures car waxes and shoe polishes. Son, Marc, works with a construction engineering firm and as a part-time musician.
- **DENNIS VANWESTERHUYZEN, BS 1966**, is Laboratory Manager of the Components and Materials Laboratory at Hughes in El Segundo, Calif. The laboratory consists of five departments and employs 500 technical personnel. Hughes is now owned by Raytheon.

1970-1979

- **TED A. BAILEY, BA 1973** (BS and OD, Southern California College of Optometry), is an associate of James Halpern, MD, in Monterey, Calif. He and wife, Suz Bailey, enjoy sailing, jogging and exploring the Bug Sur Coast.
- **PRABHA BHALLA, MS 1975**, with her husband, Jagminder, sponsored an Arangetram (a solo dance debut) of Indian dance by Kiran Bhalla, their daughter, at the Cypress College Theater in Cypress, Calif. She was accompanied by an Indian quartet consisting of voice, drum, flute and violin. Several hundred persons were in attendance and guests, including some CSULB chemistry faculty, enjoyed a traditional Indian feast at intermission.
- **VIRGINIA RUALO BLEICH, BS 1979**, is Senior Chemist with Ultramar, Inc. in Wilmington, Calif.
- **RAY CALLOWAY, BS 1978**, has retired as Laboratory Administrator from TRW. "I am continuing to enjoy retirement; I have many hobbies, including golf, woodcarving, gardening, bicycling and working on my 1966 Mustang convertible."
- **JON DILLON, BA 1979** (BS Pharmacy, U of Utah), is a pharmacist with Vons in Yorba Linda, Calif.
- **GEORGE F. GREEN, BA 1972** (DDS, USC), is a self-employed dentist in Los Alamitos, Calif. He was appointed Expert Examiner for the California State Board of Dental Examiners, Department of Consumer Affairs.
- **WILLIAM HULBROCK, BS 1970, MS Biochemistry 1974**, is a Manufacturing Engineer at ICN Pharmaceuticals in Costa Mesa, Calif. ICN has purchased a line of products from Hoffman-La Roche, and Bill has responsibility for supervising their manufacturing. Daughter, Amy, graduated from San Diego State this year with a mechanical engineering degree, and daughter, Laura, has given birth to a son.
- **KURT MACLEAN, BA 1978** (JD, UCLA), has been named manager of Oppenheimer, Poms and Smith in Irvine, Calif. His firm specializes in the practice of law relating to intellectual property. Kurt was the keynote speaker at the CSULB Chemistry & Biochemistry Department's twenty-sixth Honors and Awards Dinner on May 14.
- **ROBERT MAIDEN, MS 1979**, is president and owner of Killdee Scientific Glass Co., Inc., in Santa Fe Springs, Calif. "Our company recently went online at www.killdee.com. Business is booming!"
- **MARY MAILANDER, BA 1974** (MD, Georgetown), is a pediatrician with the Beaver Medical Group in Redlands, Calif. "More than 20 years after graduating I am still learning all the time. I have a husband, Chris (PhD, UCR), and four great children: Kathleen 15, Emily 14, Paul 11 and Peter 8. We are a full-time sports family: soccer, baseball and basketball. Greetings to Dr. Bauer."
- **MARIANNE MARSI, BS 1978** (PhD, UCLA), has been promoted to Technical Services Manager in the Teflon Fluoropolymers Division of E. I. DuPont de Nemours and Co. She is the manager of Technical Services and Application Development for Teflon products. Marianne was this year's recipient of the Distinguished Alumna Award of the College of Natural Sciences &



KURT MACLEAN.

Mathematics. (See an article elsewhere in this *Newsletter*.) Marianne, husband Lewis Manring, also a manager at Dupont, and children, Teresa and Gregory, live in West Chester, Penn.

• **PATRICK MCKAY, MS 1979**, has completed his eighteenth year at Genentech and still works in the Department of Recovery Sciences (Process Development). "I was promoted to Scientist last year, and have been working in that role since then. 'Scientist' is the equivalent of someone having a PhD and two post docs. I'm still working on both research and development projects and am eligible for my third sabbatical. I just finished teaching a chemistry night class at the local junior college and will be teaching another in the fall. Wife, Mary, is mom, Girl Scout leader, 'lunch lady' at one of the local high schools, and Teaching Assistant at daughter Allison's school. Son, Brian, is an honor student in Middle School. He's off to Utah and Arizona for 10 days with students and faculty for some geology study; then to New York with his school's Stock Market Club for a week or so. His school won the statewide competition and the club is being treated to this trip by the NYSE. Then it's off to Europe with his Honor Society."

• **JAMES MERRILL, BS 1971**, is employed as a Senior Chemist with Nutrilite Products Co., Inc. in Buena Park, Calif. "I test vitamin, mineral and pharmaceutical products using many of the techniques I learned as a student at CSULB."

• **ROBERT MOSS, BA 1976** (MD 1980), is a surgeon and lives in Santa Maria, Calif.

• **THOMAS PAYNE, MS BIOCHEMISTRY 1971**, has retired from Los Angeles Trade Tech. He was the 1996 Honored Alumnus, College of Science and Mathematics at California Polytechnic University, San Luis Obispo, Calif, where he received his BS degree in 1958.

• **FRANK ROJE, BS 1977**, (MS Human Biology, DC) is a self-employed chiropractor and lives in Rancho Palos Verdes, Calif.

• **SUE SCHOIJ, STUDENT 1979** (Chemistry Minor, BS Chemical Engineering, MBA Finance), is a petroleum engineer with the City of Long Beach—Oil Properties.

• **PAUL SCHUMANN, BS 1971**, is the owner of Problem Solvers, a debt negotiation firm in Oceanside, Calif.

• **REX THORNHILL, BA 1977** (DPM, California College of Podiatric Medicine), is a self-employed podiatrist in Santa Barbara, Calif.

• **DELYSE BUUS WILLIAMS, BA 1979** (MD, UCLA), is a physician specializing in ophthalmic plastic and reconstructive surgery and is employed by Kaiser Permanente in Oakland, Calif. "My husband and I welcomed our first child, a boy, in November of 1997. That, and careers, keep us very busy!"

1980-1984

• **JOHN R. BERG, BS 1983** (MS Civil Engineering, LMU), works as a Sanitary Engineer with the California Department of Health Services—Drinking Water Program in Berkeley, Calif. His duties involve inspecting waterworks for compliance with state and federal laws. "A chemical education has proved invaluable in this and my previous environmentally-related positions."

• **LORI JO CHILDRES, BA 1984** (DMD, Washington U School of Dentistry), now lives in Redding, Calif., and is married to David Sydow, MD (BA 1984, Biology). Lori is a self-employed dentist in Redding. She and David are expecting their second child this year.

• **BRIAN DUBOW, BS 1980**, works as program director for the F-22 Advanced Tactical Fighter and the new Joint Strike Fighter Programs. He is responsible for all technical and cost decisions of these programs and for corporate financial accounts with a budget exceeding \$132 million.

• **DWIGHT GERGENS, BS 1984** (MS Chemistry, MBA UC Irvine), was promoted to Principal Business Analyst at Ablestik Laboratories. "Next year I will be involved and responsible for 'roll out' to Ablestik Japan and Korea. Bridget completed her EdD at USC. We have moved to Fountain Valley and had our 7th anniversary in March."

• **LESLIE GILPIN, STUDENT 1980** (BS Zoology, Chemistry Minor) (MA, Teaching Science, CSU Fullerton; MA School Counseling, National University). She and Steve Dublin were married January 1998 and are expecting the birth of a son. Leslie will take a one-year leave from teaching science and then return as a school counselor for the Long Beach Unified School District.

• **ELLEN GREENMAN, BS 1984** (Teaching Credential, CSU Dominguez Hills), is a high school math teacher with the Los Angeles Unified School District at Hollywood High School. She is considering a career change and

will be completing a four-year program in Landscape Architecture through the UCLA Extension Program. Her daughter will be entering UC Berkeley this fall.

• **RENEE HERMES, BS 1982** (MBA, Pepperdine), is Senior Inventory and Measurement Analyst with ARCO Products Company in Los Angeles. "I provide inventory information for ARCO's West Coast finished products (gasoline, jet and diesel fuels). I investigate inventory losses and develop claims against third parties for shortages of product. Remember, it's best to purchase gasoline in early morning or evening due to thermal/volatile expansion of the fuel in underground/vehicle tanks!"

• **BRAD HOUSE, BS 1984**, is employed as a sales and marketing representative for Array Systems, Inc.

Array provides custom software programming, systems integration, applications development and other services for businesses. "My sales and marketing skills and dealings with municipalities for event permitting that I have learned as a bicycle race promoter over the past five years was instrumental in obtaining this position. Debbie and I have a daughter who will be starting the third grade in the fall and a son who will begin the first grade."

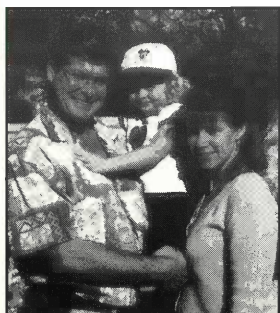
• **KARL HOWE, STUDENT 1983**, is a computer programmer/systems analyst for the Long Beach Container Terminal. He and his wife, Katherine, have a daughter, Karlianne (4).

• **RICHARD HUDSPETH, MS BIOCHEMISTRY 1980** (PhD Molecular Biology, USC), is employed as a research and development scientist with Quidel Corporation in San Diego, Calif.

• **RICHARD KANNER, MS 1983** (PhD, UCLA), presented a seminar, "Vitafert Sterile Intravitreal for



LESLIE GILPIN AND STEVE DUBLIN.



KARL AND KATHERINE HOWE AND DAUGHTER, KARLIANNE.

Sustained Delivery of Gancyclovir for the Treatment of CMV Retinitis," on October 1, 1997 as part of the CSULB Chemistry/Biochemistry seminar series. Richard is a research scientist with Chiron Corp. in Irvine, Calif.

- **LEON LEVAN, BA 1981, MS 1983**, employed by Apollo Analytical, presented a seminar as part of the department's spring 1998, seminar series entitled, "Opportunities for Your Future in Chemistry."
- **SCOTT MARSI, BA 1980** (MS San Diego State U), is Business Director for Rhodia, Inc., formerly Rhone-Poulenc, in Cranbury, NJ. Scott's division specializes in surfactant and personal care products.
- **JOHN MENKE, BA 1981** (BS Zoology) (DVM, UC Davis), is the owner and veterinarian for Franklin Animal Hospital in Sacramento, Calif.
- **SONIA MOLINA, BA 1983** (DMD, Harvard; MPH Harvard School of Public Health; Specialty in Endodontics, UCLA). "I own an office in Downey where I practice endodontics." Her husband owns a law firm in Los Angeles, and they have two daughters, ages 5 and 1.
- **E. MICHAEL MOSIG, BA 1984** (DDS, Georgetown U), and his wife, Marylynn (DDS, Georgetown U), have moved from Arizona to Redondo Beach where they have purchased a home. Their son will begin the first grade in the fall, and their daughter will be 3 years old. "Prior to moving to Redondo Beach, we were stationed with the U.S. Public Health Services on the Hopi and Navajo Indian Reservations at Keams Canyon, Arizona. Marylynn now works part time for two different dental offices, and I am working full time for a large HMO."
- **MICHAEL MUSTILLO, MS 1983**, continues to teach high school science at Whitney High in Cerritos, and in his spare time assists Dr. Roger Acey with his research in biochemistry at CSULB. He also served as a part-time lecturer in the department this year.
- **JOHN E. NEFF II, BA 1980**, is monitoring Research Associate, Clinical Research for Merck Research Laboratories which are based in West Point, Penn. "After working for Allergan for 14 years, then for one year at a clinical research organization, I have moved on to Merck Research Laboratories where I monitor chiral research sites in Southern California. I am married, have a two-year old and live in Turtle Rock, Irvine, Calif."
- **KAREN ROGERS, BS BIOCHEMISTRY 1980, BS CRIMINALISTICS 1979**, is employed as Senior Director, Quality Assurance and Food Safety for Family Restaurants, Inc. (El Torito, El Torito Grill, Las Brisas, Chi-Chi's) and works in Irvine, Calif.
- **THERESA ROHR-KIRCHGRABER, BA 1984** (MD Cornell U Medical College), is Assistant Professor of Medicine and Associate Program Director of Internal Medicine at University Hospital/SUNY-HSC at Syracuse, NY. "I have been working to expand the ambulatory medicine program within the department. Recently I became board certified in adolescent medicine. Along with all of this, I am a hockey mom! Richard's (7) team won their championship game, and I am beginning to learn the rules. Grace (6) is our beautiful dancer and Girl Scout cookie seller! James (2) is a big handsome guy who keeps up with the rest of us."
- **BRETT SHARENOW, BA 1980** (MBA, San Jose State U), is President of Sharenow Associates and is a management consultant.

1985-1989



JIM BROPHY, LEFT, WITH CHEF GREG MULLIGAN.

• **JAMES BROPHY, BS 1985**, is the proprietor of Chatz, a coffee house located at E. Broadway and Linden, and co-owner of a restaurant, Mango Fool, at 70 N. Atlantic in Long Beach, Calif. Mango Fool was the subject of a lengthy review in the March 15 food section, "Taste", of the *Long Beach Press-Telegram*. Al Rudis, the Restaurant Editor states: "The sign is interesting, but the building's not much to look at. So just walk on by. If you do, you'll be missing some of the most exciting and innovative food in downtown Long Beach..." Jim also buys rundown historical homes and restores them.

• **JASON BROWN, STUDENT 1986** (Chemistry Minor, BS in Biology) (DDS, UCLA), owns a dental practice in San Diego. "I'm having a great time learning the latest techniques in dentistry as they come out at breakneck speed. I have been having good success introducing the more proven techniques to my practice. Even I am amazed at the things technology allows me to do! In July we are going back to Fiji with the 'Surfers Medical Association.' I can't wait to get to Fiji again to visit my

friends from the village of Nabila and further educate them on preventive dentistry. A bad surf day in Fiji is about equal to a good surf day in California!"

• **KELLY CARROLL, MS BIOCHEMISTRY 1987**, is Vice President of C&C Scientific in Burlingame, Calif.

• **HUGH CECIL, STUDENT 1988** (Chemistry Minor, BS Biology) (MD, UC Davis), and his wife, Denise, moved from Albuquerque, NM, where Hugh had a one-year fellowship in vascular and interventional radiology. They are now living in Kalispell, Mont. where Hugh has accepted a position.

• **KERRY DEGROOT, BS BIOCHEMISTRY 1988**, has been appointed Assistant Professor in the Department of Anesthesiology at the Georgetown University Medical School in Washington, DC. In addition to supervising residents in anesthesiology, he teaches a problem-based learning class in the Department of Physiology. His wife, Dr. Jacqueline DeGroot, continues as a pathologist for the Armed Forces Institute of Pathology.

• **PATRICIA HEALY, BS BIOCHEMISTRY 1988**, passed the bar examination and was sworn in on December 9, 1997. Pat is Associate Attorney with Townsend, Townsend and Crew in Palo Alto, Calif.

• **BRETT S. KISLIN, MS 1987**, will be completing his PhD in computational chemistry in December if all goes as planned. He is working with Professor Todd Wipke on the INVENTION project for drug discovery by computer.

• **TERESA R. F. KNAPP-ALLARD, BA 1987** (PharmD, UC San Francisco). "Long Beach prepared me superbly for my career after college. After graduating with a PharmD Degree from UCSF in 1991, I was prepared to embark upon my career as a Clinical Pharmacist. I am currently a part of the Inpatient Pharmacy at San Francisco General Hospital. My clinical service duties include the Skilled Nursing Facility at SFGH. I am also an Associate Professor at UCSF and currently teach both first- and third-year pharmacy students. The first-year class is 'Over-the-Counter Drugs.' Of all the lessons I learned at CSULB, the one



Dr. HUGH CECIL AND DAUGHTER, JULIA.

that stands out the most is: NEVER GIVE UP! I have applied this lesson in teaching my students, housestaff physicians and nurses and my patients."

- **KATHY (CHRISTOPHERSON) KURJAN, BS 1986**, is a chemist in Process Chemistry at Allergan in Irvine, Calif. Last year, Kathy helped organize a tour for our undergraduate students of the outstanding laboratory facilities at Allergan. Thank you, Kathy!

- **JON J. LOHWASSER, BA 1988**, (PharmD, UC San Francisco), is a staff pharmacist at Los Alamitos Hospital.

- **LARRY MATSUMOTO, BS 1987** (MD Creighton U). "My research is going well, and I am close to finishing my first project. I'm looking at VEGF expression in fetal tissue under different experimental conditions. I hope to set up a joint research project with Dr. Olefsky, a diabetes expert of note. We hopefully will use an animal model to study growth restriction in the fetus. This is in preparation for my application for Reproductive Scientist Development Program which is sponsored by the NIH. I have chosen to pursue a life in academics."

- **THOMAS MURPHY, BS 1987**, is Chief Chemist with Coatings Resource Corporation in Huntington Beach, studying industrial coatings. The Murphys have a child, Evelyn Marie (2) and are expecting another addition to the family late this summer.

- **ROBERT RICHARDSON, BA 1986**, presented a seminar in the department's spring 1998 series entitled, "Opportunities for Your Future in Chemistry." He is employed with Apollo Analytical.

- **PETER A. RILEY, BS 1982, MBA 1988**, is Associate Industrial Hygienist, working as a compliance officer for the State of California (CAL/OSHA), and lives in Long Beach, Calif.

- **ALEX SEIZEW, GRADUATE STUDENT 1989**, passed his final oral in November, 1997, and is expected to complete all requirements for the PhD this year at UC Santa Barbara. He is working as a chemist for Medical Analysis Systems in Santa Barbara.

- **LEO STEMLER, BS 1988**, is the Exhibition Chair for the October 1999 Western Regional Meeting of the ACS. Leo is a chemist with Rosemount Analytical in Orange County.

- **ROBIN Y. UNDERWOOD, BA 1986** (MS Environmental Engineering, USC), is Senior Environmental, Health & Safety Specialist with Raytheon in El Segundo, Calif. "I became an Engineering Duty Officer for the United States Naval Reserves, and passed an Oral Board to complete the seven-year program. EDOs are considered the 'High Tech Brain Thrust' of the Navy."

1990-1994

- **MIKI AURANG, BS BIOCHEMISTRY 1990** (MD, St Louis U), is a resident physician in internal medicine at the UC Irvine Medical Center. Her husband, **RICK CSINTALAN, STUDENT 1990** (BS Physical Therapy) (MD, St. Louis U), is a resident physician in orthopedic surgery, also at the UC Irvine Medical Center.

- **OREN BESKE, BS BIOCHEMISTRY (BS PHYSIOLOGY) 1994**, continues as a PhD candidate at UC San Francisco. "I am working, working working! I am studying the cell biology of polio-infected cells and will be presenting data at an international conference in West Germany in September." Oren is the recipient of a National Science Foundation Predoctoral Fellowship.

- **ROBERT J. BLANTZ, BS 1991**, is an Environmental Field Technician for the South Eastern Regional Reclamation Authority (SERRA) in Dana Point, Calif. "I am involved in the analysis of coliform bacteria in ocean water. SERRA is an 18 million gallon per day waste water treatment plant. My position involves collecting, analyzing and reporting the amount of coliform bacteria present in beach water from Laguna to San Diego County. Although the day can be routine, I love working outdoors. Currently, I am studying to complete an Associate's Degree in Electronic Technology and Computer Science."

- **YELEN CONCEPCION, BS BIOCHEMISTRY 1994**, is Associate Scientist/Team Coordinator at Dade-Behring, Inc. in Miami, FL.

- **KIMBERLY CORKERY, BS 1991**, Customer Training Specialist at Boeing in Seattle Wash. "I have moved back home to Seattle with my two children, Lauren (6) and Mark (5) and started a new career with Boeing. I am working in the F22 Maintenance Training Devices Group. We are designing and overseeing the fabrication of nine trainers. They will be used to train maintenance men to care for the F22 Fighter. It has been a wonderful change, and I love my new position." Kimberly formerly lived in Roanoke, Va. and worked with Owens & Co. a realty company.

- **STEPHEN J. DELL, BS 1993**, will be completing his PhD this summer at Princeton U, where he is a student of Dr. Robert Pascal, Jr. "My research concerns the synthesis of cyclophanes with either "in or out" functionalities. Recently, I synthesized a cyclophane which contains an 'in' fluorosilane which is pressed into the face of a benzene ring. This is the largest 'in' functional group to be placed in such a position. A communication is being published in *J. Amer. Chem. Soc.* and a full paper will follow. After Princeton, I will be a postdoctoral associate in Professor Zimmerman's group at the U of Illinois, Urbana."

- **DAN FONG, BS BIOCHEMISTRY 1993**, is a second-year graduate student at the U of Illinois in Urbana. A PhD candidate, he is studying the molecular biology of NMDA receptors.

- **ELOISA GONZALEZ, BS BIOCHEMISTRY 1991** (MD, Stanford), is a family practice resident at Columbia San Jose Medical Center in San Jose, Calif. "I will be changing residencies from family practice to a preventive medicine residency. I will receive my MPH this coming year at either Berkeley or UCLA."

- **ALEXANDER GREER, MS 1993** (PhD, U of Wyoming), is a postdoctoral associate of Professor Christopher Foote at UCLA and is currently working in the area of phosphorus chemistry.

- **DENIS GUTTRIDGE, MS 1990** (PhD, UC Irvine), is in his second year of postdoctoral study at the U of North Carolina, Chapel Hill. The Guttridges have a daughter, Anne, "who is quickly developing a Southern accent."

- **ROSS HERMAN, BS 1990**, is a chemist with Allergan in Irvine, Calif. "I have been splitting my time between chemistry (mostly analytical), water polo, auto mechanics, coin collecting, prospecting, basketball and my cats."

- **CLYDE C. JONES, BS BIOCHEMISTRY 1991** (MS, Tufts U), is an applications analyst with Biogen in Cambridge, Mass.

- **VICTOR S. MANDAPAT, BS BIOCHEMISTRY 1994** (BS Chemical Engineering 1994), is a first-year medical student at Kirksville College of Osteopathic Medicine, the founding school of osteopathic medicine in Kirksville, Mo.

- **JEFF MASSE, BS 1990** (MS, UCLA). "After leaving UCLA I returned to New England and was hired as an analytical chemist

at a materials testing laboratory, New Hampshire Materials Laboratory. I started out operating an ICP spectrometer, but after two years I graduated to organic analysis where I worked with FTIR and FTIR microscopy, as well as gas chromatography, thermogravimetric analysis and differential scanning calorimetry. I did basic polymer identifications, analysis and identification of microscopic contaminants in manufactured products, forensic paint analysis for insurance claims and automobile accidents, analysis of the surfaces of sneakers, and micro-FTIR of contaminants/particles on printed circuit boards and medical devices. In January 1997 I accepted a job as a research chemist for a government contractor employed by the Federal Aviation Administration—explosive detectors or “Bomb Sniffers”. We determine their ability to detect and identify various explosives. We are doing testing in the laboratory and in airports where these instruments have been installed at security check points. I now live in Southern New Jersey about 20 miles southeast of Philadelphia.”

- **KIRK McNAGNY, STUDENT 1993** (MD Bowman Gray School of Medicine), completed his MD Degree in 1997 and is presently a first year resident in internal medicine at the UC Irvine Internal Medicine Department.

- **SEAN MONACO, BS BIOCHEMISTRY 1994** (Physician Assistant Certificate of Completion, Western U of Health Sciences). “I am presently completing my last year of clinical rotations in the WUHS Physicians Assistant Program in Chico, Calif. I graduated in June 1998 and complete my rotation in December of 1998 and plan to specialize in orthopedics. During 1995-96 I was involved in a research project at Long Beach Memorial Heart Institute with Dr. Ellestadt involving a ‘bedside’ immunoassay that detected serum markers in patients with chest pains. The results indicated that Troponin I is more cardiac specific than other serum markers we used, and rendered results in 10 minutes vs. the hour turn around time for chemical analysis.”



SEAN MONACO AND FAMILY.

- **JAMES PETERSON, BS 1990**, plans to complete his PhD in organic chemistry this summer. He is a student of Professor Claude Mears at UC Davis and is working on peptide synthesis. After completing the PhD he will move to the U of Florida, Gainesville, where he will be a postdoctoral associate of Professor Paul Hargrave, investigating the chemistry of rhodopsin. In 1996 he and Dr. Joanne Kalush, a veterinarian, were married.

- **DAVID PORZIO, BS BIOCHEMISTRY 1990** (MD, UC Irvine), is a cardiology fellow at the U of Massachusetts Medical Center in Worcester, Mass. “I have finished my internal medicine training and began a cardiology fellowship in July at UMMC. My wife, **PAM GARCIA (BS PHYSIOLOGY 1990, CSULB)**, is completing her internal medicine training this year and is going into practice in Clinton, Mass.”

- **JON D. RAINIER, MS 1990** (PhD, UC Riverside), is Assistant Professor of Chemistry at the U of Arizona, Tucson. He was Program Chair for the 14th Rocky Mountain Regional Meeting in March of this year.

- **JUDITH RAMILLANO, BS BIOCHEMISTRY 1994**, continues as a chemist with Dep Corp. in Dominguez Hills, Calif. She will be married this summer.

- **ROBERT RZASA, 1993**, will complete his PhD in organic chemistry in August of this year and then move to the U of Colorado to become a postdoctoral associate of Professor Gary Molander.

- **STUART SCHESNACK, STUDENT 1990** (BS Chemistry UC Irvine), works as a chemist with Applied Power Concepts, Inc. in Orange, Calif. He will enter the Los Angeles College of Chiropractic in September.

- **ROBERT SMITH, BA 1993**, has returned to the United States from a stint working in computer sales in England. He has entered the restaurant business in the San Jose, Calif. area.

- **ROBERT STEVENS, BS BIOCHEMISTRY 1993**, after two years in the Peace Corps, has returned to the United States and has joined EarthShell, in Goleta, Calif., which is bringing to market biodegradable food packaging. See an article elsewhere in this *Newsletter* about his experiences in the Peace Corps.

- **KIANA TABIBZADEH, BA 1990, MS 1994**, is Assistant Professor of Chemistry at Irvine Valley College in Irvine, Calif., in the School of Physical Sciences and Technologies.

- **STEPHEN WESTERHOUT, BA 1994** (MD, Loma Linda U), begins an internship in surgery for one year at the U of Hawaii; then he becomes a resident in anesthesia at Oregon Health Science U for three years.

- **GREGORY WHITAKER, BS BIOCHEMISTRY, 1990** (DPM, Scholl College of Podiatric Medicine), is a medical student at Nova Southeastern U College of Osteopathic Medicine in Florida. He has an Army scholarship and will serve in the U.S. Army after his residency. He hopes to specialize in internal medicine.

- **JEFFREY M. WHITAKER, BS BIOCHEMISTRY 1993** (BS Cell & Molecular Biology, San Francisco State U), is a podiatric medical student at the California College of Podiatric Medicine in San Francisco, Calif.

- **CHARLES MING YUEN, MS 1990**, works for Nextar in San Dimas and is Program Chair for the Orange County Section of the ACS.

1995-1998

- **MATTHEW ALLAN, MS 1998**, works for Gensia in La Jolla, Calif. as a synthetic organic chemist. On May 20 he successfully presented his thesis defence to the Chemistry Faculty on the subject, “Regioselective Alkylation of Arenesulfonamides: A Novel Method of Preparing Alkyl Arenesulfonimidates.”

- **NEARY ARP AJIRAKU, BS BIOCHEMISTRY 1996**, is employed as a caricature artist with Disneyland in Anaheim, Calif. “As far as any further education, I recently finished rereading Siddhartha. Regarding any scientific achievements—I completed a course in scuba diving while on vacation in Thailand and am now certified.”

- **SILVERIO ARANO, BS BIOCHEMISTRY 1996**, has completed his first year of medical school at UC Davis.

- **AARON BAKLY, BS 1998**, is currently serving in the US Army in Fort Riley, Kans., and is scheduled to complete his service in October of this year.

- **MICHAEL BARRETT, BS BIOCHEMISTRY 1996**, is a territory representative in pharmaceutical sales with Wyeth-Ayerst and lives in San Clemente, Calif.

- **KEITH BOGDON, BS 1993, MS 1996**, has completed his second year as a law student at the U of the Pacific McGeorge School of Law.
- **BRIAN CULLIGAN, BA 1993**, (OD, Southern California College of Optometry), is employed with the Indian Health Service, Tohatchi Medical Center, Tohatchi, NM. "I have completed my residency at the Gallup Indian Medical Center and have started my new job in Tohatchi as Chief of Optometry. Optometry within the Indian Health Service is challenging, with emphasis on primary care/family practice and ocular pathology."

- **MARTHA DE LA ROSA, MS 1997**, completed her thesis entitled, "Electronic Effects on the Kinetic and Thermodynamic Binding of CO to Iron(II) Tetrphenylporphyrins," under the direction of Dr. Marco Lopez. She is presently a PhD student in the Department of Chemistry at UCLA.

- **THANG DINH, BS 1995 (MS, UC Irvine)**, is employed as a synthetic organic chemist with Tularik in San Francisco, Calif.

- **STEPHEN ESPITTA, MS BIOCHEMISTRY 1997**, is a chemist with Cocensys in Orange County, Calif. He and undergraduate Nhan Ta presented their work at the Society for Neuroscience convention in 1997 and submitted a more completed version of this work for publication. It has appeared in *Pharmacology*, **337 (2-3):315-324**.

- **DAVID FARNEY, BS BIOCHEMISTRY 1996**, is a pharmacy student at the U of Maryland, Baltimore.

- **DIPA B. GANDHI, BA 1995**, is Applications Chemist II with Horiba Instruments, Inc. in Irvine, Calif. She and husband, Dr. Bhauin Gandhi, have two boys, Manas (2) and Rushik (6 months).

- **NANCY GARDNER, MS 1997**, is a Lecturer in the department, teaching Chemistry 101, a preparatory course for Chemistry 111A, the first semester of Freshman Chemistry. Her MS thesis, completed under the direction of Dr. Marco Lopez, was entitled, "Free Energy Contribution to Ligand Binding of Hemoglobin's Apoprotein."

- **DANA MARIE GILCHRIST, MS 1995**, is working on her doctoral thesis in the Department of Developmental Psychology at UC Irvine, which involves brain imaging of autistic patients. She is a teaching assistant in the Department of Neurobiology.



DANA HALEY.

- **DANA ANNE HALEY, BS BIOCHEMISTRY 1995**, is a graduate student in the Department of Molecular & Medical Biology at UCLA. "Everything is going extremely well here at UCLA. LENORE LANDIS, BS BIOCHEMISTRY 1997, is my roommate and also a doctoral candidate in the same department." Her research during the last two years has led to an important discovery concerning the structure of a heat-shock protein, α B-crystallin. Her work was featured on the cover of the *J. Mol. Biol.* **277, 27-35**, and is entitled, "The small heat-shock protein, α B-crystallin, has a variable quaternary structure." Dana is the lead author. Crystallins are a major structural proteins in the lens of the vertebrate eye and are responsible for maintaining lens transparency and proper refractive index. α B-crystallin is found in a variety of other tissues and is associated with numerous neurological disorders. She will

receive a PhD in Pharmacology when her graduate work is completed.

- **THACH SON HO, BS 1995, MS 1997**, completed his MS thesis with Dr. Henry Po as advisor. His thesis was entitled, "Electrochemical Synthesis of Disulfides from 2-Thiopyrimidines." Thach will begin his second year in the PhD program in the Department of Chemistry at UCLA.

- **MATHEW KOUTROULIS, BS 1997**, will enter the PhD program in chemistry this fall at UC Irvine.

- **BRETT KRASNER, STUDENT 1996**, will begin his third year of medical school at Wayne State U. Brett and Lisa had their second child August 19, 1997, Nathaniel Robert. They also have a son, Alexander (3), and have purchased a home in the Detroit area.

- **JENNIFER LEE, BS BIOCHEMISTRY 1995**, formerly with Bachem in Torrance, Calif., has taken a position as Technical Sales Representative with Coast Chemicals, Inc., a supplier of chemicals to the cosmetics, food and pharmaceutical industries. Coast Chemicals is located in Placentia, Calif.

- **GEORGE LIARAKOS, BS BIOCHEMISTRY 1995**, is a master's student in biochemistry at CSULB, working with Dr. Douglas McAbee on characterization and identification of the iron-dependent lactoferrin receptor in liver cells (hepatocytes).

- **JOHN LIARAKOS, BS BIOCHEMISTRY 1995**, is a master's student in chemistry at CSULB, and a Teaching Associate. He plans to begin work with Dr. Lijuan Li in inorganic chemistry in the fall.

- **ANTHONY MEDAK, BS BIOCHEMISTRY 1997**, is a medical student at UC San Francisco. "During the summer of 1997 I worked with Dr. Balwant Khatra's lab in the Department of Biological Sciences at CSULB, studying protein phosphorylation effects on microtubule assembly. In September, I started medical school at UCSF, and so far, all is well. I'm not sure what specialty I will pursue, but I have applied for a summer scholarship to do research here at UCSF."

- **PATRICK J. MIDDLETON, MS 1998**, is currently an employee of the Huntington Beach High Schools and served as a part-time instructor in our department in the spring of 1998. He completed his thesis entitled, "Diastereoselective Studies in the Lewis Acid-Assisted Homopropargylations of Chiral α - and β -Alkoxy Aldehydes with Tri-*n*-butylallenyltin," under the direction of Dr. Kensaku Nakayama.

- **LAM-HIEN NGO, BS BIOCHEMISTRY 1998**, will enter pharmacy school at the U of Minnesota this fall.

- **BAO T. V. NGUYEN, STUDENT 1997**, was accepted to UCLA Dental School before receiving his BS degree in Biochemistry, and has just completed his first year of dental school. He recently was accepted into the Navy Health Professions Scholarship Program.

- **LINDA SCHECHINGER, BS 1990**, received her PhD in Chemistry from UC Irvine this year and is Assistant Professor of Chemistry at Cerritos Community College in Norwalk, Calif.

- **KYLE SCHLUNEGGER, BS BIOCHEMISTRY AND MARINE BIOLOGY 1996**, is a research scientist with Alpha Therapeutic in City of Industry, Calif.

- **QUINN TRAN, BS 1997**, is a laboratory technician with Taco Bell Corp. in Irvine, Calif. "I have been working for Taco Bell for one year and was married on February 14, 1998."

Dear CSULB Chemistry Alumnus:

We hope that you have enjoyed reading our twenty-third annual *Newsletter* and will take time to send us information about yourself for the next edition. Feature articles of interest to chemistry alumni are also solicited, as are photos. We would also appreciate any comments you might wish to offer about the *Newsletter*—what you enjoy reading, and what you would like to see that has not been included.

Contributions to the Chemistry and Biochemistry Department Alumni Fund are invited. The CSULB alumni office will be informed of any gift, and contributions will be acknowledged in alumni publications. Money which is received is used for the publication of the *Newsletter*, Chemistry Alumni Scholarships and Awards, and miscellaneous projects which help maintain the quality of our department. You will receive a personal letter of appreciation for gifts in any amount. If you wish to contribute, make your check payable to:

CSULB FOUNDATION/CHEMISTRY FUND
AND SEND TO:
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CALIFORNIA STATE UNIVERSITY, LONG BEACH
1250 BELLFLOWER BOULEVARD
LONG BEACH, CA 90840-3903

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OCCUPATION _____

JOB TITLE _____

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1. PLEASE GIVE US INFORMATION ABOUT YOURSELF (JOB, FURTHER EDUCATION, FAMILY, SCIENTIFIC ACHIEVEMENTS, ETC.) WHICH YOU WOULD LIKE INCLUDED IN NEXT YEAR'S NEWSLETTER. PHOTOS FOR PUBLICATION ARE ALSO WELCOME. (PLEASE CONTINUE COMMENTS ON THE REVERSE SIDE OF THIS PAGE IF NEEDED.)

2. IF YOU HAVE ENCLOSED A CONTRIBUTION, PLEASE ENTER THE AMOUNT _____. YOU MAY CHOOSE A FUND TO SUPPORT: () OPERATING FUND, () HENDERSON MEMORIAL FUND, () MONAHAN MEMORIAL FUND, () PATHOS MEMORIAL FUND, () SCOGGINS MEMORIAL FUND, () STERN MEMORIAL FUND, () MARSI SCHOLARSHIP FUND. YOU MAY USE YOUR VISA OR MASTERCARD. CREDIT CARD NUMBER: _____

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CHEMISTRY

BIOCHEMISTRY



Some 1998 Chemistry and Biochemistry Graduates and Faculty

CSULB is committed to and obligated by state and federal laws to extend equal employment and educational opportunity and to take affirmative action to enhance its diversity. The rights of its employees and students are protected by Executive Order 11246 as amended; Revised Order No. 4; Sections 503 and 504 of the Rehabilitation Act of 1973; Title VI and Title VII of the Civil Rights Act of 1964; Title IX of the Educational Amendments of 1972; the Americans with Disabilities Act of 1990; the Age Discrimination Act of 1975; the Civil Rights Restoration Act of 1987; and the Civil Rights Act of 1991. In addition to meeting fully its obligations of nondiscrimination under federal and state law, CSULB is committed to creating a community in which a diverse population can live and work in an atmosphere of tolerance, civility, and respect for the rights and sensibilities of each individual, without regard to economic status, ethnic background, political views, sexual orientation, or other personal characteristics or beliefs. Complaints which allege discriminatory acts or decisions and inquiries concerning the application of these nondiscrimination and affirmative action statutes may be referred to the Director, Affirmative Action at (310) 985-4121, 1250 Bellflower Boulevard, Long Beach, California 90840-0115.