

CHEMISTRY

BIOCHEMISTRY

For past and present students and friends of Chemistry and Biochemistry at California State University, Long Beach • Fall 2003 • Number 28

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In Memoriam

Glenn Marshall Nagel

1944 - 2003

Glenn Nagel served as the dean of the College of Natural Sciences and Mathematics from 1996 until May 21, 2003, the day he died. He was a member of our department and in the short time he was with us he won our respect and he won our hearts. We will miss him. *Please see page 5 for a personal remembrance of Dr. Nagel by Marco Lopez and Chair Douglas McAbee.*

Stephen Pentoney: Outstanding Alumnus of the College of Natural Sciences and Mathematics

by N. M. Senozan

Dr. Stephen Pentoney was recognized as the Outstanding Alumnus of the College of Natural Sciences and Mathematics for 2003 at the commencement ceremonies in May. Dr. Pentoney was honored for his accomplishments at Beckman Coulter's Advanced Technology Center where he is currently Director of Advanced Chemistry and responsible for "overall departmental leadership including budget, resource allocation, strategic alignment,

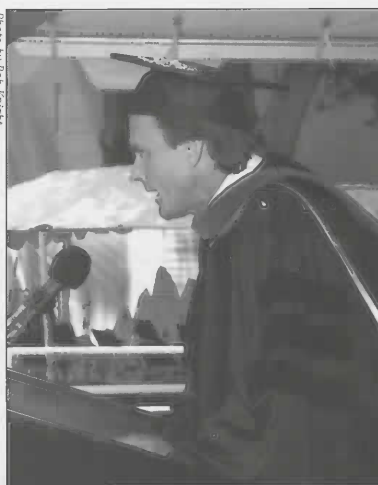


Photo by Bob Knight
Stephen Pentoney delivering commencement speech in May 2003.

effective communication, new technology scanning, development of licensing and R&D agreements, contract management, [and] the development and maintenance of a virtual laboratory environment."

After receiving a B.S. in Chemistry in 1983 from Long Beach State, Dr. Pentoney continued his graduate work at UC Riverside and received a

See page 2, Dr. Pentoney



Scott Gronert in his lab at San Francisco State.

Dr. Scott Gronert, a 1983 graduate of Long Beach State with a B.S. in Chemistry, has received the 2003 Teaching Excellence Award of the Northern Association of Phi Beta Kappa. The annual award is given to "three or four outstanding teachers who are faculty members in one of the seven Northern California universities that harbor PBK chapters." Dr. Gronert, now a professor of chemistry at San Francisco State University, was recognized on May 4, 2003 at the Berkeley campus of the University of California.

Scott Gronert Receives Teaching Excellence Award

by N. M. Senozan

Scott received his Ph.D. from UC Berkeley in 1987. After three years of postdoctoral work at the University of Colorado, he joined San Francisco State University where he became a full professor in 1997 at the age of 35. He has been the author or co-author of 68 scientific publications in premier journals, 47 of which are from his work at San Francisco State. His current focus is on the study of organic reactions in gas phase by mass spectroscopy. Since 1998 alone, Scott and his associates have published 25 papers including seven in the *Journal of American Chemical Society*.

The following are excerpts from a recent communication I received from Scott: "At CSULB I did research in my final semester with John

See page 2, Dr. Gronert

Message *by the Dean*

by Laura Kingford

It is with deep sadness that we begin the new academic year without Dr. Glenn Nagel, our Dean in the College of Natural Sciences and Mathematics for the past seven years. When Glenn was hired in 1996, he came with a vision of where he wanted this college to go and worked tirelessly, even through three years of illness, to move us there. The fact that he is so greatly missed now is a testament to how successful he was in his efforts and how much of a friend he was to all of us. Like me, many of you had the opportunity to work directly with him and were the recipients of his advice, help, encouragement, friendship and wonderful sense of humor. As I take over the leadership position as Dean for this year, it is with the knowledge that I "inherit" an outstanding college with a vibrant and forward momentum, but also with the humbling realization of the magnitude of the job that I have. It certainly is a challenge, but one that I'm finding also brings enjoyment and satisfaction. I have greatly appreciated the support and well wishes of those in the college and across the campus.

Along with missing Glenn and his leadership, the college is facing a number of challenges. The economy in California and the projected budget



cuts to higher education over the next couple of years mean that we must carefully define

priorities so we can continue to offer high quality programs for both undergraduate and graduate students. At the same time, we face increases in enrollments and must decide carefully which programs can take more students and where we need to set caps to protect quality of education. Private and other government sources of support for faculty/student research and other student initiatives will become more important to offset decreases in state funding. Faculty and staff have been very successful in acquiring external funding and we anticipate that this will continue.

We are looking forward to moving into our new science building early in 2004. You have been reading about the new Molecular and Life Sciences Center (MLSC) for several years now as it has progressed from an idea to a reality. The \$2.6 million for equipment that accompanies the new science building will allow us to acquire state-of-the-art equipment for research and teaching. This is coming at an opportune time as it will

allow us to meet the needs of students and faculty at a time when the acquisition of new equipment would otherwise be hard to get. While the MLSC building is being completed, we have begun the early stages of planning for another science building which would replace PH3. If this building is approved and funded, CSULB will have one of the best, if not the best, science complex in the CSU system.

The Department of Chemistry and Biochemistry has an excellent reputation for its programs. Its students go on to professional and graduate programs and its alumni are in leadership positions in companies nationwide. The department continues to hire new faculty members who bring ideas, energy, and expertise that are welcomed by all. Dr. Douglas McAbee is entering his second year as Chair and has proven himself to be a highly capable administrator and leader. I enjoyed working with him last year as a fellow chair and look forward to working with him and his department in a new capacity this year. I have complete confidence in the chairs, the faculty, and the staff in the college that we will work together to make this a good year and that this college will continue to shine in its excellence.

Dr. Pentoney

Ph.D. in analytical chemistry in 1987. The following two years he did postdoctoral research at Stanford where his work in association with Professor Richard Zare led to more than half a dozen publications in technical journals, including a seminal article on "Capillary Electrophoresis" in *Science* [1988, 242, 224-228]. Dr. Pentoney joined the Beckman Research and Development Group in Palo Alto, Calif. as a senior scientist in 1989, advanced rapidly, and was appointed in 1999 to his present position as Director of Advanced Chemistry. His work at Beckman/Beckman Coulter resulted in 14 patents on various aspects of electrophoresis technology, fluorescence and radioisotope detection, and optical methods. Several of his inventions are currently classified as "hold as trade secret" and are not seen in the patents issued. On November 6, 1997, Dr. Pentoney was inducted into the Beckman Coulter Hall of Fame – 28th individual to be so honored in the long history of this distinguished company.

Dr. Pentoney and his wife Terry have three children and live in Chino Hills. As a Beckman Coulter Volunteer, he presents science lectures and demonstrations for K-12 students and teachers. His outside activities include coaching and playing softball and basketball, fishing, boating and surfing. As was noted in the commencement ceremony, Long Beach's proximity to premier coastlines must have served him well in combining studying with surfing.

Dr. Gronert

Stern. I was involved in a calorimetry project determining the heats of dissolution of sugars in water containing additives such as ethanol and urea. Going into my senior year, I hadn't decided on a career path, and it was advice and guidance from Ken Marsi and John Stern that led me to pursue a Ph.D. in Chemistry. When I went to Berkeley, I had thought about joining either the

physical chemistry or organic chemistry program, but an invitation from Andy Streitwieser to work in his group over the summer before classes sent me down the path to a career in physical organic chemistry. I truly enjoyed my time at Berkeley, but I also realized the benefits of my education at Long Beach. Although Berkeley is a terrific graduate school, its faculty did not have much time to interact with students and undergraduate research was limited. I also realized how well the faculty at CSULB had prepared me for graduate school and felt that I had seen as much or more chemistry than the other students in the graduate program.

"Joining the faculty at San Francisco State University was a bit of a homecoming for me because the department shares many similarities with the one at Long Beach. It is about the same size and the faculty shares a passion both for teaching and research. For me, teaching was an immediate challenge. I had only been a T.A. in one undergraduate course at Berkeley so I had

See page 3, Dr. Gronert

Remarks *by the Chair*

by Douglas McAbee

The past academic year was marked by many notable events in the department. Faculty searches for an inorganic chemist and an organic chemist were completed successfully with the hiring of Dr. Xianhui Bu and Dr. Eric Martinez. Dr. Bu comes to us from University of California at Santa Barbara, where he was a research faculty member in the Department of Chemistry. Dr. Martinez was a post-doctoral fellow in the laboratory of Dr. Robert Grubbs at the California Institute of Technology. Both Dr. Bu and Dr. Martinez bring excellent records of scholarship and outstanding teaching potential to our department. We are very fortunate to have them as members of our faculty.

We were very proud to have an alumnus and graduating senior from our department receive college honors this past year. Dr. Stephen Pentoney, a research scientist at Beckman-Coulter and alumnus of our department, was named our college's Alumnus of the Year for 2003. Dr. Pentoney was honored and recognized at this year's alumni banquet and at the college commencement ceremonies for his many outstanding professional achievements. Larissa Balogh, a senior in our biochemistry program, was named Outstanding Graduate of the College this past year. Ms. Balogh will begin her graduate work in the Ph.D. program in medicinal chemistry at the University of Washington this fall. We are very pleased to have been a part of the success enjoyed by Dr. Pentoney and Ms. Balogh and we congratulate them again for their accomplishments.

Completion of the Molecular and Life Sciences Center (MLSC) is just around the cor-



ner. We hope to have faculty relocate to their new labs and offices this spring, though

teaching labs may not be held in the new facility until next summer. Nonetheless, we look forward with great anticipation to getting many of our faculty established in the new space next year. For the last few months, we have been busy ordering equipment for labs in the MLSC. Virtually all research groups in the department will be getting much-needed new or upgraded instrumentation that will enhance teaching labs as well as student and faculty research. Some of this instrumentation includes a new 90 MHz NMR for the organic and advanced organic teaching labs, a complete upgrade of the 400 MHz NMR for faculty and student research, a circular dichroism spectropolarimeter for analyzing secondary structures of proteins and peptides, a CCD diffractometer for determining the structures of small molecules, a new state-of-the-art gas chromatograph-mass spectrometer that will be used for teaching labs and research, and a new solvent purification system that will allow for rapid and safe recovery of organic solvents and free up much-needed hood space in research and teaching labs. From all appearances, it promises to be a first-rate facility from which students and faculty will benefit. We encourage alumni and friends of the department to stop by the new building to see this outstanding facility for themselves.

The health of our department in terms of the number of students in our programs and the scholarship and teaching of our faculty is strong. I am pleased to report that over the last three years, the number of students majoring in chemistry and biochemistry has increased 16 percent. We enter the Fall 2003 semester with over 300 students majoring in the B.S. Chemistry, B.A. Chemistry, and B.S. Biochemistry programs. The number of quality applicants to our M.S. programs in chemistry and biochemistry has also remained high, and the number of our faculty who provide research opportunities for our undergraduate and graduate students has increased. These trends bode well for the future of teaching and research in our department.

As have all state-supported universities in California, CSU Long Beach has felt the effects of the state budget crisis this past year. These effects will be felt in the college and department, and we expect that serious "belt-tightening" will be necessary for the next few years. The financial support we receive from alumni and friends of the department has always been crucial for us to maintain the various teaching and research endeavors of our faculty and students, but in the next few years, this support will be doubly important. We appreciate and are greatly indebted to all those who have donated to our department so generously in the past and we will be most grateful of your continued financial support in the coming year.

Finally, all of us in the college have keenly felt the loss of Dr. Nagel, who passed away on May 21, 2003. Glenn was a member of our department, an excellent biochemist and an outstanding dean. He was a strong supporter of our department and its faculty, and his presence among us is greatly missed. We will strive to live up to the legacy and vision he left us.

Dr. Gronert

very limited experience. I approached every lecture like it was a seminar and put endless time into preparation. I had good days and bad days giving lectures, but I learned that if you are trying, students will give you a break while you are getting your skills together. I am continually impressed by students' goodwill if they believe that you are giving a 100 percent effort to teach a class. Fortunately, I found that I have some natural talent in the classroom. Now, lecturing is one of the most enjoyable parts of my day. Although I was apprehensive about it when I took the job, I have come to love the teaching component of being a professor. The recent award from the Phi

Beta Kappa of Northern California for excellence in teaching was a wonderful and unexpected honor. I have tried hard to be a good instructor over the years and found it to be very rewarding, but I had never expected such recognition.

"At San Francisco State, I have tried to develop a vigorous research program. In the beginning, I was limited to doing computational chemistry because we had no mass spectrometry facilities. Luckily, our studies of E2 elimination reactions went well and I was able to get NSF funding early in my career. On my second NSF grant, I was able to obtain funding for the purchase of a quadrupole ion trap mass spectrometer and ever

since, my group has focused on using mass spectrometry to study fundamental organic mechanisms in the gas phase. By understanding these processes in the absence of solvent, we hope to learn about the intrinsic reactivity as well as the impact of solvation on the mechanisms.

"Aside from work, I have become an avid bicyclist. I live in Marin County and it is a wonderful place for biking with lovely views and challenging hills. Over the past couple of summers, I have had a chance to road bike across France and the Colorado Rockies. I also enjoy skiing and have retained a childhood interest in thoroughbred horse racing."

Editorial Box

An annual publication of the Department of Chemistry and Biochemistry for the past and present students and friends of the department. News items, feature articles, photos and comments are eagerly invited. The Newsletter and other departmental news and information may be accessed on the Internet at the following address:

<http://www.chemistry.natsci.csulb.edu>

Ken Marsi founded the Newsletter in 1976 and served as its editor through 2001. This issue of the Newsletter has been compiled by the joint efforts of Gina DeFinis, Joyce Kunishima, Douglas D. McAbee and Nail Senozan.

To send information about yourself please e-mail the Editor or use the enclosed form and envelope. Please indicate your CSULB degree, your major and year of graduation. We would be delighted to hear from you.

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This newsletter was printed and mailed with funds raised through the generosity of the alumni and friends of the department.

Larissa Balogh

Named Outstanding Graduate

by N. M. Senozan

Larissa Balogh was named the Outstanding Graduate of the College of Natural Sciences and Mathematics for 2003 during the commencement exercises in May. Ms. Balogh came to Long Beach State from Antelope Valley Community College in Lancaster, Calif. and has maintained a grade point average of 3.95 with only a single B during her three years at CSULB. She has earned the respect of her peers and professors as much for her modesty and graciousness as for her academic excellence. Dr. Marsi, Larissa's organic chemistry professor writes, in recommending her for a Ph.D. program in pharmacology, "she ranked first in the class [of 92 students] on all examinations. Indicative of her ability to learn and retain subject material was her performance on the most recent American Chemical Society Organic Chemistry examination, which was standardized by administration to 2,361 students in 52 well-rated colleges and universities in the United States. The examination was comprehensive, covering both semesters of the course. Larissa scored at the 97th percentile."

Larissa mentions organic chemistry (320B) taught by Professor Marsi and physical chemistry (377B) taught by Professor Mezyk as being her two most favorite courses at CSULB. She has been the recipient of several awards including Merck Award in Organic Chemistry and the

Kenneth L. Marsi Scholarship. For the last two years she has worked on a research problem in Professor Kevin Kelley's laboratory. When asked why she chose Long Beach, Larissa says she visited the campus and just liked it.

This fall, Larissa started her Ph.D. in medicinal chemistry at the Pharmacy School of the University of Washington. The graduate program will give her the opportunity to pursue her passion — organic chemistry and its applications to drugs and disease.



Photo by Bob Knight

Ms. Balogh is congratulated by Dr. Kelley during May 2003 commencement exercises.

Update on the

New Science Building

by Robert Loeschen

All of us in the college are very excited as the new building is in the final stages of being completed and may be open for classes next summer. We shall know more in November when the architects, engineers and our campus representatives begin the final inspection, the amassing of the "punch list" of things in the building that still have to be corrected or finished. We are all hopeful and are in the process of ordering much of the new equipment for the building. Everyone who has toured the building has been impressed by the room designs for the research and teaching laboratories. The pictures show a new teaching laboratory and an exterior view of the building.





Glenn Nagel was Special— A Personal Remembrance

by Marco Lopez

Glenn once said to me soon after we met that “going after grant funding and resources was challenging and fun.” I had never thought of it that way, but have not thought of it any other way since. Over the years, I and several others have had the “fun” of working on several grants with Glenn. He was like that great teacher we have all had who made you want to do well in class just to please him or her.

Another one of the legacies Glenn has left me is that of an excellent writer. I now recognize that I have gained a certain ability to write, but when looking at a draft, especially one summarizing a project, I will often think of how I wished Glenn could take a look at it.

Glenn had a sense of playfulness to him—a twinkle in his eye, a ready laugh on his lips—that made it a joy to be with him. People at the memorial and reception all recognized Glenn’s sense of humor, but I think it was more than that. Most people have a sense of humor, but Glenn had more. Although Glenn was a rigorous scientist and responsible administrator, he had this playfulness that was endearing and drew people to him.

I participated in the committee to review the Dean after his first five years. In our work we saw and heard in survey after survey and testimonial after testimonial from people working at the college and across the university and even beyond that Glenn Nagel was highly thought of and respected for his work on behalf of the students and the faculty of the college.

It was a pleasure having “Danny Boy” performed at the reception. Whenever I hear that now, I tear up and remember Glenn. I feel that although Glenn has left us for now, he is in the Afterlife and getting ready, at least in my thoughts, for the next grant-writing session. Or, perhaps, after hearing people at the memorial share their thoughts of Glenn, he might be getting ready for the next party, the next fishing trip, and, of course, always getting ready for his family.

As a final thought, I have found comfort in the hymn *Amazing Grace*....the fifth verse seems most appropriate:

*Yes, when this flesh and heart shall fail,
And mortal life shall cease;
I shall possess, within the veil,
A life of joy and peace.*

Vaya con Dios, Glenn...you were a fine man who touched many lives.

Dr. Glenn M. Nagel

by Douglas McAbee

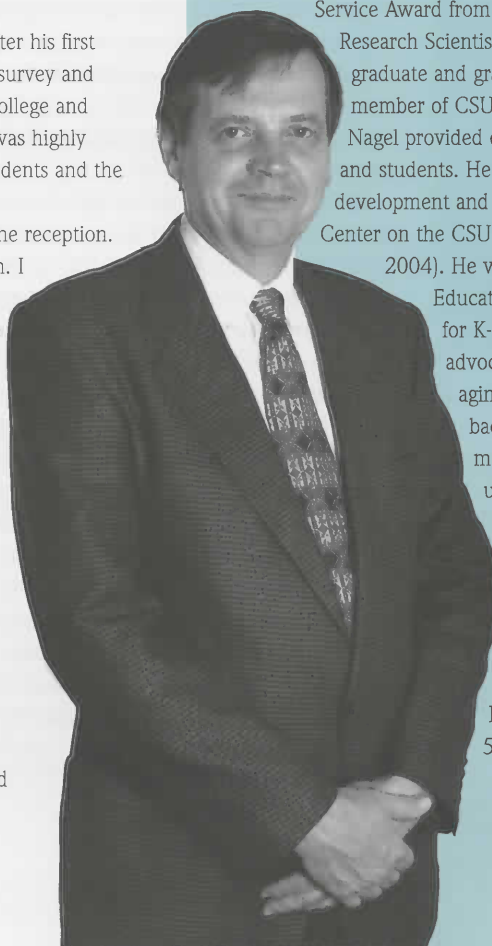
On May 21, 2003, Dr. Glenn M. Nagel, Dean of the College of Natural Sciences and Mathematics, passed away after a three-year bout with cancer. He was 59.

Dr. Nagel was born in Blue Island, Ill. He received his B.A. degree from Knox College, a small liberal arts college in Galesburg, Ill., and a Ph.D. in biochemistry from the University of Illinois Medical Center (Chicago). After postdoctoral studies at the University of California, Berkeley, he joined the faculty in the Department of Chemistry and Biochemistry at California State University, Fullerton in 1972, becoming department chairman in 1990. In 1987, he was cited as the Outstanding Professor at CSU Fullerton. He served as Associate Dean for the College of Natural Sciences and Mathematics at CSU Fullerton before his appointment to Dean for the College of Natural Sciences & Mathematics at CSU Long Beach in 1996, a position he served with distinction until his death.

We were very proud to have our department as Dr. Nagel’s “home” department as dean of the college. He was an outstanding scientist with expertise in structure-function relationships for various iron-binding, -transport, storage proteins and aminoacyl-tRNA synthetases. From this work, he authored or co-authored more than 28 research articles in various journals including *Journal of Molecular Evolution*, *Archives of Biochemistry & Biophysics*, and *The Proceedings of the National Academy of Sciences (USA)*. He was a long-standing member of the American Society for Biochemistry and Molecular Biology (ASBMB) and served on its undergraduate education committee for many years. He was also a key member of the Strategic Planning Council for CSUPERB. Among the many honors he received included a National Research

Service Award from the NIH and CSUPERB Outstanding Research Scientist. He mentored a large number of undergraduate and graduate students during his time as a faculty member of CSU Fullerton. As dean of the college, Dr. Nagel provided outstanding leadership to the college faculty and students. He was instrumental in implementing the development and construction of the Molecular Life Sciences Center on the CSU Long Beach campus (to be occupied in 2004). He was also very active in the Long Beach Education Partnership, which provides a model for K-12 science instruction. He was a strong advocate for both faculty and students, encouraging and enabling students from all manner of backgrounds to pursue careers in science and mathematics, and he vigorously promoted undergraduate research at CSU Long Beach. His absence is keenly felt by all.

Besides his wife Greta, Dr. Nagel is survived by his son Paul and daughter Christina, and brothers Donald and Richard. Memorial donations may be made to the Glenn Nagel Undergraduate Research Fund at CSU Long Beach (call 562/985-5537).



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Photo by Bob Knight

Dr. Goldish as Grand Marshall during May 2003 commencement exercises.

from Stanford in 1955 and her Ph.D. from UC Berkeley in 1958, the same year she joined our department where she has since taught in the areas of organic and general chemistry. She is a co-author of an organic chemistry problem book that was published by Prentice-Hall and translated into Japanese and Romanian. She has also written a mathematics book for chemistry students that has gone through four editions. In addition to her teaching duties, Dr. Goldish has held a long series of administrative responsibilities and served as the Associate Dean of the School of Letters and Science, Acting Dean of the College of Natural Sciences and for the last two years as the Acting Dean of Undergraduate Studies. From 1992-95 she was the Chair of the Academic Senate. Her distinguished service as a faculty leader earned her the Nicholas Perkins Hardeman Academic Leadership Award in 1995, the highest honor the faculty can confer to one of its members. You will find Dr. Goldish's reflections on our department from her unique long-time perspective in an accompanying article.

Dr. Po joined Cal State Long Beach in 1968 and soon established himself as an excellent teacher and a prodigious researcher. His work with students at CSULB resulted in over 40 publications in premier journals of chemistry, including the *Journal of the American Chemical Society*, the *Journal of Coordination Chemistry*, *Inorganic Chemistry*, and the *Journal of Computational Chemistry*. He has directed M.S. thesis research of 35 graduate students to completion — a record probably unmatched at CSULB. Sixteen of his former students are now Ph.D.s, six M.D.s, and several have received MBAs.

Dr. Po received the Scholarly and Creative Achievement Award in 1984 and was selected as the University Outstanding Professor in 1995. Last year he was inducted to Phi Beta Kappa (Rho Chapter) as a full-fledged member. In the last seven years he was named twice as the Most Valuable Professor by the recipients of the Outstanding Graduate Award of the College of Natural Sciences and Mathematics. Through his imaginative research that has continued unabated since his assistant professor days, Dr. Po has brought recognition to the California State University system throughout the world. Some years ago, a popular British magazine, *Chemistry in Britain*, noted that Dr. Po's research on silver compounds made it possible to develop a "novel electrochemical process [that] may provide a new alternative for the safe disposal of chemical waste." And I never forget the remark of a professor I had just been introduced to at the Aegean University, Izmir, Turkey. "So," the professor said, "you are from the same university as H. N. Po." He was a coordination chemist and knew of Dr. Po through his publications as H. N. Po.

In a recent message he sent to me, Dr. Po wrote, "[FERP] permits me to teach one semester a year with the other semester free of teaching duty. For the semester that I am free, I plan to travel and visit those wonderful places that I have read about. Countries in the Far East are on the top of my list as many former students of mine have been in touch with me over the years and have invited me to visit them. I will also keep busy by carrying out research in the area of computational chemistry and writing papers for publication."

Drs. Goldish and Po

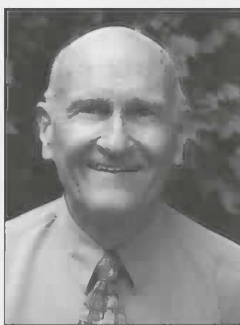
Choose Early Retirement

by N. M. Senozan

Professors Dorothy M. Goldish and Henry N. Po entered the Faculty Early Retirement Program beginning fall 2003. Faculty members on FERP are actually fully retired but they have the option to work half-time for a period of five years at their professorial rank prior to retirement. Dr. Goldish received her B.S.



Dr. Po in his office, September, 2003.



Dr. Mayfield in Sept. 2003



Dr. Simonsen in the sixties

Reflections on the Early Days of the Department

by Dorothy M. Goldish

As I retire and enter the Faculty Early Retirement Program after 45 years at CSULB, I find myself hoping that I'm not breaking the last link with the "Founding Fathers" of the department. This remarkable group set a tone of commitment to excellence in teaching and research, encouraged innovation and experimentation, and promoted a spirit of cooperation, avoiding the factionalism that so often characterizes academic departments. In addition to their contributions to the department, all made enormous contributions to the university as a whole. All were mentors to me and to other young faculty members, teaching us how to function as productive members of the university.

Robert B. Henderson, who came in 1955, was chair of the Department of Physical Sciences and Mathematics when I arrived in 1958. Bob had a genius for accomplishing what ought to be done despite bureaucratic obstacles. Everyone who has used the Organic Chemistry labs (appropriately named the Henderson labs just before Bob's untimely death in 1983) or the research labs in PH3 benefited from his foresight in designing them. He obtained the first research grant in the history of the institution and his work led to the establishment of the CSULB Foundation. As Associate Dean of the School of Letters and Science and as an early Chair of the Financial Affairs Council, he developed the data on the differential costs of programs that led to the CSU "mode and level staffing formula," a basis for establishing the need for faculty positions to serve the student population (unfortunately never fully funded).

Edwin N. Becker also came in 1955. Ed was a campus leader at several levels, including service as Chair of the Academic Senate and as a representative to the statewide Academic Senate, where he served on the Executive Committee for a number of years. I especially appreciate his mentoring as I started to work in faculty governance.

Donald H. Simonsen joined the department in 1956. When the separate Department of Chemistry was formed, Don was its first chair. In later years, he served as vice president of what was then called Long Beach State College, then as Acting President in 1969-70. Don's help and support made it easy for me to move to part-time teaching when my children were born, something no one else had done before, and then return to full-time teaching as a tenured member of the faculty.

Darwin L. Mayfield also joined the department in 1956. He did a great deal to mentor the two new faculty members, John Stern and me, who shared a crowded office with him and Bob Henderson in 1958-59. Darwin served the university for a number of years as Research Director. For many years prior to his retirement in 1990, he was responsible for organizing the annual commencement exercises.

I want to express my appreciation to these individuals and to all the other people I have worked with, both in the department and throughout the university. I appreciate, too, the many students I've worked with over the years. You have all helped to make this a happy and satisfying 45 years.

Under the Faculty Early Retirement Program, I plan to teach half time each semester. Initially, however, rather than teaching, I will be serving as Special Assistant to the Provost.

Advisory Council

James F. Myrtle, Ph.D.

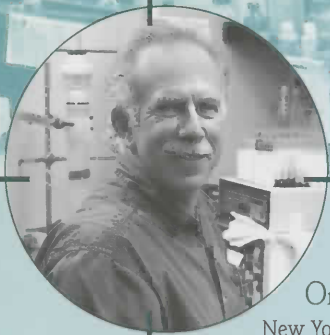
We are pleased to announce that Dr. James Myrtle has been appointed as a new member of the department's Advisory Council. Dr. Myrtle is a graduate of Compton High School and Compton Community College. After earning a B.S. degree in Chemistry at UCLA, he attended CSULB. His work exploring high-energy intermediates of oxidative phosphorylation with Dr. Louis Perlgut led to an M.S. degree in Chemistry. At UC Riverside, Dr. Myrtle's work on the discovery and biological function of the active form of Vitamin D established this compound as a steroid hormone rather than a vitamin and led to a Ph.D. in Biochemistry/Organic Chemistry.

Following postdoctoral work at UC Berkeley and several years with the SmithKline Corp. in Van Nuys, he joined a start-up company, Hybritech, in San Diego, where he managed five different research groups. Of the eight products he developed there, Dr. Myrtle gained particular recognition for his involvement in developing and introducing the prostate specific antigen (PSA) test, which has revolutionized the early detection, treatment and cure of prostate cancer. Subsequently, he became director of medical research at Roche Diagnostics (formerly Boehringer-Mannheim) in Indianapolis, where he developed the emergency room test, Troponin-T, for diagnosing cardiac damage, and later director of medical affairs at Chiron Diagnostics in the Boston area.

For the past five years, Dr. Myrtle has been vice president of medical affairs at MediSpectra, a medical device company in Boston. The technology, which has the potential to replace the Pap smear used in women's health care, employs ultraviolet laser light to optically probe tissue to detect pre-cancerous changes without touching the patient.

He has published 38 scientific papers, book chapters and abstracts. His wife, Monica Dietz, was a lab assistant at CSULB for Dr. Perlgut while working on an M.S. degree in Biology. They have three children, one holding a Ph.D. in Engineering from UCLA.

We are very fortunate to have someone with Dr. Myrtle's background and expertise join the Advisory Council. We look forward to his involvement with our department.



Focus on Faculty

by Anne Ambrose

Dr. Jeffrey A. Cohlberg

On July 4, 1939, New York Yankees baseball great Lou Gehrig gave one of the most touching farewell speeches in sports history. He had been diagnosed with amyotrophic lateral sclerosis (ALS), a neurodegenerative disease that took his life two years later and became so synonymous with the player that it's now commonly called Lou Gehrig's disease.

About 10 percent of ALS cases are inherited, the result of mutations in proteins. The role of these mutations in the disease process is of interest to CSULB Professor Jeffrey A. Cohlberg, who is focusing much of his research on a particular protein, Cu,Zn-superoxide dismutase (SOD). "About 20 percent of the inherited ALS cases are caused by a mutation in this protein. It's really unclear why mutations in SOD seem to be one cause of the inherited form of ALS," he explained. He said the most widely held theory about the mutations is that they increase the tendency of the protein to aggregate to create deposits that damage cells. "It's my goal to understand why aggregation occurs and what is happening to the protein—what changes in protein conformation are involved in converting the normal form of the protein to the aggregate. If you understand that process, it may be possible to inhibit it by designing appropriate drugs," said Cohlberg. "It's not even clear for this disease or for others whether the aggregates cause the disease or whether they're simply a side effect. Even in Alzheimer's, while there is a lot of focus on fibrous deposits called plaques and tangles, many researchers believe that it's something other than these fibrils, maybe intermediates on the path to fibril formation, which are the toxic species." In one theory, he said, "several individual protein molecules come together to form a hollow cylindrical channel which then pokes a hole in the membrane and allows ions to pass through, so that's what causes the disease."

Yet another theory holds that "there is an entire machinery in the cell to deal with unfolded proteins and to ensure that they refold and don't accumulate. If you get a lot of unfolded proteins, then that machinery gets swamped and the cell gets sick. One effect of this is that if there is a single protein that is accumulating

unfolded at very high levels and not getting refolded in the normal fashion, it will aggregate. So it's not the aggregates that cause the disease, it's the presence of the unfolded protein that is gumming up the quality control machinery," Cohlberg explained.

He is collaborating with the laboratory of UCLA Professor Joan Valentine, who also is researching SOD. This collaboration led to Cohlberg's involvement in the International Consortium on SOD and ALS (ICOSA), a group of four research laboratories in the United States and England that are pooling their efforts in trying to understand the causes of ALS and in developing potential treatments.

His work is further supported by grants from the ALS Association, which is funding a full-time technician to assist with experiments as well as equipment and supplies, and from Research Corporation, the Arizona organization that helps support education and research in academic chemistry departments. "The Research Corporation grant is for two years to support undergraduates working during the summer and it also paid for some supplies and equipment," said Cohlberg. His lab currently includes one graduate student and two undergraduates. He obtains yeast which express both the normal and mutant SOD from the Valentine lab at UCLA and uses these yeast as a source of protein.

"Nerve cells from ALS patients contain insoluble deposits, and one of the major components of these deposits is the SOD protein. Some of the approaches to study these deposits involve examining patient tissues or doing experiments with cell cultures. But there's another approach where you simply take the purified protein and look at its properties in a test tube, and that's what we're trying to do." Other ICOSA labs at the University of Texas Health Science Center at San Antonio and the Daresbury Laboratory in England "have shown that some of the mutant forms of SOD form linear aggregates with a chemical structure similar to fibers called amyloid. We're investigating whether amyloid can form from SOD in the test tube and whether mutations facilitate this process," he noted.

In a related study, he spent a sabbatical working in the laboratory of Professor Tony Fink at UC Santa Cruz to examine the aggregation of α -synu-

clein in Lewy bodies, structures that are found in brain neurons of patients with Parkinson's disease. He explained that Lewy bodies contain α -synuclein in the form of amyloid fibrils. "Our work demonstrated that glycosaminoglycans accelerate the formation of amyloid from α -synuclein, so further work is planned to investigate the role of other biomolecules in the control of α -synuclein aggregation."

Cohlberg has long been interested in neurofilaments, which help form the cytoskeleton of neurons—particularly in studying the proteins contained in these structures. "Neurofilament proteins are synthesized in the cell body and very slowly transported down the axon. Disruption of this transport process is involved in a number of neurodegenerative diseases, including ALS, and neurofilaments are a major component of Lewy bodies as well."

Cohlberg came to Long Beach State in 1975. He earned a B.A. in chemistry from Cornell University and his Ph.D. in biochemistry from UC Berkeley. His work has led to numerous journal articles in publications including *Biochemistry*, *Journal of Structural Biology*, *Journal of Biological Chemistry*, *Journal of Neurochemistry* and *Journal of Molecular Biology*, among others.

In addition to receiving a number of grants from organizations including the National Science Foundation and the National Institutes of Health, he also has served as a reviewer for several textbooks and is a frequent referee for National Science Foundation grant proposals and for the *Journal of Neurochemistry*.



Dr. Cohlberg's research group. From left Sarah Wilkins, Shelby Padua, Sean Downes, Zeynep Öztug and Dr. Cohlberg.



New Chemists

Join the Faculty

by Douglas McAbee

This past year, our department completed its search for two new faculty members with the hiring of Dr. Xianhui Bu, an inorganic chemist and Dr. Eric Marinez, an organic chemist.

Dr. Bu obtained his B.S. degree in chemistry from Fudan University in Shanghai, China in 1985 and his Ph.D. in chemistry in 1992 from State University of New York at Buffalo. During his Ph.D. period with Professor Philip Coppens, Dr. Bu worked on synthesis, crystal structures, and transport properties of low-dimensional organic charge transfer solids, some of which were found to be superconducting. Prior to coming to CSULB, Dr. Bu worked at UC Santa Barbara and carried out most of his research activity in collaboration with Professor Galen Stucky of UCSB and Professor Pingyun Feng of UC Riverside. Dr. Bu has authored or co-authored over 100 publications in peer-reviewed journals such as *Science* and the *Journal of the American Chemical Society*.

Dr. Bu's main research interest is to integrate synthesis, structural analysis and property measurement to develop functional solid-state materials with potential industrial and technological applications. The synthesis is often performed at low temperatures (below 373K) to allow access to the meta-stable phase domain. In general, these materials are crystalline and their ordered atomic structures can be studied with powder and single crystal diffraction techniques. The main research objective is to correlate structural features with observed physical properties and to design synthetic methods to prepare materials with desirable and tunable properties. Dr. Bu is interested in a range of solid-state materials including micro- and mesoporous materials, catalytic materials and electrical and electro-optic materials.

Dr. Bu currently lives in Riverside where his wife, Pingyun Feng, is an inorganic chemist on the faculty at UC Riverside. They have two daughters. Julia is in the fifth grade and Jennifer is in third grade. When not working, Dr. Bu likes to visit theme parks, zoos or go hiking, swimming, and shopping with his family.

Dr. Marinez obtained his B.S. and M.S. degrees in chemistry from Cal State University, Los Angeles (1987-1994). He did his Ph.D. work in the lab of Dr. George Olah, 1994 Nobel Laureate in Chemistry at USC (1999). He then returned to CSULA as a Camille and Henry Dreyfus Scholar, working in the lab of Dr. Carlos Gutierrez and teaching organic chemistry. For two years prior to coming to CSULB, Dr. Marinez worked as a post-doctoral fellow with Dr. Robert H. Grubbs at the California Institute of Technology, focusing his research efforts on the development and use of new olefin metathesis catalysts.

Dr. Marinez's research interests include organic reactions catalyzed by Lewis acids and superacids (acids that are up to a trillion times stronger than sulfuric acid), molecular recognition, and naturally occurring iron chelators termed siderophores. He plans to explore the possible use of water as solvent for organic reactions catalyzed by water-tolerant Lewis acids as well as the synthesis of chiral ligands that will coordinate to the Lewis acid and provide an asymmetric environment that will be useful in stereoselective synthesis. In addition, these chiral ligands will be explored for possible use as molecular receptors for ammonium and organoammonium binding. The selective recognition of organoammonium ions has received considerable research interest since they are the structural components of many biologically important amines such as GABA and dopamine.

Dr. Marinez and his wife, Deanna, reside in Monterey Park with their 2-year-old son, Eric Jr. They are expecting the arrival of their second son in December. Dr. Marinez enjoys listening to great music, particularly jazz and Latin music, and he himself plays the trombone. He also enjoys biking, deep-sea fishing, and college football.

We are very fortunate to have Dr. Bu and Dr. Marinez join our department faculty. They bring with them an excellent record of research achievement and publications as well as outstanding potential and enthusiasm for excellent instruction in our department's undergraduate and graduate programs.

Ways to Contribute

Your financial support of the Department is always appreciated...and always needed! There are several ways you can contribute...and each is each quick and easy. You can make contributions to the department directly or to the CSULB Foundation, designated for the Department of Chemistry and Biochemistry. Your donation will be used for general purposes within the department. Your gift can be in the form of a check, or, if you wish, you can make your donation by a credit card. If you so desire, the Foundation office will debit your card on a monthly basis, an annual basis, or whatever time frame you wish. **Such arrangements can be done by simply calling the Alumni Records Office at (562) 985-5299.**

You may also donate to the department's general scholarship fund or to one of several existing scholarship funds in the department, most of which provide small cash awards to outstanding students for their academic achievements in specific chemistry and biochemistry courses. Alternatively, you can establish a unique scholarship fund which can indicate specific criteria for the recipient(s). For instance, a scholarship could be offered for a student in biochemistry who is interested in pursuing a Ph.D. or for someone interested in entering the industrial world upon graduation. Every dollar given for scholarships is used for that purpose.

You can contribute a planned gift such as a bequest or an annuity. **Gifts such as these can be made by calling the Planned Giving Office at (562) 985-5122.** An attorney will assist you and there is no charge for this professional service. Endowments are gift which "keep on giving," since only the interest from the gift is used while the principal remains to accrue further contributions. Endowments are especially helpful, for they help to insure support for the future as well as for the present.

All contributions are promptly acknowledged and are tax deductible as provided by law. **Your generous donations are used judiciously by the department** and we do not allow for frivolous spending. The University Foundation, administrator of the funds, charges no overhead from moneys designated for scholarships and only 6 percent from purchase transactions.

by Patricia Maxwell
Development Office, College of Natural
Sciences & Mathematics



Reports from Faculty

Present and Past

ROGER ACEY

It's been a very active year and hard to know where to begin. However, I'd like to acknowledge the students in my lab. I've been very



Back row from left, Dr. Acey, Rene Miranda, Axel Kirchofer, Simon Moon, Gwen Jordaan; front row from left, Srividya Raman, Yih-Hong Tan, Kyla Perkins, and Brian Baker.

fortunate to have a great bunch of hard working and enthusiastic students. This has allowed us to initiate some projects I've been thinking about for years. In particular, we've been able to begin some biochemical studies on differentiating stem cells.

Three undergraduates joined the group this past year and a fourth will be starting in the fall. Gwen Jordaan, a microbiology major, is an NSF Scholar. She has been working on the metallothionein project; this involves expressing *Artemia* metallothionein in bacteria. We've been disappointed by the yields and have turned to the baculovirus system for expression. Cathie Overstreet from Dr. McAbee's lab was instrumental in helping us establish the system. (In fact, we all voted to adopt her into the group.) Gwen has been optimizing the expression of the metallothionein in the insect cells. Rene Miranda, also a microbiology major, has been trying to increase the yields of protein from bacteria. Axel Kirchofer, an exchange student from Germany and newest member of the group, will be working with Gwen and Rene. Kyla Perkins, a HHMI/MARC Scholar, has been working with me on the stem cells. Years ago we were able to show that metal-

lothionein is expressed during cell proliferation. We'd now like to know if the protein is expressed during stem cell differentiation. Kyla's project is to determine the level of MT expression in these cells.

Two graduate students left the group this summer; Brian Baker took a job at Allergan and Yih-Hong Tan entered a Ph.D. program at UC Davis. Both are actively writing their master's thesis. Brian and I had gotten to know each other so well we seemed to be able to read each other's mind. It's been strange not seeing him in the morning sitting at his desk. I am happy to report that Jason Atalla completed and defended his thesis and is gainfully employed at Beckman Coulter.

In last year's Newsletter, I noted that Brian was working on isolating the full-length transcript for a unique protein found in macrophages. This year I can report that he has been successful. Because of the novelty of the protein, we are using *in vivo* genetic immunization to generate an antibody. Using con-focal microscopy, we hope to pinpoint the cellular location of this protein. This should provide us with some clues as to its biochemical function. In the future, we hope to generate "knock-outs" using retroviruses or inhibitory RNAs (iRNA).

Srividya Raman and Simon Moon are current graduate students in the lab. Srividya, also a NSF Scholar, is working on purifying RNA Polymerase II, a zinc metalloprotein. As such, the availability of zinc ultimately regulates gene transcription. Our goal is to determine if metallothionein functions as an intracellular storage depot for zinc and is responsible for transferring metal to the enzyme. Srividya has been working on a purification scheme that should provide us sufficient amounts of pure enzyme to perform these studies.

Simon's project is a continuation of Monty Badger's thesis suggesting that histone H1 contains a sialic acid residue, a novel posttranslational

modification for this protein. Simon is trying to determine the extent of the modification and the actual structure and linkage of the sugar.

We just published our data on the effects of phthalate esters on *Artemia* development. In the paper, we postulated that the toxicity of these compounds is due to their action on a cholinesterase that controls the development of the embryo's nervous system. This is difficult to prove in an intact organism. However, Dr. Kathy Mitchell, a colleague of Dr. Mike Myers, has provided us with a stem cell line that can be induced to differentiate into neurons. With this system, we can now evaluate the effect of these compounds on individual developing neurons.

In conjunction with these studies on cholinesterase, we have been working with Dr. Ken Nakayama's group. We hope to develop a class of inhibitors that are specific for the enzyme. Our initial *in vitro* studies have shown that one of his compounds is a specific inhibitor for our cholinesterase. Dr. Nakayama and I are very excited about using this compound to help determine the role of the enzyme in development.

I will be teaching Chem 448 this semester and that will be a change. The last time I taught the course was in 1982. I had a great experience then and I look forward to another rewarding semester.

CHRISTOPHER BRAZIER

This year marked the beginning of my research at Long Beach, as my laboratory was finally approved for use in February. My research area is molecular spectroscopy and I have set up an experiment to generate very cold but excited small molecules by expanding gases into a vacuum while passing an electric current through them. The light that the excited molecules emit is dispersed into its colors and detected with a CCD camera. The light produced is analyzed to determine basic properties such as bond lengths and electronic structures of the molecules. Knowledge of their spectra is also critical for detection of molecules in harsh environments such as flames and chemical vapor deposition processes. To ensure that the apparatus was working correctly, the first project involved a molecule that I have worked with before, B2 produced from diborane gas.

Thanks to the excellent work of Suzanne Colopio, a B.S. Chemistry senior who will graduate this December, the apparatus was soon

assembled and the first spectra obtained. With the help of a more sensitive detector and larger vacuum pump, these were better than had been obtained previously. By the end of the spring semester we got all of the bugs out of the system and had a fully functioning spectroscopy research laboratory.

Suzanne continued her research project into the summer and thanks to the near IR coverage of the CCD camera we were able to complete a series of observations on B2 that I had begun several years ago. The new data is currently being analyzed and will be combined with the previous data for publication.

I have continued to teach the 371A/B sequence of physical chemistry and co-teach with Peter Baine physical chemistry laboratory. I also had the opportunity to co-teach with Steve Mezyk a physical chemistry graduate class where I covered various topics in spectroscopy and group theory.

PAUL BUONORA

The first three years at Long Beach have been busy, passing very quickly. My wife Sarah and I actually made it to Pasadena for the first time last October and made our inaugural visit to the Huntington in August. We hear that we are not far from the ocean, so we may try for a beach visit sometime this year.

Drs. Berryhill, Nakayama, and I offered the Special Topics in Organic Chemistry course in the spring. For my component I offered five weeks on solid-phase and combinatorial organic synthesis. This gave the students a primer in this increasingly important area of study. Dr. Lopez and I are working to gather materials to allow us to introduce parallel synthesis and solid-phase chemistries into the Advanced Organic Chemistry course.

The paper written in the spring of 2002, with the help of my student Yu Jin Lim, should appear in the *Journal of Chemical Education* later this year or early in 2004. The paper presents a visual mnemonic device designed to help students understand the competition between substitution and elimination in saturated systems and to predict the product distributions. There must be a large backlog of papers at JCE since it will be about 18 months from submission to publication.

My research group members look forward to the move to the new Molecular and Life Sciences

building, where we will have additional hood space and access to new and refurbished equipment. We have spent a lot of time working on the 400MHz NMR in the last year, and thankfully with the funding for the new building, we will be able to replace the old console. Thanks to all who supported the bond measure last fall.

It was a productive year in research. Arby Gutierrez complete his Howard Hughes Medical Institute-supported Honors in Biological Sciences thesis on the synthesis of carbosilane dendrimers. Arby is now attending the University of the Pacific Dental School. Romina Panoussi, who also worked on the carbosilane dendrimer project, spent the year since her graduation at Diagnostic Products. She had been accepted to USC Dental School. The carbosilane dendrimer project continues with the addition of Hangy Pham and Elizabeth Heeb to the group.

Teresa Phan, another Howard Hughes Medical Institute-supported Honors in Biological Sciences thesis student and President's Scholar, completed her dual B.S. Biochemistry, B.A. Chemistry degrees with her thesis work on the conversion of succinimides to bicyclic lactams. She also presented her work at the Spring National ACS Meeting in New Orleans. Teresa received departmental honors at her spring graduation and began medical school at the University of Cincinnati this fall. Roland Chun and Teresa Helgeson will pick up aspects of Teresa's work.

Teresa was not alone in New Orleans. Yu Jin Lim, Oscar Oo, and Mike Naffziger also presented the fruits of their laboratory labors. Yu Jin Lim and Oscar Oo presented their work developing an assay protocol to study the conversion of bicyclic lactams to our target dihydropyridazinone and hydroxamic acids respectively. Yu Jin had picked up her project from Mia Angela. A paper by Mia, Yu Jin and I has recently been accepted for publication in *Tetrahedron Letters*. In the spring, Yu Jin was recognized with the department's David Scoggins Memorial Award, given to an outstanding graduating student who plans to continue graduate work in a health related profession such as medicine, dentistry, pharmacy or optometry. Yu Jin is working at B-Braun while she applies to schools of pharmacy. Oscar Oo will be starting the Ph.D. in Clinical Psychology at the California School of Professional Psychology. These projects will not wane with the matriculation of these students. Melissa Fuentes will be carrying the projects forward.

Mike Naffziger's poster at the ACS meeting showed his work toward the synthesis of chiral amino-alcohols. Mike is a Howard Hughes Medical Institute supported Honors in Biological Sciences thesis student. Mike will graduate this year and plans to attend graduate study in chemistry.

Graduate students Luke DeSelm and Crystal Jenkins continue their projects. Luke has made good progress in the synthesis of dendrimeric supports that will ultimately be applied to our dihydropyridazinone and hydroxamic acid synthesis. He presented his work at the ACS Regional Meeting here in Long Beach in October.

Lastly, aside from their work in organic synthesis, one of my students developed a hypothesis that, at first glance you can tell that each of the department's faculty is a scientist. I suggested that this is an acknowledgment that all scientists are good looking, but my students are not saying. Perhaps they will publish this scholarly activity in the coming year.

JEFF COHLBERG

I have continued my study of the aggregation of superoxide dismutase *in vitro*, both wild-type enzyme and mutants related to amyotrophic lateral sclerosis (Lou Gehrig's disease). Hadjhr Ahnrs recently completed his undergraduate thesis in the HHMI program. Others working on this project are Zeynep Öztug, a grad student; Sean Downes, an undergraduate; and Shelby Padua, a technician. We are hopefully close to having enough data for our first publication in this area.

Sarah Wilkins, an undergraduate in the HHMI program, is working on a second project involving [alpha]-synuclein, which aggregates to form amyloid fibers in Parkinson's disease. Sarah is investigating the effect of neurofilaments on the aggregation of [alpha]-synuclein.

All of this work has been aided by having microplate readers that enable us to follow the kinetics of either absorbance or fluorescence in samples as small as 40 μ l in a 384-well plate. These were purchased with funds from Research Corporation and the ALS Association. Also, equipment funds associated with the new building will enable us to have a circular dichroism spectrometer on campus for the first time.

We're all delighted to have six biochemists on our faculty, and we're enjoying being saddled with the task of figuring out how to spend the equipment money for the new building!

RON GARBER

Has been on the faculty of the Chemistry Department at CSULB since 1978 and has taught



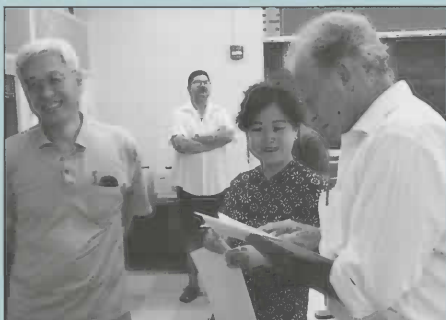
Dr. Garber, his wife and the newborn.

Chemistry 111A since 1982. Unsuccessful in his search for the perfect chemistry student, Ron and his wife (and former student)

science fiction author Karen Daniels (karendaniels.com) decided to create their own. Kaley (born May 2003) is presently working on nomenclature.

GENE E. KALBUS AND VAN I. LIEU, EMERITUS PROFESSORS

We have an article in press in the *Journal of Chemical Education* entitled "A Spectrometric Study of the Permanganate-Oxalate Reaction." The experiment involves the quantitative analysis of oxalate by indirect spectrophotometry and the study of the effect of acid concentration and catalyst concentration on the outcome and rate of the reaction.



A relaxed moment in the lab. From left, Dr. Po, Dmitry Pervitsky, Dr. Li and Dr. Kalbus.

PEGGY KLINE

(Lecturer 1984–1988) is a professor of chemistry at Santa Monica College. "The budget situation," she says, "as you know, is interesting. We cut classes by 30 percent and then some were restored. The irony is that we have unprecedented funds from a bond measure that can be used only for buildings. Both Jamey Anderson and Deborah Schwyster (fellow CSULB alumni) are tenured professors with me, and Jamey was just elected "Chair of Excellence" for the Physical Science Department based on his work with students and our NMR spectrometer."

LIJUAN LI

Last year I took a one semester sabbatical leave and concentrated on helping my students with

their research work and writing up several papers. One paper was published in the *Canadian Journal of Chemistry* (vol.81, pages 468-475, 2003), and another invited review article was published in the *Comments on Inorganic Chemistry* (vol.23, pages 335-353, 2002).

Let me give you an update on the people working in my group. Ximeng Wang, a postdoctoral research fellow supported by the NIH SCORE grant, is still working with us. Dmitry Pervitsky finished his M.S. and has gone to UC Irvine for his Ph.D. degree. Phoung-Mai Nguyen also finished her M.S. degree last summer. Dmitry and Mai both received Outstanding Thesis Awards from the college for the year 2002 and 2003, respectively. John Liarakos and Mohammed Shaaban are writing up their MS theses. Jennifer Aral (Morrison), supported by an ACS grant, just finished all the experimental work and is writing her M.S. thesis as well. Gian Gacho and Fawzia Qazi are still working toward their M.S. degrees. My undergraduate students, Eric Sundberg, a President Scholar and former Beckman Scholar, is currently being supported by an HHMI grant and should finish his B.S. next year; Chaitali Sheth, who started to work in my lab two years ago, has been selected as a Beckman Scholar this year; Ruth Vilchez has finished her B.S. and teacher's certificate and is now working in a middle school in Long Beach.

I also have several new people who have joined my group in the last year. One graduate student, Peter Do, who received his B.S. from the University of San Diego, and four undergraduate students, Malin Backlund, supported by HHMI grant; Kara Schones, supported by Research Corporation grant; Jasmine Shaw, a President's scholar; and Faezeh Fathi have joined the lab. This summer, we also had a high school student, Rachelle Lin from Troy Tech High School in Fullerton who worked with us.

Below is a picture of my group taken this summer.



From left Fawzia Qazi, Chaitali Sheth, Gian Gacho, Mai Nguyen, Eric Sundberg, Dr. Ximeng Wang, Jennifer Aral (Morrison) and Dr. Li.

MARCO LOPEZ

I have been teaching Advanced Organic Chemistry, CHEM 420 since Fall 2001. I have added an experiment on the synthesis of porphyrins and an experiment on Suzuki coupling. The latter reaction was developed about nine years ago and has received widespread use in the synthesis of aromatic compounds. In recent years, there has been a move toward the use of PowerPoint software in lectures and the offering of courses through BeachBoard. Both of these are now being used in Chem 420.

A research grant was awarded to CSULB by the National Institutes of Health through the MBRS-SCORE program in September 2002 with Dr. Laura Kingsford as the program director. This institutional grant now encompasses nine subprojects from Chemistry and Biochemistry and Biological Studies. Each subproject submitted by an individual faculty was independently reviewed by an NIH study panel. The aims of my project are to study the reaction of small ligands such as dioxygen, carbon monoxide, and nitric oxide with hemes. Hemes are important prosthetic groups of many iron-containing proteins such as hemoglobin. Our studies of the heme-ligand reactions are done by measuring binding constants and rate constants. We use UV-vis spectrophotometry to carry out these experiments. The reactions are very fast and to measure them we are building a flash-photolysis kinetics apparatus that uses a nanosecond Neodymium-YAG laser. As part of the SCORE program an External Scientific Advisory Committee was established to aid CSULB-SCORE faculty in their projects. This committee is made of experts in different fields of science. The member collaborating with me is Peter Ford of UC Santa Barbara. He is an internationally recognized inorganic chemist specializing in nitric oxide chemistry.

The 38th Western Regional Meeting of the American Chemical Society took place in Long Beach this Oct. 15-18 at the Long Beach Hilton Hotel. Three faculty members from CSULB, Steve Mezyk, Eric Marinez and myself organized symposia for this meeting; mine was on bioinorganic chemistry and featured speakers from Peter Ford's group at UCSB, from Pat Framer's group at UCI, Katrina Marina from Arizona State University and CSULB's own Lijuan Li.

Over the last couple of years students have left the Lopez Research group, the "Heme Team," and gone on to other institutions. Juan Lopez is at CSULA in the Bridges to the Doctorate program. That is a joint program between CSULA

and UCLA. Jose Pena will be starting his third year as a microbiology graduate student at UC Berkeley. Cynthia Ybarra has returned to the group and is now the lab manager and technician supported by our NIH-SCORE grant. New to the group this year is Marcell Dibrell who worked out the procedure in the Suzuki coupling reaction for Chem 420. Marcell will continue helping with Chem 420 and will also work with Cynthia in the lab of the Heme Team. Also starting his thesis work is Thomas Patko. Thomas will be using computational methods investigating the reactions of myoglobin and heme model compounds.

TOM MARICICH

This past year I continued to coordinate the department seminar program and received offers from two of our alumni to present seminars. If any of our alumni would like to volunteer for future seminars, please contact Jeff Cohlberg at cohlberg@csulb.edu. I will be on sabbatical in residence this fall to work on our sulfonimide alkylation reactions and get our results into print.

My research students continue to make progress on their projects. Andrea Chen is writing her master's thesis. Daniel Savino, a President's Scholar, is working on chiral sulfonimides. Alethea Poste and Omo Aisagbonhi, both Howard Hughes Scholars, are investigating better methods of synthesizing ethyl and methyl sulfonimides to facilitate pursuit of alkylation reactions of peptides.

On a personal note, Suzanne and I have a new grandson and our number one son was married in September, taking advantage of the beautiful Japanese garden at CSULB for the reception.

KEN MARS, EMERITUS PROFESSOR AND CHAIR

Ken and his wife Irene celebrated last Christmas in Dana Point with their family, now 18 members strong including four children and their spouses plus eight grandchildren. Irene and Ken have been traveling frequently; their itineraries have included Eastern Sierras, Kansas, Washington state, Charleston S.C., and Princeton N.J. "Our greatest adventure of the year" Ken wrote in a Christmas letter he sent us "was a trip to England, France, and Italy – our first European vacation together." Last year Dr. Marsi was recognized for his 50-year membership in the American Chemical Society.

MARGARET MERRYFIELD

I continue to wear too many hats. This year, in addition to serving again as General Education

Coordinator and directing the HHMI Honors in Biological Sciences program, I was also vice-chair of the Academic Senate. In addition to offering a biochemistry course each semester, I also taught the HHMI critical thinking course in the spring. This was a team-taught course in the best sense – my partner-in-pedagogy, Dr. Lisa Maxfield, and I each attended all the classes and worked out all the activities and assignments together, including a capstone project that required each freshman to write a 15-page paper and give a presentation on a science-related issue.



From left, Dr. Buonora, Dr. Baine and Dr. Merryfield at the Award Ceremony, May 2003.

The HHMI honors program is now completing its third year. Eleven students completed research projects in the program in 2002; the class of 2003 included 18 students, and an additional 23 students did research this summer. Students who keep up their grades and complete all the program requirements, including a senior thesis, can earn "Honors in the Major." Of the first group of students—those who completed research projects in 2002—about half went on to graduate school and most of the others are headed for medical school. This year's graduates are also an ambitious bunch and collectively produced several publications as well as numerous meeting presentations. The College Outstanding Graduates for the last two years have both been HHMI students. The project also added staff this year. Cecilia Arriaza is the program coordinator in the SAS Center, and Tom Tran is providing support to the SAS computer lab as well as assisting faculty and students with computer-related research needs, including poster preparation. The grant is funded through August 2004, so we are now actively engaged in writing a proposal for continued funding.

For those of you who got to know one or the other of the youthful Merryfields, James has one more year to go at Berkeley and is being nagged by his parents to take the GRE and figure out where he wants to go to grad school. He led the Berkeley Putnam Exam team to 4th place national finishes the last two years – most significant

because, in each year, that was one place ahead of Stanford. Laura is 13 – what else is there to say?

DOUGLAS McABEE

The 2002-2003 academic year was a very busy one for me and for members of the lab. All MS students in the lab, Pat Pierce, Cathie Overstreet, Vincent Yee, and Grace Jung, are in various stages of writing their theses. Pat has completed his work on identification and analysis of lactoferrin-binding proteins from human and bovine serum. Jennifer Laprise, an undergraduate student in the MARC program, has extended Pat's work, and she and Pat were authors on an abstract presented at the Experimental Biology meeting in San Diego in April 2003. Jennifer has also had the good fortune of spending this summer at King's College, London, working with Dr. Robert Evans as part of the NIH-funded MIRT program.



Cathie Overstreet and Dr. McAbee at the Award Ceremony, May 2003.

Cathie Overstreet has all but defended her M.S. thesis entitled, *A Study of the Expression of Glycosylation Mutants of Bovine Lactoferrin*. She was accepted into the Ph.D. program in cell and molecular biology at UC Irvine and started her program there in late July 2003. She is greatly enjoying the new challenge and opportunities in that venue. (Ironically, her first rotation project at UCI involves mutagenesis of a cDNA, a process that she came to know all too well during her thesis project!)

Vincent Yee completed all the experimentation in his project studying the effects of in vivo iron overloading on the activity, expression and dynamics of the asialoglycoprotein receptor in rat liver. This work will constitute an important basis for future studies examining the heretofore unknown relationship between iron metabolism and this well-understood hepatic receptor. Vince will defend his thesis this fall.

Grace Jung has made solid progress in her work this past year. She received a Boeing award this spring from the college, a competitive fellowship

that provides a stipend for a measure of support. Grace has been working on generating and analyzing lactoferrin-transferrin hybrid proteins in collaboration with Dr. Tony Schryvers' group at the University of Alberta. She has generated good quantities of three recombinant lactoferrins, two of which are hybrid proteins, and she has analyzed their glycosylation patterns, iron-binding and cell-binding properties following expression in insect cells. She presented a portion of this work at the Experimental Biology meeting in San Diego in April 2003. Grace will begin writing her thesis later this summer and her work will be published in at least one manuscript.

Besides Jennifer, two new undergraduates worked in the lab this year. Jennifer Kauk, a biology major who was a student in my section of CHEM 441A/B last year, worked with Jennifer Laprise and me characterizing purified lactoferrin-binding proteins. She graduated this year with an outstanding academic record from CSU Long Beach. More recently, Vanessa Martin joined the laboratory late this past spring and has been working with Grace on her project. Vanessa works in the clinical chemistry lab at Mission Hospital in Mission Viejo, Calif. as a technician while attending CSU Long Beach as a microbiology major. She plans to continue in the lab this next year. We had to say good-bye to Sonya Botero who graduated this year. She worked in the lab on a project related to Grace's and had been in the lab for the last two years as an MBRS and MARC student. We all wish her the best of luck.

This past year for me was exceedingly busy what with learning the job of department chair, teaching biochemistry and team-teaching Research Design & Methods (CHEM 466H, a first for me), carrying out the duties of undergraduate advisor for biochemistry and overseeing the research activities of the lab. I don't want to repeat it, if possible. We were fortunate to receive an NIH AREA grant this past year to support our work and we plan to publish papers coming from Pat and Jennifer's work as well as from Grace's work this coming year. We also anticipate relocating the lab into the new science building, probably in March. I don't know how we'll operate without the dust and variable temperatures and humidity that come with Peterson Hall 3, but we'll have to adjust somehow. I just hope that all our results don't change as a result! I'm looking forward to the new academic year with opti-

mism about our work and about attracting new students to help carry it forward.

KEN NAKAYAMA

My group has continued its enzyme inhibition studies in collaboration with Professor Roger Acey's research group. During the summer of 2002 and through all of the 2002-2003 academic year, undergraduates Ken Law (an HHMI Scholar), Long Nguyen, and Elena Parada have been working on the synthesis of a series of alkyl phosphates which have shown very interesting cholinesterase inhibition properties. Meanwhile, Sotiria Contos, Master's degree candidate and Dana Johnson, a President's Scholar have been working on the enantioselective synthesis of tri-alkylphosphates as well as overseeing the efforts of the other undergraduates. During this summer, we are in the midst of working out the synthetic details of these inhibitors. Three other HHMI Scholars, Lulu Chen, Salemiz Sandoval and Wendy Shoemaker, also joined our group in the spring of 2003. Cameron Smith, a President's Scholar also joined our group this summer. I taught organic chemistry during the past academic year. I presented much of the course material via PowerPoint while using the overhead to write mechanisms and workout problems. I also utilized the Beachboard e-learning technology for establishing better communications with my students. Both have been a learning experience and I am sure I will continue to apply both to teaching in varying degrees. I also team-taught a course in special topics in organic chemistry with Drs. Berryhill and Buonora during the spring semester.



Dr. Nakayama and his research group. Back row from left Dr. Nakayama, Wendy Shoemaker and Ken Law. Front row from left Cameron Smith, Salemiz Sandoval and Lulu Chen.

On a personal note, our daughter Karissa is four-years old and son Kendall 14 months old and are both quite active and becoming very verbal. They continue to be a source of joy to my wife and me.

PAUL WEERS

I joined the Chemistry and Biochemistry department at California State University, Long Beach in January 2003. I started teaching Chem 441A, the upper level course "Biological Chemistry" a few days after my arrival. I was pleased that the new, fifth edition of *Biochemistry* by Stryer et al. was selected as the prescribed textbook. Fifteen years earlier I was introduced into the world of biochemistry by Stryer's second edition. I took great pleasure in teaching during the spring semester and I look forward to teaching current topics in biochemistry in the coming academic year.

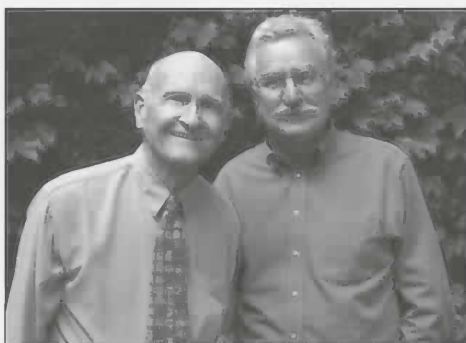
My lab is taking shape and I hope to welcome students during fall 2003. My research efforts are focused on the structure and function of a family of proteins, termed exchangeable apolipoproteins. These apolipoproteins play a key role in lipid metabolism, aiding in transport and distribution of lipophilic compounds through an aqueous milieu such as the bloodstream. In response to changes in lipid environment, these proteins adopt different conformations. The process of lipid binding and the lipid-triggered protein conformational changes are not well understood. I aim to get a better understanding of these processes using a combination of biochemistry, molecular biology and biophysical techniques. For my studies I use a small 18 kDa apolipoprotein isolated from insects: apolipoprotein III (apoLp-III). This protein has proven to be an excellent model system for mammalian apolipoproteins, and is well characterized. Importantly, I have developed a bacterial expression system that produces large amounts of recombinant protein. Using site-directed mutagenesis, small changes at the amino acid level will be introduced and their effect on apoLp-III's binding to lipoproteins and lipid vesicles will be investigated.

One of the most challenging projects is to obtain high resolution structural information of the protein in the lipid-bound state. While three-dimensional structures of a few exchangeable apolipoproteins in their lipid-free state have been known for several years, it has been very difficult to obtain structural information at the atomic level of lipid-bound apolipoproteins. We are now able to obtain crystals of lipid-bound apoLp-III and are optimizing the crystal growth conditions to increase resolution of the X-ray diffraction pattern (in collaboration with Dr. Karl Weisgraber, J. David Gladstone Institutes, UCSF).

Memories of Wartime Weapons Research

by Darwin Mayfield

[Editor's note: After serving 34 years as professor and for many years as director of the Office of University Research, Dr. Mayfield retired in 1990. In appreciation of his dedication to teaching, the students of the College of Natural Sciences and Mathematics established the "Mayfield Award" that is given annually to a professor selected by the students to be the best.]



Dr. Mayfield and Dr. Senozan in the garden adjacent to the Anatol Center in Sept. 2003. Dr. Mayfield was the department chair when Dr. Senozan was hired in 1964.

It all began with a puzzling incomplete phone call on my message tape: "Are you the Darwin Mayfield who did research on chemical warfare agents under the direction of M. S. Kharasch at the University of Chicago during World War II?...Oh! Forget this. I'll call later when you are home." Every reference in the message was true, but why this interest in an obscure activity buried in the distant reaches of 60 years ago? Did Al Qaeda somehow think that I was current on Weapons of Mass Destruction?

My unnamed caller made direct contact a few days later: "You wouldn't know me, but I received my Ph.D. degree in the late 1940s working at the University of Chicago under Professor Kharasch. While there we heard many stories about what went on during the war (1941-1945) in the chemistry labs where we were working. I'm organizing a reunion at Chicago of the people who worked at the University of Chicago, second-floor Jones Lab, in the 1940s. Hope you can be there"

Memories came flooding back: People that I had worked closely with for more than four years but had heard little of since 1945...Gas masks worn for hours during July days in Chicago humidity... Camaraderie between us and the FBI agents charged with watching our every move... Frequent reminders that the Nazis were ahead of us in what we were doing on our projects...Questions over and over from acquaintances and strangers: "Why aren't you in uniforms?" Answers quickly fabricated to hide the truth.

In late 1945, at the end of hostilities, our close-knit group of about 30, most still in their mid-20s, dispersed in many directions. My route took me to a TA job and a Ph.D. in organic chemistry at the University of Wisconsin. That was followed by six happy years on the chemistry faculty at the University of Idaho. In 1956 an offer I couldn't refuse came from a new institution called Long Beach State College. The lure of California proved too great to dismiss.

During the intervening decades, I maintained contact with a few of my wartime friends, but as mortality took its toll, I had essentially lost touch with everyone when the unexpected telephone message came. So, what

of the reunion? Observation 1: a person can't recognize on sight a close personal friend not seen in 60 years. Observation 2: when names are revealed, it takes less than a minute of shaking and slapping and sounds of delight to be right back laughing at the same things we joked about all those decades ago. Observation 3: the vast variety of things we had done in the intervening years could not have been even vaguely forecast by the individuals involved.

The tour through the old laboratories (many times remodeled but still in use) was facilitated by a graduate student supplied with a master key: That is the room where Glenn Seaborg worked with transuranium elements... Here's the window ledge where Frank Westheimer clung while flames licked over his hands...This is the actual fume hood where I daily rolled back my collar to better feel the movement of air on the back of my neck as I put my hands inside....

Down the hall is a private room where we are invited to mingle with current chemistry faculty of the University—to me even the full professors looked too young, and the much-feared department chair had, in its current reincarnation, become a jovial gentleman.

We shared anecdotes and information concerning those who were unable to be with us. We marveled at some of the experimental procedures we did in the laboratories with hardly a thought concerning safety. We recalled the oath of silence all of us rapidly pledged after reading the list of dire penalties which would be levied should we breathe a word (even in our sleep) of what we were doing. Occasionally a local resident unknowingly would point out the building in which we were working and tell us what was going on in there. We always replied how surprised we were to hear that.

The number of future Nobelists we passed in the halls, or in some cases worked with, included well over a dozen. A few of our immediate group had become prominent. Among the names I can drop is Robert Morrison, co-author of the still, I believe, most-adopted organic text, Morrison and Boyd. I played second base to Bobby's shortstop on our project softball team, appropriately called The Half-Acetals.

Indeed, we still have memories.

AWARDS

Chemistry & Biochemistry Students



ENDOWED AWARDS

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



Roger York

was a member of the Chemistry and Biochemistry Department from 1955-83 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 of \$1,000 was presented to **Roger York**.

KENNETH L. MARSIS SCHOLARSHIP

This \$1,000 scholarship, established by faculty, staff, family, friends and former students on the



Lucia Worsham

occasion of Dr. Marsi's retirement, is used to defray registration fees of outstanding junior and senior chemistry or biochemistry majors. This year's scholar is **Lucia Worsham**.

MICHAEL MONAHAN FELLOWSHIP

The Monahan Award was established through



Kathleen High

a generous bequest of Dr. Michael Monahan, an alumnus of our department who received his B.S. in chemistry in 1963 and his Ph.D. 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 and a member of the faculty at the Salk Institute and subsequently a senior research scientist with Beckman Instruments.

Dr. Monahan was also the founder and president of California Medicinal Chemistry Corp. In 1985-87, following his retirement, he served as a lecturer in our department. According to his will, the income from his bequest is to be used to support student research in our department. This is the seventh year this \$2,500 award has been given and the recipient is **Kathleen High**.

SPYROS PATHOS IV AWARD

The Spyros Pathos IV Award is presented annually to a student excelling in the second semester



Christopher Wostenberg

of general chemistry, Chemistry 111B. This year is the ninth year that the Pathos Award has been granted. The 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. **Christopher Wostenberg** is this year's award recipient

DAVID L. SCOGGINS AWARD

This award memorializes David L. Scoggins, a



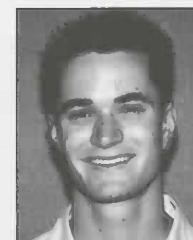
Yu Jin Lim

1968 B.S. chemistry graduate of CSULB and a graduate student and teaching assistant in the Department of Chemistry at the time of his death in 1969. This award recognizes outstanding scholarship and

promise by a graduating chemistry or biochemistry student who intends to pursue a career in one of the health-related professions. The Scoggins scholar this year is **Yu Jin Lim**.

JOHN H. STERN AWARD IN PHYSICAL CHEMISTRY

The Stern Award, consisting of a cash prize, is given in memory of Dr. John H. Stern, interna-



Eric Sundberg

tionally known for his work in solution thermodynamics and author of many publications in that field. The award was established by colleagues, former students and friends of Dr. Stern, who was a mem-

ber of our faculty from 1958-87 and a distinguished teacher of physical and general chemistry. **Eric Sundberg** was named as the Stern awardee for 2003.



SUBJECT AREA AWARDS

FRESHMEN CHEMISTRY AWARD:
Michael Sundberg and Tai-Sheng Tien;
AMERICAN CHEMICAL SOCIETY POLYMER
CHEMISTRY AWARD: Lucia Worsham;
AMERICAN CHEMICAL SOCIETY-DIVISION OF
ANALYTICAL CHEMISTRY UNDERGRADUATE
AWARD: Phuong Thao Nguyen;
INORGANIC CHEMISTRY AWARD:
Eric Sundberg;
MERCK AWARD IN ORGANIC CHEMISTRY:
Laura Whitehead and Paul Field;
BIOCHEMISTRY AWARD:
Kevin Lorton



Paul Field



Kevin Lorton



Michael Sundberg



Tai-Sheng Tien



Laura Whitehead



Phuong Thao Nguyen

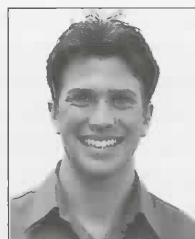


DEPARTMENTAL AWARDS

TONI HORALEK AWARD FOR DEPARTMENTAL
SERVICE: Kelly Ross;
HYPERCUBE AWARD: Gian Paola Gacho;
DIAGNOSTIC PRODUCTS CORPORATION
"EXCELLENCE IN CHEMISTRY OR
BIOCHEMISTRY" AWARD:
Phuong Thao Nguyen;
DEPARTMENTAL HONORS AT GRADUATION-
UNDERGRADUATES: Hadjh Ahrens, Phuong
Thao Nguyen and Theresa Phan;
HONORS AT GRADUATION-GRADUATES:
Jennifer Morrison and Cathie Overstreet;
AMERICAN INSTITUTE OF CHEMISTS
BACCALAUREATE AWARD: Larissa Balogh;
AMERICAN INSTITUTE OF CHEMISTS
GRADUATE AWARD: Jennifer Morrison



Gian Paola Gacho



Hadjh Ahrens



Theresa Phan



Jennifer Morrison



Cathie Overstreet



COLLEGE & UNIVERSITY AWARDS

ROBERT B. RHODES AWARD: Hadjh Ahrens;
OUTSTANDING GRADUATE IN THE COLLEGE OF
NATURAL SCIENCES AND MATHEMATICS
AWARD: Larissa Balogh;
OUTSTANDING THESIS:
Phuong-Mai Nguyen;
PHI BETA KAPPA: Jennifer Guzzo and
Eric Sundberg



Larissa Balogh



Phuong-Mai Nguyen

SAACS News

The Long Beach State Chapter of the Student Affiliates of the American Chemical Society has had a busy year. The chapter organized or was involved in 22 projects during the academic year 2002-2003. The chapter invited several speakers over the school year. The first speaker was James Myrtle, a CSULB alumni, who talked about his experiences as an entrepreneurial chemist. The student audience was very interested in the variety of projects in his career.

Of course, students were also interested in their own careers and Bahir Rizkalla from the G-Force placement service explained the vagaries of job hunting and interviewing. Needless to say, Mr. Rizkalla was peppered with questions regarding job hunting, resume writing and the like.

There were two field trips during the year, one to an environmental laboratory and the second to BASF Corp. where the students were treated royally, enjoying lunch as guests of the company.

The students also provided very helpful service to the department. They made up the seminar flyer announcements and hosted the ever-popular Friday coffee and doughnut hour. The year would not be complete without parties, where the students and faculty get together in a social setting. Usually, faculty will offer their homes for such occasions and the students organize the food and drinks. A September student/faculty mixer is traditional; it is a time and place where new and returning students can meet and interact with faculty outside of office and classroom hours. Some faculty even appeared to be human when at parties. Then in the spring semester there is the Spring Fling, which again provided another fun-filled evening.



by Peter Baine

SAACS group: top row from left, Peter Baine, Steve Mezyk, Chris Hoskins, Eugene Spralga, Tzu-Chi Hsu; middle row from left, Kyla Perkins, Linh Vuong, Mariam Boulas, Thu Vo, Onyinyechi Chimaokerke, Ann Sampson and Jennifer Guzzo; and front row Kristin Clark and Kathleen High.

To ease this transition into summer there is a pizza bash, a lunchtime extravaganza held at a local pizza eatery. This attracts the entire Chemistry Department—students, staff and faculty. The new officers are presented at this luncheon. This last day of classes is a time to say good-byes for the summer and, for the seniors, this is a nostalgic good-bye.

The Western Regional Meeting of the American Chemical Society was held in Long Beach in October and SAACS put on a program for undergraduates. We invited four to six industrial/governmental chemists to make presentations regarding entry level opportunities that currently exist for graduate chemists. They discussed their own experiences and careers and interacted with the audience. We will also invite graduate

school advisors and graduate students from several universities in Southern California to discuss graduate programs that their institutions offer leading to advanced degrees. Students will learn the type of academic preparation that is expected and the current research emphasis of the various universities. This will be the basis of a Graduate School Faire. Finally, to encourage attendance, we will hold a reception and guess what will be served? Pizza, of course!

Newsflash: Congratulations to Kelly Ross and the officers of the 2003-03 SAACS Chapter for being the recipient of the American Chemical Society's Commendable Section Award.

Honor Roll of Individual Donors

COURTENAY W. ANDERSON

NEARY ARPAJIRAKUL

BETTY JANE BURRI, PH.D.

NORMAN BYRD, PH.D.

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DANIELLE B. LITOFF

Gifts by Individuals

During the 2002-2003 fiscal year the department received gifts totaling \$22,556. Of this amount, \$13,111 was given in cash by individuals. The faculty, staff and students of our department are very grateful for your generosity.

Cash gifts received are used for scholarships, awards, the seminar program and purchase of supplies and equipment for which there is not adequate state funding. Also, the costs of publishing the Chemistry and Biochemistry Department Newsletter are met with private giving. 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
1250 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 of your company matching employee gifts. In that way, the value of your gift to the department is multiplied.

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!



Corporate Gifts to the Department

The total value of gifts to the department, in-kind and cash, during the fiscal year ending June 30, 2003 was \$22,556. Gifts from business and industry amounted to \$8,313 in cash and \$1,132 in in-kind gifts.

We wish to acknowledge the help of the following persons in assisting us in securing gifts for the department: Dr. Chris Angeletakis, Linda Homan, Dr. Ken Marsi, Patricia Maxwell, Dr. Steve Ruckmick, Martin Sobczak and Dr. Alan Syzdek.

Companies and foundations contributing in-kind and/or cash gifts are :

American Chemical Society, Analytical Division
Allergan Inc.*
Hypercube Inc.
Kerr Corporation Sybron Dental Specialties*
Lab Support (Assignment Ready Inc.)*
Merck and Company Inc.
National Starch and Chemical Foundation Inc. (Ablestik Labs)*

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

Beckman Coulter (Dr. Steve Pentoney)*
Sanofi-Synthelabo Inc. (Dr. Jack H. Dean)
World Reach Inc., Trustee for Cardinal Health (Dr. Alan J. Senzel)

*Companies are members of the Chemistry and Biochemistry Advisory Council

(July 1, 2002 – June 30, 2003)

TIMOTHY MACANDREW

LEWIS E. MANRING, PH.D.

TOM MARICICH, PH.D. AND SUZANNE MARICICH

KEN MARSİ, PH.D. AND IRENE MARSİ

MARIANNE MARSİ, PH.D.

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ARON D. THALL, PH.D.

GREG WHITAKER, PH.D.

DELYSE R. WILLIAMS, PH.D.

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. Alumni having both bachelor's and master's degrees from our department are listed under the year they received their bachelor's degree. To communicate about the Newsletter or to send information, write to Dr. N.M. Senozan, Department of Chemistry and Biochemistry, California State University, Long Beach, Long Beach, CA 90840. FAX: 562/ 985-8557. E-mail: nsenozan@cssulb.edu

1956 - 1969

DR. ALAN CUNNINGHAM

(B.A. Chemistry 1956, M.A. Chemistry 1958, Ph.D. 1982 UC Santa Cruz) is professor emeritus from Monterey Peninsula College and lives in Carmel Valley, CA.

DR. ROBERT O. HUTCHINS

(M.S. Chemistry 1962, Ph.D. 1966 Purdue University) is G. S. Sasin Professor of Chemistry at Drexel University, Philadelphia, Pa. He received the Outstanding Alumnus Award of the College of Natural Sciences in 1987. The following are excerpts from a letter he recently sent: "I came to Cal State Long Beach, in the summer of 1961 and was there through the summer of 1962 upon which time I received an M.S. (or M.A., I was never sure) in chemistry and then proceeded to Purdue University to pursue a Ph.D. (1966). At Cal State my advisors were Darwin Mayfield and Dick Lincoln (Biology) working on 'florigen,' the hormone responsible for flowering in plants. It was an exciting time for me and greatly helped mold my interest in research. We had some exciting results which were published in *Nature* and *J. Agr. Food Chem.*

"I believe I was in Ken Marsi's first graduate lecture (heterocyclic chemistry) in 1961 and Roger Bauer is right; he [Marsi] seemed to have a 'secret template up his sleeve to draw such precise structures. [Dr. Bauer made this statement in an article he wrote for the 2002 edition of this newsletter.] He was a superb lecturer and an inspiration to me to go into academics. I met my wife Gail in Bob Henderson's physical organic course. Ed Harris was also an important professor in my stay there.

"The last time I was at California State University, Long Beach was in 1987 when my wife and I were there and I received the Outstanding

Alumnus Award which I will cherish forever. I will sum up to say that my stay at California State University, Long Beach was one of the most enjoyable and productive times of my career."

DR. JAMES F. MYRTLE



Dr. Myrtle and his wife Monica.

(M.S. Chemistry 1966, Ph.D.) has been appointed to the Advisory Council of the department. Please see the article on page 7 about Dr. Myrtle's remarkable career.

DR. DAVID R. FAGERBURG

(B.S. Chemistry 1967, Ph.D. Chemistry 1970, University of Washington) writes, "I went to work at Eastman Chemical Co. in Kingsport, Tenn. right out of graduate school, working my entire career in polymer chemistry. I had a lot of fun working in that area and ended up with 50 U.S. patents and 30 publications, the last one of which is a book chapter on weathering of polyesters and copolyesters. In December 1999 I took an early retirement offer and in the following January started teaching full time at Northeast State Technical Community College. I had taught adjunct there for nine years but now I get to do that which I always wanted, teach full time. Our students are generally older, having been in the work force for a couple of years before they realize they really need a college education to better themselves. As such, they tend to be motivated and mature in course work. It has been a real pleasure to teach them the last three years.

"The other chemistry professor retired this August so now I am the department! Besides my classes, I coordinate the work of two adjuncts. I am integrating the use of multimedia, etc., into my

courses as well as trying to establish a course on forensic chemistry in conjunction with facilities at the medical school at East Tennessee State University in nearby Johnson City. Students would take the first two years of courses with us and then transfer to finish their degree. Teaching is hard work but rewarding. I will always be grateful for my time at Cal State Long Beach and the excellent foundation it gave me."

MARGE HOHLY

(B.S. Chemistry 1967, M.S. Chemistry 1972) is professor and co-chair of computer and information sciences at Cerritos College. After completing her M.S. in chemistry with Professor Fillmore Freeman



in 1972 (her thesis was on the oxidation of organic compounds by permanganate ion), Marge worked as a high school teacher in Downey for 12 years. During this time she also earned an M.S. degree in computer science from Cal State Fullerton. In

1984 she joined the faculty of Cerritos College. Marge has written a massive textbook on computer operations entitled *Understanding AS/400 System Operations*. AS/400 is a midrange IBM computer that is used extensively by commercial outfits including Microsoft. Marge's book, which was published in 2000, has become the standard text for courses on AS/400 mid-range system operations.

Marge is also an accomplished photographer. Her work has appeared in a number of nature and travel journals. One of her pictures entitled "Michigan Woods" is displayed in the Senate Office Building in Washington, D.C. [We wish to express our gratitude for Marge's longtime and very generous support of our department].

DR. ALAN SENZEL

(B.S. Chemistry 1967, M.S. 1969 UCLA, Ph.D. Analytical Chemistry 1970 UCLA) writes, "I am currently working for Cardinal Health (formerly Magellan Pharmaceutical Development) in Research Triangle Park, N.C., preparing final reports of drug development studies for their Structural Chemistry Division. I was Publications Manager with IUPAC for three years before that and also spent many years in the agricultural chemistry and environmental testing industries. Earlier, I was in editorial positions with the American Chemical Society and AOAC International in Washington, D.C.

"After receiving my B.S. in Chemistry from CSULB in January of 1967 (summa cum laude), I earned M.S. (1969) and Ph.D. (1970) degrees in analytical chemistry from UCLA. I have lived near the East Coast for more than 33 years, 8-1/2 years in the Maryland suburbs of Washington, D.C., and more than 25 years in Raleigh, N.C. I married my wife Phyllis in 1969; she taught school for about 12 years and has been a middle manager in local county government where we have lived for 22+ years.

"My son Richard, 31, works now as a database consultant for *TV Guide* in NYC. Richard has been in statistical/database consulting for six years (two years with Mt. Sinai Hospital in New York) after working as a transportation planner for several years. He has a B.A. in political science from Duke University and a master's in city and regional planning from the University of North Carolina, Chapel Hill. Richard was married to Shana Levine on June 29 of this year.

"My daughter Lisa, 30, is a third-year resident in clinical pathology at Montefiore Hospital in the Bronx, N.Y. She has a B.S. in biology (with a French major, too!) from Washington University in St. Louis. Lisa completed a seven-year M.D./Ph.D. program in neuroscience at Albert Einstein College of Medicine in 2001 and married Daniel Max in August of that year. Their first child (and our first grandchild), Rena Esther Max, was born on September 4, 2003.

Best regards to you all in the CSULB Chemistry Department. There aren't many left now from my era!"

ROGER HAAS

(B.S. Chemistry 1968) writes in a note sent to Dr. Senozan, "In the 1960s, you were assigned to me as my advisor. For more than four years my class registrations were approved by others. The word was that you took a trip to Turkey to visit family and friends, however, the Turkish government decided that you need to serve the military. We never met. I'm long retired from aerospace—over 30 years with Rockwell International (now Boeing)."

BERNIE GOEDERS

(B.S. Chemistry 1969) writes, "I am working now in the Information Technology Department for Cal State Fullerton as a programmer/analyst 50 percent and data base administrator 50 percent. It is a great job with a great boss and excellent colleagues."

1970 - 1989

PRABHA BHALLA

(M.S. Biochemistry 1975) writes, "I have not been career-busy for a long time, but I seem to be always busy. My daughter Kiran has started her graduate studies in international relations at Georgetown University, Washington D.C., this fall. My son Asheesh has started his undergraduate studies at NYU also this fall. I am very proud of my achievements as a mom. I try to remain current in my discipline and I find that a degree is never wasted even if you do not work other than being a mom. My regards to Dr. Marsi and Dr. Perligut."

DR. LUIS LOMELI

(BA Chemistry 1978, M.D. 1983 UCLA) is a physician and surgeon in Ontario, Calif. He writes, "I have been busy in my gathering of medical data and continued technical writings. In the picture with me is a child with the rare Noonan's syndrome. I have two such cases in my data bank—an unusual collection. I have several works in progress and I have not released control of such projects to any publishing company. I must retain full control of my works so that I can share them with the world at a reasonable cost and with the profits fund my philanthropic dreams. I am waiting for my son Nathan to finish high school next year to incorporate my next company, Lomeli™ Data Systems.



Dr. Lomeli recording abnormal structural heart murmur of a child with Noonan's Syndrome.

"My daughter Danica just completed her first year at Stanford with a GPA of 4.1. I am proud of her and I hope that she goes into science or medicine. My wife Diana as always is very supportive and patient as I do my work. Though I feel that I am a lazy person at times, Diana is certain that I 'work too much.' In my career I have had three important mentors. In science/organic chemistry, Dr. K. Marsi; in medicine, Dr. M. Pops at UCLA; and in clinical medicine, Dr. N. Kahn. I thank these three professionals for positively shaping me into the person I am today."

BRIAN DUBOW

(B.S. Chemistry 1980) is President and CEO of Children's Science Museum in San Diego. The museum teaches grades K-6 in seven fields of science including aeronautics, optics, acoustics, electricity and mechanics. Brian has been married 19 years and has a son and a daughter, ages 8 and 3.

DR. DEBORAH SCHWYTER

(B.A. Liberal Studies 1980, M.S. Biochemistry 1985, Ph.D. Biochemistry 1989 UCLA) is a tenured professor of chemistry at Santa Monica College. Prior to her present appointment she served as a lecturer (1995-97) and postdoctoral research fellow (1990-94) at UCLA. She teaches introductory chemistry, general chemistry, organic chemistry and biochemistry. She writes, "I am absolutely loving it [teaching]. I am finding that there is always a new challenge to meet."

DR. MARLY EIDNESS

(B.A. Chemistry 1982, Ph.D. 1985 University of Cincinnati) joined the University of Georgia Department of Chemistry as an assistant professor in 2001. She teaches Honors First Year General Chemistry and an advanced inorganic chemistry laboratory course. "Working with students is a privilege," she says "and effective communication is the key to helping students learn critical thinking skills." Her commitment to excellence in teaching has led to her selection as a University of Georgia Lilly Teaching Fellow, 2003-2005. Marly mentors undergraduate students and encourages their early participation in independent research projects. Currently she has 10

undergraduates working in her lab. "I invest a lot of time training undergraduates in the laboratory because it is the best place for students to discover the power of research at their fingertips."



Dr. Eidsness, the third in front row, and her research group at the University of Georgia.

Marly attended the University of California at San Diego and returned to her hometown of Long Beach to earn undergraduate degrees at CSULB in sculpture (B.F.A., 1977) and chemistry, (B.A. 1982). She earned a Ph.D. in physical chemistry from the University of Cincinnati in 1985. She worked with Professor Richard C. Elder applying x-ray absorption spectroscopy (XAS) to determine the coordination environment of gold ions in gold-based drugs and metabolites relating to arthritis treatment. She then held postdoctoral positions at Stanford University and the University of Illinois at Urbana and studied, using XAS, metal centers in Fe, Cu, Ni, or Mo containing metalloproteins. Marly and her husband, Robert A. Scott, a chemistry professor, moved to the University of Georgia, Athens, in 1987. They have one son, Sean Eliot Scott, born in 1990. At UGA, Marly learned molecular biology techniques and protein chemistry. In 1998, she helped design and became the founding director of the UGA BioXpress Laboratory, a molecular biology and protein expression facility for academic researchers and biotechnology companies (www.uga.edu/bff). In 2001 she took up her present faculty position (www.chem.uga.edu/DoC/ResFacMKE.html).

"The research part of being a professor is rewarding for the opportunities it provides to collaborate with scientists around the world," states Dr. Eidsness. Her research group is studying structural and functional aspects of biology in motion. "We are intrigued by the protein folding problem," she states. "One of our projects focuses on cotranslational folding, the first-time folding of nascent polypeptide chains as they are synthesized on ribosomes," she states. "It is fascinating to me that protein folding commences before the entire amino acid sequence is revealed and without all degrees of freedom of motion. Our experimental approach utilizes spectroscopy to monitor the folding of nascent polypeptides. We use single-pair fluorescence resonance energy transfer (spFRET) to track the motions of single polypeptide chains during their synthesis on ribosomes. The project is a collaboration with Professor Anne Gershenson in the Department of Chemistry at Brandeis University."

Dr. Eidsness has 34 publications in peer-reviewed journals such as *Biochemistry*, *Proceedings of the National Academy of Sciences USA*, *Journal of the American Chemical Society* and *Protein Science*. She is a reviewer for several journals and in 2002 served as a National Science Foundation SBIR Genomics & Proteomics II review

panel member. One of her recent publications [*Biochemistry*, 2003, 42, 4357-437] was featured in the 14 April 2003 issue of *Chemical and Engineering News* under the heading, "Why some proteins can take the heat." As reported in C & E News, Marly and her coworkers discovered that "the hyperthermophilic rubredoxin is stabilized by a subtle redistribution of hydrogen bonds between the β -sheet and the iron-sulfur center of the protein."

Away from the laboratory, Marly likes to play golf and watch her son's sports and school activities. She thinks about playing her violin again. For now family life and the challenges of being a chemistry professor fill up the days.

DR. THERESA ROHR-KIRCHGRABER

(B.A. Chemistry 1984, M.D. 1988 Cornell University) has been an associate professor of medicine and pediatrics at State University of New York in Syracuse. In August she sent us the following letter: "I wasn't sure what I wanted to be [when I started at CSULB], but I had many ideas. I chose CSULB because it had many majors to choose from. My second reason for choosing CSULB was the price. I was supporting myself through school and needed something I could afford. Now that I am saving for my own kids education I realize just how lucky I was to have gone to college in California."

"Taking a variety of classes that first year I found myself drawn more and more to the sciences. Changing my major to nursing, I finished the prerequisites and applied to the BSN program. The summer before I was to start my clinical studies, I was challenged to consider medical school. 'Me?' I wondered, 'How could I ever go to medical school?' I am one of eight children. Neither of my parents had gone to college and I had been supporting myself since high school. I never even knew any doctors except for the family pediatrician."

"Faced with a decision to either continue with my nursing program and finish in two years, or change my major, take the premed classes, and in three years try to get into medical school, I found myself in the premed office. What a fantastic place. Supported by the School of Natural Sciences, Sue, the secretary, was my guidance counselor, support person and advisor all in one. It was a small office, but she always had the time for students and was a wealth of information."

"Deciding to take the plunge and go for premed, many asked if I was going to change schools. The more I thought about it the more I realized, I needed to stay at CSULB. My professors were there because they loved teaching. It was obvious! They became good friends and my success was important to them. I wasn't just student No. 123, I was a person with real concerns and hopes. The support and encouragement was something I needed and luckily I found in the Chemistry Department."

"Using all the support that was available to me through the professors, the premed organizations like Chicanos for Community Medicine, the summer programs, I was accepted to many medical schools. I graduated from Cornell University College of Medicine in 1988 and completed my residency at University Hospitals of Cleveland in Internal Medicine. I have boards in both internal medicine and adolescent medicine."

"Trying to emulate the excellent professors I had at CSULB like Drs. Marsi, Senozan, Goodman and so many others, I have made a career of teaching at the medical school level. I recently left my position at UpState Medical University in Syracuse, N.Y., where I had been an Associate Professor of Medicine and Pediatrics and I am looking forward to my newest challenge in Atlanta. Working with medical students, house staff and teaching them the finer aspects of medicine is such a joy."

"Medicine is a vocation, not a job. It is something you must love, as the challenges can seem so insurmountable some days. I am forever grateful that the faculty, staff and students at CSULB, gave me the encouragement to pursue this goal and the academic support to succeed."

DR. ARON THALL

(M.S. Biochemistry 1985, Ph.D. University of Michigan) is currently Director of Clinical Immunology at IDEC Pharmaceuticals, Inc. in San Diego. He is married to Lorraine and they have two children.

DR. DWAYNE GERGENS

(B.S. Chemistry 1987, Ph.D. 1992 UC Irvine) is a professor of chemistry at San Diego Mesa College. Dwayne teaches general and organic chemistry and "really enjoys" incorporating technology into the curriculum. Last year an award from California Virtual Campus Program recognized his work in this area.

TIM MACANDREW

(B.S. Chemistry 1987) received a second B.S. degree in computer engineering from CSULB in 1989. He has since been working as a software engineer. He writes, "I have worked on projects for the Army, Navy and Air Force. Each project lasts from one-three years. Some have been exciting and amazing, some not. For the past year, I've been working for a company called ITT-Gilfillan in Van Nuys. They make radar systems for air traffic control and air defense. Although I don't have much opportunity to practice chemistry, the education I received there affects my career in both subtle and profound ways."

KRISTIN LINCOLN ESTENGER

(Graduate Student in Chemistry 1988) writes, "I built a house in the mountains between Lake Elsinore and San Juan Capistrano. I am still married and I have a couple of kids. I work on a consulting basis for a composite resin company in Costa Mesa. In my spare time (euphemism for the middle of the night), I make art quilts. Using the techniques that traditional quilters use, I make quilts which are not for warmth, but for the wall. I paint and dye my own fabrics and usually use lots of different textiles. I usually do a couple shows per year, just to keep me on task with finishing projects."

1990 - 2003

KIANA TABIBZADEH ROQUEMORE

(B.S. Chemistry 1990, M.S. Chemistry 1994) is Professor of Chemistry and Chair of the School of Physical Sciences and Technologies at Irvine Valley College. She writes, "I transferred from Irvine Valley

College to CSULB in the fall of 1987 as a physical therapy major. Although I had feared chemistry all my life, shortly after I took my last prerequisite chemistry class, I changed my major to chemistry. Not only was the subject interesting, but the faculty were very supportive, friendly and helpful. I learned not only chemistry, but also, through the mentoring of my professors, professionalism and survival skills in the 'outside' world. Three years after graduation, I was a full time tenure track chemistry faculty at Irvine Valley College. I received tenure in 2001. In 1998 I was elected the chair for the School of Physical Sciences and Technologies. I have served in that capacity since and have been re-elected for another two-year term last spring. In April 2003 I married Dr. Glenn Roquemore, a geology professor and the President of Irvine Valley College. Glenn has taught part-time at both CSULB and UC Irvine."

DR. GREG WHITAKER

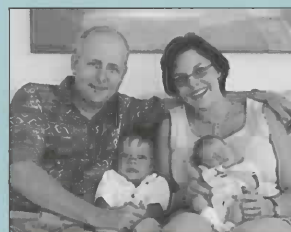
(B.S. Biochemistry 1990, D.O. 2001 Nova Southeastern University) is an anesthesiology resident at the University of Tennessee Medical Center in Knoxville, Tenn. He writes, "I've entered my second year of anesthesiology training at UT Medical Center. Things going well, but I do miss Southern California!"

DR. JEFFREY K. ICHIKAWA

(B.S. Biochemistry 1991, Ph.D. Biochemistry 1998 UCLA) is a postdoctoral fellow at Harvard University Medical School. He writes, "After finishing graduate studies at UCLA, I joined the lab of Professor Stephen Lory to study *Pseudomonas aeruginosa* infections in cystic fibrosis patients. The lab was then at the University of Washington in Seattle, but we moved to Harvard Medical School about two years ago. The East Coast took some getting used to but I really love Boston now. This past winter was a tough one to get through for this native Southern Californian! I am just starting to look for a faculty position."

DR. STACEY J. ROBINSON

(B.S. Physiology, Minor in Chemistry 1992, M.D. 1996 Tulane University) completed in July 2003 her military commitment as a Staff Family Physician (with a rank of major) at the MacDill Air Force Base in Florida. She writes, "I am interviewing for a faculty position at Bayfront Medical Center's Family Practice Residency program so that I can hopefully continue my passion for



Dr. Robinson and family, Easter 2003.

teaching." Stacey's medical education at Tulane was sponsored by the Air Force. She completed her residency in family practice at David Grant Medical Center at Travis AFB in California in 1999 and subsequently moved to MacDill AFB. Stacey holds a number of honors and awards, including the Outstanding Preceptor Award of MacDill Physician Assistant Program and the Resident Teaching Award

of the Society of Teachers of Family Medicine. Stacey and her husband, Dr. David Robinson, an anesthesiologist, live in Tampa, Fla. area with their two children, Davis and Claire (See picture).

THANG DINH

(B.S. Chemistry 1995, M.S. 1998 University of California, Irvine) is a senior professional chemist at Allergan Pharmaceuticals in Irvine. Previously he



Thang fishing off the coast of Baja California.

worked as associate scientist at Idun Pharmaceuticals in San Diego and as research assistant at Tularik, a biopharmaceutical company in San Francisco. Thang has been awarded two patents, one on the preparation of modified dipeptides as inhibitors for certain proteases, the other for the use of certain prostaglandin analogs as agents to reduce intraocular pressure. In addition, five of his patent applications are pending. Allergan is providing Thang with an opportunity to attend USC where he is expected to receive his MBA degree by May 2005.

DR. DANIEL FARNEY

(B.S. Biochemistry 1996, Pharm.D. 2001 University of Maryland) is a pharmacist at Children's Hospital of Wisconsin in Milwaukee, Wis. He writes, "I have taken a position as a pharmacist with Children's Hospital of Wisconsin. I plan to move back to California in the next year or two and plan to either work in critical care or infectious disease setting."

DR. SIMON KUNG

(Completed premedical studies at CSULB in 1996) received his M.D. from Mayo Medical School in 2000 and is currently the chief resident in psychiatry at Mayo Clinic in Rochester, Minn. He writes, "I will start the fourth and final year of psychiatry residency training at the Mayo Clinic in July 2003. When I finish my residency in July 2004, I will probably pursue additional fellowship training. I'm not sure yet whether it will be a three-year research training program or a one-year clinical program in Consultation-Liaison Psychiatry (seeing psychiatric patients hospitalized for medical or surgical reasons). Psychiatry nowadays is enjoying a resurgence of interest. Gone are the days of the only treatment being psychotherapy ('talk therapy'). New medications have vastly improved our patients' lives and new technologies are increasing our understanding of the brain. Psychiatric research parallels neurologic research in its use of imaging modalities such as MRI (Magnetic Resonance Imaging) and SPECT (Single Photon Emission Computer Tomography). Genetic investigations are yielding more understanding of psychiatric illnesses such as schizophrenia and bipolar disorder. Depression and anxiety are still the main problems of patients that I see in my training. These really are exciting times for psychiatry. Feel free to e-mail me [Simon.Kung@mayo.edu] if you

have questions about medical school or the field of psychiatry."

Simon has been the recipient of many awards including Pfizer Fellowship by the American Association of Technology in Psychiatry, Laughlin Fellowship by the American College of Psychiatrists, Bristol-Myers Squibb Fellowship by the Association of Academic Psychiatry and the Mayo Brothers Distinguished Fellowship. Organic chemistry professors may remember Simon as the recipient of the Merck Award for being the top student in Chemistry 320A/B.

LENA SOPIDA SRIPITISAWAD

(B.S. Biochemistry 1996) lives in Pasadena and works at Beckman Coulter Inc. in Fullerton as an applications scientist.

IHAB ABUMUHR

(B.S. Biochemistry 1997) writes, "After finishing my degree at CSULB, I attended Harbor-UCLA School of Medical Technology, completed one year of internship in clinical science and passed my board exams. Since 1998 I am working as a clinical lab scientist at Cedars-Sinai Medical Center in the department of Transfusion Medicine. Meanwhile, I earned a master's degree in clinical science from California State University, Dominguez Hills, and now I am working towards my specialty in blood banking (SBB).

"There is an acute and chronic shortage in the field of laboratory science and medical technology. Nine thousand positions open every year nationwide and only 5,000 of them are filled. This shortage is going to get worse as people keep retiring and positions remain unfilled. Some labs are offering a bonus of \$10,000 for signing in as a clinical scientist or technologist. Most of us work two jobs to offset the shortage. Students usually have a choice to work in immunology, chemistry, hematology, microbiology, transfusion medicine and more. Cal State Long Beach has a great reputation at the hospitals I worked at and its graduates have no trouble finding jobs in this field. I am really proud to be an alumnus of CSULB."

JOSHUA BRYANT

(B.S. Biochemistry 1998) writes, "I am in the process of wrapping up medical school at UCLA and will be applying to radiology residencies this fall. I hope to eventually pursue neuroradiology. I took an extra year to finish medical school so I could work in a basic science lab in the neurology department. I am in the process of submitting a manuscript that details the epidermal growth factor response in human glioblastoma cells through the technique of fluorescent calcium imaging. It has been a very rewarding year off. My wife [Alyssa, also a CSULB graduate] is completing her doctorate in education from UCLA. We both treasure our memories from CSULB and are grateful for the education we received."

JEFF T. SURI

(B.S. Chemistry 1998) is in the process of finishing his Ph.D. at UC Santa Cruz. He writes, "Working with Professor Bakthan Singaram, I studied boronic acid based optical glucose sensors. The work

was very exciting and enjoyable; however, it is time to move on. I have accepted a postdoctoral position at Scripps with Professor Carlos Barbas and will start research there in September 2003."

EUGENE ROZUMOV

(M.S. Biochemistry 2000) is working toward his Ph.D. in Organic Chemistry at UCLA.

EDDIE CORREA

(B.S. Biochemistry 2001) is a second year dental student at UCLA School of Dentistry (Class of 2005). He writes, "I'm having a great deal of fun using weekend after weekend studying for 8-12 classes per quarter, completing laboratory projects in pre-clinical lab, and seeing patients in the dental clinic and in volunteer health fairs. CSULB provided me with an exceptional education and an opportunity for this next step I've taken and I can't thank the faculty of the Chemistry and Biochemistry Department enough."

DMITRY PERVITSKY

(M.S. Chemistry 2001) has completed his second year as a PhD student at the University of California, Irvine. He is working with Dr. Farmer on a research project involving synthesis of various nitrosothiols and sulfohydroxamic acids.

MATT HARRIS

(B.S. Biochemistry 2001) continues as a third year medical student at the University of Southern California. He writes, "When I think back to my time at CSULB, I always think back to the great times I had in your [Senozan's] class, Dr. Marsi's, and Dr. McAbee's. I really couldn't have asked for three better professors to teach the core of my curriculum. I was well prepared for med school at USC because of people like you, and can't thank you enough. I continue to live at home in Lakewood."



RASHAQ AYODELE

(B.A. Chemistry 2002) is employed by Los Angeles County and plans to earn a master's degree in environmental science.

JOHN THOMAS ISAACSON

(B.S. Biology Education, Minor in Chemistry 2002) is in the credential program at CSULB. He writes, "I'm the first graduate in my family aside from my wife, who is an accomplished attorney. I have two beautiful children ages 4 and 1. My pursuit of education has been fueled by the desire to become my children's and my students' best teacher. I want to give thanks to my professors. I would further like to thank my tutor from academic services, Michael Eagan [currently a third year medical student at UCLA]. I feel very fortunate to have studied chemistry with such fine people."

RYAN PARTNOFF

(B.S. Biochemistry 2003) writes, "This fall I will be starting at USC School of Dentistry, a four-year program towards my D.D.S degree. This past summer I taught science camp to grades K-5 for a company called Science Adventures."

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